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**THE UNIVERSITY OF HONG KONG**

**A STUDY OF SERVICE QUALITY ASSESSMENT IN PROPERTY  
MANAGEMENT OF PRIVATE HOUSING ESTATES IN HONG  
KONG – THE CONSTITUENTS AND THEIR RESPECTIVE ROLES**

**A DISSERTATION SUBMITTED TO THE FACULTY OF  
ARCHITECTURE IN CANDIDACY FOR THE DEGREE OF  
BACHELOR OF SCIENCE IN SURVEYING**

**DEPARTMENT OF REAL ESTATE AND CONSTRUCTION**

**BY**

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**HONG KONG**

**APRIL 2007**

## Declaration

I declare that this dissertation represents my own work, except where due acknowledge is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualification.

Sign : \_\_\_\_\_

Name : \_\_\_\_\_

Date : \_\_\_\_\_

## Abstract

Service quality has long been praised as magical and mysterious words in business, truer than ever when economic condition improves and expectation from people increases.

However, the developed assessment tool for service quality is not generic enough to apply widely across different industries. This problem faced by the property management sector would have an undesirable long-term effect on our living environment and society. To alleviate this effect, this research will focus on private housing area of property management and study the current service quality assessment tool, to reveal its weakness. The property management practices in Hong Kong will also be examined. Criteria for quality assessment of property management service will be investigated and suggested for Hong Kong property management market. Modification of the developed service quality assessment tool will then be made. The modified model will be assessed by application onto four chosen private residential estates. The result could support the investigation into the relationship between criteria of property management services with the overall service quality.

With the better understanding of the constituents of service quality of property management, it is believed that the stakeholders of the residential building will enjoy a better quality of life, and the standard of our living environment will be elevated.

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## CHAPTER ONE INTRODUCTION

### 1.1 Introduction of the Research

Traditionally, property was viewed as a source of power. The more property you owned, the more powerful you were. The sense of security came along. This belief was widespread all over China, not only to the richer, but also deeply rooted in the majority ordinary. Almost all of them wanted a place for settlement and for habitation.

This is no exception to nowadays Hong Kong, despite the unreasonably high land and property value. Property is seen as a physical facility which is necessary to fulfill the basic requirement of lives. Everyone needs it; however, everyone may not want it as well. This seems apparently true especially when this facility is mal-functioning, deteriorating or obsolescing; that is, when extra-cost must be incurred for improving the general quality of this facility. Still, the building's problems persist and remain unsolved without owners' recognitions.

In the recent years, role of property management in order to rectify these situations has been confirmed by many research studies and also reinforced by the Government through legislation. However, most of the research results and Government's legislation put all of the effort onto improvement of general conditions, such as safety, repair and maintenance of the property, while neglecting enhancing the value of property through property management.

It sounds realistic for researchers and legislators to come into conclusions as

such. However, due to the economic upsurge in the recent years, along with the improvement of the general conditions of buildings and formation of a more sophisticated society, people demand for better living standard and are becoming more aware of the quality of the service to get back their return for money. Services quality, hence, becomes a key towards success.

To property management of private housing sector in Hong Kong, this logic can be truer than ever. One of the most sounding reasons is the dramatically high residential price again. Except during years after the Asian Financial Crisis and when SARS was broken out i.e. 1998 to 2003, throughout Year 1986 to 2005, residential prices have kept increasing for all classes of buildings. (See Appendix I) Despite so, even more people own their domestic residence as time passes. (See Appendix II) This trend of non-stop escalating domestic household has not been even interfered by any circumstances, such as economic downturn or terror.

Notwithstanding the given facts, the constituents of quality of property management services and the respective roles of the constituents are still a big question mark in the industry. Therefore, in this study, the author tries to investigate the constituents of property management service quality and their respective roles from the property users' point of view. It is believed to be helpful to further service quality enhancement work in the property management sector in particular to the private housing area by investigating what "property management service" means to the property users.

## 1.2 Background of the Research

### 1.2.1 Development of Property Management in Hong Kong

Accompanied with scarce land resources, Hong Kong's rapid population growth and China's mass immigration have all made Hong Kong one of the most densely populated cities in the world and multi-storey buildings are hence very popular in Hong Kong.

The popularity of multi-storey buildings started in 1940s to 1950s. With the introduction of public estates by the Government to house the victims or families after the disastrous fire broke out in Shek Kip Mei squatter settlement in 1965, multi-storey buildings became more popular. In 1960s, the Government also experienced barriers in practicing property management with the completion of a group of multi-storey buildings - Mei Foo Sun Chuen. These events marked a sign in the evolution of property management in Hong Kong.

Since then, the Government has brought out various legal reforms in the property management industry. In the early 1970s, 1970 Multi-Storey buildings (Owners Incorporation) Ordinance, which allowed the individual owners to form an "Owners Corporation", had come into effect. The corporation was given power to employ staff, award contracts, maintain, repair and renovate their buildings. The corporation was also empowered to appoint professional management companies to provide a full range of services. However, some new management companies took advantages of the owners from the loopholes in the Deed of Mutual Covenant (DMC) by awarding jobs to their related contractors



with unreasonably high price without obtaining consent of the owners.

During 1980s and early 1990s, Hong Kong had enjoyed its prosperity. People demanded higher living standard and better living environment. With the enthusiasm of property management companies to promote professionalism within the industry, an atmosphere for quality was created. In 1987, the government has laid down guidelines in the Deed of Mutual Covenant stipulating the management companies should not be allowed to act permanently but rather only for an initial period of two year and extendible by mutual agreement of the manager and OC.

In view of solving these problems, the enactment of Building Management Ordinance (BMO) was come into effect in 1993 reversing the effect of poorly drafted DMC and delegate more power to owners in which the Owners Incorporation can now terminate management companies if the services provided were unsatisfied with the owners' expectations. Besides, the government has encouraged residential owners to participate in building management process, for example, forming owners' associations. One form of owners' association is the incorporated owners (IOs). It is compulsory under Building Management Ordinance (BMO) and should be set up legally on behalf of all owners to enable owners to manage their buildings jointly. Decisions of IO as being a statutory entity are legally bounded. IO can sue and liable to be sued.

In addition to legal reforms which further heighten expectations of owners and ever blooming of large estate-type housing market, property developers never want to lag behind from their competitors, and this makes "quality of

services” a more magical term than ever had been within the industry in particular during advertisement and promotion. Quality property management, a kind of after sale service by the developers becomes a tool for demonstration of good service and also reputation of the developer, e.g. ISO 9000 certification.

### 1.2.2 SERVQUAL/SERVPERF

SERVQUAL/SERVPERF, tools for service quality assessment has been developed in the early 1980s and been widely applied across various service settings in response to the urge of service quality improvement. Using SERVQUAL/SERVPERF, service performance of the companies during the service delivery process can be assessed.

Many studies have been done on SERVQUAL/SERVPERF over a wide range of industries throughout the years: retail banks, long-distance telephone provider, securities broker, credit card companies (Parasuraman *et al.* 1988)<sup>1</sup>; hospital; dental school patient clinic, business school, placement centre, tire store, and acute care hospital (Carmen 1990)<sup>2</sup>. Similar study has also been conducted in the real estate field: real estate broker (Johnston, Dotson, and Dunlop 1988); public housing estate (Leung 2000)<sup>3</sup>.

However, assessment on quality of service offered by property

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<sup>1</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1988) “Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality”, *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

<sup>2</sup> Carman, James M. (1990) “Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions” *Journal of Retailing*, Vol. 33.

<sup>3</sup> Leung H. K. D. (2000) *Assessing the Service Quality of Housing Management in the Public Rental Housing of Housing Authority – The Servqual Approach*. Unpublished thesis, Department of Real Estate and Construction, The University of Hong Kong.

management companies has been still under-researched. Without proper knowledge of the service quality assessment towards property management services, it is very difficult for property management companies to make strategy decision of the property.

### 1.3 Research Question

The research question is:

“What are the constituents of quality of property management service and their respective roles?”

This question is asked after critical role played by technical aspect of property management has been confirmed by many researches and legislations while other aspects of property management might have been ignored. The aim of the research is therefore to investigate likely possible constituents of property management service quality and investigate their respective roles in determining the overall service quality.

To answer the question, the literature of service and service quality will be reviewed as foundation to understand the current service quality assessment method (SERVQUAL/SERVPERF) including its strengths and weaknesses, in particular to the proposed service quality constituents. Property management practice of private housing area in Hong Kong will be reviewed as to assist and support the modification of current assessment method, which will take into consideration of the constituents of property management service quality of housing area. Modified

model with novel developed constituents will be assessed through survey on four private residential estates. From the survey result, investigation into the relationship of the constituents of property management service quality to overall service quality will be done. As a result, solution to the respective roles of the constituents will be found.

#### **1.4 Objectives of the Research**

This research, by examining the service quality offered by property management companies to property users, is designated to accomplish the following objectives:

- (i) To revise the current service quality assessment method (SERVQUAL/SERVPERF), in particular to its proposed service quality constituents.
- (ii) To examine property management practice of private housing area in Hong Kong.
- (iii) To devise a modified model for service quality assessment in property management of private housing area in Hong Kong.
- (iv) To assess the modified model by real life application to private housing estates
- (v) To testify the relationship of the constituents to overall service quality from survey result.

The first objective of the research is to revise the current service quality assessment method (SERVQUAL/SERVPERF). This will be done mainly by literature review on service and service quality. In particular to the proposed service

quality constituents by SERVQUAL/SERVPERF, diversion of views and also the homogeneity included in the diverse views will be presented, to give an insight on the constituents of service quality.

The second objective of the research is to examine property management practice of private housing area in Hong Kong. Overview of property management , property management in housing area and property management in housing area in Hong Kong will be given as to understand the property management practice in housing area in Hong Kong, which assist and support a further go to modification of current service quality assessment model with newly developed service quality constituents for property management in the housing area.

The third objective is to devise a modified model for service quality assessment in property management of private housing area in Hong Kong. A model with revised or modified or newly added constituents will be introduced. Sub-items developed under the constituents will be introduced and explained as well.

The fourth objective is to assess the modified model by real life application to private housing estates. Four private residential estates will be chosen for sampling. 40 surveys from each residential estate will be collected by face-to-face interview with property users, making up a total of a hundred and sixty sets of data.

The fifth objective is to testify the relationship of the constituents to overall service quality from survey result. It will be comprised of two analyses – importance and relevancy. Relative importance of constituents will be calculated. Importance of different constituents will be compared. Regression analysis will be employed to

expose the relevancy of the constituents to overall service quality.

## **1.5 Structure of the Research**

The research starts with Chapter One which explains the birth of this research and structures the growth of the research. First of all, the reasons for conducting the study have been explained in Section 1.1. The background of the research has also been noted before the discussion of the research question and associated objectives. Research question has been defined with associated objectives set in order to answer the research question. In this research, there will altogether be seven chapters.

Chapter Two and Chapter Three will review the literature of service and service quality. Chapter Two will focus on the study of the development of service quality and Chapter Three will focus on the study of the development of service quality dimension. These two chapters together will help to revise the current service quality assessment method, in particular to the proposed service quality constituents.

Chapter Four will review property management practice. It will examine the property management practice of private housing area in Hong Kong and discuss the service dimensions of property management of housing sector.

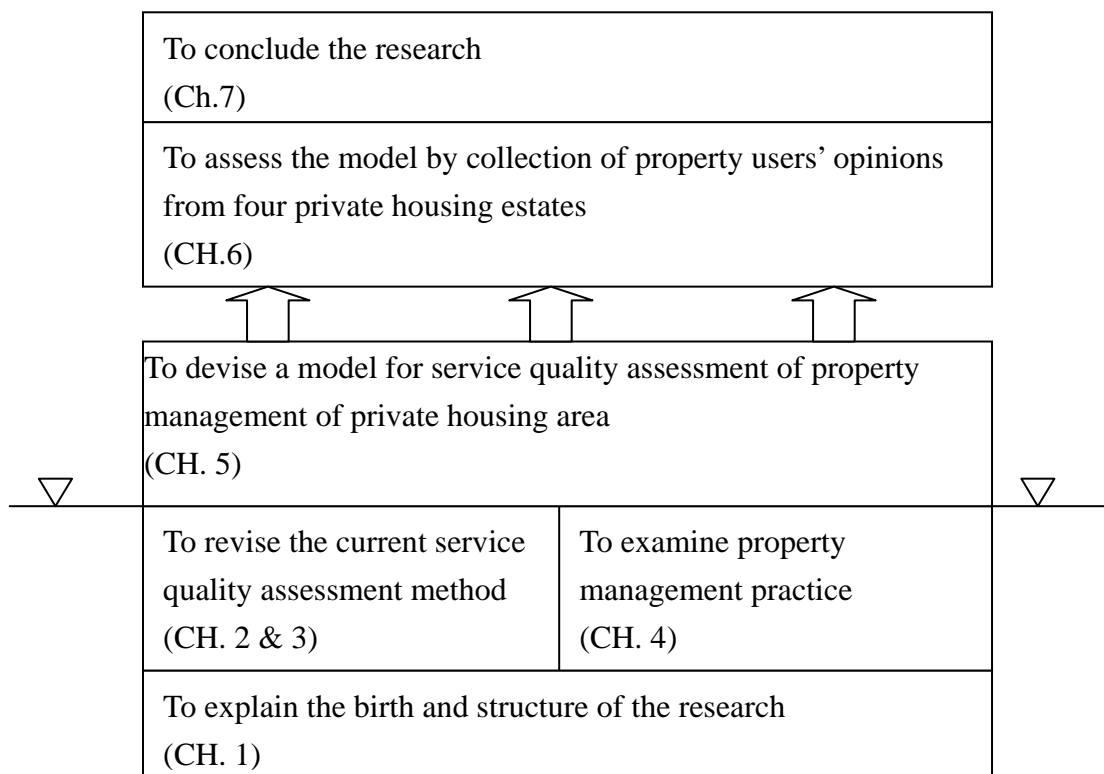
Chapter Five will explain the research methodology. Detailed information on how the research is going to be conducted will be explained. The discussion of the development of a new model for conducting the research will be included.

Chapter Six will report the result of data collection from the model developed

in Chapter Five. The reporting will be divided into two parts - importance study and relevancy study.

Chapter Seven will discuss of the results reported in Chapter Six. Conclusion for the research will be made. Usefulness and the contributions of the research will also be concluded. Limitations of the research and the recommendations for potential research will be discussed.

The structure building-up process of the research is illustrated in Exhibit 1-1, starting from the bottom to the top.



**EXHIBIT 1-1** Diagram showing the building up of research

## CHAPTER TWO      LITERATURE REVIEW ON SERVICE QUALITY

### 2.1 Introduction

This chapter will study the conceptualization and definition of ‘service quality’. Topics include ‘what is service’, ‘different types of services’, ‘features of services’, ‘definition of service quality’, ‘measurement of service quality’ will be covered in this chapter. Firstly, the characteristics of ‘service’ will be studied and compared with those of a ‘good’ to facilitate the understanding of what ‘service’ actually is. Secondly, categorization for different types of services will be reviewed. It aims to aid the understanding of varying nature of ‘services’ and thus to a clearer concept of ‘service’. Thirdly, the ‘features’<sup>4</sup> (or dimensions) of ‘service’ will be explained briefly to serve as a foundation to the later part of the study. The definition of service quality will be studied at last before going to the discussion about the measurement of service quality.

### 2.2 What is ‘service’?

In the development of specific marketing and management knowledge for service companies, two barriers have been identified by Gronroos (1983)<sup>5</sup>. One of which is the vague definition of a service when compared to a physical good.

Various attempts have been made to define services, for examples, preparing lists of

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<sup>4</sup> Gronroos, C. (2001) “The perceived service quality – a mistake?” *Managing Service Quality*, Vol. 11, No. 3, pp. 150-152

<sup>5</sup> Gronroos, C. (1983) *Strategic Management and Marketing in the Services Sector*. Massachusetts: Marketing Science Institute.



different services or developing traditional types of definitions. However, both approaches have shortcomings. A working definition of service is thus created. Referring to Gronroos (1983)<sup>6</sup>, the definition is: *‘Services are the objects of transaction offered by firms and institutions that generally offer services or that consider themselves service organizations.’*

As quoted also in Gronroos (1983), ‘The list of service firms now includes retailing, hotels and motels, restaurants, banks and financial institutions, insurance companies, airline companies, railroad companies, shipping companies, public institutions such as statistical bureau and post offices, various consultants such as lawyers, architects, professionals on organizational development, business consulting, market research, advertising, quality control and engineering, health care, repair and maintenance, computer services, distribution services, and cultural services.’ In addition, firms wishing to consider themselves service firms may include themselves on the list of services at any point of time.

Despite the working definition of service, by Gronroos (1988)<sup>7</sup>, *‘Service is a complicated phenomenon. The word is used in many meanings, ranging from personal service and a service as a product.’* By the above definition of the term, personal service given was not meant, for example, by a hotel employee to a customer, but rather the total service offering by the firm.

To make it meaningful to analyze service, common characteristics of “services”

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<sup>6</sup> Gronroos, C. (1983) *Strategic Management and Marketing in the Services Sector*. Massachusetts: Marketing Science Institute.

<sup>7</sup> Gronroos, C. (1988) “Service Quality: The Six Criteria of Good Perceived Service” *Review of business*, Vol. 9, No. 3, pg 10-12.

are studied. Zeithaml, Parasuraman and Berry (1985)<sup>8</sup> have summarized the references documenting the unique characteristics of services. Parasuraman, Zeithaml, and Berry (1985<sup>9</sup>, 1988<sup>10</sup>) collapsed those characteristics into three main characteristics as intangibility, heterogeneity and inseparability.

(i) Intangibility

Most services are uncountable, immeasurable; they cannot be tested, verified or inventoried in advance of a sale for quality assurance. This is because of the intangible portion which constitutes the service quality. Schneider & White (2004)<sup>11</sup> also pointed out that service product is not only made up of tangible goods, but also intangible service delivery experience.

(ii) Heterogeneity

Services are highly dependent on the people who deliver the service. As the performance of these service personnel varies from producer to producer, from customer to customer, and from day to day, uniform quality is difficult to assure. The more labour content is involved, the more heterogeneous the service can be.

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<sup>8</sup> Zeithaml Valarie A., Parasuraman, A. and Berry Leonard L (1985) "Problems and Strategies in Services Marketing" *Journal of Marketing*, Vol. 49 (Spring 1985), pp. 34-46.

<sup>9</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1985) "A Conceptual Model of Service Quality and its implication for Future Research" *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

<sup>10</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1988) "Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality", *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

<sup>11</sup> Schneider B. & White S. (2004) *Service Quality – Research Perspective*. California: Sage publication.

(iii) Inseparability

The production and consumption of service are inseparable. The delivered outcome differs by customer's participation.

Besides the intangibility of services, similar to Parasuraman, Zeithaml and Berry, Gronroos (1983<sup>12</sup>; 1988<sup>13</sup>; 1990<sup>14</sup>; 1998<sup>15</sup>) noted the process nature of 'service' and that consumption of a 'service' is in fact process consumption. Both the production and consumption processes cannot begin until the consumer or user enters into the process. At the beginning of the service process, what the customer wants and expects cannot be known and the company cannot plan how it should allocate the resource. From these characteristics of service, a set of other characteristics follows. Exhibit 2-1 summarizes range of characteristics that differentiate services from physical goods.

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<sup>12</sup> Gronroos, C. (1983) *Strategic Management and Marketing in the Services Sector*. Massachusetts: Marketing Science Institute.

<sup>13</sup> Gronroos, C. (1988) "Service Quality: The Six Criteria of Good Perceived Service" *Review of business*, Vol. 9, No. 3, pg 10-12.

<sup>14</sup> Gronroos, C. (1990) *Service Management and Marketing*. Massachusetts/Toronto: Lexington Books.

<sup>15</sup> Gronroos, C. (1998) "Marketing services: the case of a missing product" *Journal of Business & Industrial Marketing*, Vol. 13, No. 4/5, pp. 322-338.

	<b>GOODS</b>	<b>SERVICES</b>
<b>Tangibility</b>	Tangible	Intangible
<b>Homogeneity</b>	Homogeneous	Heterogeneous
<b>Relation with Production Process</b>	Outcome of production process	A part of the production process
<b>Relation with Consumption Process</b>	Product for consumption	A part of the consumption process
<b>Time of Existence</b>	Exist after production and before consumption starts	Emerge gradually throughout the production and consumption processes
<b>Origin of core value</b>	Factory production	Buyer-seller interactions

**EXHIBIT 2-1 Differences between services and goods** (Sources: Gronroos 1983<sup>16</sup>; 1988<sup>17</sup>; 1990<sup>18</sup>; 1998<sup>19</sup>)

Out of the above characteristics of “services”, scholars have commented the difficulty to measure and assure “service quality”.

As “services” involve the intangible service delivery element, Zeithaml (1981) comment the difficulty to understand how consumers perceive the services they receive and to evaluate the services.

Because the delivery of “service” is highly dependent on other external factors other than the “tangible goods”, Boon and Bitner (1981) comment what the company intends to deliver may be entirely different from what the consumer receives.

<sup>16</sup> Gronroos, C. (1983) *Strategic Management and Marketing in the Services Sector*. Massachusetts: Marketing Science Institute.

<sup>17</sup> Gronroos, C. (1988) “Service Quality: The Six Criteria of Good Perceived Service” *Review of business*, Vol. 9, No. 3, pg 10-12.

<sup>18</sup> Gronroos, C. (1990) *Service Management and Marketing*. Massachusetts/Toronto: Lexington Books.

<sup>19</sup> Gronroos, C. (1998) “Marketing services: the case of a missing product” *Journal of Business & Industrial Marketing*, Vol. 13, No. 4/5, pp. 322-338.

## 2.3 Different types of 'services'

For the understanding of the varying nature of 'services' of different types, two categorization methods for distinguishing 'services' will be introduced here. The first method was proposed by Christopher Lovelock. It has shown how unwise it is to over-generalize about services. The second method was developed by Stiger, Nelson, Darny and Karni. It has shown that evaluation of a service may be very difficult.

### 2.3.1 Classification by Lovelock

Lovelock (1983 in Schneider and White 2004)<sup>20</sup> and Chase (1981 in Schneider and White 2004) have made a point 'not all services are created equal'. Lovelock (1983 in Schneider and White 2004) classified services along two dimensions: first, what is the nature of the service act; and second, who or what is the direct recipient of the service.

Viewing services from the first perspective which based on tangible actions to either people's bodies or to their physical possessions, and intangible actions to either people's minds or to their intangible assets, services are categorized into four broad groups. These categories are referred to people processing, possession processing, mental stimulus processing and information processing. (Lovelock and Wirtz 2007)<sup>21</sup>

For people processing services, people themselves are an integral part of

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<sup>20</sup> Schneider B. & White S. (2004) *Service Quality – Research Perspective*. California: Sage publication.

<sup>21</sup> Lovelock, C and Wirtz, J. (2007) *Services Marketing – People, Technology, Strategy*. USA: Pearson Prentice Hall.

the process. The services are directed at the people and the people must physically enter into the service system. An example is beauty salon, the customer must cooperate actively with the service operation by specifying what they want, sitting still and turning the head when requested.

For possession processing, people are less physically involved with this type of service than people processing services. Many of these activities are quasi-manufacturing operations and may not involve simultaneous production and consumption. For example, the office cleaning services, customer's involvement may only be limited to dropping off the item that needs treatment (office), requesting the services (cleaning), explaining the problem (dirtiness), and later return to pick up the item (cleaned office) and pay the bill. Nevertheless, the customers can choose to be present during service delivery to supervise or to advise. Hence, people are less involved in the process in this type of service.

For mental stimulus processing services, they are directed at people's minds. Examples are education, news and information, professional advice and etc. Customers do not have to physically present in a service factory; they just need to be mentally in communication with the information being presented. Information is the core content of this category of services. Sometimes, the line between this type of service and the next type of service may be blurred.

Information processing services are directed at intangible assets. Professionals in a wide variety use their brains to perform information processing and packaging. Information is the most intangible form of service

output. However, after transformation, it can be turned into more enduring, tangible forms such as letters, reports, and books.

Exhibit 2-2 summarizes the classification of different types of services by Lovelock.

What is the Nature of the Service Act?	Who or What is the Direct Recipient of the Service?	
	People	Possessions
<b>Tangible Actions</b>	People processing (services directed at people's bodies): <ul style="list-style-type: none"> <li>- Passenger transportation</li> <li>- Health care</li> <li>- Lodging</li> <li>- Beauty Salon</li> <li>- Physical therapy</li> <li>- Fitness centres</li> <li>- Restaurants/bars</li> <li>- Barbers</li> <li>- Funeral services</li> </ul>	Possession processing (services directed at physical possessions): <ul style="list-style-type: none"> <li>- Freight transportation</li> <li>- Repair and maintenance</li> <li>- Warehousing/storage</li> <li>- Office cleaning services</li> <li>- Retail distribution</li> <li>- Laundry and dry cleaning</li> <li>- Refueling</li> <li>- Landscaping/gardening</li> <li>- Disposal/recycling</li> </ul>
<b>Intangible Actions</b>	Mental stimulus processing (services directed at people's minds): <ul style="list-style-type: none"> <li>- Advertising/PR</li> <li>- Arts and entertainment</li> <li>- Broadcasting/cable</li> <li>- Management consulting</li> <li>- Education</li> <li>- Information services</li> <li>- Music concerts</li> <li>- Psychotherapy</li> <li>- Religion</li> <li>- Voice telephone</li> </ul>	Information processing (services directed at intangible assets): <ul style="list-style-type: none"> <li>- Accounting</li> <li>- Banking</li> <li>- Data processing</li> <li>- Data transmission</li> <li>- Insurance</li> <li>- Legal services</li> <li>- Programming</li> <li>- Research</li> <li>- Securities investment</li> <li>- Software consulting</li> </ul>

**EXHIBIT 2-2** Classification of services by Lovelock (Source: Lovelock and Wirtz 2007)<sup>22</sup>

<sup>22</sup> Lovelock, C and Wirtz, J. (2007) *Services Marketing – People, Technology, Strategy*. USA: Pearson Prentice Hall.

### 2.3.2 Classification by Stiger, Nelson, Darny and Karni

For a physical good which is proved unsatisfactory, it can then be returned or replaced. However, these options may not be readily available with service. It is because the evaluation of service may be very difficult. The ease or difficulty of evaluation in advance of purchase is a function of product attributes.

Nelson (1970 in Galezka M. *et al.* 2006)<sup>23</sup> distinguished between search and experience attributes of products with the expansion of the theory introduced by Stiger (1961 in Galezka M. *et al.* 2006). ‘Search attribute’ is defined as ‘attribute which can be verified before purchase by examining information readily available from second-hand sources without having to buy or try the product.’ Price and brand name are examples of search attributes which can be easily evaluated before purchasing a product.

Another attribute is experience attribute. It is defined as ‘attribute which have to be purchased and consumed before a customer can really appraise it and (dis)confirm the claims of the product.’ Examples of experience attributes are taste, smell, and feel of the products.

Darny and Karni (1973 in Galezka M. *et al.* 2006) introduced another type of product which the attributes can never be verified by the customer, not even after purchase and consumption. This is because the ‘customer lacks the

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<sup>23</sup> Galezka M., Verhowven J. W. M. & Pruyn Ad Th. H. (2006) “Service validity and service reliability of search, experience and credence services” *International Journal of Service Industry Management*, Vol. 17 No. 3, pp. 271-283.



technical expertise or the means to make a reliable assessment, or because the claim verification would take an unrealistic long time.’ This attribute is called ‘credence attribute’.

Basing on these three attributes, ‘service’ can be categorized into different types with predomination of these three attributes or their combination.

Services with predominately search attributes, for example laundry and dry cleaning services, are the easiest to verify. Services with predominately experience attributes, for example having a restaurant meal, are less straightforward to verify. The most difficult is to verify services with predominantly with credence attributes, for example health care and legal services.

#### **2.4 The ‘features’<sup>24</sup> (or dimensions) of ‘service’**

Gronroos (2001)<sup>25</sup> concluded at the end of the paper that “In retrospect, he should probably have used the terms technical and functional features of services instead of technical and functional quality dimensions of services”.

To understand what Gronroos (2001) has been saying, there is a need to date back to Gronroos’s publication in the early 1980s. Gronroos (1984)<sup>26</sup> proposed that the customers do not only concern on technical outcome of the service process transferred to them, i.e. what are they receiving as a result of the interactions with

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<sup>24</sup> Gronroos, C. (2001) “The perceived service quality – a mistake?” *Managing Service Quality*, Vol. 11, No. 3, pp. 150-152

<sup>25</sup> Gronroos, C. (2001) “The perceived service quality – a mistake?” *Managing Service Quality*, Vol. 11, No. 3, pp. 150-152.

<sup>26</sup> Gronroos, C. (1984) “A Service Quality Model and its Marketing Implications” *European Journal of Marketing*, Vol. 18, No. 4, pp. 36-44

the company (referring to technical quality), they also concern about the process itself, i.e. how the customers receive the technical outcome (referring to functional quality).

Parasuraman, Zeithaml and Berry (1985<sup>27</sup>, 1988<sup>28</sup>), Carman (1990)<sup>29</sup>, Cronin and Taylor (1992)<sup>30</sup>, Brady and Cronin (2001)<sup>31</sup> have all agreed that service should include both ‘technical features’<sup>32</sup> and ‘functional features’<sup>33</sup>.

Richard and Allaway (1993)<sup>34</sup>, Powpaka (1996)<sup>35</sup>, Kang and James (2004)<sup>36</sup> and Kang (2006)<sup>37</sup> however by arguing the precedent works (Parasuraman, Zeithaml and Berry 1985, 1988; Gronroos 1990<sup>38</sup>) have focused too much on the ‘functional features’ and neglected the ‘technical features’, indirectly consented on the two attributes of ‘service’ – ‘technical features’ and ‘functional features’.

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<sup>27</sup> Parasuraman, A., Zeithaml Valerie A., and Berry Leonard L. (1985) “A Conceptual Model of Service Quality and its implication for Future Research” *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

<sup>28</sup> Parasuraman, A., Zeithaml Valerie A., and Berry Leonard L. (1988) “Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality”, *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

<sup>29</sup> Carman, James M. (1990) “Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions” *Journal of Retailing*, Vol. 66, No. 1, pp. 33-55.

<sup>30</sup> Cronin, J. Joseph and Steven A. Taylor (1992) “Measuring Service Quality: A Reexamination and Extension” *Journal of Marketing*, Vol 56, No. 3, pp. 55-68.

<sup>31</sup> Brady M.K. and Cronin Jr. J.J. (2001) “Some new thoughts on conceptualizing perceived service quality: A hierarchical Approach” *Journal of Marketing*, Vol. 65, No. 3. pp. 34-49.

<sup>32</sup> Originally termed as ‘technical quality’.

<sup>33</sup> Originally termed as ‘functional quality’.

<sup>34</sup> Richard, M.D. and Allaway, A.W. (1993) “Service Quality Attributes and Choice Behaviour” *The Journal of Services Marketing*, Vol. 7, No. 1, pp. 59-68.

<sup>35</sup> Powpaka, S. (1996) “The role of outcome quality as a determinant of overall service quality in different categories of services industries: an empirical investigation” *Journal of Services Marketing*, Vol. 10, No. 2, pp. 5-25.

<sup>36</sup> Kang Gi-Du and James J. (2004) “Service quality dimensions: an examination of Gronroos’s service quality model” *Managing Service Quality*, Vol. 14, No. 4, pp. 266-277.

<sup>37</sup> Kang Gu-Di (2006) “The hierarchical structure of service quality: integration of technical and functional quality” *Managing Service Quality*, Vol. 16, No. 1, pp. 37-50.

<sup>38</sup> Gronroos, C. (1990) *Service Management and Marketing*. Massachusetts/Toronto: Lexington Books.

## 2.5 Conceptualization of Service Quality

According to Gronroos (1983)<sup>39</sup>, the concept of service quality emerges to understand what customers are looking for and what they evaluate in the customer relation of service companies. One needs to first, define how service quality is perceived by customers; and second, determine in what way service quality is influenced and which resources and activities have an impact on service quality, i.e. how service quality can be managed.

To how service quality is perceived, guidelines can be found in the literature on consumer behaviour. The consumer behaviour theories suggested that consumers form expectations concerning the future performance of a product when purchasing it. After that, they compare the quality and their prior expectations. Reports had shown that higher levels of performance led to higher evaluations if expectations are held constant.

To what way service quality is influenced will not be discussed in deep details in this chapter, but in the next chapter. Quality dimensions, in particular, technical service quality and functional service quality, will be discussed.

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<sup>39</sup> Gronroos, C. (1983) *Strategic Management and Marketing in the Services Sector*. Massachusetts: Marketing Science Institute.

## 2.6 Definition of Service Quality

As from Section 2.2, it is difficult to evaluate service quality. Parasuraman, Zeithaml, and Berry (1985<sup>40</sup>, 1988<sup>41</sup>), Carman (1990)<sup>42</sup>, Cronin and Taylor (1992)<sup>43</sup> have agreed that ‘service quality is an elusive and abstract construct that is difficult to define and measure’.

Lewis and Booms (1983 in White and Schneider 2000)<sup>44</sup> proposed that ‘service quality’ is a ‘measure of how well the service level delivered matches customer expectations’.

Parasuraman, Zeithaml and Berry (1988) suggested that ‘perceived service quality’ is a ‘global judgment, or attitude, relating to the superiority of the service’. They support that ‘perceived service quality’ is viewed as the ‘degree and direction of discrepancy between consumers’ perceptions and expectations’.

Bojanic (1991 in White and Schneider 2000) held similar view on the definition of perceived service quality to be ‘the result of the consumer’s comparison of expected service with perceived service’.

Additionally, Mangold and Babakus (1991 in White and Schneider 2000) noted

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<sup>40</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1985) “A Conceptual Model of Service Quality and its implication for Future Research” *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

<sup>41</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1988) “Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality”, *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

<sup>42</sup> Carman, James M. (1990) “Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions” *Journal of Retailing*, Vol. 66, No. 1, pp. 33-55.

<sup>43</sup> Cronin, J. Joseph and Steven A. Taylor (1992) “Measuring Service Quality: A Reexamination and Extension” *Journal of Marketing*, Vol 56, No. 3, pp. 55-68.

<sup>44</sup> Schneider B. & White S. (2004) *Service Quality – Research Perspective*. California: Sage publication.

that ‘service quality’ is the ‘outcome of a process in which consumers’ expectations for the service are compared with their perceptions of the service actually delivered’.

Kasper, van Helsdingen, & de Vries (1999 in White and Schneider 2000) said that ‘quality’ is the ‘extent in which the service, the service process and the service organization can satisfy the expectations of the user’.

Despite the difference in wordings used by different scholars, it leads to a similar definition of ‘service quality’, which is the comparison between the ‘expectations’ and ‘perceptions’ of the service performance from the eyes of the customers. When ‘perceptions’ meet or exceed ‘expectations’, the service quality is high; but when ‘expectations’ exceed ‘perceptions’, the service quality is low, i.e. unsatisfactory. As identified by Schneider & White (2004)<sup>45</sup>, this is called the ‘User-based Approach’ in understanding ‘quality’. This approach suggests that measurement of “quality” is a subjective matter and highly varies among different individuals who value it.

## 2.7 Measurement of Service Quality

Parasuraman, Zethamal and Berry (1988)<sup>46</sup> defined “perceived service quality” as the degree and direction of discrepancy between consumers’ perceptions and expectations. They then further extended the role of “expectation” and “perception” to the evaluation process of “service quality”. The SERVQUAL model was developed based on the Gap Theory established by Parasuraman, Zeithaml and Berry

<sup>45</sup> Schneider B. & White S. (2004) *Service Quality – Research Perspective*. California: Sage publication.

<sup>46</sup> Parasuraman, A., Zeithaml Valerie A., and Berry Leonard L. (1988) “Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality”, *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

(1985)<sup>47</sup>.

It has been suggested that the gap between the score P (representing the customers' perception) and score E (representing the customers' expectation) is an indicator of the "service quality". Hence, an equation can be written as  $Q = P - E$ . A good service quality can be ensured by attaining and exceeding expectation of customers.

### 2.7.1 'Expectation' (E)

"Expectation" plays a role in the literature of service quality. It is said that whether "expectation" is being met or exceeded determines customers' satisfaction as implied from the above equation.

By Zeithaml, Parasuraman and Berry (1993)<sup>48</sup>, there are two main types of "expectation": predictive expectation and ideal expectation. "Predictive Expectation" is viewed as predictions made by customers about what is likely to happen during an impending transaction or exchange. "Ideal Expectation" is viewed as desires or wants of consumers, i.e. what they feel a service provider should offer rather than would offer. The "ideal expectation" has been viewed as playing a key role in customer evaluation of service quality. (Gronroos 1982; Lehtinen and Lehtinen 1982; Parasuraman et al. 1985, 1988; Brown & Swartz 1989)

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<sup>47</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1985) "A Conceptual Model of Service Quality and its implication for Future Research" *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

<sup>48</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1993) "More on improving service quality measurement", *Journal of Retailing*, Vol. 69, 1, pp. 140

Parasuraman, Zeithaml and Berry (1988)<sup>49</sup> defined ‘expectations’ as ‘desires or wants of customers’. In other words, ‘expectation’ is the prediction made by customers about what is likely to happen during an impending transaction or exchange, i.e. what they feel the service provider should offer.

Teas (1993)<sup>50</sup> criticized the original definition of ‘expectation’ is ‘somewhat vague in terms of the meaning of “should”’. Parasuraman, Zeithaml and Berry (1990 pg. 12 in Teas 1993) however noted that ‘the service expectation concept is “intended to measure customers’ normative expectations and that these expectations represent in an “ideal standard” of performance’. Additionally, Carman (1990)<sup>51</sup> suggests that ‘expectation’ should involve norms. Zeithaml, Parasuraman and Berry (1993)<sup>52</sup> noted that customers update “expectation” whenever they receive information about the service through sources like word-of-mouth communication, company communication, and direct contact with the firm’s delivery systems. Experience of customers influences “expectation”.

Parasuraman, Zeithaml and Berry (1993)<sup>53</sup> viewed “expectation” as desires or wants of consumers, i.e. the service levels customers believe an excellent company in a sector should deliver.

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<sup>49</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1988) “Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality”, *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

<sup>50</sup> Teas, R. Kenneth (1993) “Expectations, Performance Evaluation, and Consumers’ Perceptions of Quality” *Journal of Marketing*, Vol. 57, pp. 18-34.

<sup>51</sup> Carman, James M. (1990) “Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions” *Journal of Retailing*, Vol. 66, No. 1, pp. 33-55.

<sup>52</sup> Zeithaml Valarie A., Parasuraman, A. and Berry Leonard L (1993) “The Nature and Determinants of Customer Expectations of Service” *Journal of the Academy of Marketing Science*, Vol. 21, No. 1, pgs. 1-12.

<sup>53</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1993) “More on improving service quality measurement”, *Journal of Retailing*, Vol. 69, 1, pp. 140

Several other expectations have also been proposed. For examples, the “Experience-based-norms” and the “Deserved expectation”.

“Experience-based-norms” captured both the ideal and realistic aspects of expectations; (Woodruff et al. 1983; Zeithaml et al. 1993). “Deserved expectation” is defined as the lower level of performance acceptable to the consumer, is proposed.

### **2.7.2 ‘Perception’ (P)**

“Perception” is defined as consumer’s beliefs concerning the service they receive.

On the contrary to “expectation”, discussion on “perception” has been very fewer as the “perception” concept is simpler to follow and less controversial.

## **2.8 Chapter Summary**

This chapter has studied the literature of ‘service quality’.

Service has its unique features – intangible, heterogenic, inseparable. We cannot apply our general knowledge to understand ‘service quality’. The three characteristics of service make quality more difficult to assure and assess, and thus creating difficulties to the management groups which are in intensive competition with competitors. Moreover, services of different types may have their discrete properties, i.e. search properties, experience properties and credence properties.



Services with less credence properties or more search properties are easier to be verified.

Technical service quality and functional service quality have been introduced in this chapter and will be further discussed in the next chapter. However, it must be noted that the terms 'technical service quality' and 'functional service quality' used in describing a 'services' may not be accurate enough. Instead, they should be changed into 'technical features' and 'functional features' as noted in Section 2.4.

Additionally, from the definition of 'service quality', we can understand that 'service quality' is related to the customers' perceptions and expectations of the 'service'. Measurement of 'service quality' in terms of 'perceptions' and 'expectations' has also been studied.

## **CHAPTER THREE      LITERATURE REVIEW ON DIMENSIONALITY OF SERVICE QUALITY**

### **3.1 Introduction**

After an overview study on ‘service’ and ‘service quality’ in Chapter Two, this chapter will focus on the discussion of ways in which service quality is influenced. This presents the remaining part of concept of service quality as mentioned in Section 2.4.

Quality dimension is one of the influencing factors to service quality. For this, a variety of views on the dimensionality have been formed. Among all the possible service quality dimensions, only two dimensions: service outcome i.e. technical service quality, and also the service delivery process i.e. functional service quality, will be discussed thoroughly in this chapter.

In addition to the quality dimensions developed, the models which have been developed for service quality assessment, i.e. SERVQUAL and SERVPERF, will be discussed in this chapter. The evolution, transformation process, along with the inadequacy of the models which is in terms of the dimensionality of service quality, will be studied and discussed.

The discussion provides a strong support to the rationalization of the modification of these models for the sake of this research, which will be further discussed in the next two chapters.

### 3.2 Dimensionality of Service Quality – Divergence of Views

It has been generally agreed that service quality has many dimensions (Gronroos 1984<sup>54</sup>; Parasuraman *et al.* 1985<sup>55</sup>). However, there is no consensus on the exact nature and content of these dimensions (Brady & Cronin 2001 in Kang 2006)<sup>56</sup>. Different scholars would have different definitions and focused for the dimensionality of service quality.

#### 3.2.1 SERVQUAL Dimensions

Parasuraman, Zeithaml, and Berry (1985) proposed that ‘quality evaluations are not made solely on the outcome of a service; they also involve evaluation of the process of service delivery.’ Hence, ten dimensions of perceived service quality regarding to the service delivery process (Tangibles, Reliability, Responsiveness, Competence, Courtesy, Credibility, Security, Access, Communication, and Understanding the Customer) are suggested. (See Exhibit 3-1)

- (i) Tangibles – A dimension used to assess the appearance of physical facilities, equipment, personnel and communication materials.
- (ii) Reliability - A dimension used to assess the ability to perform the promised service dependably and accurately.
- (iii) Responsiveness - A dimension used to assess the willingness to help

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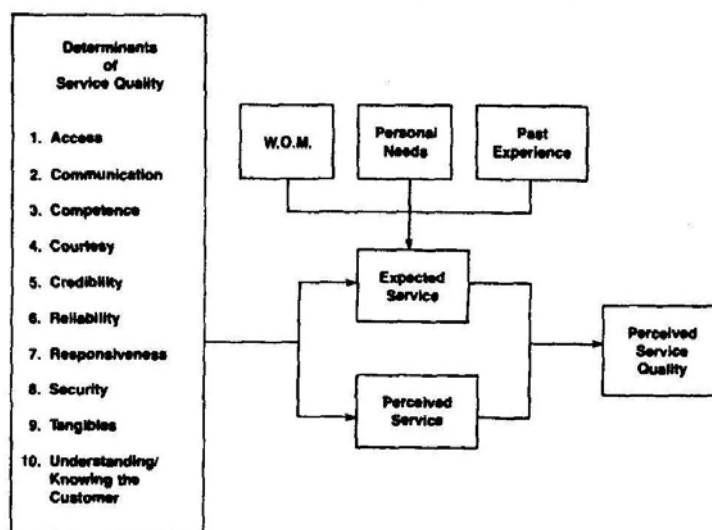
<sup>54</sup> Gronroos, C. (1984) “A Service Quality Model and its Marketing Implications” *European Journal of Marketing*, Vol. 18, No. 4, pp. 36-44

<sup>55</sup> Parasuraman, A., Zeithaml Valerie A., and Berry Leonard L. (1985) “A Conceptual Model of Service Quality and its implication for Future Research” *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

<sup>56</sup> Kang Gu-Di (2006) “The hierarchical structure of service quality: integration of technical and functional quality” *Managing Service Quality*, Vol. 16, No. 1, pp. 37-50.

customers and provide prompt service.

- (iv) Competence – A dimension used to assess the possession of the required skills and knowledge to perform the service.
- (v) Courtesy – A dimension used to assess the politeness, respect, consideration, and friendliness of contact personnel.
- (vi) Credibility – A dimension used to assess the trustworthiness, believability, honesty of the service provider.
- (vii) Security – A dimension used to assess the freedom from danger, risk, or doubt.
- (viii) Access – A dimension used to assess the approachability and ease of contact.
- (ix) Communication – A dimension used to assess the keeping customers informed in language they can understand and listening to them
- (x) Understanding the Customer – Making effort to know customers and their needs.



**EXHIBIT 3-1 Determinants of Perceived Service Quality** (Source: Parasuraman, Zeithaml and Berry 1985<sup>57</sup>)

<sup>57</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1985) "A Conceptual Model of Service Quality and its implication for Future Research" *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

In the later work of Parasuraman, Zeithaml, and Berry (1988)<sup>58</sup>, these ten dimensions are further collapsed into five. ‘Competence’ ‘Courtesy’, ‘Credibility’ and ‘Security’ are merged into a larger category called ‘Assurance’, while ‘Access’, ‘Communication’ and ‘Understanding the Customer’ into another larger category called ‘Empathy’. (See Exhibit 3-2) This makes up SERVQUAL five final functional quality dimensions: Tangibles, Reliability, Responsiveness, Assurance and Empathy.

- (i) Tangibles - A dimension used to assess the appearance of physical facilities, equipment, personnel and communication materials.
- (ii) Reliability - a dimension used to assess the ability to perform the promised service dependably and accurately.
- (iii) Responsiveness - a dimension used to assess the willingness to help customers and provide prompt service.
- (iv) Assurance - a dimension used to assess the knowledge and courtesy of employees and their ability to inspire trust and confidence
- (v) Empathy - a dimension used to assess the caring, individualized attention the property management company provides its customers.

The study of further details of the SERVQUAL including its evolution and transformation would be deferred in Section 3.4.

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<sup>58</sup> Parasuraman, A., Zeithaml Valerie A., and Berry Leonard L. (1988) “Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality”, *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

Original Ten Dimensions	SERVQUAL Dimensions				
	Tangibles	Reliability	Responsiveness	Assurance	Empathy
Tangibles					
Reliability					
Responsiveness					
Competence Courtesy Credibility Security					
Access Communication Understanding the Customer					

**EXHIBIT 3-2 The Collapsing of Original Ten Service Dimensions** (Source: Zeithaml *et al.* 1990)

### 3.2.2 Lehtinen and Letinen's Dimensions

In Lehtinen and Letinen's research (Kang 2006)<sup>59</sup>, they define dservice quality in terms of physical quality, interactive quality and corporate (image) quality.

- (i) Physical quality – A dimension which relates to the tangible aspects of a service.
- (ii) Interactive quality – A dimension which refers to the two-way interaction between a customer and a service provider (or the provider's representative), including both automated and animated interactions.

<sup>59</sup> Kang Gu-Di (2006) "The hierarchical structure of service quality: integration of technical and functional quality" *Managing Service Quality*, Vol. 16, No. 1, pp. 37-50.

- (iii) Corporate quality – A dimension which refers to the image attributed to a service provider by its current and potential customers.’

Later, Lehtinen (Kang 2006)<sup>60</sup> viewed service quality in terms of ‘process quality’ and ‘output quality’. These two dimensions are nearly identical to what have been postulated by Christian Gronroos, which will be discussed in the next Section.

- (i) Process quality – A dimension which is judged by customer during a service.
- (ii) Output quality – A dimension which is judged by a customer after a service has been performed.

### 3.2.3 Gronroos’s Dimensions

Gronroos (1982 in Gronroos 1984)<sup>61</sup> postulated two types of service quality: technical and functional quality. (See Exhibit 3-3)

- (i) Technical Quality – A dimension which assesses ‘what the customers receive in their interactions with the firm is clearly important to them and to their quality evaluation’.

It is what the customer is left with, when the production process and buyer-seller interaction are over.

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<sup>60</sup> Kang Gu-Di (2006) “The hierarchical structure of service quality: integration of technical and functional quality” *Managing Service Quality*, Vol. 16, No. 1, pp. 37-50.

<sup>61</sup> Gronroos, C. (1984) “A Service Quality Model and its Marketing Implications” *European Journal of Marketing*, Vol. 18, No. 4, pp. 36-44

- (ii) Functional Quality – A dimension which is ‘very much related to how the moments of truth of the buyer-seller interactions themselves are taken care of and how the service provider functions’.

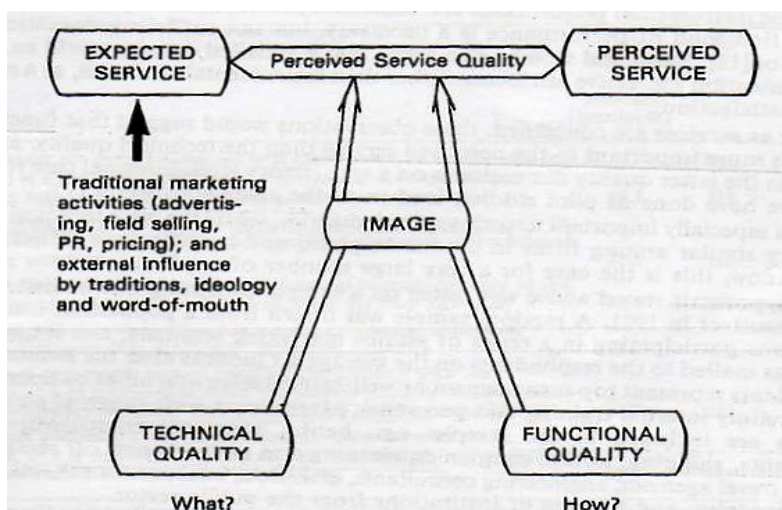
In 1990, Gronroos derived six criteria for perceived service quality, pertaining essentially only to the functional aspect. These six dimensions were Professional and Skills, Attitudes and Behaviours, Accessibility and Flexibility, Reliability and trustworthiness, Recovery, Reputation and Credibility. The definitions for these dimensions are listed in Exhibit 3-4.

Some dimensions proposed by Gronroos (1990 in Schneider and White 2004<sup>62</sup>) are similar to those in the SERVQUAL. For example, they both have dimension of Reliability. Moreover, Professional/Skills and Reputation/Credibility in Gronroo’s can be reflected similarly by Assurance in SERVQUAL. For the fifth dimension of Recovery, it can be seen in SERVQUAL dimension of Responsiveness, while it is broken out from that dimension as an individual dimension. It has shown that a result of different focusing attentions by different service researchers.

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<sup>62</sup> Schneider B. & White S. (2004) *Service Quality – Research Perspective*. California: Sage publication.





**EXHIBIT 3-3 Gronroos's Service Quality Model** (Source: Gronroos C. 1984<sup>63</sup>)

	<b>Dimension</b>	<b>Definition</b>
<b>i.</b>	Professionalism and Skills	Do the employees, physical resources, and operational systems of the organization have the knowledge and skills to solve customer problem in a professional way?
<b>ii.</b>	Attitudes and Behaviours	Do the service employees (contact persons) show concern for customers and interest in solving their problems in a friendly and spontaneous way?
<b>iii.</b>	Accessibility and Flexibility	Is the service provider (e.g. its location, operating hours, employees, operational systems) designed so that customers can access the service easily and so that the provider can adjust to the demands and wishes of a customer in a flexible way?
<b>iv.</b>	Reliability and Trustworthiness	Do customers know that they can rely on the service provider, its employees, and its systems to keep promises and perform with the best interest of the customer at heart?
<b>v.</b>	Recovery	Do the customers realize that whenever something goes wrong or something unpredictable happens, the service provider will immediately take step to keep the customer in control and to find an acceptable new solution?
<b>vi.</b>	Reputation and Credibility	Do the customers believe that the operations of the service provider can be trusted and give adequate value for the money, and that it stands for good performance and values which can be shared by customers and the service provider?

**EXHIBIT 3-4 Gronroos's Dimensions of Perceived Service Quality** (Source: Gronroos 1990<sup>64</sup>)

<sup>63</sup> Gronroos, C. (1984) "A Service Quality Model and its Marketing Implications" *European Journal of Marketing*, Vol. 18, No. 4, pp. 36-44

<sup>64</sup> Gronroos, C. (1990) *Service Management and Marketing*. Massachusetts/Toronto: Lexington Books.

### 3.2.4 Gummesson's Dimensions

While both SERVQUAL and Gronroos's focused on functional and intangible aspects, Gummerson tended more to focus on the tangible aspects of service. Gummerson (1992 in Schneider and White 2004)<sup>65</sup> developed his set of service dimensions. (See Exhibit 3-5) It evaluated service quality in terms of three elements, namely the service elements, tangible elements and software elements.

He presented numerous dimensions on which customers might evaluate the tangible aspect of the service performance received. These dimensions could be categorized into three perspectives: the goods perspective, psychological<sup>66</sup> perspective and environmental<sup>67</sup> perspective.

At the same time, Gummerson agreed with the SERVQUAL to a large extent. Service elements of Reliability, Responsiveness, Assurance and Empathy were kept, while Tangible was broken out as a self-standing element.

For the software element, it was added separately from the other dimensions. This was due to a holding by Gummerson (1992 in Schneider and White 2004<sup>68</sup>) that 'many service firms are dependent on computer systems and customers often interact with computers and software in obtaining service'.

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<sup>65</sup> Schneider B. & White S. (2004) *Service Quality – Research Perspective*. California: Sage publication.

<sup>66</sup> Psychological perspective is what concerned with aspects of tangibility that affect the consumer's ability to interact with the products in daily life. Dimensions categorized under this perspective include Visibility, Mapping, Affordance, Constraints, Consumer Control, Knowledge needed and Feedback.

<sup>67</sup> Environmental Perspective is what addresses the impact of the larger physical environment of the service experience on the evaluation on it. Dimensions categorized under this perspective includes Ambient Factors, Functionality, Aesthetics, Service Personnel, Other Customers and Other People.

<sup>68</sup> Schneider B. & White S. (2004) *Service Quality – Research Perspective*. California: Sage publication.

<i>Dimensions of Customer-Perceived Quality of Total Offering</i>		
<i>For Service Elements</i>		
Reliability		
Responsiveness		
Assurance		
Empathy		
<i>For Tangible Elements</i>		
<i>Goods Perspective</i>	<i>Psychological Perspective</i>	<i>Environmental Perspective</i>
Reliability (probability of malfunctioning)	Visibility (seeing all important aspects of a product properly)	Ambient factors (background features customers may or may not be aware of)
Performance (primary characteristics of core product)	Mapping (relation between a control and the reaction to the control)	Functionality (factors contributing to use of product)
Features (extras)	Affordance (the purposes the product allows)	Aesthetics (factors contributing to appearance of product)
Conformance (match between specifications and performance)	Constraints (factors limiting what can be done with a product)	Service personnel (e.g., the number, appearance, behavior of people)
Serviceability (easy of repair and maintenance)	Customer control (control over product's functioning)	Other customers
Aesthetics (refers to exterior design, task, smell, touch, etc.)	Knowledge needed (information necessary to use product)	Other people
	Feedback (confirmation of results of actions)	
<i>For Software Elements</i>		
Reliability (ability to function correctly under different circumstances)		
Extendability (ability of software to adapt to new specifications)		
Integrity (ability to protect against unauthorized access)		
User friendliness (ease of learning to operate software)		

**EXHIBIT 3-5 Gummerson's Dimensions of Perceived Service Quality** (Source: Schneider and White 2004)

### 3.3 Dimensionality of Service Quality – Homogeneity of the Diverged Views

In spite of the varied views, two commonly agreed dimensions of service quality can be summarized. They are technical quality and functional quality.

According to Gronroos (1983<sup>69</sup>; 1984<sup>70</sup>), ‘technical dimension’ refers to ‘what the consumer receives in his or her interaction with the service firm. Its assessment is done basically on the material content of services, e.g. taste of a meal provided by a restaurant. Generally, this quality can be measured by a customer in a rather objective manner. However, this quality does not account for total quality which customers perceive they have received. The reason for this is that service is produced in interaction with the customer. It is inseparable with the customer who is both the producer and consumer of the service.

Therefore, ‘functional quality dimension’ is developed. It refers to ‘how the consumer receives a service’ (Gronroos 1983;1984). Swan and Combs (1976)<sup>71</sup> suggested that functional quality is more important to the perception of service than technical quality. It is especially important when most firms in the market have similar technical qualities. They argue that ‘technical quality is a necessary but not sufficient condition for customer satisfaction’. Even if the degree caused by technical service performance was high, the consumer would still feel unsatisfied if the functional service performance was not considered satisfactory. Moreover, it was

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<sup>69</sup> Gronroos, C. (1983) *Strategic Management and Marketing in the Services Sector*. Massachusetts: Marketing Science Institute.

<sup>70</sup> Gronroos, C. (1984) “A Service Quality Model and its Marketing Implications” *European Journal of Marketing*, Vol. 18, No. 4, pp. 36-44.

<sup>71</sup> Swan, J. E. and Combs, L. J. (1976) “Product Performance and Consumer Satisfaction: A New Concept” *Journal of Marketing*, April 1976.

argued that customer would be more likely to mention functional quality than functional quality as a reason for his/her satisfaction.

### **3.4 Evolution and Transformation of Service Assessment Tools**

#### **3.4.1 SERVQUAL model**

Owing to the necessity for evaluation of service quality to improve firms' competitiveness, service assessment tool has been developed in the early 1980s. It was developed by A. Parasuraman, Valarie A. Zeithmal and Leonard L. Berry despite aforementioned views on service quality dimensionality. The assessment tool is named as SERVQUAL. The following explains the evolution and transformation stages of the model.

##### **3.4.1.1 The Birth of SERVQUAL (1983-1985)**

In the early 1980s, the developers of SERVQUAL published a conceptual paper identifying five service gaps and their relationship, which was known to be the Gap Theory. (Parasuraman et al. 1985)<sup>72</sup> The Gap theory suggests that the service quality perception is formed because there is difference between consumers' expectation about performance of the service provider and consumers' perception to the actual performance. The Fifth Gap Theory particularly identifies the relationship between consumers' expectation and perception. The five gaps have been

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<sup>72</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1985) "A Conceptual Model of Service Quality and its implication for Future Research" *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

recognized as the foundations of the development of SERVQUAL. The definitions of the gaps are as follows:

Gap 1 – Difference between consumer expectations and management perceptions of consumer expectations

Gap 2 – Difference between management perceptions of consumer expectations and service quality specifications

Gap 3 – Difference between service quality specifications and the service actually delivered

Gap 4 – Difference between service delivery and what is communicated about the service to consumers

Gap 5 – Difference between consumer expectations and perceptions.

#### **3.4.1.2 The instrumentation of SERVQUAL (1985-1988)**

With a conceptual framework of service quality assessment, Parasuraman *et al.* (1988)<sup>73</sup> have developed SERVQUAL for the assessment of customer perceptions and expectations of service quality in service and retailing organizations.

SERVQUAL is an instrument with twenty-two paired of performance/expectation items, in which its operation is based on the 5th Gap which gives rise to the famous equation:  $Q$  (Quality) =  $P$  (Perception) minus  $E$  (Expectation). Each pair of item is given two scores (one for performance and the other for expectation) as indicator of customer's

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<sup>73</sup> Parasuraman, A., Zeithaml Valerie A., and Berry Leonard L. (1988) "Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality", *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

perceived and expected service quality respectively. The difference of these scores gives rise to service quality.

The twenty-two paired items were evaluated and reflected the five distinct but inter-correlated service quality dimensions: tangible, reliability, responsiveness, assurance and empathy.

Parasuraman *et al.* proposed that the instrument has been designed to be applicable across a broad spectrum of service.

#### **3.4.1.3 The Growth of SERVQUAL (From 1990s onwards)**

In light of the development of the novel measurement tool, many scholars have been attracted to the researching of SERVQUAL. Triggered by this, numerous examinations towards SERVQUAL have been done and criticisms towards the preliminary SERVQUAL have been raised. With such criticisms, the Model has been re-assessed and modified. Alternatives to SERVQUAL have been developed to supplement the deficiencies of SERVQUAL.

Carmen (1990)<sup>74</sup> attempted one of the earliest efforts to comment on SERVQUAL. He assessed the scale's reliability and validity. He emphasized the importance to modify some items or wordings and provide validity and reliability checks on the modified items before application to

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<sup>74</sup> Carman, James M. (1990) "Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions" *Journal of Retailing*, Vol. 66, No. 1, pp. 33-55.

each service setting.

A year later, Parasuraman, Zeithaml and Berry (1991b)<sup>75</sup> refined SERVQUAL scale and reassessed the reliability, factor structure and validity of the revised instrument. Wordings of several items in the original SERVQUAL were clarified or changed to avoid confusion and improve feedback. An assessment of the overall service quality is also incorporated into the Model. The subsequent statistical tests, e.g. Cronbach's alpha, give good evidences that refined SERVQUAL is better instrument to assess service quality. In the same year, Parasuraman *et al.* (1991)<sup>76</sup> empirically examined organizational barriers to delivering high quality service performance as measured by customers' perceptions and expectations.

Parasuraman *et al.* (1990)<sup>77</sup> have also extended its methodology with an inclusion of an importance weighing test to each of the five dimensions for gap comparison. The five dimensions of SERVQUAL were now weighted in terms of the relative importance which customers place on them.

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<sup>75</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1991b) "Refinement and Reassessment of the Servqual Scale (Multiple-Item Scale for measuring Service Quality)", *Journal of Retailing*, Vol. 67, No. 4, pp. 420-450.

<sup>76</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1991) "Perceived Service Quality as a Customer-Based Performance Measure: An empirical Examination of Organizational Barriers Using an Extended Service Quality Model", *Human Resource Management* (1986-1998), Vol. 30, No. 3, pp. 335.

<sup>77</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1990) *An empirical examination of relationships in an extended service quality model*. Cambridge, MA: Marketing Science Institute.



### 3.4.2 SERVPERF model

Despite the popularity of SERVQUAL, several scholars have suggested shortcomings that limit its usefulness. (Carmen 1990<sup>78</sup>; Cronin & Taylor 1992<sup>79</sup>; Teas 1993<sup>80</sup>; Brown, Churchill & Peter 1993<sup>81</sup>) In their research, one of the shortcomings suggested is that the expectations/performance gap model which underlies the conceptual development of SERVQUAL is inadequate or even erroneous. (Cronin & Taylor 1992; Teas 1993; Brown, Churchill & Peter 1993)

SERVPERF was first employed by Cronin and Taylor (1992). Cronin & Taylor (1992) has done a comprehensive study on alternatives of SERVQUAL to compare four alternatives measures of SERVQUAL – unweighted SERVPERF, weighted SERVPERF, unweighted SERVQUAL and weighted SERVQUAL. They have found that the unweighted performance-only measure, i.e. SERVPERF, consistently outperformed any of the other competing models, i.e. weighted SERVPERF, unweighted or weighted SERVQUAL.

Moreover, Cronin and Taylor (1992) identified a confusion left by service literature, which is the ambiguous relationship between customer satisfaction and service quality, with an addition of purchase intention. They have found that the measure of service performance produced better results than SERVQUAL.

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<sup>78</sup> Carman, James M. (1990) "Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions" *Journal of Retailing*, Vol. 66, No. 1, pp. 33-55.

<sup>79</sup> Cronin, J. Joseph and Steven A. Taylor (1992) "Measuring Service Quality: A Reexamination and Extension" *Journal of Marketing*, Vol 56, No. 3, pp. 55-68.

<sup>80</sup> Teas, R. Kenneth (1993) "Expectations, Performance Evaluation, and Consumers' Perceptions of Quality" *Journal of Marketing*, Vol. 57, pp. 18-34.

<sup>81</sup> Brown, Tom J., Gilert A. Churchill Jr., and J. Paul Peter (1993) "Improving the measurement of service quality" *Journal of Retailing*, Vol. 69, No. 1, pp. 127-139

Furthermore, Teas (1993)<sup>82</sup> continued the examination of the conceptual and theoretical framework of PZB's research. Both conceptual and operational definitions of expectation were highly questioned. Measurement validity problems concerning the operationalization of the P (Perception) minus E (Expectation) measurement framework is reviewed.

### 3.5 The Inadequacy of SERVQUAL/SERVPERF

Upon the development of SERVQUAL/SERVPERF, there have been many criticisms. One of those is that SERVQUAL/SERVPERF mainly focuses on the service delivery process. (Gronroos 1984<sup>83</sup>; Richard & Allaway 1993<sup>84</sup>; Kang & Fames 2004<sup>85</sup>) This happens, however there is a general perspective that service quality is not a single attribute construct (Cronin & Taylor 1992<sup>86</sup>; Gronroos 1984; Parasuraman *et al.* 1985<sup>87</sup>, 1988<sup>88</sup>)

Gronroos (1982, 1990), Lehtinen and Lehtinen (1982 in Kang 2006)<sup>89</sup> noted that the quality of service as perceived by customers has three dimensions:

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<sup>82</sup> Teas, R. Kenneth (1993) "Expectations, Performance Evaluation, and Consumers' Perceptions of Quality" *Journal of Marketing*, Vol. 57, pp. 18-34.

<sup>83</sup> Gronroos, C. (1984) "A Service Quality Model and its Marketing Implications" *European Journal of Marketing*, Vol. 18, No. 4, pp. 36-44

<sup>84</sup> Richard, M.D. and Allaway, A.W. (1993) "Service Quality Attributes and Choice Behaviour" *The Journal of Services Marketing*, Vol. 7, No. 1, pp. 59-68.

<sup>85</sup> Kang Gi-Du and James J. (2004) "Service quality dimensions: an examination of Gronroos's service quality model" *Managing Service Quality*, Vol. 14, No. 4, pp. 266-277.

<sup>86</sup> Cronin, J. Joseph and Steven A. Taylor (1992) "Measuring Service Quality: A Reexamination and Extension" *Journal of Marketing*, Vol 56, No. 3, pp. 55-68.

<sup>87</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1985) "A Conceptual Model of Service Quality and its implication for Future Research" *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

<sup>88</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1988) "Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality", *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

<sup>89</sup> Kang Gu-Di (2006) "The hierarchical structure of service quality: integration of technical and functional quality" *Managing Service Quality*, Vol. 16, No. 1, pp. 37-50.

functional (or process) dimension, technical (or outcome) dimension and image. Even the developers of SERVQUAL initially suggested that service quality consists of functional (process) and technical (outcome) dimensions (Parasuraman *et al.*, 1985)<sup>90</sup>.

A further argument is that utilizing only functional quality attributes to explain and/or predict consumers' behaviour may be a misspecification of service quality and have low predictive validity. (Richard & Allaway 1993<sup>91</sup>; Kang & Fames 2004<sup>92</sup>)

Richard and Allaway (1993) have done a research on the service offered by Domino. Domino is a company which produces a tangible product (pizza) as well as providing intangible services (e.g. quick delivery). The consumer evaluates the outcome (e.g. tastiness of the pizza) and the process (e.g. swiftness of the delivery) of service delivery. As SERVQUAL utilizes only the process quality attributes, Richard and Allaway (1993) have concluded that the predictive validity and diagnostic usefulness of SERVQUAL are both questionable.

From research done on service quality offered by two firms of the largest sales volume each from four service industries, which include banks, fast-food restaurant, trains/subways and hair salons, Powpaka (1996)<sup>93</sup> has found that the outcome

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<sup>90</sup> Parasuraman, A., Zeithaml Valerie A., and Berry Leonard L. (1985) "A Conceptual Model of Service Quality and its implication for Future Research" *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

<sup>91</sup> Richard, M.D. and Allaway, A.W. (1993) "Service Quality Attributes and Choice Behaviour" *The Journal of Services Marketing*, Vol. 7, No. 1, pp. 59-68.

<sup>92</sup> Kang Gi-Du and James J. (2004) "Service quality dimensions: an examination of Gronroos's service quality model" *Managing Service Quality*, Vol. 14, No. 4, pp. 266-277.

<sup>93</sup> Powpaka, S. (1996) "The role of outcome quality as a determinant of overall service quality in different categories of services industries: an empirical investigation" *Journal of Services Marketing*, Vol. 10, No. 2, pp. 5-25.

quality is an important determinant of overall service quality generally. In addition, Powpaka has concluded that difficult services have different significant determinants and outcome quality is a significant determinant of the overall service of services with either search or experience outcome qualities. For those industries with credence outcome quality, outcome quality attributes may not be a significant determinant.

Additionally, Kang and James (2004)<sup>94</sup> have noted that “the study of technical quality seems to be at an introductory stage” and “the lack of attention to technical quality requires that researchers develop their own measures to assess the dimension” although the model applied in their study has proposed a direct relationship between service quality perception and technical quality dimensions. Kang (2006)<sup>95</sup> has proposed a two-component model which yields better fit than a model concentrating on functional quality.

### 3.6 Chapter Summary

This chapter continues with Chapter Two on the literature review on service quality – how is service quality influenced. Varied and also alike views on the dimensionality of service quality have been presented. The varied view has led some researchers to suggest that there is no universal set of factors that are relevant across service industries (Cronin & Taylor 1992 in Schneider & White 2004<sup>96</sup>) while the alike views has suggested two commonly agreed service dimensions i.e.

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<sup>94</sup> Kang Gi-Du and James J. (2004) “Service quality dimensions: an examination of Gronroos’s service quality model” *Managing Service Quality*, Vol. 14, No. 4, pp. 266-277.

<sup>95</sup> Kang Gu-Di (2006) “The hierarchical structure of service quality: integration of technical and functional quality” *Managing Service Quality*, Vol. 16, No. 1, pp. 37-50.

<sup>96</sup> Schneider B. & White S. (2004) *Service Quality – Research Perspective*. California: Sage publication.

technical and functional service dimension.

Criticisms of service quality assessment tools relating to its dimensionality have also been reviewed. It is commented that these tools only focus on the functional quality attributes. But, there is a commonly agreement in the literature implying that how the service is delivered i.e. functional quality is not the sole determinants for the perceived service quality. Instead, what in fact delivered to the customers i.e. technical quality should also determine the service quality. In addition to this, the developers of SERVQUAL (Parasuraman *et al.* 1993)<sup>97</sup> stress that ‘SERVQUAL is only a skeleton’ and ‘the five dimensions may be too broad for some service industries, but too narrow for others.’

To conclude, this chapter has illustrated the fact that there are left problems with the dimensionality of service quality and inadequacy of the assessment tools. The technical quality of delivered service has been suggested to examine by some researchers. These all give direct support to the choice for modification of the service quality assessment tool. Hence, Chapter Four follows this chapter and investigates into methods for modification of the model to suit the setting required in this study.

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<sup>97</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1993) “More on improving service quality measurement”, *Journal of Retailing*, Vol. 69, 1, pp. 140

## **CHAPTER FOUR REVIEW ON PROPERTY MANAGEMENT SERVICES**

### **4.1 Introduction**

In Chapter Three, it has been discussed that service quality could be measured more broadly by not only functional dimensions, but also technical dimensions. Moreover, the popular service quality assessment tool SERVQUAL/SERVPERF apparently does not provide adequate assessment criteria for the assessment of property management service quality. A modified model should therefore be suggested for more thorough assessment on the services provided by property management companies.

Before this model is suggested, this chapter will investigate property management services, and property management services specifically for residential property in Hong Kong. Only after the investigation, it will be possible to devise a modified model for the commentary on the constituents of property management service quality and their respective roles in housing area of Hong Kong.

### **4.2 Development of Property Management**

In the early 1970s, property management has been viewed as means to control and allocate resources to solve any problems arise from the building. Property management was at an early technical stage at that time. It was designed to solve problem. Property management, particularly in the housing sector, has been defined as: "... the management of all the present and potential housing resources of an area so as to contain and then eliminate its housing problems..." (Macey and Baker 1978)

However, according to Edington (1993)<sup>98</sup>, market changes for examples globalization, competition, corporate downsizing, new technology and world-class expectations have taken place and all these force changes in the property sector to a more customer focused approach because no supplier has a guaranteed right to continued custom. As time goes by, it is believed that property management has to focus more on customer-focused approach, and get away from a separate problem-solving silo. Moreover, intangible relationship between stakeholders of the property has been given more emphasis. These result in newly emerged definitions of property management as:

“... is a social science which demands very high interpersonal skill in dealing with your customers, that is, your residents, property property users in response to their respective requirements of management services or in answer to their complaints” (Francis 1984 in Lam 1992)<sup>99</sup>

“...good management maybe defined as the application of skills in caring for the property, ... and in development a sound relationship between landlords and the property users, and between property users themselves, may give the fullest value to both the landlords and the property users. From the landlord’s point of view, it is desirable that the property should be as efficiently and economically managed and maintained as possible; while from the property users’ point of view, the property should provide a home ... for attaining the wider goal of a full and happy

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<sup>98</sup> Edington G. (1993) *Property Management – A Customer Focused Approach*. Los Angeles: Oxford.

<sup>99</sup> Lam W. Y. (1992) *Housing Management of High-Rise and High density Development in Hong Kong*. Unpublished Thesis, The University of Hong Kong.

community life.” (Macey 1982)<sup>100</sup>

As a general norm, the property sector has traditionally regarded the large property investor as its customer, and unusually have the property users been considered as the customers. However, this norm has been challenged.

The notion of customer focused approach has been further elaborated by Parasuraman, Zeithaml and Berry (1988)<sup>101</sup> as “...perceived service quality is... degree and direction of discrepancy between consumers’ perceptions and expectations.” In addition, Lyons et al. (1996) stresses that quality service should be delivered to meet customers’ needs and expectations or else, it would be useless: “...customer’s perception of quality service is determined by internal comparison of an agent’s performance with expectations.”

Specified also in Edington (1993)<sup>102</sup>, the first person who voiced out the importance of customer in property management, in order to meet the objective of being more customer-focused, it is suggested that property management must be approached with an understanding of what management means from the customer’s perspectives. Conflicts between property owners and users (both are customers) must be recognized and reconciled. With better understanding of the objectives of customers, i.e. adoption of customer focused approach; property management company can easily spot out changes and be distinguished from its competitors. Hence, deeper exploration into property users’ objectives has been encouraged.

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<sup>100</sup> Macey J.P. (1982) *Housing Management*. London: The Estate Gazette.

<sup>101</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1988) “Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality”, *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

<sup>102</sup> Edington G. (1993) *Property Management – A Customer Focused Approach*. Los Angeles: Oxford.



### **4.3 Hong Kong market**

Having discussed the development, as well as the general trend of growth of property management, the question of ‘whether this trend applies in the Hong Kong situation’ is still subject to the fundamental nature of the market which would affect the execution of property management. In the following, the historical development of private housing would therefore be discussed as to explore whether or not existed similar trend of customer-focused approach. The characteristics of Hong Kong housing market would also be studied to aid the discussion.

#### **4.3.1 Historical development of Private Housing**

##### **4.3.1.1 From 1950s to 1960s**

After World War II, population of Hong Kong had been sharply rising. Along with considerable damages to existing building structures, influx of Chinese immigrants and miserable living conditions in prewar houses resulted from scarce space; there was immense demand for housing. However, the role for new housing provision was left to the private enterprise despite limited resources to cope with the demand. It was only after the disastrous fire at Skep Kip Mei squatter estate in 1965, the government subsidized cheap public rental housing. Still, there was a lack of accommodation, let alone satisfactory accommodation for a vast majority of people those days. And this could explain why generally expected from property at that time was simply a physical shelter, no matter ill-facilitated, for the sake of settlement.

#### 4.3.1.2 From 1970s to 1980s

As time went by, economy grew. The stability of society increased as well. After the economic recession in early 1970s, a trend in the private housing market was emerged – towards home ownership and away from traditional domination by landlords (Lam 1992)<sup>103</sup> The percentage of owner occupation was increased from 26% in 1962/1966 to 49% in 1968/69 (Hopkins 1972 in Lam 1992) This figure indicated a growth in the wealth of people and eagerness to own their properties as well, which led to an increase in demand for properties.

#### 4.3.1.3 From 1980s to 1990s

During 1980s and early 1990s, Hong Kong had enjoyed its prosperity. With the ever-growing demand for properties, people also demanded higher living standard and better living environment. With the enthusiasm of property management companies to promote professionalism within the industry, an atmosphere for quality was created. High quality private housing with good housing management became a new commodity for people.

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<sup>103</sup> Lam W. Y. (1992) *Housing Management of High-Rise and High density Development in Hong Kong*. Unpublished Thesis, The University of Hong Kong.

#### **4.3.1.4 From 1990s onwards**

The trend of non-stop escalating domestic household emerging from early 1970s has continued to persist. It has not been even interfered by any circumstances, such as Asian Financial Crisis and SARS which were broken out in Year 1997 and Year 2003 respectively, when property prices and also number of transactions dropped severely from the peak. (See Appendix I and II) In Year 2003, the economy of Hong Kong has begun its recovery. The property market has been active again. The amount of persons engaged in the real estate industry in Hong Kong sharply increased from 70,262 to 95,895 (36% increase) in a short period of ten years from Year 1995 to Year 2005. (See Appendix III)

Property is no longer viewed as merely a facility; people not only have expectation towards property with the growth of this sophisticated society, but predictably become far more demanding on the quality of property. To give value for money to these people by property management becomes a powerful tool for developers to succeed in the market in a long run.

#### **4.3.2 Characteristics of Private Housing**

Accompanied with the swift changing development found in the Hong Kong housing market which have just been mentioned, certain unique characteristics associated in it have made Hong Kong become a

very outstanding case which is worthy of deep examination. Such unique characteristics of private housing in Hong Kong can be summarized as three “highs”: (1) high rise, (2) high density and (3) high price.

Hong Kong has been famous for its mini size (of just over 1,000 sq. metres) and high population (of more than 7,000,000), constituting a density which is among the highest all over the world. Inevitably, Hong Kong has been facing with severe land resource shortage problem ever since. With hilly topography, the government and private developers have adopted high rise and high density. Multi-storey buildings have therefore brought into existence. However, according to conducted researches (Schmitt 1963, Wilner and Baer 1970, Chan 1978 in Lam 1992)<sup>104</sup>, the characteristics of private housing in Hong Kong – high rise and high density, do not necessarily create social and spatial problems. However, it is not implied that all high rise and high density development would have a good living environment as well. Prerequisites should be met before a satisfactory environment can be provided. Hence, sound property management to help to upkeep and maintain the property and to prevent deterioration is required.

As established from the Section 4.3.1., reimbursement in the form of providing quality services is one of the current practices. Meanwhile, as discussed in this section, the inherent characteristics of the buildings in Hong Kong, which are high rise and high density, compounded with the

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<sup>104</sup> Lam W. Y. (1992) *Housing Management of High-Rise and High density Development in Hong Kong*. Unpublished Thesis, The University of Hong Kong.

soaring property price, further strengthens the role of property management in this aspect.

Property management, as a primary key to upkeep and maintain the property as well as creating a better living environment, is far more anticipated to generate additional value for money to reimburse the property users.

#### **4.4 Regulatory Framework**

Like most of the services<sup>105</sup>, property management is regulated by Law, Regulations, or Code of Practice. Failure to provide services in complement with these requirements may lead to a civil or criminal proceeding. This demonstrates the seriousness of the matter when property management is ignorant of these requirements. This also supports the significance of these components to property management. In the absence of any of these components, quality of property management services would definitely be affected.

Moreover, this regulatory framework provides governance for those who own a property. It assists and controls the decision making process of the owners in respect of their rights and obligations. Minimum requirements for operation of property management are set out within the framework. It certainly dictates the decision of the owners on what to expect from the property manager.

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<sup>105</sup> The definition of 'services' could be found in Section 2.2.

#### 4.4.1 Formal Arrangements

There are two formally arranged systems for property management in Hong Kong housing market, which are systems run under the Deed of Mutual Covenants (DMC) and those run under the Building Management Ordinance (BMO).

##### Deed of Mutual Covenants (DMC)

The regulatory control by DMC is contractual in nature. In accordance with Kent (2002)<sup>106</sup>, the theory of freedom of contract suggests that the formation of contract is voluntary and the contract itself is a mutual agreement between two parties. Until 1987, the content of DMC was however mainly a matter for developer. Even more, although the developer and first purchaser appointed and agreed to appoint a management company to manage the building, the developer on its own selected the manager in reality. It was only then faced with a number of court cases and complaints from the public which led government to introduce a non-statutory system of approval of DMC as a part of Consent Scheme. Guidelines for drafting DMC were published by government not long later, as part of process for obtaining consent under the Consent Scheme. The developer is thus required to submit and obtain government approval for a DMC. DMC has remained to be a deed binding the owners.

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<sup>106</sup> Kent, P., Merry, M. and Walters, M. (2002) *Building Management in Hong Kong*. LexisNexis, Hong Kong.

Typically, every multi-storey building has its own Deed of Mutual Covenant (DMC). It is no exception to estate type residential development. According to Kent *et al.* (2006)<sup>107</sup>, “DMC contains covenants between owners, and obligations between the manager and the owners”. The precise nature and scope of each individual DMC depends on the facts on each building. Although the content of DMC may vary across different buildings, generally speaking, certain property management standard and practices outlined in DMC are opted to be observed from the appointed property manager for procuring services such as repair, maintenance and cleansing. It is impossible to provide a complete list of the types of clauses in all DMC, but there are some typical obligations which are commonly expressed under a DMC. As quoted from Robinson (1988), clauses as such well include “to repair and keep in good repair and condition the main structure and fabric of the Estate and the Common Areas, their equipments, apparatus, services, facilities and if necessary to replace any part or parts thereof which require replacement.”

#### Building Management Ordinance (BMO)

The control of BMO is statutory in nature. According to Kent (2002), BMO confers rights and imposes management duties on the corporation created under BMO. Those rights and duties are independent of those arising under the DMC. When there are conflicts between BMO and DMC arise, the BMO always prevails over any provisions in the DMC which are inconsistent with it.

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<sup>107</sup> Kent, P., Merry, M. and Walters, M. (2002) *Building Management in Hong Kong*. LexisNexis, Hong Kong.

Under Section 44(b) of Building Management Ordinance (BMO) concerning the Code of Practice, it is said “the standard and practices of management and safety that are to be observed and followed by a corporation including standards and practices relating to (1) building management, (2) building safety, (3) fire safety, (4) slope safety, (5) lifts and escalators and (6) utilities and other installations in the common parts of a building.” In the Code of Practice, detailed guidelines for standards of building management and maintenance are included. Duties of owners, office-bearers of management committee of owners’ corporation, office bearers of owners’ committees, managers, building managing agents, management companies and etc to manage the common parts<sup>108</sup> of the buildings are set out.

#### **4.4.2 Informal Arrangements**

Not only has the importance and advantages of technical property management dimensions been confirmed in the formal arrangements as mentioned, but also in the literature of building management.

Ho *et al.* (2005)<sup>109</sup> has tailor-made Building Quality Index (BQI) which is made up of two indices, the Building Health and Hygiene Index (BHHI) and Building Safety and Conditions Index (BSCI) which comprises a set of performance indicators. These indicators are to evaluate the health and safety

<sup>108</sup> Definition of “common parts” is given under First Schedule to the Building Management Ordinance.

<sup>109</sup> Ho, D.C.W, Chau, K.W., Wong, S.K., Yau, Y. and Cheung A.K.C. (2005) “The Building Quality Index – A tool of building classification”, *Proceedings of the CII-HK Conference 2005 on Healthy Building*, Hong Kong, 30 Novemeber 2005, pp. 37-45.



performance of multi-storey buildings in Hong Kong. This mechanism has been applied to provide screening and to classify quality of residential buildings over eighteen districts of Hong Kong. Hence, to provide stakeholders more building quality information which has been hidden in the past that would have an adverse long-term effect on the living environment. In addition, other researchers joining in the project has reinstated that “Health and safety are the most fundamental requirements of a habitable building.” (Wong, S.K. et. al 2005)<sup>110</sup>

#### **4.5 Services by Property Management Companies**

So far, the author has reviewed Hong Kong housing market development, housing market characteristics and existing market constraints. All these well support the logic developed in Chapter Three which says the property management service quality should be evaluated more broadly on both the technical and functional aspects; and hence support the suggestion to devise a modified model for service quality assessment of housing market in Hong Kong. In the following sections, rationale for this suggestion will be further examined by assessing the property management services.

##### **4.5.1 Variety of services provided**

In general, standardized services by property management companies include security and safety control, day-to-day cleaning, hygiene

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<sup>110</sup> Wong, S.K., Cheung, A. K.C., Yau, Y., Ho, D. C.W. and Chau, K.W. (2005) “Using the Building Quality Index to measure building performance in Hong Kong”, *Proceedings of the CII-HK Conference 2005 on Healthy Building*, Hong Kong, 30 November 2005, pp. 47-54.

upholding, repair and maintenance. Lam (2003)<sup>111</sup> suggested that, in fact, a greater variety of comprehensive and effective services should be expected from property management companies to cater for every aspect of life of residents. The indigenous services may well include comprehensive household insurance, home cleaning, pest control and etc.

#### 4.5.2 Characteristics of the services provided

As noted in Section 2.3, different services have different nature, some with more search attributes, some experience and some credence. With more credence nature, customers would have less ability to assess the services by the delivery outcome. This is to say, not all service quality could be assessed by technical quality due to the lack of capability for customers to make personal judgment, for examples, services like health care and law. (Schneider & White 2004 p. 3)<sup>112</sup> Hence, delivery process i.e. functional dimensions like Reliability, Responsiveness, Assurance of the service, becomes the sole assessable part of services in these services.

For property management services, many search attributes like appearance of building, cleanliness of common areas, and modernity of security systems can be 'searched' and assessed. These search attributes are referred to service outcome. Service outcomes will be the hardware of property management companies offered to provide the property users with a comfortable resting place, for examples, security and safety services,

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<sup>111</sup> Lam S. N. C. (2003) *Property Management and Property Value of high-rise Private Residential Buildings in Hong Kong*. Unpublished thesis, The University of Hong Kong.

<sup>112</sup> Schneider B. & White S. (2004) *Service Quality – Research Perspective*. California: Sage publication.

repair and maintenance services, health and hygiene services.

The provision of property management services involves two basic participants: the service provider e.g. a property management company and the 'customers' i.e. property users. A property management company offers services to property users through its staff. The day-to-day operation of the company provides its staff the closest contact with the property users. In the eyes of the property users, how the staff perform represents the performance of the property management companies (Parasuraman *et al.* 1985)<sup>113</sup>. The staff performance therefore affects the service quality of the property management companies. Hence, from how these property management services are transferred to the customers by staff, the service delivery process can also be assessed.

In short, the service quality of property management companies to property users can be measured in at least two perspectives: one measuring the actual service received (service outcome) and the other measuring the way in which the service is delivered (service delivery process).

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<sup>113</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1985) "A Conceptual Model of Service Quality and its implication for Future Research" *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.

### **4.5.3 Quality of Service provided**

#### **4.5.3.1 Quality Assurance System**

Quality assurance is defined as “all those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality” by International Organization for Standardization (ISO), which is a non-government, internationally recognized body. To facilitate the implementation of quality assurance, ISO issued a series of documents in 1987: ISO 9000, ISO 9001, ISO 9002, ISO 9003 and ISO 9004, commonly known as the ISO 9000 Series.

In quality property management, standard guidelines, principles and procedures are set up to establish, document and maintain an effective and economic quality system its internal management to demonstrate a commitment to quality. With the obtainment of such recognition, it can provide customers with confident that requirement for quality, effective, efficient and economic services are being delivered.

#### **4.5.3.2 Award of Quality Services Standards**

Annual competitions have been conducting by various organizations, such as Hong Kong Housing Authority, Hong Kong Management Association, Hong Kong Productivity Council, Hong Kong Retail Management Association, to award prizes to property management

companies which provide well-managed services. Prizes include ‘The Best Property Management Agents’, ‘Certificate of Excellence’, ‘Grand Prizes for Services’, ‘Customer Service Merit Award’ and etc.

All these awards to quality service performers strongly affirm the business strategic and development trend of property management to be ever competitive with continuous growth and achievements.

#### **4.6 Grounds for SERVQUAL/SERVPERF and its modification**

As noted in the above sections, quality assurance system and award of quality services standards have been developed to classify property management companies from good or bad, by evaluating their provided services. Yet, implications for any areas of improvement of the property management services perhaps in a particular area will be not given through these systems or standards. Hence, it further demonstrates the necessity for the investigation into constituents of quality of property management based on the skeleton of SERVQUAL/SERVPERF.

Notwithstanding the popularity of SERVQUAL/SERVPERF for service quality assessment, doubtfulness still remains concerning its use over the property management sector. This is partly because the applicability of SERVQUAL/SERVPERF onto the real estate sector is, in fact, still questionable because: first, SERVQUAL/SERVPERF is not generic enough to be applied to any service (Carmen 1990); second, SERVQUAL/SERVPERF is needed to be customized and much refinement may be needed for specific companies and

industries (Carmen 1990; Parasuraman *et al.* 1991<sup>114</sup>; Cronin & Taylor 1992<sup>115</sup>; Brown *et al.* 1993); and third, the results from other sectors cannot be sufficiently generalized to other industries.

On the other hand, it should also be noted that property management service is highly based on its technical expertise as have discussed in Section 4.4 and Section 4.5. However, simply from SERVQUAL/SERVPERF, there is hardly any implication for property management service as such. Even so, technical quality should be thought to be one of the determinants of the service quality as have mentioned before (Gronroos 1984<sup>116</sup>; Parasuraman *et al.* 1988<sup>117</sup>).

Additionally, functional aspects of service quality should never be overlooked in any service industries as reminded in Section 4.2 and Section 4.3. It sounds more accurate to Hong Kong situation, as legislation, standards or other guidelines have already been issued to ensure the achievement of at least baseline standard for technical performance of property management. Moreover, as explained in Section 4.2, it is because Hong Kong has a great and continuous demand for high standard of housing with excellent services by people for their return of investment.

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<sup>114</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1991) "Perceived Service Quality as a Customer-Based Performance Measure: An empirical Examination of Organizational Barriers Using an Extended Service Quality Model", *Human Resource Management* (1986-1998), Vol. 30, No. 3, pp. 335

<sup>115</sup> Cronin, J. Joseph, Jr. and Taylor, Steven A. (1992) "Measuring Service Quality: A Reexamination and Extension" *Journal of Marketing*, Vol 56, 3, pp. 55.

<sup>116</sup> Gronroos, C. (1984) "A Service Quality Model and its Marketing Implications" *European Journal of Marketing*, Vol. 18, No. 4, pp. 36-44

<sup>117</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1988) "Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality", *Journal of Retailing*, Vol. 64 No 1, pp.12-40.

## 4.7 Chapter Summary

Almost all services, including those with predominantly credence<sup>118</sup> nature can be assessed by functional dimensions which measure how the services are transferred.

Through examination into the Hong Kong situation, importance of functional dimensions, especially for the private housing sector, has been reminded again in this chapter. Aside the functional service dimensions, this chapter has put further emphasis on the study of the content of technically sided 'property management services' from the regulatory and practical aspects so as to support the logic that property management services to be fit into technical and functional aspects for assessment. Besides, the examination supports the logic developed in Chapter Three to incorporate both the technical and functional aspects for property management service quality assessment purpose.

Finally, this chapter has identified constituents for quality assessment of property management service in private housing area - technical quality and functional quality. The discussion of the detailed modification of the quality assessment model for property management service will be deferred to Chapter Five.

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<sup>118</sup> The meaning of 'credence' could be found in Section 2.3.2.

## **CHAPTER FIVE            RESEARCH METHODOLOGY**

### **5.1            Introduction**

This chapter will describe the methodology used in the study. The covered topics include a new model, research design, sample design, data collection and data analysis methods.

### **5.2            A Modified Model**

This design of the whole research is based upon the SERVQUAL model described in Chapter Three. In Chapter Three, five service dimensions, namely Tangibles, Reliability, Responsiveness, Assurance and Empathy, pertaining to the overall service quality have been introduced. Criticisms to SERVQUAL model and its alternative have been also reviewed.

In this research, a number of modifications are to be made to SERVQUAL model. One major change is the introduction of the technical service attributes. Some of functional service attributes are kept with amendments and the rest are either added or deleted.

A model has therefore been designed and developed to apply in this study. Two categories of measures will be included in this new model: the technical measures and functional measures, as discussed in Chapter Three and Chapter Four. Due to the deficiency of the SERVQUAL/SERVPERF model as have discussed and that there is no measures available for assessment of technical quality of service delivered by the



interested group – property management company, four items for measurement are, therefore utilized and added to the SERVQUAL/SERVPERF Model. They will be introduced into the new model regarding the unique nature of property management services. The functional measures in the SERVQUAL/SERVPERF will also be reviewed. The suitable measures will be remained and refined. The inappropriate measures will be deleted while the useful measures will be introduced. The following sections explain the formation of this new model.

### **5.2.1 Technical Service Quality vs. Functional Service Quality**

A total of eight service dimensions have been developed in this study to examine the perceived quality of service provided by the property management company in the eyes of the respondents, which are the residents of the selected property listed in Section 4.3. The eight service dimensions are security, safety, health and hygiene, maintenance, assurance, responsiveness, empathy and communication. The former four dimensions can be further categorized into the technical service performance and the later four into the functional service performance.

### **5.2.2 Technical Service Quality**

Technical service quality is the quality measuring the service outcome performance of the property management company. What the property users of the targeted buildings have actually received from the property management company is assessed by this quality. Technical service attributes are developed with reference to the daily operational functions of a property management

company.

#### **5.2.2.1 Rationale behind the addition of technical attributes**

Hong Kong is where population is highly dense and is ranked as one of the most densely populated city over the world. Most of the residential buildings in Hong Kong are closely packed together with a large number of floors to accommodate a vast number of occupants. Issues of security and safety of are becoming more and more important to protect inhabitants in case of any fire, crime and other potential dangers.

Besides, property management services aim ultimately at optimizing the value of property. Its success depends largely on the quality of maintenance, health and hygiene which contribute to a comfortable living environment for the inhabitants.

Four technical dimensions, namely security, safety, maintenance, health and hygiene are resulted to assess the quality of the property management services. Detailed explanation of the introduction of these dimensions is explained in the following sections.

#### **5.2.2.2 Addition of Technical attributes**

Security and safety have assumed a critical role in the design and operation of residential buildings to cope with the threat of fire, crime, and other potential dangers encountered. Throughout the years, public

awareness attitude toward office building safety and security has been raised partly because of rising crime, violence, and terrorism. In order to dispel these fears, property management services must assist not only to remedy the losses already incurred but also to prevent future losses.

‘Security’ is a dimension developed and used to assess the services provided by a property management company to protect the occupants from economic or financial losses, e.g. theft. Three items have been developed under this dimension:

Item 1 – Security systems in use (e.g. burglar alarm systems, video surveillance systems, closed-circuit television)

Item 2 – Patrolling and guarding by the Property Management Company’s security staff

Item 3 – Access Control, crowd and traffic control for visitors and incoming vehicles

#### Security systems in use

Technically, a building can be made reasonably safe and secure by security planning.

Security planning begins with the perimeter of the premises to be protected. A complete inspection of the exterior of the residential building should be made to search for potential danger spots. No area should be overlooked and the main access points including the entrance and exit

should be paid careful attention. Video surveillance system and Closed-circuit television (CCTV) are two useful security systems for monitoring purpose.

A security office is headquarter for the guard force. The fire control system, CCTV, public address system and other alarm systems (including fire alarm, burglar alarm and intrusion alarm) are connected to this room through visual and audio control.

#### Patrolling and guarding

For security, inspection of the interior of the residential building is another phase to detect possible security problem. This job is normally done by the security guard who is employed by the owner and manager for the security of the building and occupants. The areas for inspection usually covered in a floor-by-floor patrol of a residential building are public corridors, rest rooms, garage and stairwells. While patrolling, the guard should look for unlocked doors, individuals without proper ID, potential fire hazards, and anything out of ordinary.

#### Access Control, crowd and traffic control

Traffic control is another area for security. The property manager should be familiar with the traffic pattern – both during normal hours and after hours.

The second technical dimension 'Safety' is developed and used to assess the services provided by a property management company to protect occupants from physical injuries, e.g. fire or crime. Three items have been developed under this dimension.

Item 1 - Emergency plans (e.g. fire outbreak, infectious diseases)

Item 2 – Provision for evacuation (e.g. no blockage in exit route)

Item 3 – Regular Inspection by Professionals (e.g. structural safety, building systems such as water and plumbing, windows)

### Emergency Plans

Emergency Procedures must be designed separately for handling each type of emergency. Major emergencies that the residential building should be prepared against are fire, power failure and crimes. For examples, in a fire control programme, the chief responsibility of the manager is to establish a relationship with full cooperation with the local fire department. A specific property management company staff who has access to a complete set of building keys should be available to guide the fireman into the building. In larger building or those in high crime rate neighbourhood, plan must be at the outset to protect the building and occupants' property.

### Provision for Evacuation

In addition to plans prepared in advance to cope with emergencies, evacuation is another important area to be considered when personal safety is being threatened right away. Measures which ensure fast and smooth

evacuation route to getting away from potential threats and dangers are a must in this area.

### Regular Inspection by Professionals

Regular inspection by professionals is a critical component for the operation a significantly sound building. Regular inspection includes the inspection for structural components, window, etc.

‘Maintenance’ is the third dimension developed and used to assess the services provided by a property management company to ensure all parts of the building to look good and fit without sign of failure. Three items are developed under this dimension.

Item 1 – Visually good and fit building (e.g. proper running of heat, ventilation, air-conditioning system, fire service systems, water supply and plumbing systems, electrical system)

Item 2 – No sign of failure (e.g. spalling or cracking, water seeping)

Item 3 – Presence of maintenance programme for regular maintenance

Preventive maintenance keeps a building operation at peak efficiency through regular inspection and repair. The aim is to catch small problem before they becomes big. Property manager should understand the major problems can be prevented and which is the most desirable way to administer a maintenance program.

Curative maintenance refers to repair that are needed to cure a

problem after it occurs. A property manager should take quick and positive action to remedy the equipment and system breakdown. The systems may include HVAC systems, fire services systems, plumbing and drainage systems, electrical systems, lift and escalator, security and public address system.

#### Visually good and fit building

Buildings have certain defects because all buildings deteriorate. For poor managed buildings, the defects are more apparent. While in well managed buildings, as long as the defects are shown, the property management will cure them at once. As a result, a well managed building is normally indicated by a visually good and fit outlook.

#### No sign of failure

Similarly, when a building has shown any sign of failure, it probably means that the building has got some problems which have not been solved. The problem can be very serious as it may endanger the lives of the inhabitants. For example, a cracking seen at regular interval may indicate a great failure of the structural system supporting the building.

#### Presence of maintenance programme for regular maintenance

To prevent the problem becomes a big one as mentioned, preventative maintenance is needed. Therefore, a presence of maintenance programme

will be essential to a building.

‘Health and Hygiene’ is a dimension developed and used to assess the services provided by a property management company provides to ensure a healthy and hygienic living space for occupants. Three items have been developed under this dimension

Item 1 – Internal Hygiene Conditions (e.g. floor and wall)

Item 2 – Treatment of refuse

Item 3 – Pest and rodent control

#### Internal Hygiene Conditions

Internal hygiene condition of the building refers to the degree of cleanliness within the public areas inside the building. Floors and walls of the public areas are examples of assessment areas.

#### Treatment of refuse

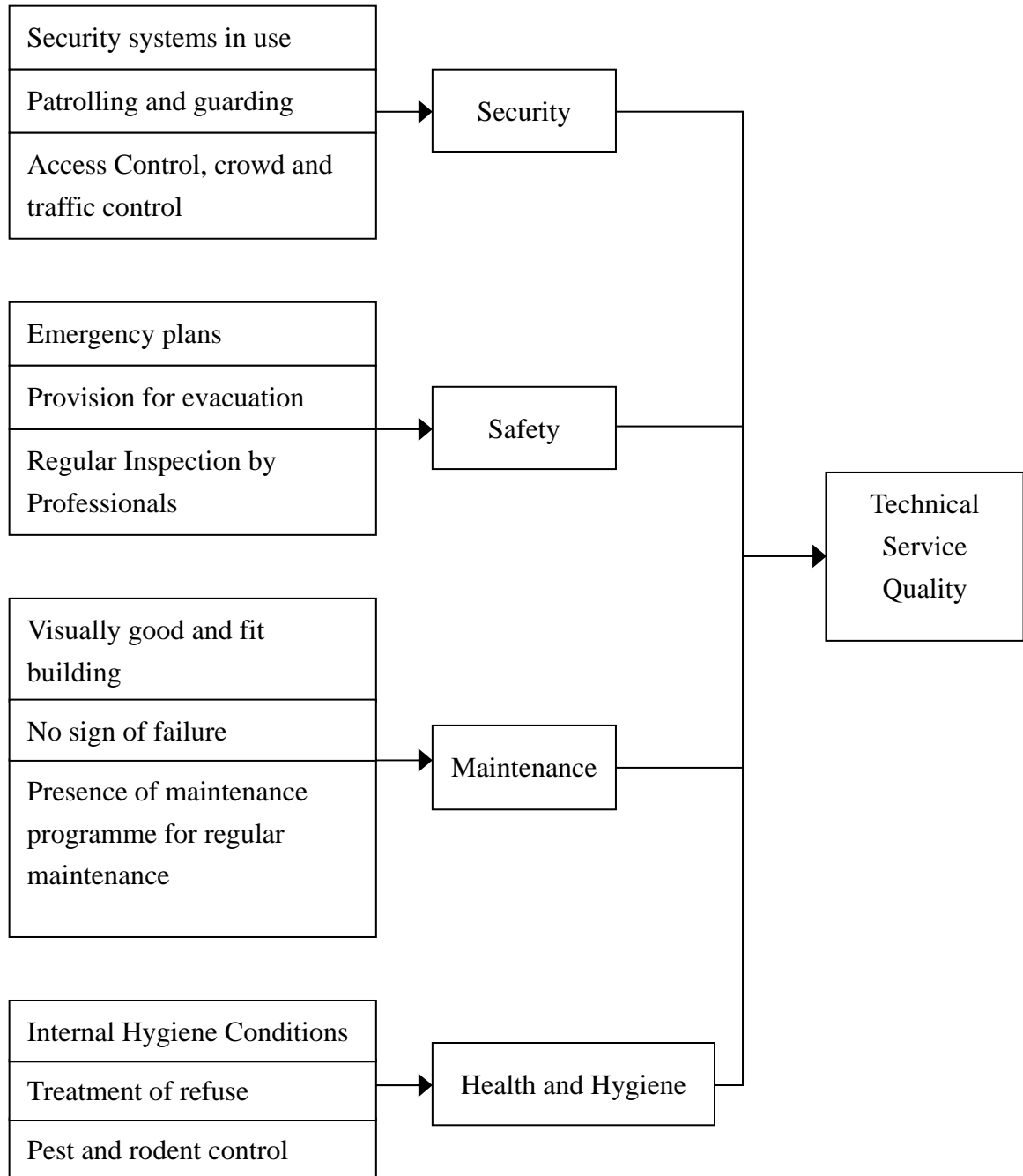
Treatment of refuse is critical to the health and hygiene of the occupants. Failure of treating the refuse properly can attract unwanted animals and bleed serious diseases, apart from leaving a disgusting smell. This item is used to assess the frequency and way of refuse treatment.

#### Pest and rodent control

Similar to treatment of refuse, pest and rodent control is critical to the



health and hygiene of the occupants. This item is used to assess the sufficiency and excellence of pest and rodent control to prevent the spread of diseases or virus within the building.



**EXHIBIT 5-1 Formation of Technical Service Quality**

### 5.2.3 Functional Service Quality

Functional service quality is the quality measuring the service delivery performance of the property management company. How the property management services offered are actually delivered and experienced by the property users of the targeted buildings is assessed by this quality.

The choice for functional attributes has been referred to SERVQUAL/SERVPERF. The full battery of revised SERVQUAL/SERVPERF includes 22 items categorized under five distinct and correlated dimensions. (Parasuraman *et al.* 1994)<sup>119</sup> For the sake of the study, the original dimensions and items of SERVQUAL/SERVPERF have been revised and modified. Fine tuning of the wordings of some items has also been made to best suit the setting. (Carman 1990<sup>120</sup>; Parasuraman *et al.* 1991<sup>121</sup>).

#### 5.2.3.1 Amendments to service attributes in SERVQUAL/SERVPERF

Two of the five functional dimensions, 'Tangibles' and 'Reliability' have been removed from the original SERVQUAL/SERVPERF.

'Tangibles' is the dimension developed and used to assess the

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<sup>119</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1994) "Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research", *Journal of Marketing*, Vol. 58, 1, pp. 111-124.

<sup>120</sup> Carman, James M. (1990) "Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions" *Journal of Retailing*, Vol. 66, No. 1, pp. 33-55.

<sup>121</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1991) "Perceived Service Quality as a Customer-Based Performance Measure: An empirical Examination of Organizational Barriers Using an Extended Service Quality Model", *Human Resource Management* (1986-1998), Vol. 30, No. 3, pp. 335

appearance of physical facilities, equipment, personnel and communication materials.” (Parasuraman *et al.* 1991)<sup>122</sup> There are four items set under this dimension:

Item 1 – Modern equipment.

Item 2 – Visually appealing facilities.

Item 3 – Employees who have a neat, professional appearance.

Item 4 – Visually appealing materials associated with the service.

The first two and the fourth items were deleted from the model because property users may not have awareness of such details about the property management company. A majority of them simply would not be concerned by the how modern or appealing the equipments, facilities or materials used by the company are as long as the company can provide what service they want. The third item was deleted because better dimensions, such as ‘assurance’ and ‘empathy’, have been utilized to measure employees’ influence onto the overall service quality.

‘Assurance’ has also been deleted from the model. It is a dimension developed and used to assess the knowledge and courtesy of employees and their ability to inspire trust and confident.’ (Parasuraman *et al.* 1991)

There are four items set under this dimension:

Item 1 – Employees who instill confidence in customers.

Item 2 – Making customers feel safe in their transactions.

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<sup>122</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valerie A. (1991) “Perceived Service Quality as a Customer-Based Performance Measure: An empirical Examination of Organizational Barriers Using an Extended Service Quality Model”, *Human Resource Management* (1986-1998), Vol. 30, No. 3, pp. 335

Item 3 – Employees who are consistently courteous.

Item 4 – Employees who have the knowledge to answer customer questions.

Knowledge is a part constituting ability. By assessing ability of the property management company to perform the services using the ‘reliability’ items, it is adequate. The fourth item was therefore deleted. The third item was deleted because items under ‘empathy’ have been measuring the similar thing. Whether confidence can be instilled depends on the reliability of the company and that item one could be deleted. The second item was deleted because property management services unlike retail services, there is hardly any transaction involved.

‘Reliability’ is a dimension developed and used to assess the ability to perform the promised service dependably and accurately. (Parasuraman *et al.* 1991)<sup>123</sup> There are five items set under this dimension:

Item 1 - Providing services as promised.

Item 2 – Dependability in handling customers’ service problems.

Item 3 – Performing services right the first time.

Item 4 – Providing services at the promised time.

Item 5 – Maintaining error-free records.

The fifth item was deleted because whether the company maintained

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<sup>123</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1991) “Perceived Service Quality as a Customer-Based Performance Measure: An empirical Examination of Organizational Barriers Using an Extended Service Quality Model”, *Human Resource Management* (1986-1998), Vol. 30, No. 3, pp. 335

error-free records or not would not arouse much of the property users' interest. Item two was deleted because handling customers' service problems depends on various factors such as whether the company provides services as promised, performs services right at the first time and provides services at the promised time. To avoid confusion by overlapping of items, the second item is deleted.

'Responsiveness is a dimension developed and used to assess the willingness to help customers and provide prompt service.' (Parasuraman *et al.* 1991)<sup>124</sup> There are four items set under this dimension:

Item 1 – Keeping customers informed about when services will be performed.

Item 2 – Prompt service to customers.

Item 3 – Willingness to help customers.

Item 4 – Readiness to respond to customers' requests.

The first item was deleted because it was better grouped under a newly introduced dimension called 'communication'. The rest of the three are kept.

'Empathy is a dimension developed and used to assess the caring, individualized attention the property management company provides its customers.' (Parasuraman *et al.* 1991) There are five items set under this dimension:

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<sup>124</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1991) "Perceived Service Quality as a Customer-Based Performance Measure: An empirical Examination of Organizational Barriers Using an Extended Service Quality Model", *Human Resource Management* (1986-1998), Vol. 30, No. 3, pp. 335

Item 1 – Giving customers individual attention.

Item 2 – Employees who deal with customers in a caring fashion.

Item 3 – Having the customer’s best interest at heart.

Item 4 – Employees who understand the needs of their customers.

Item 5 – Convenient business hour.

The third item was deleted because of its uncertainty. Every property user wants the property management company put their interest at heart but it means nothing by this. It is impossible to understand the heart of the company. The fifth item was deleted as most of the property management services need to prolong to 24-hours a day.

#### **5.2.3.2 Addition of attributes in SERVQUAL/SERVPERF**

‘Communication’ is a dimension developed and used to assess the adequacy and comprehensive of communication between the property management company and the property users. There are three items set under this dimension:

Item 1 - Providing adequate channels for communication.

Item 2 - Keeping your company informed about the services performed

Item 3 - Willing to hear your company’s opinions (e.g. regular survey)

##### Providing adequate channels for communication

This item has been developed to measure the adequacy of the means provided for the communication between the property management

company and the property users. Whether the opinions of the property users can be successfully directed to the company and be considered by the company via proper channel is measured under this item.

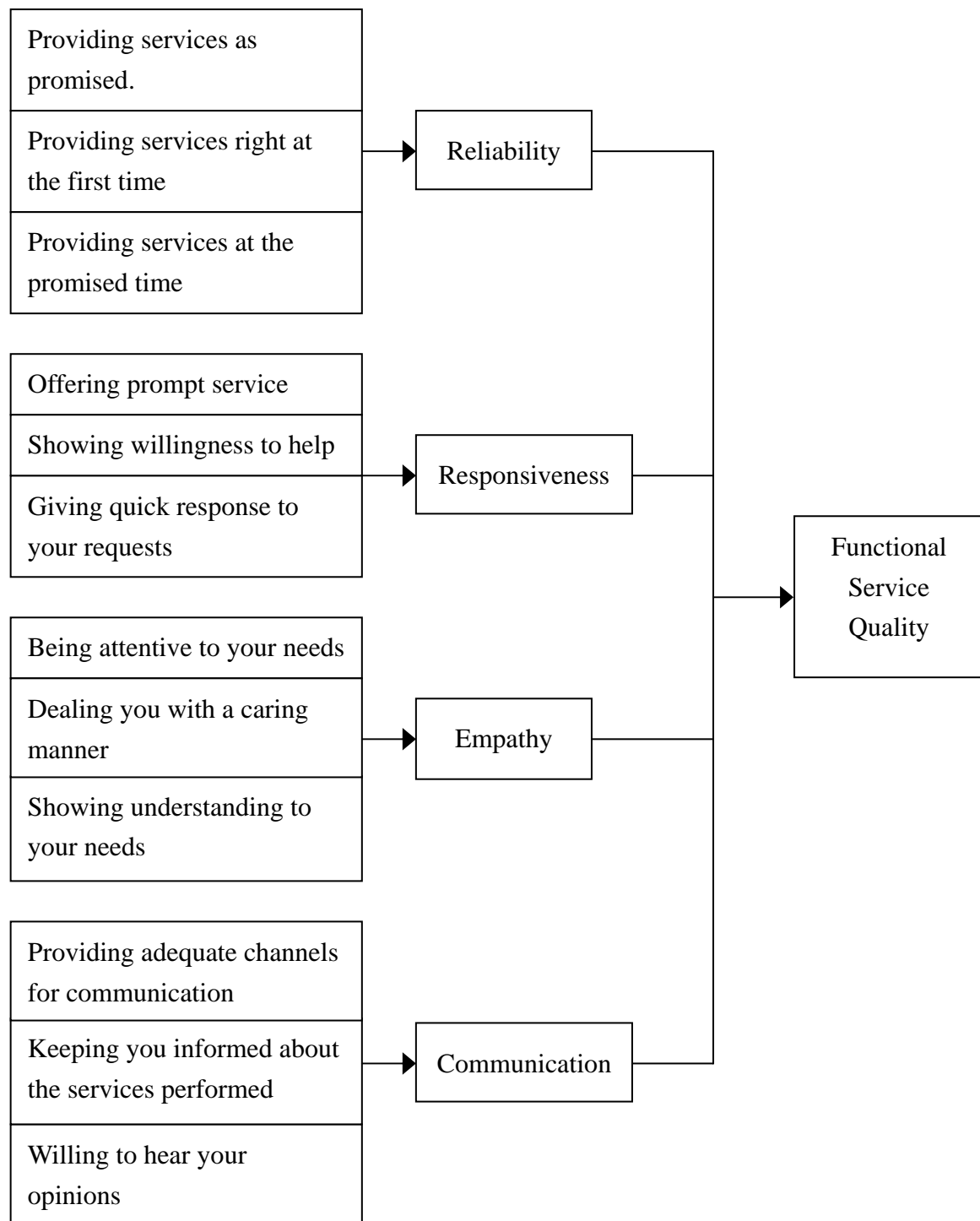
Keeping your company informed about the services performed

This item has been developed to measure whether the information of the property management company can be properly communicated to the property users and keep the users be informed of what the company is doing.

This item and the previous item combine to measure the bilateral communication between the property management company and the property users.

Willing to hear your company's opinions

This item has been developed to measure how the property management company respects and values the property users' opinions and seek improvement through communication.

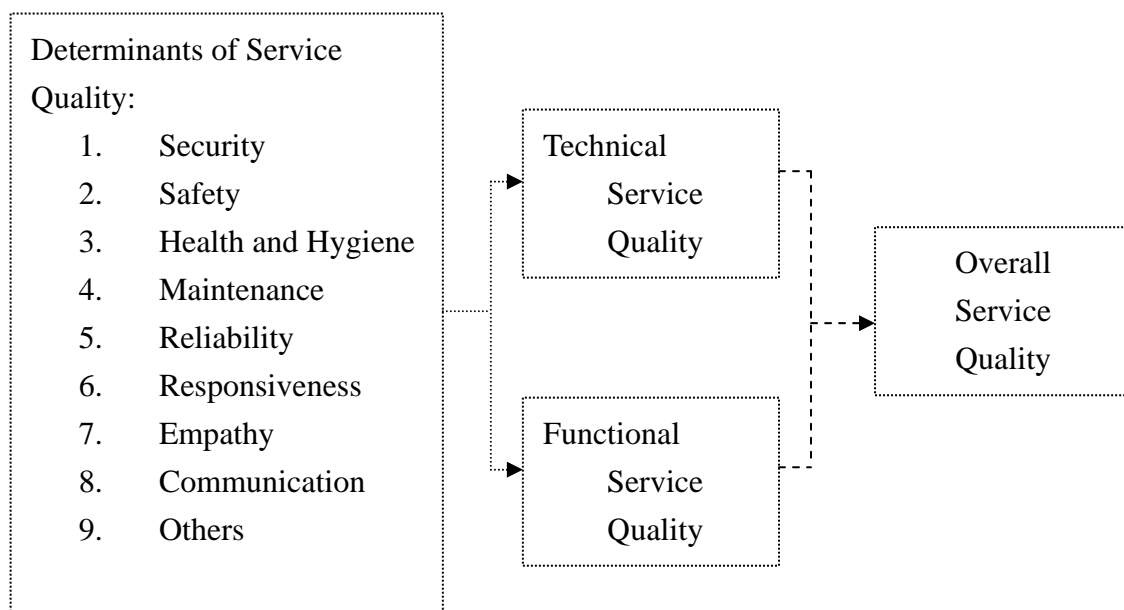


**EXHIBIT 5-2 Formation of Functional Service Quality**



### 5.2.4 Addition of “Overall Service Quality” test

Apart from the 22 standard items in the revised Servqual Model (Parasuraman *et al.* 1991)<sup>125</sup> plus 12 additional items assessing the technical service quality, the respondents will be asked to rate the “Overall Service Quality” using the 5-point scale with point ranging from 1 (the lowest point) to 5 (the highest point).



**EXHIBIT 5-3 Formation of Overall Service Quality**

### 5.2.5 Addition of other service attributes

Despite the above set technical and functional dimensions and items, property users may have expected more from the property management company. This section is to assess what is expected but not mentioned in the

<sup>125</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1991) “Perceived Service Quality as a Customer-Based Performance Measure: An empirical Examination of Organizational Barriers Using an Extended Service Quality Model”, *Human Resource Management* (1986-1998), Vol. 30, No. 3, pp. 335

new model.

The section of ‘Other Comments’ is used to assess the ancillary services the property management company provides to ensure the proper and effective functioning of the whole office building. These services may include carpark management, common area management (e.g. corridor, lavatories), environmental management system (e.g. energy management), financial management (e.g. rent collection) and etc.

#### Common Area Management

The area which is belonged to “common area” will be clearly set out in the Deed of Mutual Covenant (DMC)<sup>126</sup>. The common area of a building generally includes corridor, podium, staircases and etc. Although the common area is co-owned by property users, the property manager is required to proper manage the area for the occupants. For examples, the corridor should never be blocked or too slippery for the occupants to walk through.

#### **5.2.6 Response Scale**

The response scale of five-point will be used to offer respondents a range of rating choices. One is the lowest rating, two higher and so on and five is the highest. In case of unawareness or unfamiliarity of any statements, ‘N’ which means no opinion, will be provided for respondents to choose apart from the

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<sup>126</sup> DMC is a land covenant specifying the rights and obligations of owners over the common parts of a development. (Kent *et al.* 2002)

five rating choices.

### 5.3 Research Design

The research will be conducted in a single phase, but two analytical stages for each of the two qualities examination i.e. technical quality examination and functional quality examination.

For the first analytical stage, it is to test which of the areas of property management services are most prioritized by the property users. The main objective of this stage is the comparison of the importance of technical and functional service performance as well as the role played by each of the eight service dimension in property management services from the respondents' point of view. In this stage, the first part of the examination will be the assessment on the respondents' priority on the technical service performance and the second one will be on the functional service performance.

To do so, three tests of similar nature are developed. (See Part One of the Questionnaire in Appendix IV) The first test is a priority ranking test for the four technical service dimensions, namely security, safety, maintenance, health and hygiene. A total of ten scores are asked to be distributed into these four dimensions as according to their importance as viewed. The higher is the marks, the greater the priority. The second test is also a priority ranking test, but for the four functional service performance, namely reliability, responsiveness, empathy and communication. Similarly, respondents are asked to allocate a total of ten marks to these four dimensions as regards their priority. In the third test, the four technical

service dimensions are compared with the four functional service dimensions. Eight service dimensions are then compared with the use of all tests by a multiplied score. For each technical service dimension, a multiplied score is produced by score from first test times score from third test; which the multiplied score of functional service dimension is produced by score from second test and score from third test. For example, score for security in test one is 4 and score for technical service dimension in test three is 5, then the total score for security is 20 out of 100.

The purpose of the second analytical stage is to assess the quality of the property management services which the respondents are experiencing, i.e. their perception of the fact. To do so, twenty-four service attributes derived from the eight service dimensions are asked to get rated by the respondents with a score from 1 (the lowest) to 5 (the highest). (See Part Two of the Questionnaire in Appendix IV) An average score will be given to each eight service dimension. Four scores representing technical service performance and four representing functional service performance will be resulted. They will be added up together separately and then divided by four. Hence, two average scores each for technical service performance and functional service performance will be resulted. The score of overall service quality will be concluded by the last question in this part. (See Appendix IV) The two average scores will then be correlated with the score of overall serviced quality by regression analysis. The relevance of technical service performance and functional service performance with the overall service quality can then be investigated.

## 5.4 Sample Design

Samples will be collected from the Middle Kowloon to West Kowloon. Areas such as Tai Kok Tsui, Lai Chi Kok, Mongkok and Prince Edward will be included in this chosen locality. This locality is chosen because a wide variety of building types can be found here. There are newly developed estates (e.g. Park Avenue and Island Harbourview, while there are also mature estates (e.g. Mei Foo Sun Chuen and Cosmopolitan Estates). Within which, most of the newly developed estates are highly price; some of the mature buildings are medium priced and some low priced. The form of governance structure of the estates of similar types also varies. Several residential properties within the locality are then targeted for sampling. Details for these selected properties are listed in the table below.

	<b>Residential Property</b>	<b>Age (yr)</b>	<b>Nature of existence (Estate/ Single block)</b>	<b>No of Residential Units</b>	<b>Latest Sales Price (\$/sq. ft)</b>	<b>Property Manager</b>	<b>Presence of IO</b>
<b>1</b>	Park Avenue Tai Kok Tsui	5	Estate of 10 blocks	2,995	~ 6,000	MTR	No IO
<b>2</b>	Island Harbourview Tai Kok Tsui	6	Estate of 10 blocks	2,434	~ 5,250	MTR	No IO
<b>3</b>	Mei Foo Sun Chuen Lai Chi Kok	28-38	Estate of 8 phases with altogether 99 blocks	12,064 <sup>127</sup>	~ 3,200	Urban Group	No IO
<b>4</b>	Cosmopolitan Estates Tai Kok Tsui	30-32	Estate of 32 blocks	9,861	~ 2,000	-	With IO

**EXHIBIT 5-4 Basic Information of the Sample**

<sup>127</sup> The total number of residential units is made up of total units of all blocks in eight phases. Phase 1 has 1,820 units; Phase 2 has 1,946 units; Phase 3 has 2,302 units; Phase 4 has 1,320 units; Phase 5 has 1,907 units; Phase 6 has 1,878 units; Phase 7 has 723 units and Phase 8 has 1,168 units. The source of data is from <http://www.centamap.com/gc/home.aspx>.

In respect of the data analysis, four steps will be undergone. The first step is to compare the results from property users of buildings with different status. The status is differentiated by average sales price per sq. ft. Buildings with average sales price more than \$4,500 sq. ft are ranked as high status buildings. Buildings with average sales price in between \$3,000 sq. ft to \$4,500 sq. ft are grouped as medium status buildings; while those lower than \$3,000 sq. ft are graded as low status buildings. Hence, three groups will be resulted. These three groups will then be compared with each other. The second step is to compare the results from property users of buildings which are differed in governance structure. In this step, the buildings are separated into two categories: with IO or with OC. The third step is to apply test on the results from owners with those from tenants. The last step is to apply test on the results from male with those from female. The purpose of these two tests is to examine whether the type of respondents, i.e. owner/tenant and male/female, from the same targeted locality will give rise to a different opinions about their property management experiences and expectations.

To achieve the first step mentioned, results from sample group nos. 1 and 2; group no. 3; and group no. 4 will be grouped into three individual groups representing high, middle and low building status respectively and be compared with each other. To achieve the second step, results from sample group no. 4 will be compared with the rest of the sample. For the third and the last step, samples from all residential property groups will be compared based on type of interviewee, i.e. owners/property users and male/female.

## 5.5 Pilot Study

A pretest is essential to testify whether the developed model can secure the information which is planned to be secured and to disclose any shortcomings of the model. A small sample of 20 is used.

In the pretest, residents from both single blocks and estates are targeted initially. However, it is found that the flow of residents in nearly most of the chosen single blocks is very limited. Even worse, the residents in the chosen high prestige single block, such as Bijou Apartments and Bijou Court, are too busy or too reluctant to be questioned. While those residents in chosen lower prestige single block may not understand what has been questioning since they simply do not know what is property management as they reply. Owing to these problems, private residential estates become the targeted group of this research.

Moreover, in the pretest, it is found that the ratio of respondents between owners and tenants is 9:1. Hence, suggesting if making comparison between the two groups with vast disparity in the response rate would inevitably result in unfairness. Furthermore, ratio of respondents between females and male faces similar difficulties. To smooth the survey process and avoid unfairness, comparison between results from owner and tenants; and that from male and female are going to be omitted if disparity in the response rate persists.

After the pretest, a problem has also been discovered in stage one research. It is shown that some respondents have got difficulties in understanding the operation of the priority rating test by scoring the more prioritized item among the four items

with higher mark and making up a total of ten. Under this circumstance, the respondents are instead asked to prioritize the four items in the group in terms of priority ranking in the order of 1 to 4, with 1 corresponding to the highest priority. The mark of 4, 3, 2 and 1 were allocated to the priority 1, 2, 3 and 4 respectively. By using this substitution, a total mark of ten can also be resulted.

For the assessment of the functional service quality, some respondents would generally forget the subject of assessment in the mid-way of survey. This may partly because of the length or complexity of the questionnaire. It is necessary to reinforce to them that they are assessing the services provided by their property management service providers. More clarifications are needed to be made at the beginning of the survey.

Under the assessment of responsiveness of the property management services provider, some respondents cannot distinguish between 'Offering prompt service' and 'Giving quick response to your requests'. The order of these two items is therefore rearranged. 'Giving quick response to your requests' is put in a former position. It refers to the response given by the service provider once they are acknowledged of the existence of certain problems, e.g. suggesting solutions. 'Offer prompt service' refers to later performance of the provider in assisting the solution of the problem.

## **5.6 Chapter Summary**

This chapter has explained the methodology of this research, by giving details in the formation of the modified model, the research design and sample design.



For the formation of the modified model, it has been devised upon modification of the SERVQUAL model (based on Chapter Two and Chapter Three) and review on property management services (based on Chapter Four). It is a modified service quality assessment model for property management sector with two categories of measures i.e. the technical measures and functional measures.

As well as the formation of the modified model, the phase, stages and steps involved in the research have been studied in the Research Design. The two qualities examinations for assessing the property management service quality experience and expectation of the property users; and the four analytic stages for assessing the importance and relevance of the technical and functional services attributes have been explained.

In the Sample Design, the four steps of data analysis have been laid down. Additionally, four estate type residential properties have been chosen for data collection. Data collected from these properties will then be treated according to the four steps of data analysis.

Lastly, the result of pilot study has been presented in this chapter. The pilot study slightly alters the original Research design and Sample Design.

## **CHAPTER SIX DATA EXAMINATION**

### **6.1 Introduction**

In this chapter, the results from the study will be presented while the in-depth data analysis will be deferred to the next chapter. This chapter is divided into two parts, corresponding to the two stages of the research study as mentioned in Chapter Five. The first part will present the results concerning the property users' priority over various property management service dimensions as well as the relative importance of these service dimensions both when they are weighted and unweighted. The second part will present the results from investigation into property users' perceptions to the service quality of the property management company in terms of eight service dimensions. Any other further analysis will be deferred to Chapter Seven.

### **6.2 General Survey Results**

As discussed in Chapter Five, a total sample size of 160 property users from four estates were used for the study, i.e. 40 property users from each estate. All surveys distributed were finished. From the 160 surveys collected, 160 usable respondents were obtained, representing 100% overall usable response rate. The individual usable response rate ranges are also 100% (See Exhibit 6-1). No usable surveys were obtained.

	<b>Survey Distributed</b>	<b>Survey Collected</b>	<b>Valid Response</b>	<b>Usable Response Rate (%)</b>
<b>Park Avenue</b>	40	40	40	100
<b>Island Harbourview</b>	40	40	40	100
<b>Mei Foo Sun Chuen</b>	40	40	40	100
<b>Cosmopolitan Estates</b>	40	40	40	100
<b>Total</b>	160	160	160	100

**EXHIBIT 6-1 Overall Research Response**

### 6.3 Stage One Research

Stage one of the research was developed for this study. The survey was conducted in early January. Its purpose was to understand property users' requirements for property management services. Two prioritization test of a total of ten scores among four technical and four functional service dimensions respectively; and an addition prioritization test over the technical and functional dimensions were required. (See Appendix IV) From this additional test, the importance weighing between technical and functional dimensions was to be calculated. Relative importance of technical and functional dimensions was then compared both when weighted and unweighted.

### 6.3.1 General Results

Exhibit 6-2 shows the overall result of the prioritization test between technical and functional service dimensions in the four estates and in total. The range of values for the weighting between technical and functional dimensions is from 1.2599 to 1.5806, which are all larger than 1, meaning that technical dimensions are weighted consistently higher than the functional dimensions.

Exhibit 6-3 through Exhibit 6-7 show the result for the other two prioritization tests in stage one research by four estates and in total. Both unweighted and weighted (using the result of importance weighting shown in Exhibit 6-2) results are reported. Exhibit 6-3 reports the mean responses of Park Avenue; Exhibit 6-4 reports the mean responses of Island Harbourview; Exhibit 6-5 reports the mean responses of Mei Foo Sun Chuen; Exhibit 6-6 reports the mean responses of Cosmopolitan Estates and Exhibit 6-7 reports the mean responses for all the four estates combined together.

The figures listed in the Exhibits are the mean responses for each of the survey service dimensions. The range of values for the priority score under the unweighted column is from 0 to 10 with 0 meaning the least prioritized and 10 meaning the most prioritized. The responses are presented in two sections. The technical service dimensions data represents the priority of property users over four technical service items, namely 1) Security, 2) Safety, 3) Repair & Maintenance and 4) Health & Hygiene. The functional service dimensions data represents the priority of the property users over four functional service items, namely 1) Reliability, 2) Responsiveness, 3) Empathy and 4) Communication.

The range of values for the priority score under the weighted column is from 0 to 100 with 0 meaning the least prioritized and 100 meaning the most prioritized. A comparison of priority on combination of technical and functional service dimensions is made.

Exhibits 6-3 through Exhibits 6-7 indicate the average score for Security on the combined scale are consistently quite high, ranging from 3.000 to 3.0875 on the average 2.5 point scale for the four estates being investigated. The Exhibits also indicate the average score for Reliability on the combined scale are consistently quite high, ranging from 3.2 to 3.3250 on the average 2.5 point scale for the four estates being investigated. However, upon weighting has been employed over the service dimensions, it is indicated that although the average score for Security on the scale are remained to be the highest among all the others, ranging from 17.1375 to 18.8375 on the average 12.5 point scale for the four estates being investigated, the average score for Reliability on the scale only ranges from 12.2600 to 14.200 on the average 12.5 point scale.

	Total Score for Technical dimensions	Total Score for Functional dimensions	Weighting
Park Avenue	223/400	177/400	1.2599/1
Island Harbourview	229/400	171/400	1.3392/1
Mei Foo Sun Chuen	245/400	155/400	1.5806/1
Cosmopolitan Estates	242.5/400	157.5/400	1.5397/1
All Estates	939.5/1600	660.5/1600	1.4224/1

**EXHIBIT 6-2 Importance Weighting between Technical and Functional Dimensions**

	Unweighted Score		Standard Deviation	Weighted Score		Standard Deviation
<b>I) Technical Dimensions:</b>						
Security	3.0438	32%	1.0610	18.5344	17%	6.6631
Safety	2.6688	28%	0.9044	16.2094	16%	5.8982
Repair & Maintenance	2.1375	19%	0.5796	12.8125	11%	4.0426
Health & Hygiene	2.1500	21%	0.7355	13.0688	12%	4.5809
<b>II) Functional Dimensions:</b>						
Reliability	3.3250	34%	0.8066	13.0000	15%	5.0271
Responsiveness	2.1750	22%	0.7337	8.4750	10%	3.7492
Empathy	2.1250	19%	0.6552	8.6625	8%	3.9344
Communication	2.3750	25%	0.8165	9.2375	11%	4.5514

**EXHIBIT 6-3 Distribution of Scores (Park Avenue, N=40)**

	Unweighted Score		Standard Deviation	Weighted Score		Standard Deviation
<b>Technical Dimensions:</b>						
Security	3.0000	30%	0.7425	17.1375	18%	4.9159
Safety	3.0125	30%	0.7293	17.1500	17%	4.5449
Repair & Maintenance	1.8500	19%	0.8638	10.5250	11%	5.4112
Health & Hygiene	2.1375	21%	0.7594	12.4375	12%	5.3627
<b>Functional Dimensions:</b>						
Reliability	3.3125	33%	0.7398	14.2000	14%	4.4675
Responsiveness	2.9000	29%	0.8638	12.2250	12%	3.7994
Empathy	1.7000	17%	0.6583	7.3750	7%	3.3641
Communication	2.0875	21%	0.6688	8.9500	9%	3.1046

**EXHIBIT 6-4 Distribution of Priority Scores (Island Harbourview, N=40)**

	Unweighted Score		Standard Deviation	Weighted Score		Standard Deviation
<b>Technical Dimensions:</b>						
Security	3.0875	31%	0.8465	18.8375	18%	5.5935
Safety	2.9875	30%	0.7884	18.2125	18%	5.4383
Repair & Maintenance	1.7125	17%	0.5761	10.6125	11%	4.1641
Health & Hygiene	2.2125	22%	1.0183	13.5875	14%	6.7091
<b>Functional Dimensions:</b>						
Reliability	3.2000	31%	0.7493	12.2625	12%	3.2561
Responsiveness	2.6500	27%	0.6524	10.2375	10%	3.0926
Empathy	2.1750	22%	0.7386	8.5375	9%	3.4107
Communication	1.9750	20%	0.9125	7.7125	8%	4.0413

**EXHIBIT 6-5 Distribution of Priority Scores (Mei Foo Sun Chuen, N=40)**

	Unweighted Score		Standard Deviation	Weighted Score		Standard Deviation
<b>Technical Dimensions:</b>						
Security	3.04375	30%	0.9771	18.5344	19%	7.2235
Safety	2.66875	27%	1.0612	16.2094	16%	7.3922
Repair & Maintenance	2.13750	21%	0.9935	12.8125	13%	6.4068
Health & Hygiene	2.15000	22%	0.8858	13.0688	13%	5.8701
<b>Functional Dimensions:</b>						
Reliability	3.32500	33%	0.8811	13.0000	13%	4.8767
Responsiveness	2.17500	22%	0.7030	8.4750	8%	3.5063
Empathy	2.12500	21%	0.8454	8.6625	9%	4.8719
Communication	2.37500	24%	0.7316	9.2375	9%	3.6829

**EXHIBIT 6-6 Distribution of Priority Scores (Cosmopolitan Estates, N=40)**

	Unweighted Score		Standard Deviation	Weighted Score		Standard Deviation
<b>Technical Dimensions:</b>						
Security	3.0828	30%	0.9093	18.0648	18%	6.1431
Safety	2.8672	29%	0.8831	16.8117	17%	5.9317
Repair & Maintenance	1.9000	19%	0.7827	11.1438	11%	5.1427
Health & Hygiene	2.1500	22%	0.8501	12.6984	13%	5.6741
<b>Functional Dimensions:</b>						
Reliability	3.3031	33%	0.7913	13.5906	14%	4.5370
Responsiveness	2.4906	25%	0.7940	10.1938	10%	3.7634
Empathy	1.9719	20%	0.7466	6.4156	8%	3.9390
Communication	2.2344	22%	0.8086	7.0000	9%	4.0262

**EXHIBIT 6-7 Distribution of Priority Scores (All Estates, N=160)**

### 6.3.2 Relative Importance Analysis

The purpose of this analysis is to prioritize the importance of various service dimensions from property users' point of view.

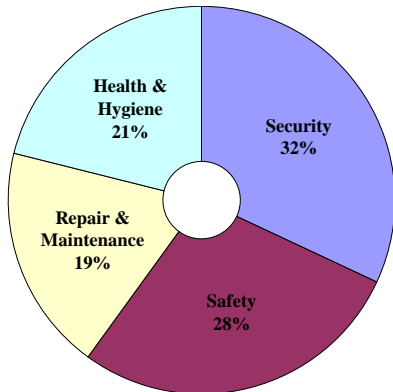
Exhibit 6-8a through Exhibit 6-11a show the relative importance of the four technical service dimensions (i.e. Security, Safety, Repair & Maintenance, Health & Hygiene) in a particular estate, while Exhibit 6-12a shows the relative importance of the dimensions for the four estates combined together.

Exhibit 6-8b through Exhibit 6-11b show the relative importance of the four functional service dimensions (i.e. Reliability, Responsiveness, Empathy and Communication) in a particular estate, while Exhibit 6-12b shows the relative importance of the dimensions for the four estates combined together.

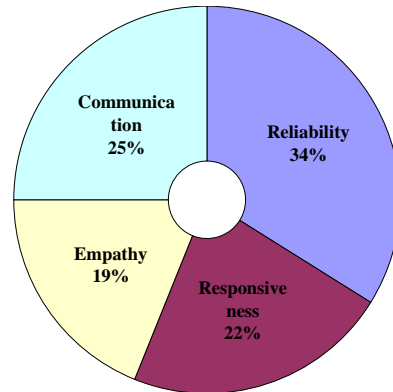
Exhibit 6-8c through Exhibit 6-11c shows the relative importance of technical service items and functional service items in a particular estate after weighting (result shown in Exhibit 6-2), while Exhibit 6-12c shows the relative importance of the sets technical service items and functional service items for the four estates combined together after weighting.

Exhibit 6-8 through Exhibit 6-12 indicate the average importance score for technical dimensions are consistently higher than that of the functional dimensions after weighting, making up the percentage of total score in the range between 54% and 61%.

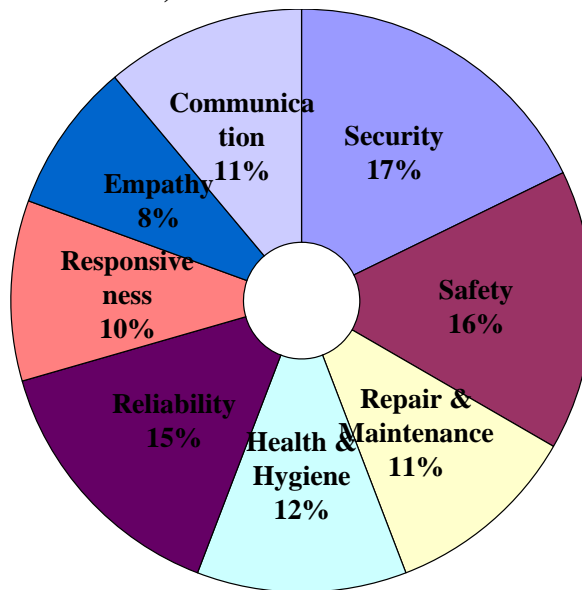




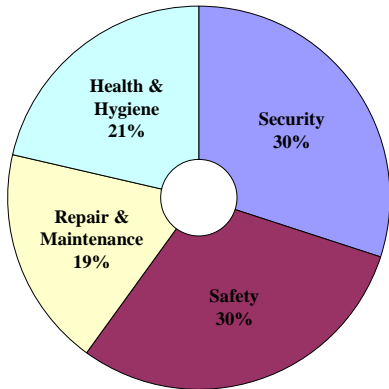
**EXHIBIT 6-8a** Relative importance of technical service dimensions (Park Avenue)



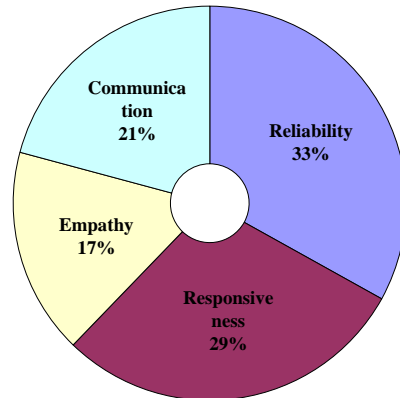
**EXHIBIT 6-8b** Relative importance of functional service dimensions (Park Avenue)



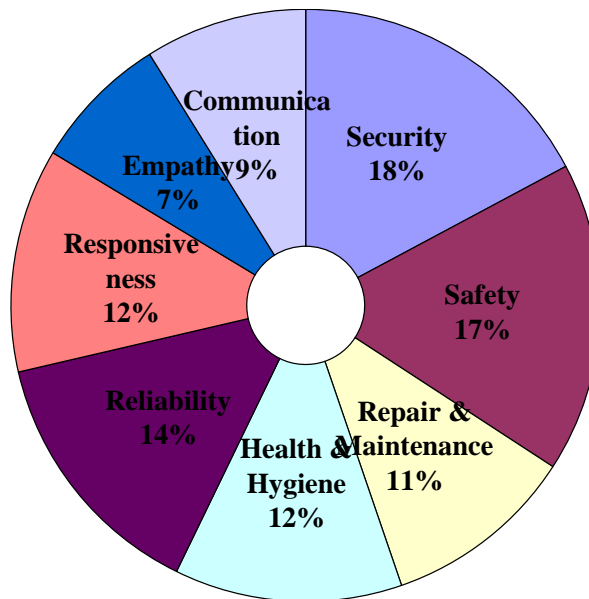
**EXHIBIT 6-8c** Relative importance of all after-weighted service dimensions (Park Avenue)



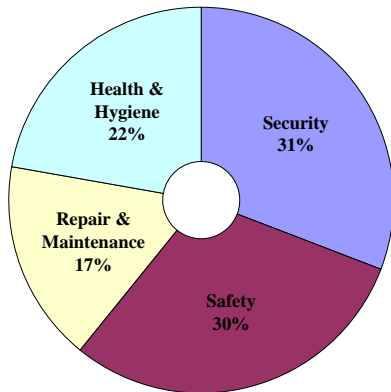
**EXHIBIT 6-9a** Relative importance of technical service dimensions (Island Harbourview)



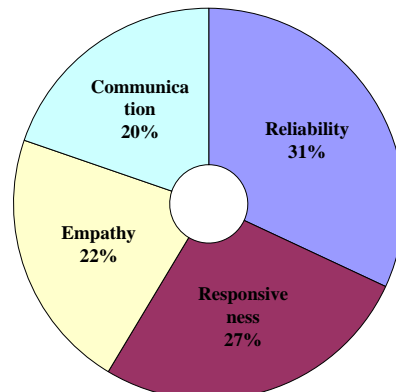
**EXHIBIT 6-9b** Relative importance of after-weighted technical service dimensions (Island Harbourview)



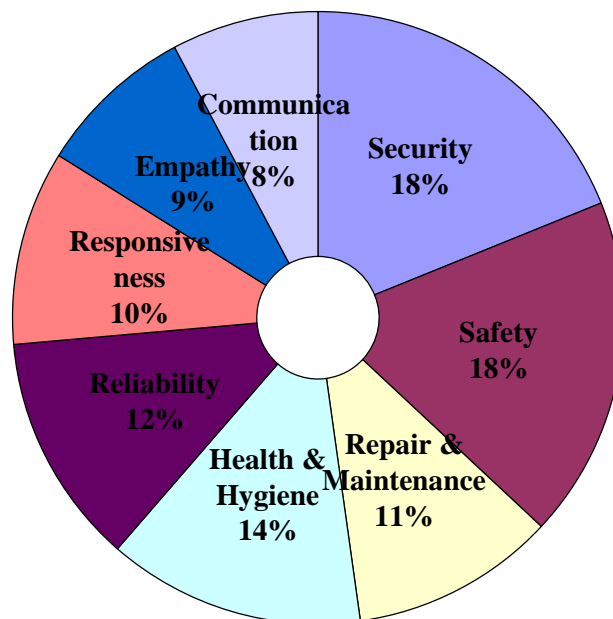
**EXHIBIT 6-9c** Relative importance of all after-weighted service dimensions (Island Harbourview)



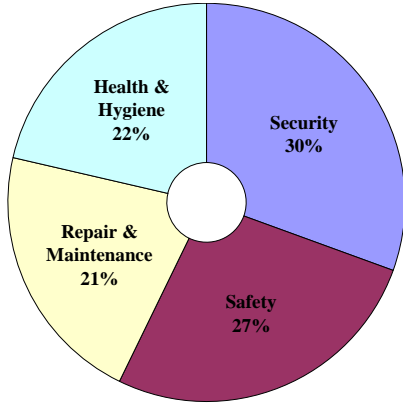
**EXHIBIT 6-10a** Relative importance of technical service dimensions (Mei Foo Sun Chuen)



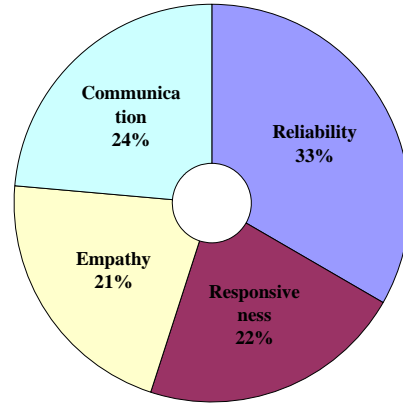
**EXHIBIT 6-10b** Relative importance of after-weighted technical service dimensions (Mei Foo Sun Chuen)



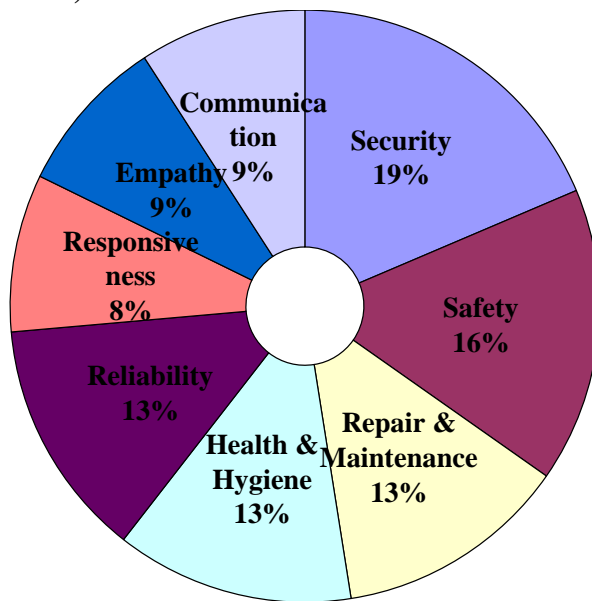
**EXHIBIT 6-10c** Relative importance of all after-weighted service dimensions (Mei Foo Sun Chuen)



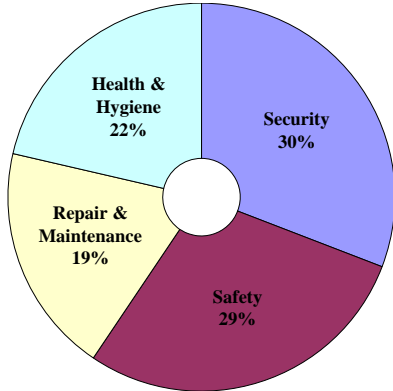
**EXHIBIT 6-11a** Relative importance of technical service dimensions (Cosmopolitan Estates)



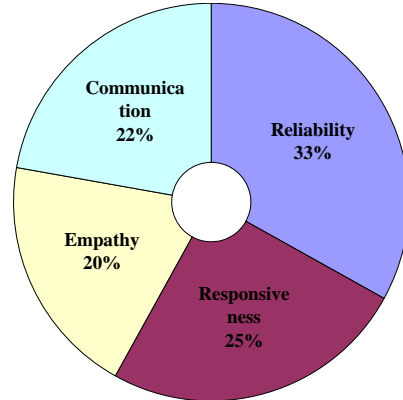
**EXHIBIT 6-11b** Relative importance of after-weighted technical service dimensions (Cosmopolitan Estates)



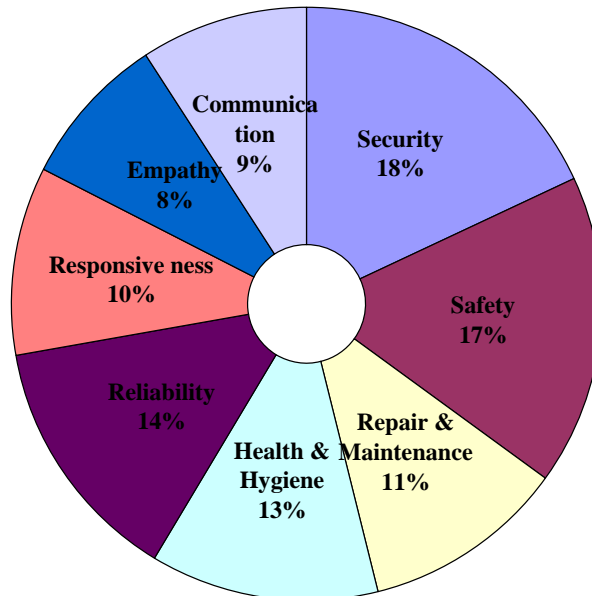
**EXHIBIT 6-11c** Relative importance of all after-weighted service dimensions (Cosmopolitan Estates)



**EXHIBIT 6-12a** Relative importance of technical service dimensions (All Estates)



**EXHIBIT 6-12b** Relative importance of after-weighted technical service dimensions (All Estates)



**EXHIBIT 6-12c** Relative importance of all after-weighted service dimensions (All Estates)

## 6.4 Stage Two Research

Stage two research was also developed for the study. The survey was conducted at the same time with the stage one research. Its purpose was to understand property users' assessment to the quality of the services provided by their property management companies. On the combination of the two stages of research, the study aims to assess any relationship between importance and relevance of the developed service dimensions to the overall service quality experienced by the property users.

### 6.4.1 General Results

Exhibit 6-13 through Exhibit 6-16 show the overall result from Stage Two Research on the performance of property management services by four estates. The mean responses of Park Avenue, Island Harbourview, Mei Foo Sun Chuen and Cosmopolitan Estates are shown respectively in these Exhibits. Exhibit 6-17 shows the mean response for all the four estates combined together. Average performance score for each service dimension in a particular estate and in total is shown in Exhibit 6-18 through Exhibit 6-22 respectively.

Shown in the Exhibits, the range of average values for Security performance is from 2.858 to 3.967 in the four estates on the 5-point scale; that for Safety performance is from 2.817 to 3.492; that for Repair and Maintenance performance is from 2.883 to 3.775; that for Health and Hygiene is from 3.033 to 3.867; that for Reliability is from 2.783 to 3.950; that for Responsiveness is from 2.833 to 3.983; that for Empathy is from 2.717 to 3.600; that for Communication is from 2.875 to 3.742.

	Score 1	S.D.	Score 2	S.D.	Score 3	S.D.	Average Score	S.D.
<b>Technical Dimensions:</b>								
Security	4.100	0.6325	4.025	0.8619	3.775	0.7675	3.967	0.6261
Safety	3.225	1.3865	3.550	1.1972	3.700	1.1591	3.492	0.9488
Repair & Maintenance	3.925	0.9167	3.725	0.8767	3.675	1.2066	3.775	0.7097
Health and Hygiene	4.175	0.5943	3.875	0.7906	3.550	1.4133	3.867	0.6572
Overall	-	-	-	-	-	-	3.775	0.4793
<b>Functional Dimensions:</b>								
Reliability	3.950	0.9044	4.025	0.6197	3.875	0.9920	3.950	0.6018
Responsiveness	4.025	0.6597	4.100	0.7442	3.825	0.8738	3.983	0.6313
Empathy	3.575	0.8728	3.750	0.8397	3.475	0.8161	3.600	0.7480
Communication	3.85	0.7696	3.525	1.1320	3.850	1.0266	3.742	0.7567
Overall	-	-	-	-	-	-	3.819	0.5446
Overall Service Quality	-	-	-	-	-	-	4.025	0.5305

EXHIBIT 6-13 Performance Score (Park Avenue, N=40)

	Score 1	S.D.	Score 2	S.D.	Score 3	S.D.	Average Score	S.D.
<b>Technical Dimensions:</b>								
Security	3.900	0.5905	3.800	0.7910	3.650	0.8638	3.783	0.5626
Safety	3.200	1.0178	3.550	0.8458	3.675	0.6558	3.492	0.6623
Repair & Maintenance	3.925	0.7970	3.475	0.8469	3.775	0.6975	3.725	0.6747
Health and Hygiene	3.950	0.8756	3.650	0.9213	3.656	1.3202	3.750	0.7779
Overall	-	-	-	-	-	-	3.656	0.5172
<b>Functional Dimensions:</b>								
Reliability	3.750	0.8697	3.825	0.6360	3.650	0.8930	3.742	0.6814
Responsiveness	3.875	0.9111	4.025	0.8002	3.900	0.6718	3.933	0.7008
Empathy	3.200	1.0178	3.325	1.0715	3.300	0.8829	3.275	0.9055
Communication	3.600	0.7442	3.275	0.7506	3.700	0.9115	3.525	0.6662
Overall	-	-	-	-	-	-	3.619	0.5736
Overall Service Quality	-	-	-	-	-	-	3.925	0.5256

EXHIBIT 6-14 Performance Scores (Island Harbourview, N=40)

	Score 1	S.D.	Score 2	S.D.	Score 3	S.D.	Average Score	S.D.
<b>Technical Dimensions:</b>								
Security	3.825	0.6360	3.575	0.7121	3.250	0.8697	3.550	0.6295
Safety	2.375	1.6281	3.225	0.9737	3.650	1.0266	3.083	0.8465
Repair & Maintenance	3.350	0.8022	3.450	0.9858	3.525	0.9055	3.442	0.7256
Health and Hygiene	3.675	0.6938	3.475	0.8767	3.175	1.1522	3.442	0.7822
Overall	-	-	-	-	-	-	3.379	0.5671
<b>Functional Dimensions:</b>								
Reliability	2.575	1.6929	3.600	0.8412	3.025	1.2707	3.067	1.0627
Responsiveness	3.350	1.1886	3.650	0.8930	3.475	0.7841	3.492	0.7844
Empathy	3.075	0.7970	3.150	0.7355	2.925	0.7642	3.050	0.6604
Communication	3.20	1.1140	2.750	1.0316	3.225	0.9997	3.058	0.8636
Overall	-	-	-	-	-	-	3.167	0.6977
Overall Service Quality	-	-	-	-	-	-	3.525	0.6400

Exhibit 6-15 Performance Score (Mei Foo Sun Chuen, N=40)

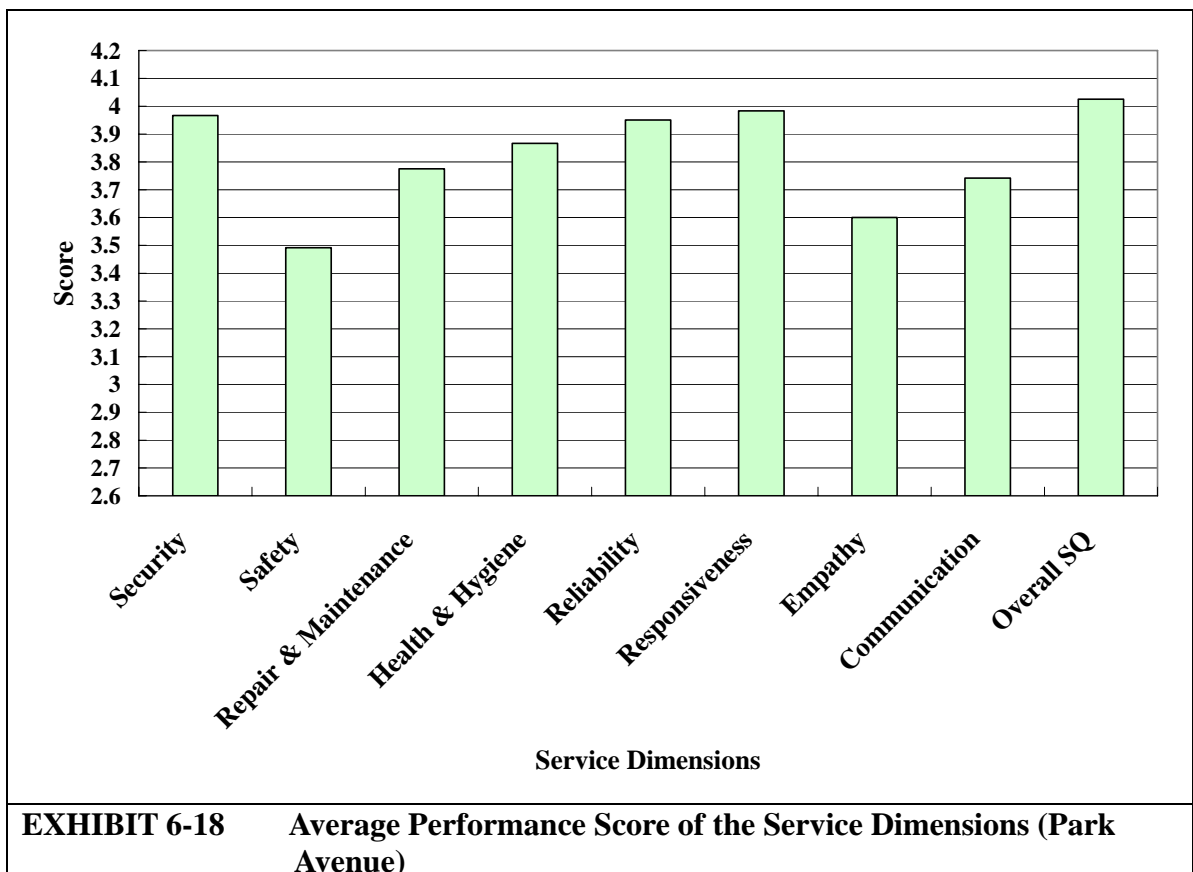
	Score 1	S.D.	Score 2	S.D.	Score 3	S.D.	Average Score	S.D.
<b>Technical Dimensions:</b>								
Security	3.150	0.7696	2.950	0.9594	2.475	1.1091	2.858	0.7236
Safety	2.550	1.1311	3.000	0.9337	2.900	1.0813	2.817	0.7119
Repair & Maintenance	2.900	0.8412	2.825	0.9026	2.925	1.2483	2.883	0.7532
Health and Hygiene	3.375	1.0048	3.100	0.9282	2.625	1.030	3.033	0.8123
Overall	-	-	-	-	-	-	2.898	0.5812
<b>Functional Dimensions:</b>								
Reliability	2.725	1.1544	2.825	1.0834	2.800	1.1368	2.783	1.0227
Responsiveness	2.475	1.1091	3.175	0.9306	2.850	1.0013	2.833	0.8540
Empathy	2.600	0.9819	2.775	1.1873	2.775	1.2297	2.717	1.0282
Communication	2.875	1.0424	2.725	1.0619	3.025	1.1433	2.875	0.9628
Overall	-	-	-	-	-	-	2.802	0.7335
Overall Service Quality	-	-	-	-	-	-	3.125	0.8224

Exhibit 6-16 Performance Score (Cosmopolitan Estates, N=40)

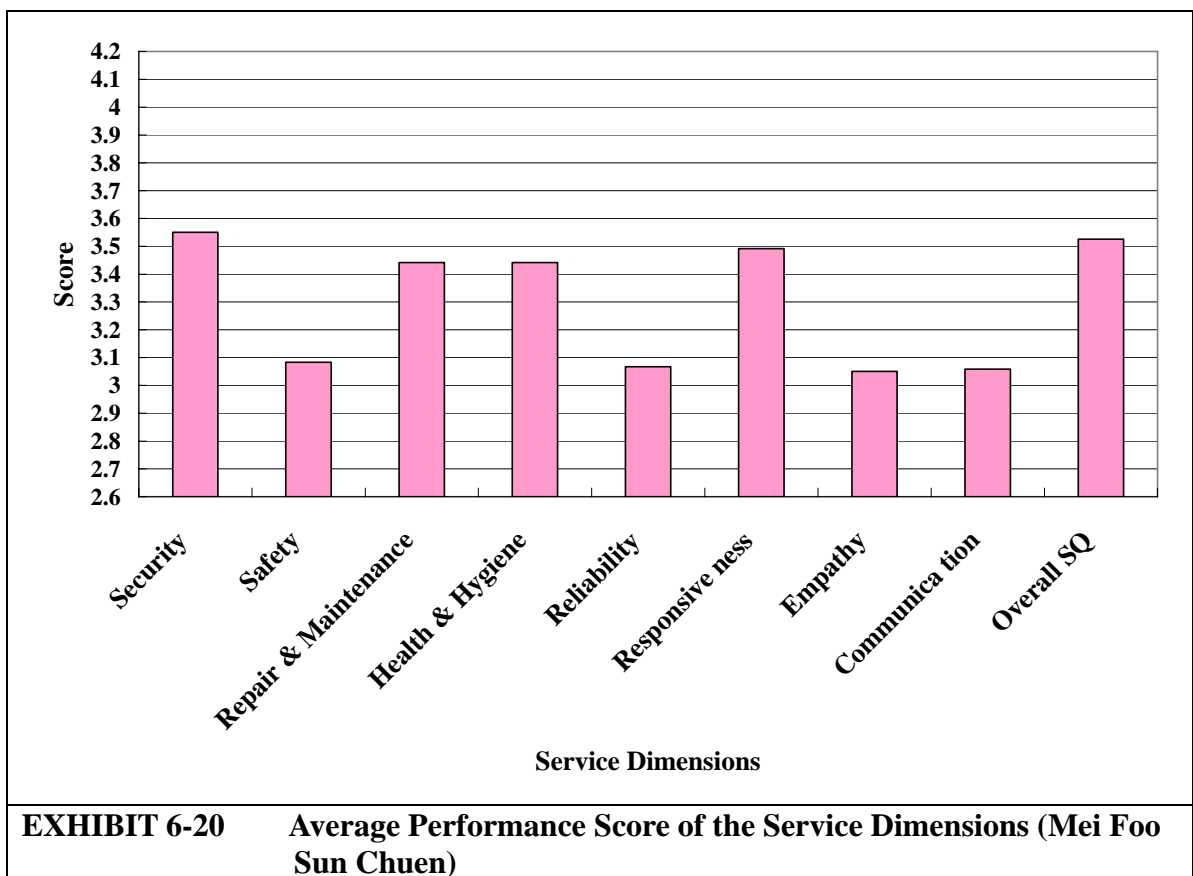
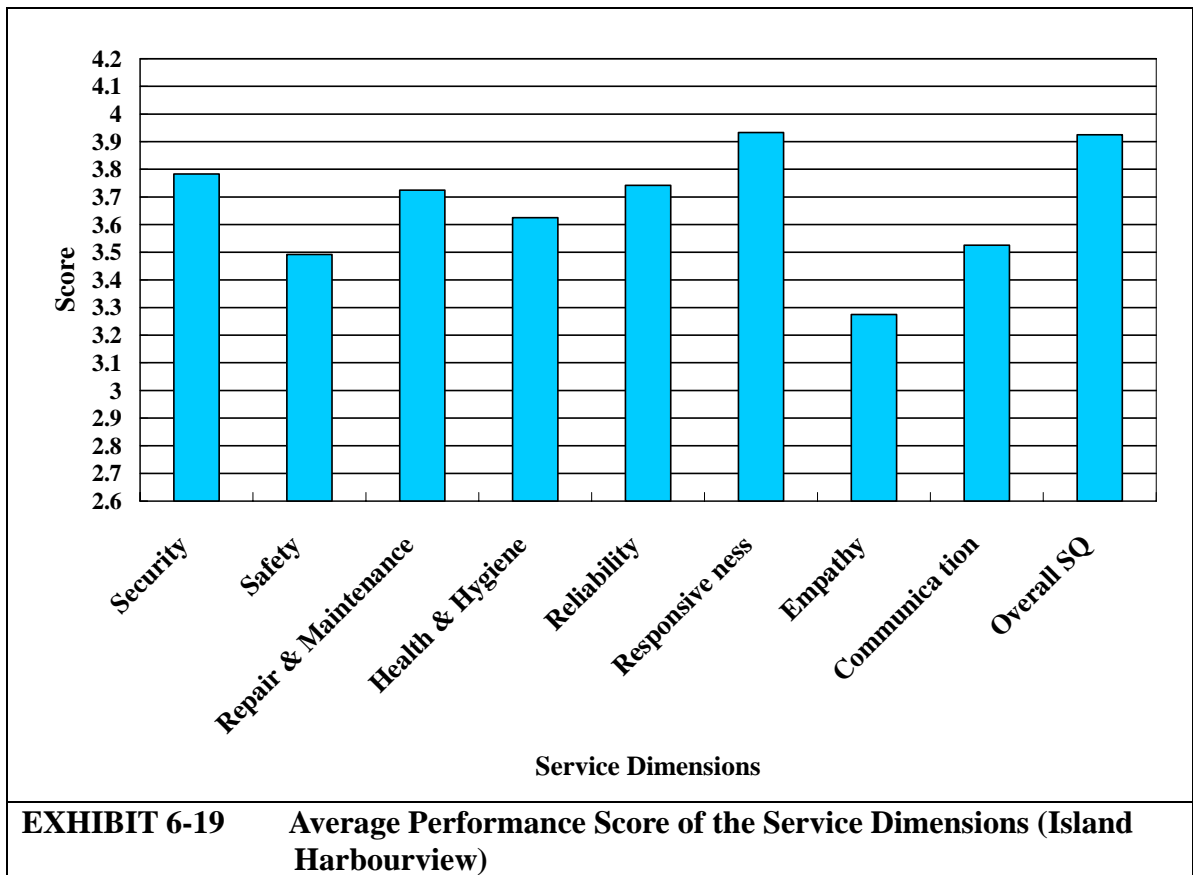


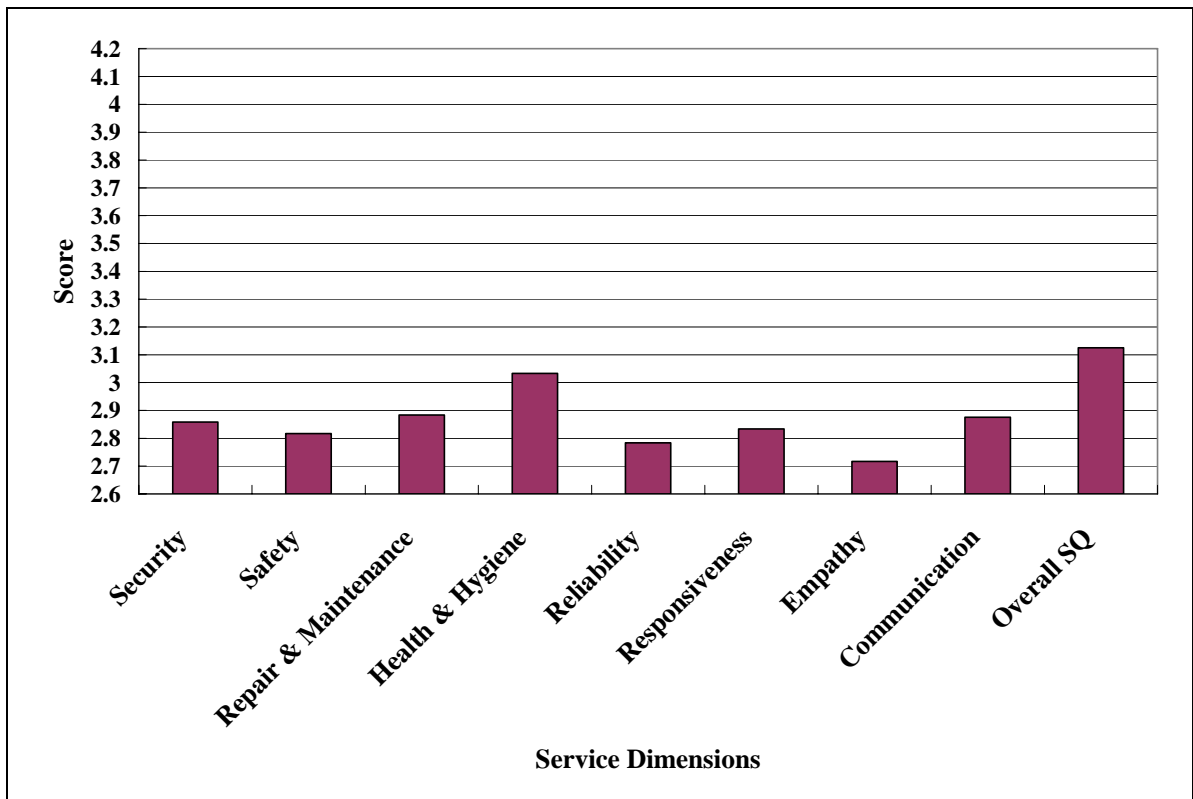
	Score 1	S.D.	Score 2	S.D.	Score 3	S.D.	Average Score	S.D.
<b>Technical Dimensions:</b>								
Security	3.744	0.7460	3.588	0.9207	3.288	1.0364	3.540	0.7596
Safety	2.838	1.3546	3.331	1.0139	3.481	1.0459	3.221	0.8433
Repair & Maintenance	3.525	0.9380	3.369	0.9558	3.475	1.0813	3.456	0.7936
Health and Hygiene	3.794	0.8549	3.525	0.9177	3.156	1.2716	3.492	0.8122
Overall	-	-	-	-	-	-	3.427	0.6312
<b>Functional Dimensions:</b>								
Reliability	3.250	1.3365	3.569	0.9291	3.338	1.1595	3.385	0.9824
Responsiveness	3.431	1.1526	3.738	0.9145	3.513	0.9315	3.560	0.8731
Empathy	3.113	0.9777	3.250	1.0279	3.119	0.9737	3.160	0.8995
Communication	3.381	0.9960	3.069	1.0528	3.450	1.0687	3.300	0.8840
Overall	-	-	-	-	-	-	3.352	0.7498
Overall Service Quality	-	-	-	-	-	-	3.650	0.7286

**EXHIBIT 6-17 Performance Score (All Estates, N=160)**

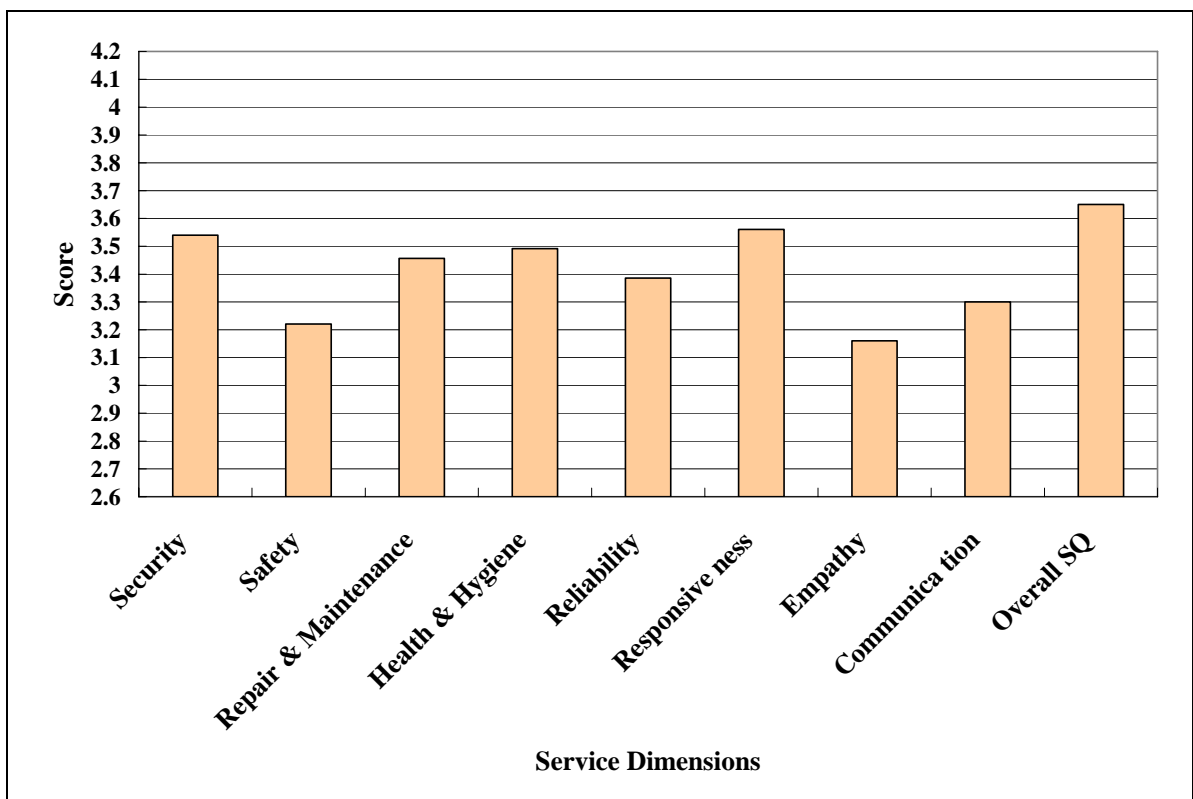


**EXHIBIT 6-18 Average Performance Score of the Service Dimensions (Park Avenue)**





**EXHIBIT 6-21 Average Performance Score of the Service Dimensions (Cosmopolitan Estates)**



**EXHIBIT 6-22 Average Performance Score of the Service Dimensions (All Estates)**

#### 6.4.2 Regression Analysis

From the above section, it is shown that Cosmopolitan Estates, Mei Foo Sun Chuen, Island Harbourview and Park Avenue are estates with increasing overall service quality. Meanwhile, both the technical and functional performances (and also the performance for each service dimension) as indicated by scores shown in Exhibit 6-13 through Exhibit 6-17 follow similar increasing trend across the four estates.

The purpose of this section is to correlate the overall property management performance (through overall service quality) with 1) technical performance and 2) functional performance of the property and see how do these two performances affect the overall property management performance. Regression analyses is used to establish any relationship and the empirical results in the four estates and in total are shown in Exhibit 6-23 through Exhibit 6-27 respectively.

Figures from the four estates confirm the extremely high relevancy of the functional dimensions with the overall service quality, with t-statistics ranges from 3.2429 to 4.7946. However, not all figures from the four estates confirm the high relevancy of the technical dimensions with the overall service quality, with t-statistics ranges from 1.2193 to 2.8346. Above all, as shown in Exhibit 6-27, both technical and functional dimensions are found to be highly related to the behaviour of the overall service quality by giving a t-statistic of 4.2180 and 8.2956 correspondingly. The range of values for adjusted R-square in the four estates and in total is from 0.4679 to 0.6647.

Dependent Variable: Overall Service Quality				
Method: Least Squares				
Included observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.055723	0.550841	1.916566	0.0630
TECHNICAL	0.174752	0.143321	1.219301	0.2304
FUNCTIONAL	0.604802	0.126143	4.794561	0.0000
R-squared	0.495158	Mean dependent var	4.025000	
Adjusted R-squared	0.467870	S.D. dependent var	0.530481	
S.E. of regression	0.386971	Akaike info criterion	1.011107	
Sum squared resid	5.540636	Schwarz criterion	1.137773	
Log likelihood	-17.22214	F-statistic	18.14516	
Durbin-Watson stat	1.526206	Prob(F-statistic)	0.000003	

**Exhibit 6-23 Empirical Regression Result (Park Avenue)**

Dependent Variable: Overall Service Quality				
Method: Least Squares				
Included observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.142501	0.416143	2.745457	0.0093
TECHNICAL	0.273390	0.158303	1.727000	0.0925
FUNCTIONAL	0.492689	0.142743	3.451583	0.0014
R-squared	0.570338	Mean dependent var	3.925000	
Adjusted R-squared	0.547113	S.D. dependent var	0.525625	
S.E. of regression	0.353730	Akaike info criterion	0.831471	
Sum squared resid	4.629613	Schwarz criterion	0.958137	
Log likelihood	-13.62942	F-statistic	24.55706	
Durbin-Watson stat	2.099164	Prob(F-statistic)	0.000000	

**Exhibit 6-24 Empirical Regression Result (Island Harbourview)**

Dependent Variable: Overall Service Quality				
Method: Least Squares				
Included observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.931742	0.406416	2.292584	0.0277
TECHNICAL	0.274196	0.173548	1.579944	0.1226
FUNCTIONAL	0.526328	0.141048	3.731558	0.0006
R-squared	0.591898	Mean dependent var	3.525000	
Adjusted R-squared	0.569838	S.D. dependent var	0.640012	
S.E. of regression	0.419763	Akaike info criterion	1.173785	
Sum squared resid	6.519435	Schwarz criterion	1.300451	
Log likelihood	-20.47571	F-statistic	26.83176	
Durbin-Watson stat	1.304614	Prob(F-statistic)	0.000000	

**Exhibit 6-25 Empirical Regression Result (Mei Foo Sun Chuen)**

Dependent Variable: Overall Service Quality				
Method: Least Squares				
Included observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.061587	0.428561	0.143706	0.8865
TECHNICAL	0.563335	0.198735	2.834602	0.0074
FUNCTIONAL	0.510661	0.157472	3.242867	0.0025
R-squared	0.615397	Mean dependent var	3.125000	
Adjusted R-squared	0.594607	S.D. dependent var	0.822364	
S.E. of regression	0.523603	Akaike info criterion	1.615871	
Sum squared resid	10.14391	Schwarz criterion	1.742537	
Log likelihood	-29.31743	F-statistic	29.60151	
Durbin-Watson stat	2.303803	Prob(F-statistic)	0.000000	

**Exhibit 6-26 Empirical Regression Result (Cosmopolitan Estates)**

Dependent Variable: Overall Service Quality				
Method: Least Squares				
Included observations: 160				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.619047	0.185810	3.331611	0.0011
TECHNICAL	0.337687	0.080059	4.217958	0.0000
FUNCTIONAL	0.559045	0.067391	8.295595	0.0000
R-squared	0.668898	Mean dependent var	3.650000	
Adjusted R-squared	0.664680	S.D. dependent var	0.728572	
S.E. of regression	0.421893	Akaike info criterion	1.130442	
Sum squared resid	27.94502	Schwarz criterion	1.188102	
Log likelihood	-87.43539	F-statistic	158.5869	
Durbin-Watson stat	1.899583	Prob(F-statistic)	0.000000	

**Exhibit 6-27 Empirical Regression Result (All Estates)**

## 6.5 Chapter Summary

This chapter has presented the results of the study in two parts. In the first part, results showing the priority of property users over different property management service dimensions have been presented. In the second part, results showing perceptions of property users towards service quality of the property management company in terms of eight service dimensions have been presented. While this chapter has reported the results of the study, analysis of the discrepancy and consistency of the results and all other further analysis will be deferred to Chapter Seven.

## **CHAPTER SEVEN    DISCUSSION, CONCLUSION, CONTRIBUTIONS AND RESEARCH IMPLICATIONS**

### **7.1 Introduction**

The results of stage one and two of the research have been presented in Chapter Six. In the chapter, the results will be discussed. Implications from the results will be studied.

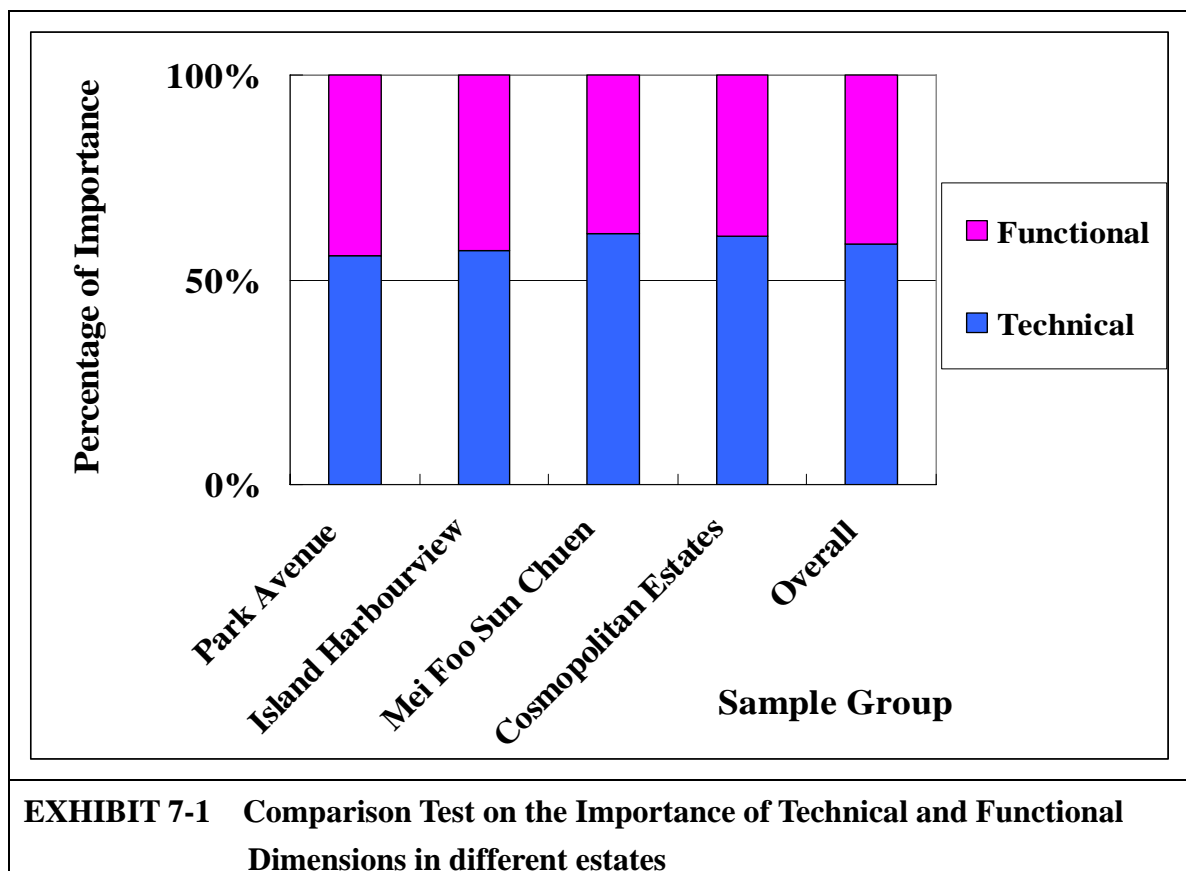
### **7.2 Discussion**

#### **7.2.1 Stage One Research**

The stage one research was to provide insights into how property users in general perceive the importance of various service dimensions to overall property management service performance. To accomplish this objective, property users in four estates in West Kowloon District were surveyed. The four survey estates (Park Avenue, Island Harbourview, Mei Foo Sun Chuen and Cosmopolitan Estates) each represent estate with different building status which ranges from high to low. The results were presented in Exhibit 6-2 to Exhibit 6-12.

Technical service dimensions have been found to be more important than functional service dimensions in all survey estates (See Exhibit 7-1). The results indicated that property users view technical dimensions more important than functional dimensions regardless of the building status.

This result agrees with some literature while disagrees with others. It also suggests that property management services are of predominantly more search and experience attributes and less credence one. Hence, by using SERVQUAL/SERVPERF to assess property management performance, it is not explanatory enough.





	<b>Park Avenue</b>	<b>Island Harbourview</b>	<b>Mei Foo Sun Chuen</b>	<b>Cosmopolitan Estates</b>
<b>Status</b>	High	Medium to High	Medium	Low
<b>1<sup>st</sup></b>	Security (T)	Security (T)	Security (T)	Security (T)
<b>2<sup>nd</sup></b>	Safety (T)	Safety (T)	Safety (T)	Safety (T)
<b>3<sup>rd</sup></b>	Reliability (F)	Reliability (F)	Health & Hygiene (T)	Repair & Maintenance (T)
<b>4<sup>th</sup></b>	Health & Hygiene (T)	Responsiveness (F)	Reliability (F)	Health & Hygiene (T)
<b>5<sup>th</sup></b>	Communication (F)	Health & Hygiene (T)	Repair & Maintenance (T)	Reliability (F)
<b>6<sup>th</sup></b>	Repair & Maintenance (T)	Repair & Maintenance (T)	Responsiveness (F)	Empathy (F)
<b>7<sup>th</sup></b>	Responsiveness (F)	Communication (F)	Empathy (F)	Communication (F)
<b>8<sup>th</sup></b>	Empathy (F)	Empathy (F)	Communication (F)	Responsiveness (F)

#### Legends

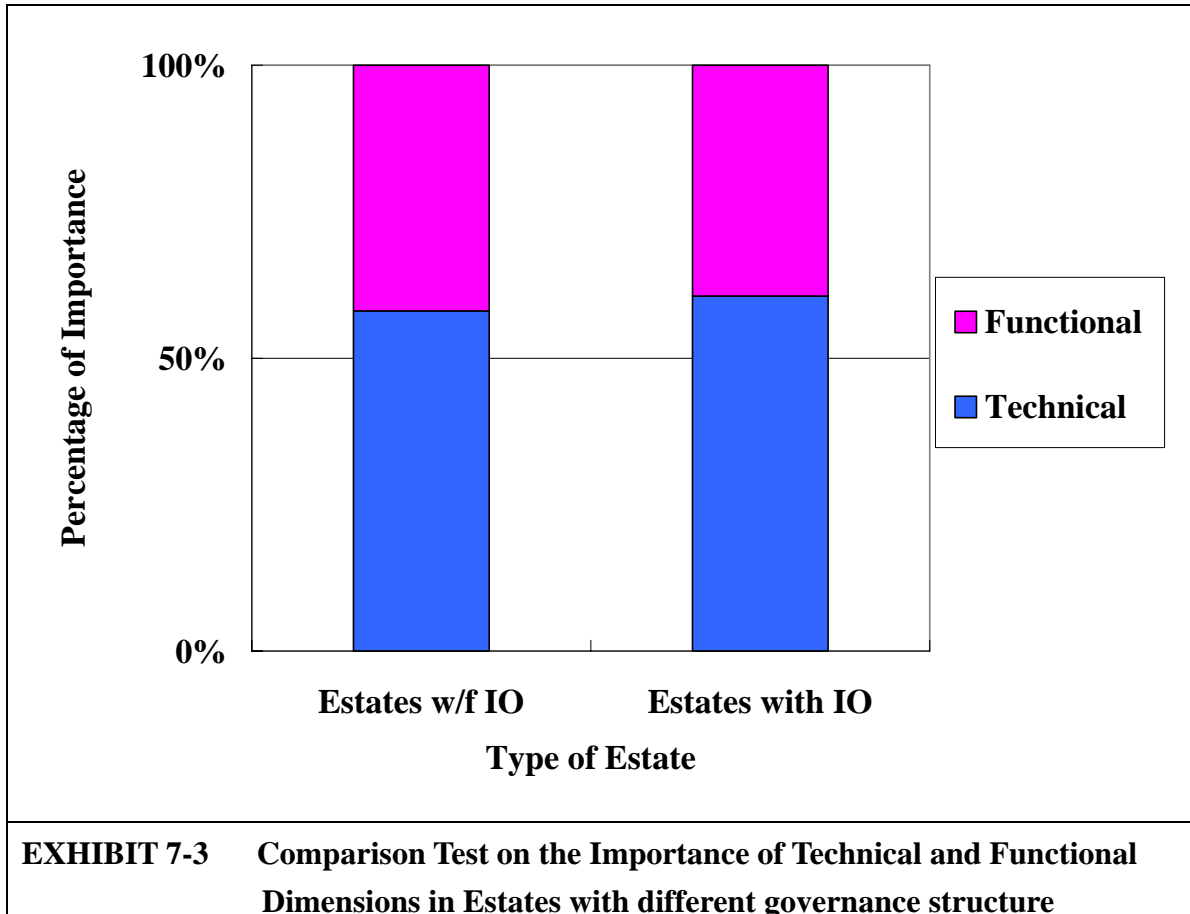
- T = Technical Dimension
- F = Functional Dimension

#### **EXHIBIT 7-2 Ranking of Service Dimensions in different estates**

Different estates have different building management regime. Owners' incorporation (IO) was compulsory under Building Management Ordinance (BMO). There are also non-statutory forms of owners' associations including the mutual aid committee (MAC) and owners' committee (OC). An owners' committee (OC) is non-statutory and only governed by the terms of the DMC. (Kent *et al.* 2002)<sup>128</sup>. From analysis below, it is discovered that the level of requirements for the technical and functional side of property management services in estates with different governance structure is quite similar; while

<sup>128</sup> Kent, P., Merry, M. and Walters, M. (2002) *Building Management in Hong Kong*. LexisNexis, Hong Kong.

estates with IO requires higher level of property management services in the technical side.



### 7.2.2 Stage Two Result

In each range of values, the lowest to the highest values result from Cosmopolitan Estates, Mei Foo Sun Chuen, Island Harbourview and Park Avenue (which are estates with overall service quality in an increasing order) accordingly.

All eight service dimensions have shown a positive relationship with the overall service quality in the four estates. Across the four estates in an

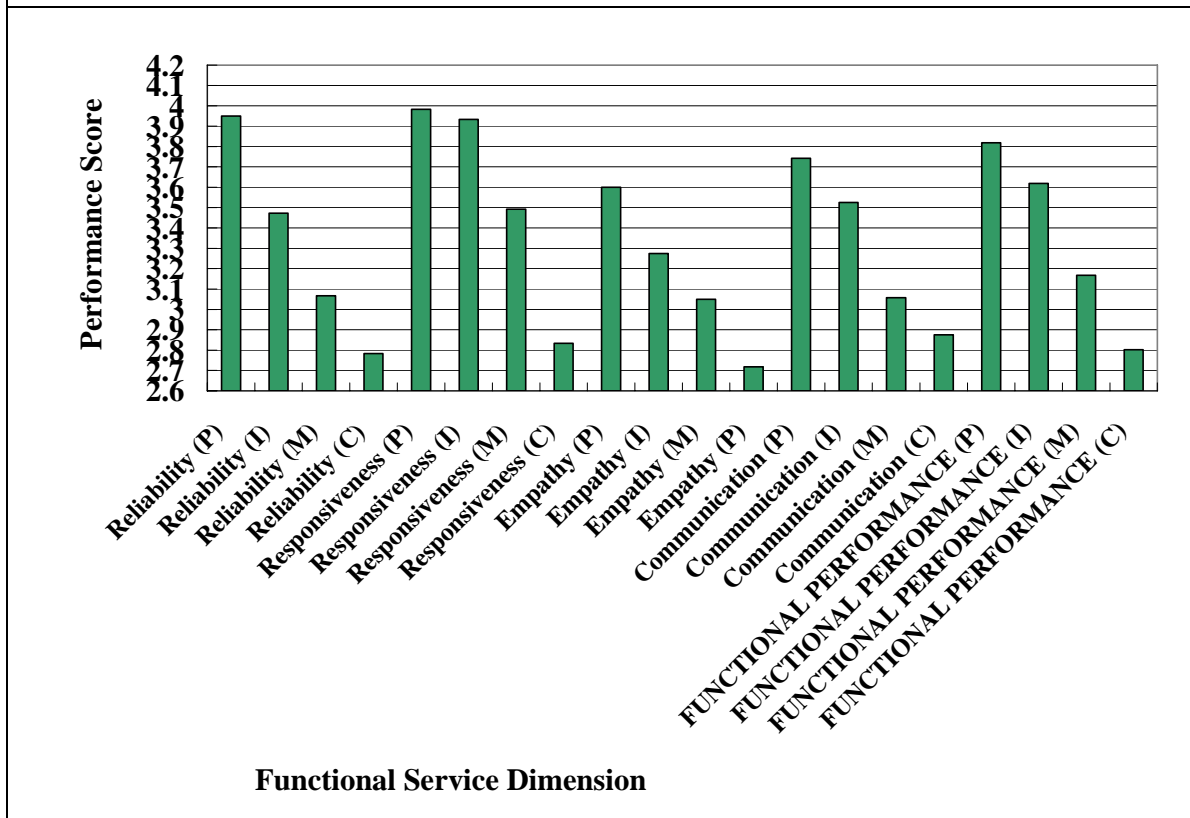
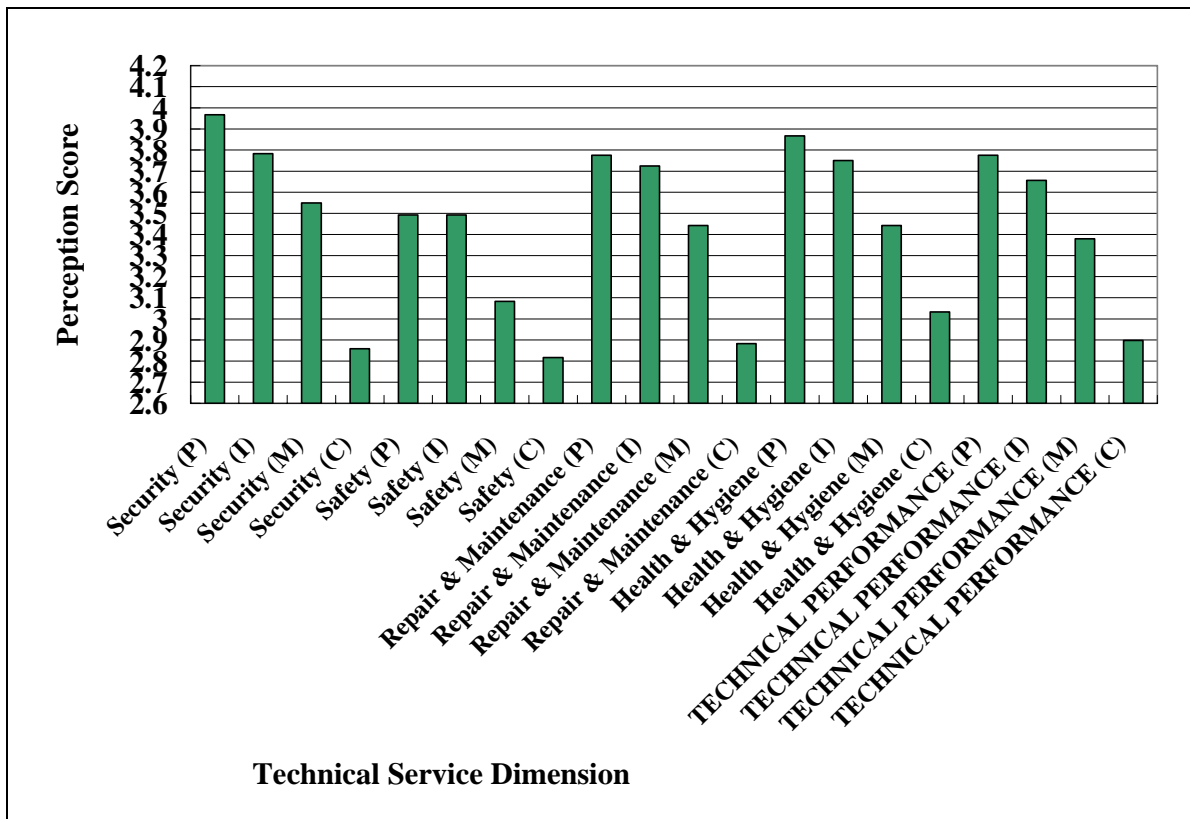
increasing order of overall service quality, not only the performances of the eight service dimensions, but both of the technical service performance and functional service performance increase at the same phase with the overall service quality. (See Exhibit 7-4)

Besides, the result also indicates a high reliance of overall service quality on both technical and functional service performance from regression analysis. The overall service quality and both technical and functional performance are said to be interactively linked. Moreover, functional service performance has been found to be more related to overall service quality in the analysis.

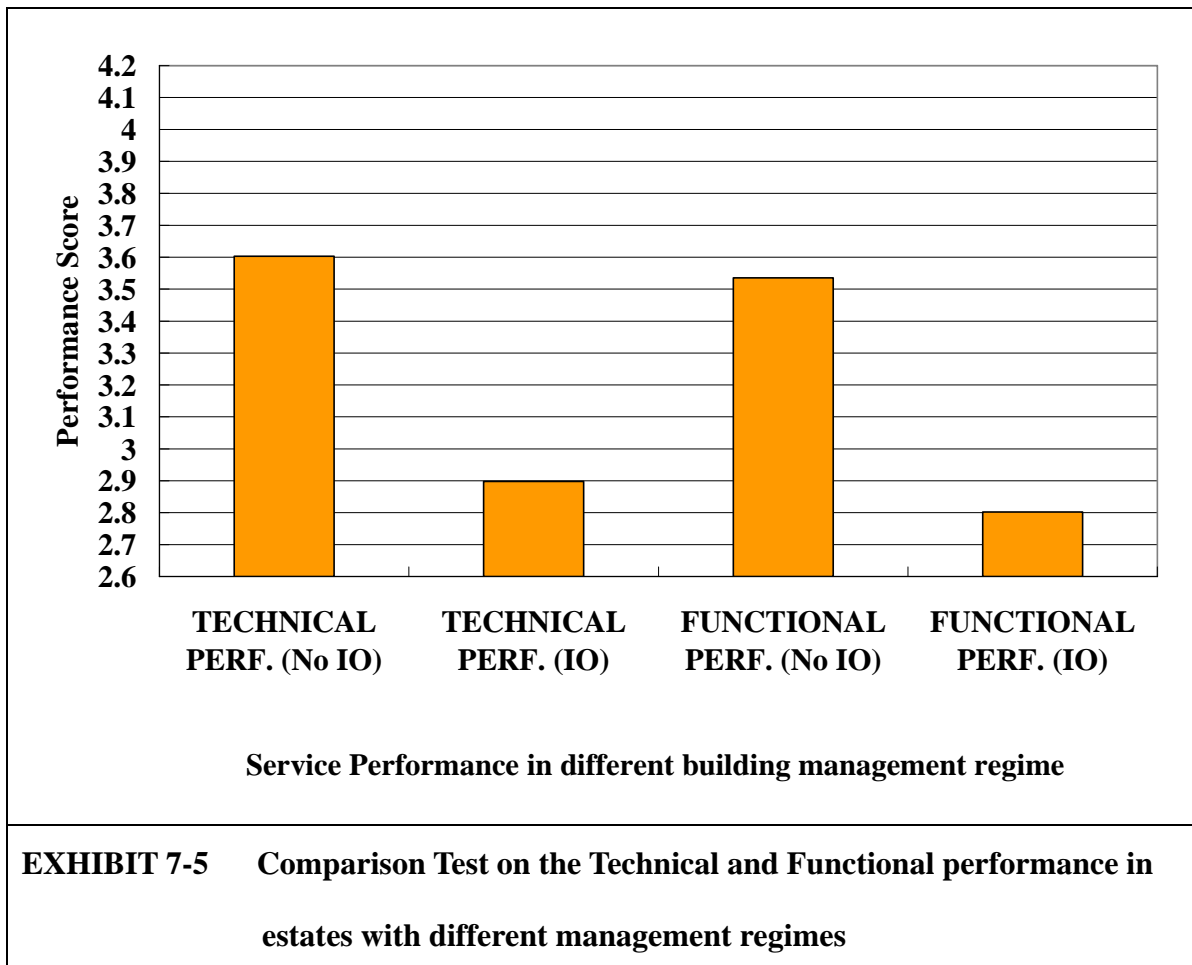
Recent study done on single block building has shown that “the form of owner association that is most conducive to better building conditions is an IO”. (HO *et al.* 2006)<sup>129</sup> In the following, the effect of building management regime on the quality of property management services of estate-type development is examined. Two sets of data, one representing buildings with IO and the other with no IO but only OC would be compared in two aspects which are technical performance and functional performance. (See Exhibit 7-5) On the contrary to the result found in single block building, buildings without IO is the form of owner association which could lead to better building conditions, both technically and functionally.

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<sup>129</sup> Ho *et al.* (2006) “Effects of building management regimes of private apartment buildings in Hong Kong” *Property Management* Vol. 24 No. 3 pp.309-321.



**EXHIBIT 7-4 Comparison Test on the Performance of Technical and Functional services in different estates**



### 7.3 Conclusion

It is believed that stakeholders, like property users, of the residential buildings, will demand for a higher standard property management service when selecting where to invest or stay. Then, service quality will become a significant determinant for the success of competition with the like (Masoud *et al.* 1994)<sup>130</sup>. Nevertheless, the solution to “what constitutes service quality of the property management for residential buildings” is yet to be discovered. This study has therefore investigated the constituents of service quality of the property management company for residential buildings and their respective roles.

<sup>130</sup> Masoud H., Kelly C.S., Steven A. T. (1994) “Measuring service quality for strategic planning and analysis in service firms” *Journal of Applied Business Research*, Vol. 10, Iss. 4, pg. 24-34.

As discussed in the literature review, different services have different characteristics. Hence, property management service should have its own characteristics and distinct service dimensions.

In this research, property management services of housing area have been studied. Unlike health care services and legal judgment, property management services are found to consist of searchable and experimental attributes (mentioned in Section 2.3.2) which can be assessed by technical quality and on which customers have the capacity to make their own personal judgment. Accompanied with the examination into property management of housing area particularly in Hong Kong situation, the way for service quality assessment of housing management has been suggested - aside the functional dimensions developed in SERVQUAL, new technical quality dimensions have been developed for assessment of property management service.

The modified quality dimensions have been testified in this research as well. The regression result (See Section 6.4.2) has confirmed the alike views in the service quality literature that two agreed service dimensions i.e. technical service dimension and functional service dimension are components of service quality, specifically for property management of housing area. Additionally, upon the contrast of service quality assessment tool for property management sector as devised and that for sectors investigated in other researches which have ignored technical service quality, the existence of varied views on the dimensionality of service quality (Cronin &

Taylor 1992)<sup>131</sup> has also been supported. Hence, those dimensions for property management may only be applicable to this setting and not others. This reiterates what stressed by developers of SERVQUAL: ‘... the five dimensions may be too broad for some service industries, but too narrow for others.’ (Parasuraman *et al.* 1993)<sup>132</sup>.

Broadly speaking, it is suggested in this research that the service quality of property management companies to property users can be measured in two perspectives: one measuring the actual service received (service outcome) and the other measuring the way in which the service is delivered (service delivery process). In addition, the results of the study suggested that both perspectives can be further divided into two areas: adequacy of services offered and excellence of services offered.

For the technical service performance (i.e. services of Security, Safety, Repair and Maintenance, Health and Hygiene), which can also be understood as “service outcomes” will be the hardware of property management companies offered to provide the property users with a comfortable living place. As hardware, adequacy of services offered is found to be more essential. It is required that the standard of technical service performance to be as high as possible. Hence, importance of technical service performance is higher than that of the functional one.

In addition to the service outcome, the assessment of the service delivery

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<sup>132</sup> Cronin, J. Joseph and Steven A. Taylor (1992) “Measuring Service Quality: A Reexamination and Extension” *Journal of Marketing*, Vol 56, No. 3, pp. 55-68.

<sup>132</sup> Parasuraman, A., Berry Leonard L. and Zeithaml Valarie A. (1993) “More on improving service quality measurement”, *Journal of Retailing*, Vol. 69, 1, pp. 140

process is important to the overall service quality assessment because property management companies offer their services to property users through their staff. The date-to-date operation of the company provides the company's staff with the closest contact with the property users. In the eyes of the property users, how the staff perform represents the performance of the property management companies (Parasuraman *et al.* 1985)<sup>133</sup>. The staff performance therefore affects the perceived service quality of the property management companies. Functional service performance is more like the software of property management services. It is also required in provision of the service. However, its adequacy is not more crucial than its excellence. The result clearly shows that functional quality more directly affect the overall service quality assessed by the property users.

In all, this research has proven the significances of technical service dimension and functional service dimension to quality of overall service provided by property management of housing area on both importance and relevancy sides. From the research result, technical service quality is implied as a basic requirement for property management services while functional service quality acts as the main assessment criteria for property management services provided that adequate technical service quality could be observed. Thus, the result demonstrates that without the presence of technical component, property management service will not be good no matter how excellent is the functional performance. Meanwhile, the result shows that no matter how excellent the technical performance, judgment on property management services will be mostly made based on the functional performance. Therefore, technical service dimension should be adequate whilst

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<sup>133</sup> Parasuraman, A., Zeithaml Valarie A., and Berry Leonard L. (1985) "A Conceptual Model of Service Quality and its implication for Future Research" *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.



functional service dimension should be excellent to award best property management service performance of housing area.

#### 7.4 Contribution

“Service quality is praised as a competitive weapon for business”. (Richard & Allaway 1993)<sup>134</sup> This research has modified the current service quality assessment tool and devised a specified assessment tool for service quality offered by property management of housing area. Thereby it provides a means for property management sector to assess its service quality and upgrade standard of living. The contributions of this research are summarized into below four main points.

Firstly, in order to assess the role of technical service dimension in overall service performance of a property management company, this research has developed a set of service dimensions which is applicable in the property management field for quality assessment of service. The development is based upon on literature review. The development includes a revision of functional service dimensions developed in SERVQUAL and addition of technical service dimensions. Four functional and four technical service dimensions are resulted. This model could be used or further modified to assess property management service across the industry.

Secondly, through the assessment result, areas for potential improvement can be explored to facilitate a property manager in making better strategic decision through

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<sup>134</sup> Richard M. D. and Allaway A.W. (1993) “Service Quality Attributes and Choice Behaviour” *The Journal of Services Marketing*, Vol. 7, No. 1, pp. 59-78.

a better understanding of the priority of service quality attributes as perceived by property users. Moreover, changes according to time can be tracked and evaluated on the property management services performance to ensure that right decisions are to be made (Kang & Fame 2004)<sup>135</sup>. Furthermore, property manager can accordingly develop a marketing program to enhance the service quality. Stakeholders' satisfaction can be raised, thus both to retain existing property users and attract more potential property users and investors. Image and reputation of the property management company which is always viewed as a significant and long-term benefit to the company, will also be enhanced in this way.

Thirdly, this study has identified the difference between technical service dimension and functional service dimension apart from their nature and content in the determination of quality of property management service. It is on their importance and relevancy. Technical service is important, but not as related to the assessment of overall service quality as functional service provided that it is present and adequate. Functional service is the reverse. Although it is as viewed less important by property users, it is the main subject of assessment of property management service. This result could assist the managerial decision by the property manager to enhance competitiveness by ways as have been mentioned above.

Last but not least, this research has confirmed the significant role of technical service dimensions in service quality assessment. Literature in the early 1980s and 1990s has ignored the role of technical service dimension, but focused on functional quality. The role of technical service dimension, particularly in the property

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<sup>135</sup> Kang Gi-Du and James J. (2004) "Service quality dimensions: an examination of Gronroos's service quality model" *Managing Service Quality*, Vol. 14, No. 4, pp. 277-277.

management field, has been investigated in this study. This has further confirmed the role of technical quality after studies by Richard and Allaway ((1993)<sup>136</sup>, Powpaka (1996)<sup>137</sup>, Kang and James (2004)<sup>138</sup>, and Kang (2006)<sup>139</sup>.

## 7.5 Research Limitations

To begin with, this research may not provide full description of “technical quality” and “functional quality” of services. Potential overlapping area of the two qualities may exist but not been addressed. This may interfere with our understanding of the two qualities, so as their respective roles.

Owing to time and resource limitation, the study on the aspects included in property management services is mainly based on literature review. There may probably be some other important service dimensions which have been ignored. Besides, the four measures chosen as to represent each of the two service dimensions may well not be representative enough. This may affect the accuracy of the research.

For the same reason, 40 samples from each of the four chosen estates in West Kowloon constituting 160 samples altogether only represent a rather small percentage of the total population within the locality. Meanwhile, physical and non-physical aspects are measured objectively in the research. Larger sample size is

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<sup>136</sup> Richard, M.D. and Allaway, A.W. (1993) “Service Quality Attributes and Choice Behaviour” *The Journal of Services Marketing*, Vol. 7, No. 1, pp. 59-68.

<sup>137</sup> Powpaka, S. (1996) “The role of outcome quality as a determinant of overall service quality in different categories of services industries: an empirical investigation” *Journal of Services Marketing*, Vol. 10, No. 2, pp. 5-25.

<sup>138</sup> Kang Gi-Du and James J. (2004) “Service quality dimensions: an examination of Gronroos’s service quality model” *Managing Service Quality*, Vol. 14, No. 4, pp. 266-277.

<sup>139</sup> Kang Gu-Di (2006) “The hierarchical structure of service quality: integration of technical and functional quality” *Managing Service Quality*, Vol. 16, No. 1, pp. 37-50.

hence more preferable to give less biased and sounder result.

## **7.6 Research Implications**

This research has empirically developed a model for quality assessment of the property management services based on literature review. Only limited amount of resources have been put to verify the model due to limitations mentioned earlier. Further research could be done on the modification of the model to improve its validity and reliability.

It is discovered that technical service qualities is some must-be-present substance while functional service qualities is an extra substance valued when assessing the overall service quality of property management. However, this research has not advised whether this result would be changed with the background of interviewees, for examples, age group, income level, sex and type (i.e. owner or tenant). Further research is recommended to explore on this.

In this research, only two dimensions for service quality assessment are studied. They are found to be both significant and relevant to the overall service quality, regarding to the property management sector. However, the interdependency of these two dimensions and the probability for other service dimension, e.g. image, has not been researched. Hence, a new research for examining the linkage between these two dimensions or among those service dimensions of property management industry is suggested.

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**Appendix I – Statistics on Private Domestic – Average  
Prices by Class (\$ per sq.m)**

Class	A) Less than 40 m2				B) 40 m2 to 69.9 m2				C) 70 m2 to 99.9 m2				D) 100 m2 to 159.9 m2				E)160 m2 or above			
Year	Hong Kong	Kln	New Kowloon	NT	Hong Kong	Kln	New Kowloon	N T	Hong Kong	Kln	New Kowloon	NT	Hong Kong	Kln	New Kowloon	NT	Hong Kong	Kln	New Kowloon	N T
1986	9 134	8 968	8 944	7 635	9 166	7 046	7 841	6 889	9 760	8 451	9 426	7 686	10 982	9 431	10 272	7 772	12 080	11 386	(7 471 )	6 534
1987	10 975	10 837	10 896	9 454	10 868	8 187	9 573	8 663	11 631	10 182	11 212	10 092	12 209	11 373	12 029	9 741	13 708	( 10 369 )	13 194	8 284
1988	13 940	13 852	13 641	12 112	13 911	10 906	11 890	11 472	14 714	13 107	13 856	12 315	15 655	13 646	15 338	12 147	17 163	( 17 628 )	17 004	11 124
1989	18 076	17 698	16 729	14 379	18 343	14 670	15 149	14 102	18 949	17 278	17 286	14 150	20 089	17 054	18 914	14 790	21 751	(20 823 )	(21 226 )	12 827
1990	20 775	19 590	18 497	15 909	20 976	16 347	16 435	15 650	20 698	19 079	19 420	12 666	20 514	18 087	20 118	15 498	20 174	(24 425 )	19 459	15 038
1991	27 917	25 422	24 391	23 145	28 755	21 926	22 818	22 454	28 505	25 486	24 902	19 100	27 100	22 185	26 156	20 863	25 490	28 536	24 767	19 910
1992	38 930	34 552	32 696	32 881	41 152	30 676	30 624	32 539	44 019	35 934	36 137	30 623	42 941	33 326	38 485	34 200	40 902	41 588	40 137	30 146
1993	42 905	37 770	36 605	36 019	48 154	36 473	39 405	37 002	52 781	44 805	43 343	34 669	53 242	39 920	45 297	41 822	52 759	49 305	50 831	40 966
1994	52 209	42 682	41 775	41 203	62 044	42 067	48 388	42 189	72 028	54 335	51 973	42 908	74 627	47 392	61 870	53 548	82 911	63 661	69 898	59 010
1995	49 324	41 369	39 629	38 883	56 066	39 609	46 166	39 424	63 740	49 584	48 274	39 713	67 433	47 376	56 909	47 929	74 031	65 824	62 785	53 362
1996	52 369	43 721	43 193	41 713	62 125	42 836	52 297	43 230	74 573	55 321	54 927	46 601	82 364	52 923	60 582	54 889	93 657	74 247	80 924	58 670
1997	69 206	56 544	57 460	59 323	83 159	54 523	69 868	59 899	104 021	77 485	81 436	72 566	115 082	79 841	84 798	79 521	135 544	128 516	122 631	80 549
1998	50 687	42 155	41 422	42 063	57 203	40 880	47 876	40 935	71 676	61 639	51 428	49 259	77 009	71 109	59 678	51 977	88 213	96 633	79 249	56 499
1999	41 861	35 471	-	35 735	49 287	37 095	-	35 042	60 751	43 952	-	41 192	65 659	50 325	-	47 353	77 537	71 226	-	47 514
2000	35 975	30 990	-	31 444	43 656	31 711	-	31 358	54 957	38 515	-	37 324	63 194	46 639	-	41 389	80 222	70 992	-	44 589
2001	31 922	26 560	-	27 883	38 783	28 317	-	27 841	49 358	33 792	-	32 685	56 904	40 968	-	34 812	70 312	58 686	-	35 676
2002	29 012	23 324	-	24 455	34 177	24 722	-	24 646	42 116	30 654	-	29 522	51 801	37 582	-	31 953	65 725	49 840	-	35 326
2003	25 746	20 867	-	20 843	30 497	22 020	-	21 317	40 375	28 143	-	26 743	48 352	34 204	-	30 500	66 281	55 400	-	34 461
2004	32 535	25 233	-	26 611	41 716	33 058	-	28 023	56 808	46 837	-	35 698	66 291	62 070	-	41 912	94 478	75 240	-	44 483
2005	39 158	29 896	-	30 529	49 266	38 868	-	32 684	66 634	56 516	-	41 584	82 482	73 046	-	49 987	115 358	96 641	-	57 151

Notes : Figures presented in the above table are statistics which involve the use of the population figures in the compilation process and will be revised later to take into account the results of the 2006 Population By-census.

Owner-occupiers refer to the domestic households owning the quarters they occupy.

**Appendix I Statistics on Private Domestic – Average Prices by Class (\$ per sq. m)** (Source: *www.rvd.gov.hk*, Rating and Valuation Department)

## **Appendix II – Statistics on Domestic Household**

<b>Period</b>	<b>Number of domestic households ('000)</b>	<b>Average domestic household size</b>	<b>Owner-occupiers as a proportion of total number of domestic households (%)</b>
<b>1982</b>	1 311.6	3.9	28.7
<b>1983</b>	1 334.3	3.9	30.7
<b>1984</b>	1 378.7	3.7	31.2
<b>1985</b>	1 417.7	3.7	32.8
<b>1986</b>	1 473.1	3.6	34.9
<b>1987</b>	1 496.1	3.6	37.9
<b>1988</b>	1 532.6	3.6	39.4
<b>1989</b>	1 549.0	3.6	41.6
<b>1990</b>	1 559.0	3.5	42.6
<b>1991</b>	1 601.9	3.5	43.1
<b>1992</b>	1 633.5	3.4	43.5
<b>1993</b>	1 677.7	3.5	44.6
<b>1994</b>	1 729.1	3.4	45.1
<b>1995</b>	1 783.0	3.4	45.2
<b>1996</b>	1 864.5	3.4	45.9

<b>1997</b>	1 922.8	3.3	46.7
<b>1998</b>	1 961.5	3.3	46.6
<b>1999</b>	1 998.9	3.3	48.2
<b>2000</b>	2 037.0	3.3	51.1
<b>2001</b>	2 078.4	3.2	52.2
<b>2002</b>	2 133.7	3.2	52.6
<b>2003</b>	2 170.2	3.1	53.1
<b>2004</b>	2 231.5	3.1	53.7
<b>2005</b>	2 278.6	3.1	53.4
<b>2006</b>	2 312.4	3.0	53.6

Notes : Figures presented in the above table are statistics which involve the use of the population figures in the compilation process and will be revised later to take into account the results of the 2006 Population By-census.

Owner-occupiers refer to the domestic households owning the quarters they occupy.

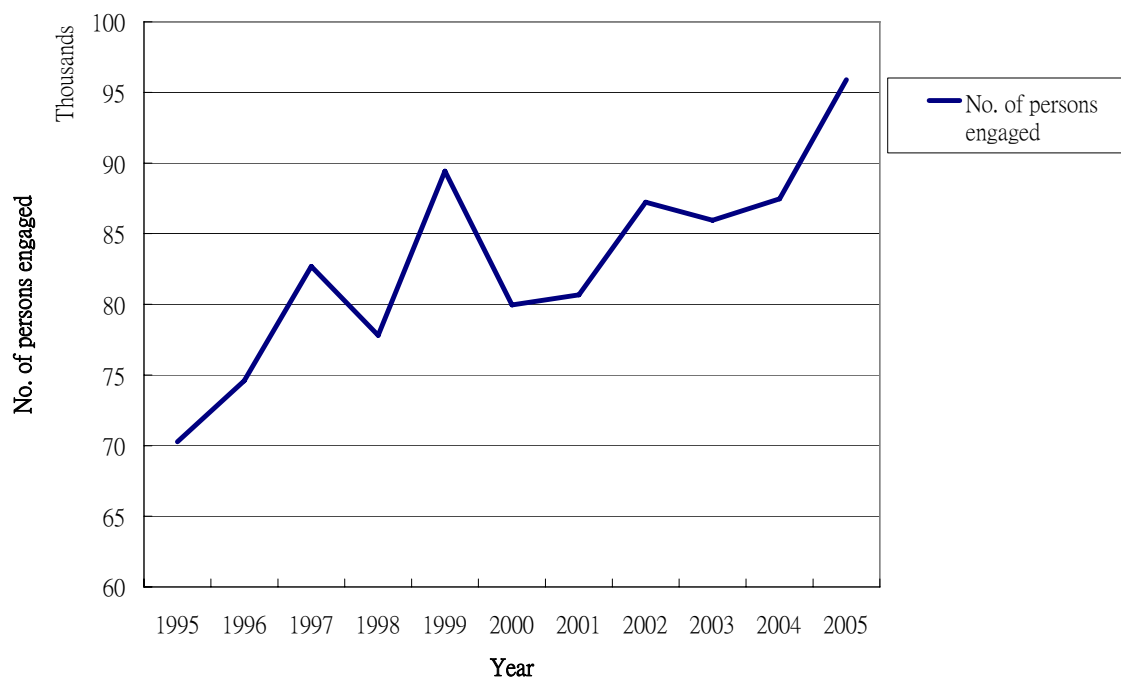
**Appendix II Statistics on Domestic Households** (Source: *www.censtatd.gov.hk*, Census and Statistics Department)

**Appendix III - Statistics with Graph showing  
Employment and Vacancies in  
particular the industry of Real Estate**



Year	No. of		
	Establishment	Persons engaged	Vacancies
1995	12724	70262	1547
1996	12212	74587	2501
1997	13091	82696	3088
1998	11217	77795	1750
1999	12032	89429	2135
2000	10800	79958	1288
2001	9791	80658	1094
2002	10435	87234	1475
2003	8645	85946	1363
2004	8882	87460	2059
2005	9941	95895	1990

Statistics on Employment of Real Estate Industry



**Appendix III** Statistics with Graph showing Employment and Vacancies in particular the industry of Real Estate (Source: *www.censtat.gov.hk*, Census and Statistics Department)

## **Appendix IV – Questionnaire**

Date of assessment: \_\_\_\_\_

Personal Particulars of Interviewee: M/F; Below 20/20-40/above 40

Type: Owner/Tenant

Residential Property: Park Avenue/ Island Harbourview/ Mei Foo Sun Chuen/ Cosmopolitan Est/  
(Estates)  
Bijou Apt/ Bijou Crt/ Fuk Hing Bldg/ King's Crt/ Ever Crt/ Mandarin Crt  
(Single Block)

No of assessment of that Property: \_\_\_\_\_

Building Status: High/Medium/Low

Form of Governance: IO/OC

## **DIRECTIONS 方向:**

- This questionnaire is about quality of property management services. Its purpose is to understand your requirements for property management services and your comments to the quality of property management services in your building. 這一份是有關物業管理服務質素的問卷調查。目的為了解閣下對於物業管理服務的要求，以及就閣下正享用的物業管理服務的質素作出評價。
- There are two parts in this questionnaire: the first part is to assess your requirements and the second part is to assess your comments.
- In Part I of the questionnaire, you are asked to allocate a total of 10 points across all the service dimensions mentioned in each test according to your priority. The higher you rank that particular service dimension when compared with the others, the higher point it scores. The total score for all service dimensions in a test adding up together should always make up of 10. Please indicate your rating by writing down the scored point.
- In Part II of the questionnaire, you are asked to assess the quality of services provided by your property management company. Please indicate your rating by circling one of the numbers from 1 (Lowest) to 5 (Highest). Choose “N” (no opinion) if you are unaware of or unfamiliar with the statement.

## Part I. Your Requirements on Property Management Services

### 您對物業管理服務的要求

	Priority Rating	得分
<b><u>Group A. Service Outcome Dimensions</u></b> 甲組. 技術性的服務要素		
<b>1. Security 保安</b> (defined as the services provided by a property management company to protect occupants from economic or financial losses, e.g. theft 針對保障經濟、金錢和財物方面的服務)		point
<b>2. Safety 安全</b> (defined as the services provided by a property management company to protect occupants from physical injuries e.g. fire or crime 針對保障人身安全方面的服務)		point
<b>3. Repair and Maintenance 維修與保養</b> (defined as the services provided by a property management company to ensure all parts of the building to look good and fit without sign of failure)		point
<b>4. Health and Hygiene 健康與衛生</b> (defined as the services provided by a property management company to ensure a healthy and hygienic living place for occupants)		point
<b>Total point:</b>	10	point

<b><u>Group B. Service Delivery Dimensions</u></b> 乙組. 關係性的服務要素	
<b>1. Reliability</b> 可靠程度 (defined as the ability of a property management company to perform the promised service dependably and accurately)	point
<b>2. Responsiveness</b> 熱誠 (defined as the willingness of a property management company's staff to help occupants and provide prompt service)	point
<b>3. Empathy</b> 連理心 (defined as the caring, individualized attention the property management company's staff provides to the occupants)	point
<b>4. Communication</b> 溝通 (defined as the eagerness of the property management company to understand occupants' opinions and be understood by occupants)	point
<b>Total point:</b>	10 point
<b><u>Comparing Service Dimensions of Group A and Group B</u></b> 比較 甲、乙兩組	
<b>Group A. Service Outcome Dimensions</b> 甲組. 技術性的服務要素	point
<b>Group B. Service Delivery Dimensions</b> 乙組. 關係性的服務要素	point
<b>Total point:</b>	10 point

## Part II. Your Comments on Quality of Property Management Services

### 您對物業管理服務質素的評價

	Low	Average	High	No opinion		
<b><u>Service Outcome Dimensions</u> 技術性的服務要素</b>						
<b><u>Security</u> 保安</b>						
<b>1. Security systems in use (e.g. burglar alarm systems, video surveillance systems, closed-circuit television) 保安系統</b>	1	2	3	4	5	N
<b>2. Patrolling and guarding by the property management company's security staff 巡邏與保衛</b>	1	2	3	4	5	N
<b>3. Access control, crowd and traffic control for visitors and incoming vehicles 人流與車輛管制</b>	1	2	3	4	5	N
<b><u>Safety</u> 安全</b>						
<b>4. Provision of emergency plan (e.g. infectious disease, fire outbreak) 緊急應變計劃</b>	1	2	3	4	5	N
<b>5. Provision for evacuation (e.g. no blockage in exit route, fire safety plan) 逃生預備</b>	1	2	3	4	5	N
<b>6. Regular Inspection by Professionals (e.g. structural safety, building systems such as water and plumbing, windows) 定期檢查</b>	1	2	3	4	5	N

<b><u>Repair and Maintenance</u></b> 維修與保養						
<b>7. Visually good and fit building (e.g. proper running of heat, ventilation, air-conditioning system, fire service systems, water supply and plumbing systems, electrical system)</b> 外觀	1	2	3	4	5	N
<b>8. No sign of failure (e.g. spalling or cracking, water seeping) or deterioration</b> 無損壞痕跡	1	2	3	4	5	N
<b>9. Presence of maintenance programme for regular maintenance</b> 定期維修及保養計劃	1	2	3	4	5	N
<b><u>Health and Hygiene</u></b> 健康與衛生						
<b>10. Internal hygiene conditions(e.g. cleanliness of floor and wall)</b> 內部衛生情況	1	2	3	4	5	N
<b>11. Treatment of refuse</b> 廢物處理	1	2	3	4	5	N
<b>12. Pest and rodent control</b> 滅蟲工作	1	2	3	4	5	N
<b><u>Service Delivery Dimensions</u></b> 關係性的服務要素						
<b><u>Reliability</u></b> 可靠程度						
<b>13. Providing services as promised</b> 能夠提供承諾的服務	1	2	3	4	5	N
<b>14. Performing services right the first time</b> 能夠提供適當的服務	1	2	3	4	5	N
<b>15. Providing services at the promised time</b> 能夠在承諾的時間內	1	2	3	4	5	N

提供服務						
<b><u>Responsiveness</u></b> 熱誠						
16. Giving quick response to your requests 快捷地回應您的要求	1	2	3	4	5	N
17. Showing willingness to help 顯示樂意幫忙	1	2	3	4	5	N
18. Offering prompt service 提供快捷的服務	1	2	3	4	5	N
<b><u>Empathy</u></b> 連理心						
19. Being attentive to your needs 關心您的需要	1	2	3	4	5	N
20. Dealing you with a caring manner 以關懷的態度處理您的要求	1	2	3	4	5	N
21. Showing understanding to your needs 能夠明白您的需要	1	2	3	4	5	N
<b><u>Communication</u></b> 溝通						
22. Providing adequate channel for communication 有足夠的溝通 渠道	1	2	3	4	5	N
23. Keeping you informed about the services performed (e.g. by monthly circular) 保持與您的緊密聯絡	1	2	3	4	5	N
24. Willing to hear your opinions (e.g. by regular survey) 樂意 聽取您的意見	1	2	3	4	5	N
<b>● • OVERALL SERVICE QUALITY • ●</b>	1	2	3	4	5	N



**ANY OTHER COMMENTS:**

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**Thank you for your comments! 謝謝您的寶貴意見!**

**Appendix V – Spreadsheets showing the result of the  
research**

Stage One Research Result (Park Avenue)

Security	Safety	Repair & Maintenance	Health & Hygiene	Reliability	Responsiveness	Empathy	Communication	Technical	Functional	Security	Safety	Repair & Maintenance	Health & Hygiene	Reliability	Responsiveness	Empathy	Communication
4.00	3.00	2.00	1.00	4.00	1.00	1.00	4.00	4.00	6.00	16.00	12.00	8.00	4.00	24.00	6.00	6.00	24.00
2.00	3.00	2.00	3.00	4.00	2.00	1.00	3.00	6.00	4.00	12.00	18.00	12.00	18.00	16.00	8.00	4.00	12.00
5.00	3.00	1.00	1.00	4.00	2.00	1.00	3.00	4.00	6.00	20.00	12.00	4.00	4.00	24.00	12.00	6.00	18.00
4.00	2.00	2.00	2.00	2.00	3.00	2.00	3.00	5.00	5.00	20.00	10.00	10.00	10.00	10.00	15.00	10.00	15.00
1.00	4.00	3.00	2.00	4.00	2.00	1.00	3.00	7.00	3.00	7.00	28.00	21.00	14.00	12.00	6.00	3.00	9.00
4.00	2.00	3.00	1.00	3.00	1.00	2.00	4.00	7.00	3.00	28.00	14.00	21.00	7.00	9.00	3.00	6.00	12.00
5.00	2.00	1.00	2.00	4.00	3.00	2.00	1.00	6.00	4.00	30.00	12.00	6.00	12.00	16.00	12.00	8.00	4.00
5.00	3.00	1.00	1.00	4.00	1.00	2.00	3.00	6.00	4.00	30.00	18.00	6.00	6.00	16.00	4.00	8.00	12.00
3.00	3.00	2.00	2.00	4.00	2.00	2.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	16.00	8.00	8.00	8.00
4.00	2.00	2.00	2.00	3.00	2.00	3.00	2.00	4.00	6.00	16.00	8.00	8.00	8.00	18.00	12.00	18.00	12.00
2.00	4.00	2.00	2.00	3.00	3.00	2.00	2.00	6.00	4.00	12.00	24.00	12.00	12.00	12.00	12.00	8.00	8.00
2.00	5.00	2.00	1.00	3.00	2.00	3.00	2.00	6.00	4.00	12.00	30.00	12.00	6.00	12.00	8.00	12.00	8.00
4.00	2.00	1.00	3.00	4.00	1.00	3.00	2.00	6.00	4.00	24.00	12.00	6.00	18.00	16.00	4.00	12.00	8.00
4.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	4.00	6.00	16.00	8.00	8.00	8.00	12.00	18.00	18.00	12.00
3.00	3.00	2.00	2.00	3.00	2.00	2.00	3.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	8.00	8.00	12.00
3.00	2.00	2.00	3.00	2.00	3.00	2.00	3.00	4.00	6.00	12.00	8.00	8.00	12.00	12.00	18.00	12.00	18.00
3.00	2.00	2.00	3.00	2.00	3.00	2.00	3.00	6.00	4.00	18.00	12.00	12.00	18.00	8.00	12.00	8.00	12.00
2.50	2.50	2.50	2.50	3.00	2.00	2.00	3.00	6.00	4.00	15.00	15.00	15.00	15.00	12.00	8.00	8.00	12.00
3.00	2.00	2.00	3.00	3.00	2.00	2.00	3.00	7.00	3.00	21.00	14.00	14.00	21.00	9.00	6.00	6.00	9.00
3.00	3.00	2.00	2.00	4.00	2.00	3.00	1.00	6.00	4.00	18.00	18.00	12.00	12.00	16.00	8.00	12.00	4.00
2.50	2.50	2.50	2.50	2.00	2.00	2.00	4.00	6.00	4.00	15.00	15.00	15.00	15.00	8.00	8.00	8.00	16.00
5.00	3.00	1.00	1.00	3.00	2.00	2.00	3.00	6.00	4.00	30.00	18.00	6.00	6.00	12.00	8.00	8.00	12.00

4.00	2.00	2.00	2.00	3.00	2.00	2.00	3.00	5.00	5.00	20.00	10.00	10.00	10.00	15.00	10.00	10.00	15.00
3.00	2.00	2.00	3.00	3.00	2.00	2.00	3.00	4.00	6.00	12.00	8.00	8.00	12.00	18.00	12.00	12.00	18.00
4.00	2.00	2.00	2.00	3.00	3.00	1.00	3.00	7.00	3.00	28.00	14.00	14.00	14.00	9.00	9.00	3.00	9.00
1.00	6.00	2.00	1.00	6.00	0.50	0.50	3.00	5.00	5.00	5.00	30.00	10.00	5.00	30.00	2.50	2.50	15.00
3.00	3.00	2.00	2.00	3.00	2.00	2.00	3.00	5.00	5.00	15.00	15.00	10.00	10.00	15.00	10.00	10.00	15.00
2.00	4.00	2.00	2.00	3.00	3.00	2.00	2.00	7.00	3.00	14.00	28.00	14.00	14.00	9.00	9.00	6.00	6.00
3.00	2.00	2.00	3.00	3.00	3.00	1.00	3.00	6.00	4.00	18.00	12.00	12.00	18.00	12.00	12.00	4.00	12.00
4.00	3.00	1.00	2.00	4.00	2.00	2.00	2.00	7.00	3.00	28.00	21.00	7.00	14.00	12.00	6.00	6.00	6.00
2.00	3.00	2.00	3.00	4.00	2.00	2.00	2.00	4.00	6.00	8.00	12.00	8.00	12.00	24.00	12.00	12.00	12.00
5.00	3.00	1.00	1.00	4.00	2.00	2.00	2.00	6.00	4.00	30.00	18.00	6.00	6.00	16.00	8.00	8.00	8.00
3.00	3.00	1.00	3.00	3.00	3.00	2.00	2.00	6.00	4.00	18.00	18.00	6.00	18.00	12.00	12.00	8.00	8.00
2.00	3.00	2.00	3.00	4.00	3.00	1.00	2.00	6.00	4.00	12.00	18.00	12.00	18.00	16.00	12.00	4.00	8.00
2.00	4.00	1.00	3.00	3.00	2.00	2.00	3.00	4.00	6.00	8.00	16.00	4.00	12.00	18.00	12.00	12.00	18.00
3.00	2.00	2.00	3.00	4.00	4.00	1.00	1.00	6.00	4.00	18.00	12.00	12.00	18.00	16.00	16.00	4.00	4.00
4.00	3.00	2.00	1.00	4.00	3.00	2.00	1.00	5.00	5.00	20.00	15.00	10.00	5.00	20.00	15.00	10.00	5.00
3.00	2.00	3.00	2.00	4.00	2.00	3.00	1.00	4.00	6.00	12.00	8.00	12.00	8.00	24.00	12.00	18.00	6.00
3.00	2.00	3.00	2.00	3.00	2.00	2.00	3.00	6.00	4.00	18.00	12.00	18.00	12.00	12.00	8.00	8.00	12.00
3.00	3.00	2.00	2.00	4.00	3.00	1.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	16.00	12.00	4.00	8.00
128.00	112.00	76.00	84.00	135.00	89.50	75.50	100.00	223.00	177.00	710.00	627.00	425.00	468.00	596.00	393.50	338.50	442.00
3.20	2.80	1.90	2.10	3.38	2.24	1.89	2.50	5.58	4.43	17.75	15.68	10.63	11.70	14.90	9.84	8.46	11.05
1.06	0.90	0.58	0.74	0.81	0.73	0.66	0.82			6.66	5.90	4.04	4.58	5.03	3.75	3.93	4.55

Stage One Research Result (Island Harbourview)																	
Security	Safety	Repair &	Health &	Reliability	Responsiveness	Empathy	Communication	Technical	Functional	Security	Safety	Repair &	Health &	Reliability	Responsiveness	Empathy	Communication

		Mainten ance	Hygiene									Mainten ance	Hygiene				
2.00	1.00	4.00	3.00	4.00	2.00	1.00	3.00	7.00	3.00	14.00	7.00	28.00	21.00	12.00	6.00	3.00	9.00
3.00	2.00	4.00	1.00	3.00	3.00	1.00	3.00	6.00	4.00	18.00	12.00	24.00	6.00	12.00	12.00	4.00	12.00
3.00	3.00	2.00	2.00	3.00	3.00	1.00	3.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	12.00	4.00	12.00
4.00	4.00	1.00	1.00	3.00	4.00	1.00	2.00	5.00	5.00	20.00	20.00	5.00	5.00	15.00	20.00	5.00	10.00
3.00	3.00	2.00	2.00	4.00	2.00	2.00	2.00	7.00	3.00	21.00	21.00	14.00	14.00	12.00	6.00	6.00	6.00
4.00	2.00	1.00	3.00	4.00	3.00	2.00	1.00	6.00	4.00	24.00	12.00	6.00	18.00	16.00	12.00	8.00	4.00
3.00	3.00	2.00	2.00	4.00	2.00	2.00	2.00	3.00	7.00	9.00	9.00	6.00	6.00	28.00	14.00	14.00	14.00
3.00	2.50	2.00	2.50	4.00	2.00	2.00	2.00	5.00	5.00	15.00	12.50	10.00	12.50	20.00	10.00	10.00	10.00
2.00	3.00	3.00	2.00	3.00	2.00	3.00	2.00	6.00	4.00	12.00	18.00	18.00	12.00	12.00	8.00	12.00	8.00
3.00	3.00	2.00	2.00	3.00	3.00	2.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	12.00	8.00	8.00
4.00	2.00	2.00	2.00	4.00	2.00	2.00	2.00	6.00	4.00	24.00	12.00	12.00	12.00	16.00	8.00	8.00	8.00
2.00	3.00	2.00	3.00	4.00	2.00	2.00	2.00	5.00	5.00	10.00	15.00	10.00	15.00	20.00	10.00	10.00	10.00
3.00	2.00	3.00	2.00	4.00	2.00	3.00	1.00	4.00	6.00	12.00	8.00	12.00	8.00	24.00	12.00	18.00	6.00
3.00	2.00	3.00	2.00	3.00	2.00	2.00	3.00	6.00	4.00	18.00	12.00	18.00	12.00	12.00	8.00	8.00	12.00
3.00	3.00	2.00	2.00	4.00	3.00	1.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	16.00	12.00	4.00	8.00
4.00	2.00	2.00	2.00	3.00	3.00	2.00	2.00	6.00	4.00	24.00	12.00	12.00	12.00	12.00	12.00	8.00	8.00
3.00	4.00	2.00	1.00	2.00	3.00	2.00	3.00	6.00	4.00	18.00	24.00	12.00	6.00	8.00	12.00	8.00	12.00
4.00	3.00	2.00	1.00	2.00	3.00	2.00	3.00	6.00	4.00	24.00	18.00	12.00	6.00	8.00	12.00	8.00	12.00
3.00	3.00	2.00	2.00	4.00	3.00	1.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	16.00	12.00	4.00	8.00
2.00	4.00	1.00	3.00	3.00	4.00	1.00	2.00	6.00	4.00	12.00	24.00	6.00	18.00	12.00	16.00	4.00	8.00
3.00	3.00	2.00	2.00	3.00	2.00	2.00	3.00	5.00	5.00	15.00	15.00	10.00	10.00	15.00	10.00	10.00	15.00

4.00	3.00	1.00	2.00	2.50	2.50	2.50	2.50	6.00	4.00	24.00	18.00	6.00	12.00	10.00	10.00	10.00	10.00
2.00	3.00	2.00	3.00	3.00	3.00	2.00	2.00	6.00	4.00	12.00	18.00	12.00	18.00	12.00	12.00	8.00	8.00
2.00	4.00	1.00	3.00	4.00	3.00	2.00	1.00	6.00	4.00	12.00	24.00	6.00	18.00	16.00	12.00	8.00	4.00
3.00	3.00	1.00	3.00	3.00	3.00	2.00	2.00	6.00	4.00	18.00	18.00	6.00	18.00	12.00	12.00	8.00	8.00
2.50	2.50	1.00	4.00	4.00	4.00	1.00	1.00	7.00	3.00	17.50	17.50	7.00	28.00	12.00	12.00	3.00	3.00
3.00	3.00	2.00	2.00	3.00	3.00	2.00	2.00	5.00	5.00	15.00	15.00	10.00	10.00	15.00	15.00	10.00	10.00
3.00	4.00	2.00	1.00	3.00	4.00	1.00	2.00	6.00	4.00	18.00	24.00	12.00	6.00	12.00	16.00	4.00	8.00
2.00	3.00	2.00	3.00	4.00	2.00	2.00	2.00	6.00	4.00	12.00	18.00	12.00	18.00	16.00	8.00	8.00	8.00
3.00	4.00	1.00	2.00	4.00	3.00	1.00	2.00	5.00	5.00	15.00	20.00	5.00	10.00	20.00	15.00	5.00	10.00
2.50	2.50	2.00	3.00	2.00	3.00	3.00	2.00	6.00	4.00	15.00	15.00	12.00	18.00	8.00	12.00	12.00	8.00
4.00	3.00	2.00	1.00	3.00	4.00	1.00	2.00	4.00	6.00	16.00	12.00	8.00	4.00	18.00	24.00	6.00	12.00
4.00	3.00	0.00	3.00	5.00	5.00	0.00	0.00	7.00	3.00	28.00	21.00	0.00	21.00	15.00	15.00	0.00	0.00
3.00	3.00	2.00	2.00	3.00	2.50	2.00	2.50	6.00	4.00	18.00	18.00	12.00	12.00	12.00	10.00	8.00	10.00
5.00	3.00	0.00	2.00	2.00	5.00	1.50	1.50	6.00	4.00	30.00	18.00	0.00	12.00	8.00	20.00	6.00	6.00
2.00	4.00	3.00	1.00	4.00	3.00	1.00	2.00	5.00	5.00	10.00	20.00	15.00	5.00	20.00	15.00	5.00	10.00
2.00	4.00	1.00	3.00	3.00	3.00	2.00	2.00	6.00	4.00	12.00	24.00	6.00	18.00	12.00	12.00	8.00	8.00
3.00	4.00	1.00	2.00	4.00	1.00	2.00	3.00	5.00	5.00	15.00	20.00	5.00	10.00	20.00	5.00	10.00	15.00
3.00	4.00	2.00	1.00	2.00	4.00	1.00	3.00	6.00	4.00	18.00	24.00	12.00	6.00	8.00	16.00	4.00	12.00
3.00	3.00	2.00	2.00	3.00	3.00	2.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	12.00	8.00	8.00
120.00	120.50	74.00	85.50	132.50	116.00	68.00	83.50	229.00	171.00	685.50	686.00	421.00	497.50	568.00	489.00	295.00	358.00
3.00	3.01	1.85	2.14	3.31	2.90	1.70	2.09	5.73	4.28	17.14	17.15	10.53	12.44	14.20	12.23	7.38	8.95

Stage One Research Result (Mei Foo Sun Chuen)

Security	Safety	Repair & Maintenance	Health & Hygiene	Reliability	Responsiveness	Empathy	Communication	Technical	Functional	Security	Safety	Repair & Maintenance	Health & Hygiene	Reliability	Responsiveness	Empathy	Communication
3.00	3.00	2.00	2.00	3.00	3.00	2.00	2.00	7.00	3.00	21.00	21.00	14.00	14.00	9.00	9.00	6.00	6.00
4.00	4.00	1.00	1.00	3.00	1.00	2.00	4.00	6.00	4.00	24.00	24.00	6.00	6.00	12.00	4.00	8.00	16.00
3.00	4.00	2.00	1.00	5.00	3.00	1.00	1.00	7.00	3.00	21.00	28.00	14.00	7.00	15.00	9.00	3.00	3.00
3.00	1.00	3.00	3.00	4.00	3.00	2.00	1.00	7.00	3.00	21.00	7.00	21.00	21.00	12.00	9.00	6.00	3.00
2.00	3.00	2.00	3.00	2.00	2.00	3.00	3.00	6.00	4.00	12.00	18.00	12.00	18.00	8.00	8.00	12.00	12.00
3.00	2.00	2.00	3.00	4.00	2.00	1.00	3.00	7.00	3.00	21.00	14.00	14.00	21.00	12.00	6.00	3.00	9.00
5.00	2.00	2.00	1.00	2.00	2.00	4.00	2.00	7.00	3.00	35.00	14.00	14.00	7.00	6.00	6.00	12.00	6.00
3.00	3.00	2.00	2.00	2.00	3.00	3.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	8.00	12.00	12.00	8.00
5.00	3.00	1.00	1.00	4.00	3.00	2.00	1.00	6.00	4.00	30.00	18.00	6.00	6.00	16.00	12.00	8.00	4.00
1.00	4.00	1.00	4.00	4.00	4.00	1.00	1.00	8.00	2.00	8.00	32.00	8.00	32.00	8.00	8.00	2.00	2.00
1.00	2.00	1.00	6.00	2.50	2.50	2.50	2.50	6.00	4.00	6.00	12.00	6.00	36.00	10.00	10.00	10.00	10.00
3.00	3.00	2.00	2.00	3.00	3.00	3.00	1.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	12.00	12.00	4.00
4.00	1.00	3.00	2.00	3.00	3.00	2.00	2.00	7.00	3.00	28.00	7.00	21.00	14.00	9.00	9.00	6.00	6.00
3.00	3.00	1.00	3.00	3.00	2.00	1.00	4.00	6.00	4.00	18.00	18.00	6.00	18.00	12.00	8.00	4.00	16.00
4.00	3.00	1.00	2.00	3.00	3.00	2.00	2.00	5.00	5.00	20.00	15.00	5.00	10.00	15.00	15.00	10.00	10.00
3.00	3.00	2.00	2.00	3.00	2.00	1.00	4.00	5.00	5.00	15.00	15.00	10.00	10.00	15.00	10.00	5.00	20.00
4.00	3.00	2.00	1.00	3.00	2.00	3.00	2.00	6.00	4.00	24.00	18.00	12.00	6.00	12.00	8.00	12.00	8.00
3.00	3.00	2.00	2.00	3.00	2.00	2.00	3.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	8.00	8.00	12.00

3.00	3.00	2.00	2.00	4.00	3.00	2.00	1.00	7.00	3.00	21.00	21.00	14.00	14.00	12.00	9.00	6.00	3.00
2.00	3.00	2.00	3.00	2.00	2.00	3.00	3.00	6.00	4.00	12.00	18.00	12.00	18.00	8.00	8.00	12.00	12.00
3.00	4.00	1.00	2.00	4.00	3.00	2.00	1.00	5.00	5.00	15.00	20.00	5.00	10.00	20.00	15.00	10.00	5.00
4.00	2.00	2.00	2.00	3.00	3.00	2.00	2.00	6.00	4.00	24.00	12.00	12.00	12.00	12.00	12.00	8.00	8.00
2.00	3.00	1.00	4.00	3.00	3.00	3.00	1.00	5.00	5.00	10.00	15.00	5.00	20.00	15.00	15.00	15.00	5.00
3.00	3.00	1.00	3.00	2.00	3.00	2.00	3.00	6.00	4.00	18.00	18.00	6.00	18.00	8.00	12.00	8.00	12.00
3.00	3.00	2.00	2.00	4.00	2.00	2.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	16.00	8.00	8.00	8.00
3.00	4.00	2.00	1.00	2.00	4.00	3.00	1.00	6.00	4.00	18.00	24.00	12.00	6.00	8.00	16.00	12.00	4.00
3.00	3.00	2.00	2.00	3.00	3.00	2.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	12.00	8.00	8.00
3.00	3.00	1.00	3.00	3.00	3.00	3.00	1.00	6.00	4.00	18.00	18.00	6.00	18.00	12.00	12.00	12.00	4.00
4.00	4.00	1.00	1.00	3.00	2.00	3.00	2.00	6.00	4.00	24.00	24.00	6.00	6.00	12.00	8.00	12.00	8.00
4.00	3.00	2.00	1.00	4.00	3.00	2.00	1.00	6.00	4.00	24.00	18.00	12.00	6.00	16.00	12.00	8.00	4.00
2.00	3.00	2.00	3.00	4.00	2.00	2.00	2.00	7.00	3.00	14.00	21.00	14.00	21.00	12.00	6.00	6.00	6.00
3.00	3.00	2.00	2.00	3.00	3.00	3.00	1.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	12.00	12.00	4.00
3.00	4.00	1.00	2.00	2.50	2.50	2.50	2.50	5.00	5.00	15.00	20.00	5.00	10.00	12.50	12.50	12.50	12.50
3.00	3.00	1.00	3.00	3.00	3.00	2.00	2.00	6.00	4.00	18.00	18.00	6.00	18.00	12.00	12.00	8.00	8.00
3.00	5.00	1.00	1.00	3.00	2.00	2.00	3.00	7.00	3.00	21.00	35.00	7.00	7.00	9.00	6.00	6.00	9.00
4.00	2.00	2.00	2.00	4.00	4.00	1.00	1.00	6.00	4.00	24.00	12.00	12.00	12.00	16.00	16.00	4.00	4.00
3.00	3.00	2.00	2.00	4.00	3.00	1.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	16.00	12.00	4.00	8.00
3.00	3.00	2.00	2.00	3.00	3.00	2.00	2.00	5.00	5.00	15.00	15.00	10.00	10.00	15.00	15.00	10.00	10.00
2.50	2.50	2.50	2.50	4.00	2.00	2.00	2.00	7.00	3.00	17.50	17.50	17.50	17.50	12.00	6.00	6.00	6.00
3.00	3.00	2.00	2.00	4.00	2.00	3.00	1.00	5.00	5.00	15.00	15.00	10.00	10.00	20.00	10.00	15.00	5.00
23.50	19.50	68.50	68.50	28.00	06.00	87.00	79.00	45.00	55.00	53.50	28.50	24.50	43.50	90.50	09.50	41.50	08.50



3.09	2.99	1.71	2.21	3.20	2.65	2.18	1.98	6.13	3.88	18.84	18.21	10.61	13.59	12.26	10.24	8.54	7.71
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Stage One Research Result (Cosmopolitan Estates)																	
Security	Safety	Repair & Maintenance	Health & Hygiene	Reliability	Responsiveness	Empathy	Communication	Technical	Functional	Security	Safety	Repair & Maintenance	Health & Hygiene	Reliability	Responsiveness	Empathy	Communication
3.00	3.00	3.00	1.00	2.00	1.00	4.00	3.00	6.00	4.00	18.00	18.00	18.00	6.00	8.00	4.00	16.00	12.00
3.00	3.00	2.00	2.00	3.00	3.00	2.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	12.00	8.00	8.00
3.00	4.00	1.00	2.00	4.00	3.00	1.00	2.00	8.00	2.00	24.00	32.00	8.00	16.00	8.00	6.00	2.00	4.00
1.00	2.00	3.00	4.00	3.00	2.00	2.00	3.00	5.00	5.00	5.00	10.00	15.00	20.00	15.00	10.00	10.00	15.00
1.00	5.00	3.00	1.00	4.00	2.00	3.00	1.00	6.00	4.00	6.00	30.00	18.00	6.00	16.00	8.00	12.00	4.00
4.00	2.00	3.00	1.00	4.00	3.00	1.00	2.00	7.00	3.00	28.00	14.00	21.00	7.00	12.00	9.00	3.00	6.00
3.00	3.00	2.00	2.00	3.00	2.00	2.00	3.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	8.00	8.00	12.00
3.00	3.00	2.00	2.00	2.50	2.50	2.50	2.50	7.00	3.00	21.00	21.00	14.00	14.00	7.50	7.50	7.50	7.50
3.00	2.00	2.00	3.00	4.00	2.00	2.00	2.00	5.00	5.00	15.00	10.00	10.00	15.00	20.00	10.00	10.00	10.00
4.00	1.00	1.00	4.00	4.00	2.00	2.00	2.00	8.00	2.00	32.00	8.00	8.00	32.00	8.00	4.00	4.00	4.00
3.00	3.00	2.00	2.00	3.00	2.00	2.00	3.00	6.00	4.00	18.00	18.00	12.00	12.00	12.00	8.00	8.00	12.00
4.00	3.00	1.00	2.00	3.00	2.00	3.00	2.00	6.00	4.00	24.00	18.00	6.00	12.00	12.00	8.00	12.00	8.00
3.00	3.00	2.00	2.00	3.00	3.00	1.00	3.00	7.00	3.00	21.00	21.00	14.00	14.00	9.00	9.00	3.00	9.00
2.00	3.00	3.00	2.00	4.00	3.00	2.00	1.00	4.00	6.00	8.00	12.00	12.00	8.00	24.00	18.00	12.00	6.00
3.00	4.00	1.00	2.00	4.00	1.00	2.00	3.00	7.00	3.00	21.00	28.00	7.00	14.00	12.00	3.00	6.00	9.00
5.00	1.00	3.00	1.00	3.00	2.00	2.00	3.00	7.00	3.00	35.00	7.00	21.00	7.00	9.00	6.00	6.00	9.00
4.00	2.00	3.00	1.00	4.00	3.00	2.00	1.00	6.00	4.00	24.00	12.00	18.00	6.00	16.00	12.00	8.00	4.00
3.00	5.00	1.00	1.00	3.00	1.00	4.00	2.00	5.00	5.00	15.00	25.00	5.00	5.00	15.00	5.00	20.00	10.00

4.00	3.00	2.00	1.00	3.00	3.00	2.00	2.00	7.00	3.00	28.00	21.00	14.00	7.00	9.00	9.00	6.00	6.00
4.00	2.00	2.00	2.00	3.00	2.00	3.00	2.00	6.00	4.00	24.00	12.00	12.00	12.00	12.00	8.00	12.00	8.00
3.00	3.00	2.00	2.00	3.00	2.00	3.00	2.00	4.00	6.00	12.00	12.00	8.00	8.00	18.00	12.00	18.00	12.00
3.00	2.00	3.00	2.00	3.00	3.00	2.00	2.00	5.00	5.00	15.00	10.00	15.00	10.00	15.00	15.00	10.00	10.00
2.50	2.50	2.50	2.50	4.00	2.00	2.00	2.00	6.00	4.00	15.00	15.00	15.00	15.00	16.00	8.00	8.00	8.00
4.00	3.00	2.00	1.00	2.00	2.00	3.00	3.00	4.00	6.00	16.00	12.00	8.00	4.00	12.00	12.00	18.00	18.00
4.00	1.00	2.00	3.00	3.00	2.00	1.00	4.00	6.00	4.00	24.00	6.00	12.00	18.00	12.00	8.00	4.00	16.00
5.00	2.00	1.00	2.00	4.00	1.00	2.00	3.00	7.00	3.00	35.00	14.00	7.00	14.00	12.00	3.00	6.00	9.00
1.00	4.00	2.00	3.00	6.00	2.00	1.00	1.00	6.00	4.00	6.00	24.00	12.00	18.00	24.00	8.00	4.00	4.00
3.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00	7.00	3.00	21.00	21.00	14.00	14.00	6.00	9.00	6.00	9.00
2.00	1.00	5.00	2.00	5.00	2.00	1.00	2.00	5.00	5.00	10.00	5.00	25.00	10.00	25.00	10.00	5.00	10.00
1.25	1.25	5.00	2.50	3.00	3.00	2.00	2.00	7.50	2.50	9.38	9.38	37.50	18.75	7.50	7.50	5.00	5.00
2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	7.00	3.00	14.00	14.00	21.00	21.00	9.00	6.00	9.00	6.00
3.00	2.00	2.00	3.00	3.00	3.00	2.00	2.00	6.00	4.00	18.00	12.00	12.00	18.00	12.00	12.00	8.00	8.00
3.00	3.00	2.00	2.00	3.00	2.00	2.00	3.00	8.00	2.00	24.00	24.00	16.00	16.00	6.00	4.00	4.00	6.00
3.00	3.00	2.00	2.00	2.00	3.00	3.00	2.00	6.00	4.00	18.00	18.00	12.00	12.00	8.00	12.00	12.00	8.00
4.00	2.00	3.00	1.00	2.50	2.50	2.50	2.50	4.00	6.00	16.00	8.00	12.00	4.00	15.00	15.00	15.00	15.00
3.00	2.00	1.00	4.00	2.00	3.00	1.00	4.00	6.00	4.00	18.00	12.00	6.00	24.00	8.00	12.00	4.00	16.00
4.00	2.00	1.00	3.00	4.00	1.00	2.00	3.00	5.00	5.00	20.00	10.00	5.00	15.00	20.00	5.00	10.00	15.00
2.00	5.00	1.00	2.00	5.00	1.00	1.00	3.00	7.00	3.00	14.00	35.00	7.00	14.00	15.00	3.00	3.00	9.00
3.00	2.00	1.00	4.00	3.00	1.00	4.00	2.00	5.00	5.00	15.00	10.00	5.00	20.00	15.00	5.00	20.00	10.00
3.00	4.00	1.00	2.00	4.00	2.00	1.00	3.00	6.00	4.00	18.00	24.00	6.00	12.00	16.00	8.00	4.00	12.00
121.75	106.75	85.50	86.00	133.00	87.00	85.00	95.00	242.50	157.50	741.38	648.38	512.50	522.75	520.00	339.00	346.50	369.50

3.04	2.67	2.14	2.15	3.33	2.18	2.13	2.38	6.06	3.94	18.53	16.21	12.81	13.07	13.00	8.48	8.66	9.24
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**Stage Two Research Result (Park Avenue)**

Security 1	Security 2	Security 3	Security	Safety 1	Safety 2	Safety 3	Safety	RepairM1	RepairM2	RepairM3	Repair & Maintenance	HealthH1	HealthH2	HealthH3	Health & Hygiene	TECHNICAL	Reliability 1	Reliability 2	Reliability 3	Reliability	Response1	Response2	Response3	Responsiveness	Empathy1	Empathy2	Empathy3	Empathy	Commun1	Commun2	Commun3	Communication	FUNCTIONAL	Overall SQ	
5.00	5.00	4.00	4.67	4.00	4.00	4.00	4.00	5.00	5.00	4.00	4.67	5.00	4.00	4.00	4.33	4.42	5.00	4.00	5.00	4.67	4.00	5.00	5.00	4.67	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.83	5.00	
4.00	3.00	4.00	3.67	0.00	0.00	3.00	1.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.67	3.08	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	4.00	5.00	4.00	4.33	3.83	4.00		
4.00	5.00	4.00	4.33	5.00	3.00	2.00	3.33	3.00	3.00	3.00	3.00	5.00	4.00	5.00	4.67	3.83	5.00	5.00	5.00	5.00	5.00	4.00	5.00	4.67	5.00	5.00	4.00	4.67	5.00	5.00	4.00	4.67	4.75	4.00	
4.00	4.00	4.00	4.00	5.00	4.00	4.00	4.33	4.00	3.00	4.00	3.67	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	5.00	4.00	4.33	5.00	4.00	4.00	4.33	4.00	4.00	4.00	4.00	4.00	4.17	4.00
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	0.00	2.00	4.00	4.00	4.00	4.00	3.50	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.00	4.00	4.00	3.67	3.67	4.00	
4.00	4.00	5.00	4.33	3.00	4.00	5.00	4.00	5.00	5.00	4.00	4.67	4.00	4.00	4.00	4.00	4.25	5.00	5.00	4.00	4.67	4.00	5.00	4.00	4.33	4.00	5.00	5.00	4.67	4.00	5.00	5.00	4.67	4.58	4.00	
5.00	4.00	4.00	4.33	3.00	0.00	0.00	1.00	5.00	4.00	5.00	4.67	5.00	5.00	0.00	3.33	3.33	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.50	5.00	
4.00	4.00	3.00	3.67	4.00	3.00	4.00	3.67	4.00	4.00	5.00	4.33	4.00	4.00	4.00	4.00	3.92	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	4.00	4.00	3.00	3.67	3.58	4.00	
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.33	2.83	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.33	3.00	1.00	3.00	2.33	2.67	3.00		
4.00	5.00	4.00	4.33	4.00	5.00	3.00	4.00	5.00	4.00	4.00	4.33	4.00	2.00	4.00	3.33	4.00	5.00	4.00	5.00	4.67	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00	5.00	3.00	5.00	4.33	4.50	5.00	
4.00	4.00	3.00	3.67	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	5.00	3.00	3.00	3.67	3.75	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	3.00	4.00	3.00	3.33	3.00	3.00	4.00	3.33	3.58	4.00	
4.00	3.00	4.00	3.67	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.67	3.75	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	3.92	4.00	
4.00	3.00	3.00	3.33	3.00	3.00	4.00	3.33	5.00	4.00	4.00	4.33	4.00	2.00	2.00	2.67	3.42	4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	5.00	4.00	4.00	4.33	3.75	4.00	
4.00	3.00	3.00	3.33	3.00	4.00	4.00	3.67	4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	3.67	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.00
4.00	3.00	3.00	3.33	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.33	3.67	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	3.00	4.00	3.00	3.33	3.00	3.00	5.00	3.67	3.67	4.00	
4.00	3.00	3.00	3.33	0.00	3.00	3.00	2.00	4.00	4.00	0.00	2.67	4.00	3.00	3.00	3.33	2.83	4.00	5.00	5.00	4.67	5.00	5.00	4.00	4.67	4.00	4.00	3.00	3.67	3.00	4.00	3.00	3.33	4.08	4.00	
5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00	5.00	5.00	4.00	4.67	4.00	4.00	4.00	4.00	4.42	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.67	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.67	4.33	4.00	
4.00	3.00	3.00	3.33	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.75	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.50	4.00	
5.00	5.00	5.00	5.00	4.00	5.00	0.00	3.00	5.00	5.00	0.00	3.33	5.00	4.00	4.00	4.33	3.92	5.00	4.00	5.00	4.67	5.00	5.00	5.00	5.00	3.00	3.00	3.00	3.00	5.00	5.00	5.00	5.00	4.42	5.00	
5.00	4.00	3.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00	4.00	3.67	5.00	4.00	5.00	4.67	4.08	5.00	4.00	3.00	4.00	4.00	4.00	3.00	3.67	5.00	3.00	4.00	4.00	4.00	3.00	4.00	3.67	3.83	5.00	
5.00	5.00	5.00	5.00	0.00	0.00	4.00	1.33	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.67	4.00	4.00	4.00	4.00	4.00	4.00	3.00	0.00	2.33	4.00	4.00	4.00	4.00	4.00	4.00	0.00	2.67	3.25	4.00	
5.00	5.00	4.00	4.67	5.00	5.00	5.00	5.00	4.00	3.00	4.00	3.67	5.00	5.00	3.00	4.33	4.42	4.00	5.00	5.00	4.67	5.00	4.00	3.00	4.00	2.00	3.00	3.00	2.67	3.00	3.00	4.00	3.33	3.67	4.00	
3.00	4.00	3.00	3.33	3.00	4.00	4.00	3.67	4.00	4.00	3.00	3.67	4.00	4.00	0.00	2.67	3.33	4.00	4.00	0.00	2.67	4.00	4.00	4.00	4.00	3.00	4.00	3.00	3.67	4.00	0.00	4.00	2.67	3.25	4.00	
4.00	5.00	4.00	4.33	4.00	3.00	5.00	4.00	5.00	4.00	5.00	4.67	5.00	4.00	4.00	4.33	4.33	5.00	4.00	4.00	4.33	4.00	5.00	4.00	4.33	4.00	4.00	3.00	3.67	4.00	3.00	4.00	3.67	4.00	4.00	
4.00	4.00	3.00	3.67	0.00	3.00	3.00	2.00	3.00	4.00	3.00	3.33	4.00	4.00	0.00	2.67	2.92	4.00	4.00	4.00	4.00	3.00	4.00	4.00	3.67	3.00	3.00	2.00	2.67	2.00	2.00	3.00	2.33	3.17	3.00	
4.00	5.00	4.00	4.33	5.00	5.00	5.00	5.00	2.00	1.00	5.00	2.67	4.00	5.00	5.00	4.67	4.17	4.00	5.00	1.00	3.33	4.00	5.00	5.00	4.67	3.00	2.00	1.00	2.00	4.00	2.00	1.00	2.33	3.08	3.00	
5.00	5.00	4.00	4.67	4.00	4.00	5.00	4.33	5.00	4.00	4.00	4.33	5.00	5.00	5.00	5.00	4.58	4.00	4.00	4.00	4.00	5.00	5.00	4.00	4.67	4.00	5.00	4.00	4.33	4.00	5.00	4.00	4.33	4.33	4.00	
3.00	4.00	2.00	3.00	3.00	3.00	2.00	2.67	2.00	2.00	3.00	2.33	4.00	4.00	5.00	4.33	3.08	4.00	3.00	3.00	3.33	4.00	4.00	3.00	3.67	4.00	5.00	3.00	4.00	4.00	3.00	5.00	4.00	3.75	4.00	
4.00	5.00	4.00	4.33	4.00	4.00	3.00	3.67	3.00	4.00	5.00	4.00	4.00	5.00	4.00	4.33	4.08	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.67	3.00	3.00	3.00	3.00	3.00	3.00	4.00	3.33	3.50	4.00	
3.00	3.00	4.00	3.33	4.00	4.00	5.00	4.33	4.00	3.00	4.00	3.67	4.00	4.00	4.00	4.00	3.83	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.00	3.33	3.00	3.00	4.00	3.33	3.67	4.00		

4.00	4.00	3.00	3.67	4.00	4.00	5.00	4.33	4.00	4.00	4.00	4.00	4.00	4.00	0.00	2.67	3.67	3.00	4.00	4.00	3.67	4.00	5.00	4.00	4.33	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.33	3.83	4.00
5.00	4.00	5.00	4.67	0.00	4.00	4.00	2.67	5.00	4.00	4.00	4.33	3.00	4.00	4.00	3.67	3.83	0.00	4.00	4.00	2.67	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	3.00	4.00	4.00	3.67	3.33	4.00
4.00	5.00	5.00	4.67	4.00	4.00	5.00	4.33	3.00	3.00	4.00	3.33	4.00	4.00	5.00	4.33	4.17	4.00	4.00	4.00	4.00	3.00	4.00	4.00	3.67	3.00	4.00	3.00	3.33	4.00	3.00	4.00	3.67	3.67	4.00
3.00	3.00	4.00	3.33	3.00	3.00	4.00	3.33	2.00	3.00	4.00	3.00	3.00	4.00	4.00	3.67	3.33	4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	3.33	3.00
3.00	2.00	3.00	2.67	3.00	4.00	4.00	3.67	3.00	2.00	3.00	2.67	4.00	3.00	4.00	3.67	3.17	3.00	2.00	3.00	2.67	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.33	3.00	3.00	3.00	3.00	2.75	3.00
4.00	5.00	4.00	4.33	4.00	4.00	4.00	4.00	5.00	4.00	4.00	4.33	4.00	4.00	5.00	4.33	4.25	3.00	4.00	4.00	3.67	3.00	4.00	4.00	3.67	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	3.75	4.00
4.00	3.00	4.00	3.67	3.00	4.00	3.00	3.33	4.00	3.00	4.00	3.67	3.00	4.00	3.00	3.33	3.50	4.00	3.00	4.00	3.67	4.00	3.00	4.00	3.67	3.00	4.00	3.00	3.33	4.00	3.00	4.00	3.67	3.58	4.00
4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.00	4.00	3.33	4.00	3.00	4.00	3.00	3.67	3.50	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.67	3.00	3.00	3.00	3.00	3.67	4.00
5.00	5.00	5.00	5.00	4.00	5.00	4.00	4.33	4.00	5.00	4.00	4.33	5.00	5.00	5.00	5.00	4.67	4.00	4.00	4.00	4.00	5.00	5.00	4.00	4.67	5.00	4.00	4.00	4.33	5.00	5.00	5.00	5.00	4.50	5.00
4.00	4.00	3.00	3.67	3.00	3.00	4.00	3.33	4.00	4.00	4.00	4.00	4.00	4.00	5.00	4.00	3.75	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	4.00	3.00	4.00	3.67	3.50	4.00
164.0	161.0	151.0	158.6	129.0	142.0	148.0	139.6	157.0	149.0	147.0	151.0	167.0	155.0	142.0	154.6	151.0	158.0	161.0	155.0	158.0	161.0	164.0	153.0	159.3	143.0	150.0	139.0	144.0	154.0	141.0	154.0	149.6	152.7	161.0
0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	7	5	0
4.10	4.03	3.78	3.97	3.23	3.55	3.70	3.49	3.93	3.73	3.68	3.78	4.18	3.88	3.55	3.87	3.78	3.95	4.03	3.88	3.95	4.03	4.10	3.83	3.98	3.58	3.75	3.48	3.60	3.85	3.53	3.85	3.74	3.82	4.03
0.63	0.86	0.77	0.63	1.39	1.20	1.16	0.95	0.92	0.88	1.21	0.71	0.59	0.79	1.41	0.66	0.48	0.90	0.62	0.99	0.60	0.66	0.74	0.87	0.63	0.87	0.84	0.82	0.75	0.77	1.13	1.03	0.76	0.54	0.53

**Stage Two Research Result (Island Harbourview)**

Security 1	Security 2	Security 3	Security 4	Safety 1	Safety 2	Safety 3	Safety 4	Repair M1	Repair M2	Repair M3	Repair & Maintenance	Health H1	Health H2	Health H3	Health & Hygiene	TECHNICAL	Reliability 1	Reliability 2	Reliability 3	Reliability 4	Response n1	Response n2	Response n3	Responsiveness	Empathy 1	Empathy 2	Empathy 3	Empathy 4	Commun1	Commun2	Commun3	Communication	FUNCTIO NAL	Overall SQ	
4.00	4.00	4.00	4.00	4.00	3.00	2.00	3.00	4.00	2.00	3.00	3.00	4.00	4.00	4.00	4.00	3.50	4.00	4.00	3.00	3.67	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.17	4.00
4.00	4.00	4.00	4.00	3.00	4.00	4.00	4.00	3.67	3.00	3.00	4.00	3.33	3.00	4.00	3.00	3.33	3.58	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	4.00	3.33	4.00	3.00	4.00	3.67	3.75	4.00
5.00	5.00	4.00	4.67	4.00	5.00	5.00	4.67	5.00	4.00	5.00	4.67	5.00	4.00	4.00	4.33	4.58	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.00	5.00	4.00	4.33	5.00	5.00	5.00	5.00	4.83	5.00	
3.00	3.00	4.00	3.33	2.00	2.00	3.00	2.33	3.00	3.00	3.00	3.00	4.00	0.00	0.00	1.33	2.50	3.00	3.00	3.00	3.00	0.00	3.00	3.00	2.00	3.00	2.00	3.00	2.67	2.00	2.00	4.00	2.67	2.58	4.00	
4.00	5.00	4.00	4.33	5.00	4.00	5.00	4.67	4.00	4.00	5.00	4.33	4.00	4.00	4.00	4.00	4.33	4.00	3.00	4.00	3.67	5.00	5.00	5.00	5.00	3.00	3.00	2.00	2.67	3.00	3.00	2.00	2.67	3.50	4.00	
5.00	3.00	3.00	3.67	2.00	2.00	3.00	2.33	4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	3.42	3.00	3.00	3.00	3.00	3.00	4.00	3.00	3.33	3.00	3.00	2.00	2.67	3.00	2.00	3.00	2.67	2.92	4.00	
4.00	4.00	3.00	3.67	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.67	3.75	4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	4.00	3.00	3.00	3.33	3.17	3.00	
4.00	4.00	4.00	4.00	0.00	3.00	4.00	2.33	4.00	4.00	4.00	4.00	4.00	4.00	0.00	2.67	3.25	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
4.00	3.00	3.00	3.33	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.33	4.00	4.00	4.00	4.00	3.67	4.00	3.00	3.00	3.33	4.00	4.00	4.00	4.00	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	3.75	4.00	
4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.00	3.00	4.00	3.33	4.00	3.00	4.00	3.67	3.50	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.67	3.00	3.00	3.00	3.00	3.67	4.00
5.00	5.00	5.00	5.00	4.00	5.00	4.00	4.33	4.00	5.00	4.00	4.33	5.00	5.00	5.00	5.00	4.67	4.00	4.00	4.00	4.00	5.00	5.00	4.00	4.67	5.00	4.00	4.00	4.33	5.00	5.00	5.00	5.00	4.50	5.00	
4.00	4.00	3.00	3.67	3.00	3.00	4.00	3.33	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.75	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	4.00	3.00	4.00	3.67	3.50	4.00	
3.00	2.00	4.00	3.00	2.00	2.00	3.00	2.33	3.00	2.00	3.00	2.67	4.00	3.00	2.00	3.00	2.75	3.00	3.00	3.00	3.00	3.00	2.00	4.00	3.00	2.00	4.00	2.00	2.00	3.00	2.00	2.00	3.00	2.33	2.67	3.00
3.00	3.00	4.00	3.33	3.00	2.00	3.00	2.67	3.00	2.00	3.00	2.67	4.00	4.00	3.00	3.67	3.08	4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.67	3.33	3.00	
5.00	4.00	4.00	4.33	4.00	4.00	4.00	4.00	5.00	4.00	5.00	4.67	4.00	4.00	4.00	4.00	4.25	4.00	4.00	4.00	4.00	4.00	4.00	5.00	4.33	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.67	4.00	4.00	
4.00	3.00	4.00	3.67	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	5.00	3.00	4.00	4.00	3.92	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.67	3.00	4.00	4.00	3.67	4.00	3.00	4.00	3.67	3.75	4.00	
3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	5.00	4.00	4.00	4.33	4.00	3.00	3.00	3.33	3.67	4.00	4.00	3.00	3.67	5.00	4.00	5.00	4.67	3.00	4.00	3.00	3.33	3.00	3.00	4.00	3.33	3.75	4.00	
4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	3.00	4.00	3.00	3.33	3.00	3.00	3.00	3.00	3.17	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	4.00	3.33	4.00	3.00	3.00	3.33	3.67	4.00	

4.00	3.00	4.00	3.67	3.00	4.00	4.00	3.67	5.00	4.00	4.00	4.33	3.00	3.00	3.00	3.00	3.67	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	3.00	3.00	3.33	3.00	4.00	4.00	3.67	3.67	4.00		
4.00	5.00	5.00	4.67	4.00	3.00	4.00	3.67	5.00	4.00	5.00	4.67	5.00	5.00	5.00	5.00	4.50	5.00	5.00	5.00	5.00	4.00	5.00	4.00	4.33	4.00	5.00	5.00	4.67	4.00	4.00	5.00	4.33	4.58	5.00	
4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	4.00	2.00	2.00	2.67	4.00	4.00	3.00	3.67	3.17	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.00	3.00	4.00	3.33	3.33	4.00	
3.00	4.00	3.00	3.33	2.00	3.00	3.00	2.67	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
4.00	4.00	3.00	3.67	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.83	4.00	3.00	4.00	3.67	4.00	5.00	4.00	4.33	3.00	4.00	4.00	3.67	4.00	3.00	4.00	3.67	3.83	4.00	
4.00	4.00	3.00	3.67	3.00	4.00	4.00	3.67	3.00	4.00	4.00	3.67	3.00	3.00	4.00	3.33	3.58	4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.92	4.00	
4.00	5.00	4.00	4.33	4.00	5.00	3.00	4.00	5.00	4.00	4.00	4.33	4.00	2.00	4.00	3.33	4.00	5.00	4.00	5.00	4.67	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00	5.00	4.00	4.00	4.33	4.50	5.00	
4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.67	3.00	3.00	3.00	3.00	4.00	4.00	0.00	2.67	3.33	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	5.00	5.00	4.00	4.67	4.00	4.00	4.00	4.00	4.17	4.00	
3.00	3.00	4.00	3.33	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.33	4.00	3.00	3.00	3.33	3.00	2.00	3.00	3.00	2.67	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.33	3.00	3.00	4.00	3.33	2.83	3.00
3.00	4.00	3.00	3.33	4.00	3.00	4.00	3.67	5.00	4.00	4.00	4.33	5.00	5.00	3.00	4.33	3.92	4.00	5.00	5.00	4.67	5.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	5.00	4.33	4.50	4.00
4.00	5.00	5.00	4.67	4.00	4.00	4.00	4.00	5.00	5.00	4.00	4.67	4.00	4.00	4.00	4.00	4.33	0.00	4.00	0.00	1.33	4.00	5.00	4.00	4.33	3.00	3.00	3.00	3.00	3.00	3.00	4.00	3.67	3.08	4.00	
4.00	4.00	4.00	4.00	3.00	3.00	4.00	3.33	4.00	3.00	4.00	3.67	4.00	3.00	3.00	3.33	3.58	4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.92	4.00	
3.00	3.00	4.00	3.33	3.00	3.00	4.00	3.33	5.00	3.00	4.00	4.00	4.00	4.00	3.00	3.67	3.58	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	3.00	4.00	4.00	3.67	4.00	3.00	3.00	3.33	3.67	4.00	
4.00	5.00	5.00	4.67	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.67	5.00	4.00	5.00	4.67	4.25	4.00	5.00	4.00	4.33	4.00	5.00	4.00	4.33	4.00	4.00	3.00	3.67	3.00	4.00	4.00	3.67	4.00	4.00	
4.00	3.00	0.00	2.33	4.00	5.00	5.00	4.67	5.00	4.00	5.00	4.67	4.00	3.00	0.00	2.33	3.50	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	2.00	3.00	2.00	2.33	2.00	3.00	0.00	1.67	3.00	4.00	
3.00	4.00	3.00	3.33	0.00	4.00	4.00	2.67	3.00	2.00	3.00	2.67	3.00	4.00	4.00	3.67	3.08	3.00	4.00	3.00	3.33	3.00	3.00	2.00	2.67	0.00	0.00	3.00	1.00	4.00	3.00	4.00	3.67	2.67	3.00	
4.00	4.00	3.00	3.67	4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	5.00	5.00	5.00	5.00	4.08	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	4.00	3.33	3.58	4.00	
4.00	4.00	4.00	4.00	3.00	4.00	4.00	3.67	4.00	4.00	4.00	4.00	0.00	4.00	3.00	2.33	3.50	4.00	4.00	4.00	4.00	5.00	5.00	4.00	4.67	0.00	0.00	0.00	0.00	4.00	4.00	4.00	4.00	3.17	4.00	
4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.67	4.00	3.00	3.00	3.33	3.08	4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	2.00	3.00	3.00	2.67	4.00	2.00	3.00	3.00	3.00	3.00	
4.00	3.00	4.00	3.67	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.33	3.50	4.00	3.00	4.00	3.67	3.00	4.00	4.00	3.67	3.00	3.00	3.00	3.00	4.00	3.00	3.00	3.33	3.42	4.00	
5.00	5.00	4.00	4.67	4.00	5.00	4.00	4.33	4.00	4.00	4.00	4.00	5.00	5.00	5.00	5.00	4.50	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.67	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.42	4.00	
4.00	4.00	4.00	4.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.67	3.92	4.00	4.00	4.00	4.00	4.00	5.00	4.00	4.33	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.67	4.00	4.00	
156.00	152.00	146.00	151.30	128.00	142.00	147.00	139.67	157.00	139.00	151.00	149.00	158.00	146.00	131.00	145.00	146.25	150.00	153.00	146.00	149.67	155.00	161.00	156.00	157.33	128.00	133.00	132.00	131.00	144.00	131.00	148.00	141.00	144.75	157.00	
3.90	3.80	3.65	3.78	3.20	3.55	3.68	3.49	3.93	3.48	3.78	3.73	3.95	3.65	3.28	3.63	3.66	3.75	3.83	3.65	3.74	3.88	4.03	3.90	3.93	3.20	3.33	3.30	3.28	3.60	3.28	3.70	3.53	3.62	3.93	
0.59	0.79	0.86	0.56	1.02	0.85	0.66	0.66	0.80	0.85	0.70	0.67	0.88	0.92	1.32	0.78	0.52	0.87	0.64	0.89	0.68	0.91	0.80	0.67	0.70	1.02	1.07	0.88	0.91	0.74	0.75	0.91	0.67	0.57	0.53	

**Stage Two Research Result (Mei Foo Sun Chuen)**

Security 1	Security 2	Security 3	Security 4	Safety 1	Safety 2	Safety 3	Safety 4	Repair M1	Repair M2	Repair M3	Repair & Maintenance	Health H1	Health H2	Health H3	Health & Hygiene	TECH NICA	Reliability 1	Reliability 2	Reliability 3	Reliability 4	Response 1	Response 2	Response 3	Responsiveness	Empathy 1	Empathy 2	Empathy 3	Empathy 4	Communication 1	Communication 2	Communication 3	Communication 4	FUN CTIONAL	Overall SQ	
3.00	4.00	3.00	3.33	3.00	3.00	4.00	3.33	3.00	4.00	4.00	4.00	3.67	4.00	3.00	3.00	3.33	3.42	4.00	3.00	4.00	3.67	4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	3.50	3.00
4.00	4.00	3.00	3.67	4.00	3.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.92	4.00	4.00	4.00	4.00	5.00	5.00	5.00	5.00	3.00	4.00	4.00	3.67	5.00	4.00	4.00	4.33	4.25	4.00	
4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	4.00	3.00	4.00	3.67	3.00	3.00	3.00	3.00	3.42	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.75	4.00	
4.00	4.00	4.00	4.00	3.00	4.00	5.00	4.00	3.00	5.00	4.00	4.00	4.00	2.00	5.00	3.67	3.92	4.00	3.00	5.00	4.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.67	2.00	1.00	2.00	1.67	2.83	4.00	
3.00	4.00	4.00	3.67	4.00	5.00	5.00	4.67	3.00	4.00	5.00	4.00	4.00	4.00	4.00	4.00	4.08	4.00	5.00	5.00	4.67	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.67	4.00	4.00	4.00	4.00	4.58	4.00	
4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00	2.67	3.00	3.00	3.00	3.00	3.17	3.00	3.00	3.00	3.00	4.00	4.00	3.00	3.67	3.00	3.00	3.00	3.00	4.00	3.00	4.00	3.67	3.33	4.00	



**Stage Two Research Result (Cosmopolitan Estates)**

Security 1	Security 2	Security 3	Security 4	Safety 1	Safety 2	Safety 3	Safety 4	Repair M1	Repair M2	Repair M3	Repair & Maintenance	Health H1	Health H2	Health H3	Health & Hygiene	TECH NICA	Reliability 1	Reliability 2	Reliability 3	Reliability 4	Response 1	Response 2	Response 3	Responsiveness	Empathy 1	Empathy 2	Empathy 3	Empathy 4	Community 1	Community 2	Community 3	Communication	FUN CTION	Overall SQ	
4.00	2.00	2.00	2.67	0.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	2.92	3.00	3.00	3.00	3.00	2.00	3.00	3.00	2.67	0.00	0.00	0.00	0.00	4.00	4.00	3.00	3.67	2.33	3.00	
3.00	0.00	0.00	1.00	2.00	4.00	0.00	2.00	2.00	2.00	0.00	1.33	2.00	3.00	0.00	1.67	1.50	1.00	1.00	1.00	1.00	0.00	3.00	2.00	1.67	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.67	2.08	2.00	
3.00	3.00	2.00	2.67	1.00	4.00	2.00	2.33	3.00	2.00	3.00	2.67	3.00	2.00	3.00	2.67	2.58	3.00	2.00	2.00	2.33	2.00	4.00	3.00	3.00	4.00	3.00	3.33	2.00	4.00	4.00	3.33	3.00	3.00		
3.00	3.00	3.00	3.00	4.00	2.00	4.00	3.33	3.00	3.00	4.00	3.33	3.00	3.00	2.00	2.67	3.08	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
3.00	4.00	2.00	3.00	2.00	3.00	3.00	2.67	4.00	3.00	3.00	3.33	4.00	2.00	2.00	2.67	2.92	3.00	3.00	3.00	3.00	4.00	4.00	3.00	3.67	2.00	3.00	2.00	2.33	2.00	3.00	3.00	2.67	2.92	3.00	
4.00	3.00	4.00	3.67	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.67	4.00	4.00	2.00	3.33	3.17	0.00	0.00	3.00	1.00	1.00	3.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	2.00	
4.00	3.00	3.00	3.33	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.33	3.00	3.00	2.00	2.67	2.83	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
4.00	4.00	3.00	3.67	4.00	3.00	4.00	3.67	3.00	2.00	3.00	2.67	3.00	3.00	3.00	3.00	3.25	4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.92	4.00	
3.00	3.00	3.00	3.00	3.00	3.00	4.00	3.33	3.00	3.00	4.00	3.33	4.00	3.00	3.00	3.33	3.25	0.00	3.00	0.00	1.00	3.00	3.00	4.00	3.33	2.00	3.00	3.00	2.67	4.00	3.00	4.00	3.67	2.67	4.00	
3.00	2.00	2.00	2.33	2.00	2.00	2.00	2.00	4.00	4.00	4.00	4.00	5.00	3.00	4.00	4.00	3.08	4.00	4.00	4.00	4.00	3.00	4.00	5.00	4.00	3.00	5.00	5.00	4.33	3.00	3.00	5.00	3.67	4.00	4.00	
2.00	2.00	3.00	2.33	2.00	2.00	3.00	2.33	3.00	2.00	3.00	2.67	3.00	3.00	3.00	3.00	2.58	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.33	2.83	3.00	
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	5.00	4.33	5.00	4.00	3.00	4.00	4.08	0.00	0.00	0.00	0.00	4.00	5.00	5.00	4.67	4.00	4.00	4.00	4.00	5.00	5.00	5.00	5.00	5.00	3.42	5.00
3.00	3.00	3.00	3.00	2.00	3.00	4.00	3.00	4.00	3.00	4.00	3.67	4.00	3.00	3.00	3.33	3.25	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
4.00	4.00	0.00	2.67	3.00	3.00	3.00	3.00	3.00	3.00	4.00	3.33	3.00	3.00	2.00	2.67	2.92	3.00	3.00	3.00	3.00	3.00	4.00	3.00	3.33	2.00	3.00	2.00	2.33	2.00	2.00	3.00	2.33	2.75	3.00	
3.00	2.00	2.00	2.33	3.00	3.00	4.00	3.33	5.00	4.00	2.00	3.67	4.00	4.00	2.00	3.33	3.17	2.00	2.00	3.00	2.33	2.00	3.00	3.00	2.67	3.00	2.00	1.00	2.00	4.00	3.00	3.00	3.33	2.58	4.00	
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	3.00	1.00	2.33	1.00	1.00	1.00	1.00	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
3.00	4.00	1.00	2.67	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.33	3.00	3.00	3.00	3.00	2.75	3.00	4.00	4.00	3.67	2.00	3.00	3.00	2.67	2.00	2.00	4.00	2.67	3.00	2.00	2.00	2.33	2.83	3.00	
4.00	4.00	5.00	4.33	4.00	4.00	3.00	3.67	3.00	2.00	3.00	2.67	4.00	3.00	4.00	3.67	3.58	3.00	3.00	4.00	3.33	2.00	4.00	3.00	3.00	3.00	2.00	3.00	2.67	3.00	3.00	3.00	3.00	3.00	4.00	
4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	3.00	3.00	4.00	3.33	3.00	4.00	3.00	3.33	3.58	4.00	4.00	3.00	3.67	3.00	4.00	3.00	3.33	3.00	4.00	4.00	3.67	4.00	3.00	4.00	3.67	3.58	3.00	
3.00	4.00	2.00	3.00	2.00	3.00	3.00	2.67	2.00	1.00	2.00	1.67	3.00	3.00	2.00	2.67	2.50	3.00	4.00	4.00	3.67	0.00	3.00	3.00	2.00	2.00	3.00	3.00	2.67	2.00	2.00	3.00	2.33	2.67	3.00	
4.00	2.00	3.00	3.00	2.00	3.00	3.00	2.67	3.00	3.00	4.00	3.33	4.00	4.00	3.00	3.67	3.17	4.00	3.00	4.00	3.67	4.00	3.00	3.00	3.33	2.00	3.00	3.00	2.67	2.00	2.00	3.00	2.33	3.00	3.00	
3.00	2.00	1.00	2.00	2.00	2.00	1.00	1.67	3.00	2.00	1.00	2.00	3.00	3.00	1.00	2.33	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.33	3.00	3.00	3.00	3.00	1.58	3.00	
3.00	3.00	4.00	3.33	3.00	5.00	4.00	4.00	2.00	2.00	3.00	2.33	3.00	3.00	2.00	2.67	3.08	4.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	2.33	2.58	2.00	
1.00	2.00	2.00	1.67	2.00	2.00	3.00	2.33	1.00	2.00	2.00	1.67	1.00	2.00	3.00	2.00	1.92	1.00	2.00	2.00	1.67	2.00	3.00	2.00	2.33	3.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	2.25	2.00	
3.00	2.00	1.00	2.00	4.00	3.00	2.00	3.00	1.00	2.00	1.00	1.33	2.00	3.00	2.00	2.33	2.17	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.33	1.42	1.00		
3.00	3.00	2.00	2.67	4.00	4.00	3.00	3.67	2.00	5.00	5.00	4.00	5.00	4.00	3.00	4.00	3.58	4.00	4.00	5.00	4.33	2.00	3.00	3.00	2.67	4.00	5.00	4.00	4.33	5.00	3.00	5.00	4.33	3.92	4.00	
3.00	3.00	4.00	3.33	0.00	5.00	4.00	3.00	3.00	3.00	4.00	3.33	3.00	4.00	5.00	4.00	3.42	3.00	3.00	2.00	2.67	2.00	3.00	2.00	2.33	2.00	3.00	5.00	3.33	4.00	5.00	3.00	4.00	3.08	4.00	
3.00	3.00	3.00	3.00	4.00	1.00	3.00	2.67	2.00	3.00	2.00	2.33	4.00	3.00	3.00	3.33	2.83	3.00	3.00	4.00	3.33	4.00	4.00	3.00	3.67	3.00	3.00	3.00	3.00	3.00	2.00	1.00	2.00	3.00	3.00	
4.00	4.00	2.00	3.33	2.00	2.00	3.00	2.33	3.00	5.00	5.00	4.33	5.00	5.00	3.00	4.33	3.58	3.00	4.00	3.00	3.33	4.00	5.00	4.00	4.33	3.00	4.00	3.00	3.33	4.00	3.00	5.00	4.00	3.75	3.00	
3.00	4.00	4.00	3.67	0.00	3.00	3.00	2.00	3.00	2.00	4.00	3.00	3.00	1.00	1.00	1.67	2.58	3.00	3.00	3.00	3.00	3.00	2.00	1.00	2.00	3.00	1.00	1.00	1.67	2.00	2.00	2.00	2.00	2.17	3.00	
3.00	2.00	2.00	2.33	3.00	2.00	1.00	2.00	3.00	2.00	3.00	2.67	2.00	1.00	2.00	1.67	2.17	3.00	2.00	2.00	2.33	2.00	2.00	1.00	1.67	2.00	2.00	1.00	1.67	3.00	1.00	2.00	2.00	1.92	3.00	
3.00	2.00	3.00	2.67	3.00	2.00	3.00	2.67	2.00	4.00	3.00	3.00	4.00	3.00	3.00	3.33	2.92	4.00	3.00	4.00	3.67	3.00	3.00	4.00	3.33	2.00	2.00	4.00	2.67	3.00	2.00	2.00	2.33	3.00	3.00	
3.00	3.00	2.00	2.67	3.00	3.00	4.00	3.33	3.00	2.00	2.00	2.33	3.00	2.00	2.00	2.33	2.67	3.00	3.00	2.00	2.67	2.00	3.00	2.00	2.33	2.00	2.00	3.00	2.33	3.00	3.00	3.00	3.00	2.58	3.00	

4.00	4.00	3.00	3.67	2.00	3.00	2.00	2.33	2.00	3.00	3.00	2.67	4.00	4.00	3.00	3.67	3.08	3.00	3.00	2.00	2.67	3.00	4.00	3.00	3.33	3.00	4.00	3.00	3.33	2.00	4.00	3.00	3.00	3.00	3.08	4.00
3.00	3.00	3.00	3.00	2.00	4.00	4.00	3.33	4.00	3.00	3.00	3.33	2.00	4.00	4.00	3.33	3.25	3.00	3.00	3.00	3.00	2.00	3.00	3.00	2.67	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	2.17	3.00	
4.00	3.00	3.00	3.33	2.00	3.00	3.00	2.67	4.00	2.00	2.00	2.67	3.00	2.00	1.00	2.00	2.67	3.00	2.00	3.00	2.67	3.00	4.00	3.00	3.33	3.00	4.00	4.00	3.67	3.00	3.00	4.00	3.33	3.25	3.00	
4.00	4.00	2.00	3.33	4.00	4.00	4.00	4.00	3.00	3.00	4.00	3.33	4.00	4.00	4.00	4.00	3.67	3.00	4.00	4.00	3.67	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.67	4.00
2.00	3.00	1.00	2.00	2.00	2.00	3.00	2.33	3.00	4.00	4.00	3.67	3.00	3.00	2.00	2.67	2.67	2.00	3.00	2.00	2.33	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	1.00	2.00	1.67	2.25	3.00	
3.00	4.00	3.00	3.33	3.00	4.00	3.00	3.33	4.00	3.00	3.00	3.33	4.00	4.00	3.00	3.67	3.42	4.00	4.00	3.00	3.67	4.00	4.00	4.00	4.00	3.00	3.00	3.33	4.00	4.00	5.00	4.33	3.83	4.00		
2.00	3.00	3.00	2.67	3.00	3.00	0.00	2.00	2.00	4.00	0.00	2.00	5.00	4.00	4.00	4.33	2.75	4.00	4.00	4.00	4.00	0.00	4.00	4.00	2.67	5.00	4.00	4.00	4.33	3.00	4.00	4.00	3.67	3.67	4.00	
126.0	118.0	99.00	114.3	102.0	120.0	116.0	112.6	116.0	113.0	117.0	115.3	135.0	124.0	105.0	121.3	115.9	109.0	113.0	112.0	111.3	99.00	127.0	114.0	113.3	104.0	111.0	111.0	108.6	115.0	109.0	121.0	115.0	112.0	125.0	
0	0		3	0	0	0	7	0	0	0	3	0	0	0	3	2	0	0	0	3		0	0	3	0	0	0	7	0	0	0	8	0		
3.15	2.95	2.48	2.86	2.55	3.00	2.90	2.82	2.90	2.83	2.93	2.88	3.38	3.10	2.63	3.03	2.90	2.73	2.83	2.80	2.78	2.48	3.18	2.85	2.83	2.60	2.78	2.78	2.72	2.88	2.73	3.03	2.88	2.80	3.13	
0.77	0.96	1.11	0.72	1.13	0.93	1.08	0.71	0.84	0.90	1.25	0.75	1.00	0.93	1.03	0.81	0.58	1.15	1.08	1.14	1.02	1.11	0.93	1.00	0.85	0.98	1.19	1.23	1.03	1.04	1.06	1.14	0.96	0.73	0.82	



## **Appendix VI – Summary of Research Flow**

**A Study of Service Quality Assessment in Property Management of Private Housing Estates in Hong Kong – The constituents and their respective roles**

**Research Flow (Journals)**

<b>Year</b>	<b>Author(s)</b>	<b>Paper Title</b>	<b>Main Findings</b>
<b>1976</b>	Swan & Combs	Product Performance and Consumer Satisfaction: A new concept	<ul style="list-style-type: none"> <li>● Differences between ‘Instrumental performance’ (similar to technical dimension) and ‘expressive performance’ (similar to functional dimension)</li> </ul>
<b>1984</b>	Gronroos	“A Service Quality Model and its marketing implication”	<ul style="list-style-type: none"> <li>● Define ‘functional quality’ &amp; ‘technical quality’ &amp; their inter-relationships</li> </ul>
<b>Spring 1985</b>	ZPB	“Problems and Strategies in Services Marketing”	<ul style="list-style-type: none"> <li>● Unique nature of service – Intangibility, Inseparability, Heterogeneity and Perishability</li> <li>● Problems in service marketing which resulted</li> <li>● Effectiveness of strategies in different types of services, e.g. word-of-mouth communication</li> </ul>
<b>Autumn 1985</b>	PZB	“A conceptual model of Service Quality and its implication for Future Research”	<ul style="list-style-type: none"> <li>● 10 dimensions of service quality</li> <li>● 4 main gaps which affect service quality perceived by consumers</li> </ul>
<b>Spring</b>	PZB	“Servqual: A Multiple-Item Scale for	<ul style="list-style-type: none"> <li>● 5 characteristics of service experience – reliability,</li> </ul>

	<b>1988</b>		Measuring Consumer Perceptions of Service Quality”	<ul style="list-style-type: none"> <li>responsiveness, assurance, empathy, tangibility</li> <li>● 22-item instrument to measure customers’ P &amp; E</li> <li>● Development, testing &amp; potential app. Of SERVQUAL</li> </ul>
	<b>Winter 1988</b>	Gronroos	“Service Quality: The Six Criteria of Good Perceived Service”	<ul style="list-style-type: none"> <li>● Identify six criteria of perceived service quality</li> </ul>
	<b>1990</b>	Carman	“Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions”	<ul style="list-style-type: none"> <li>● Criticisms to SERVQUAL</li> </ul>
	<b>1991</b>	PZB	“Refinement and Reassessment of the Servqual Scale (Multiple-Item Scale for measuring Service Quality)”	<ul style="list-style-type: none"> <li>● Modification of SERVQUAL</li> </ul>
	<b>1991</b>	PZB	“Perceived Service Quality as a Customer-Based Performance Measure: An empirical Examination of Organizational Barriers Using an Extended Service Quality Model”	
P	<b>1991</b>	Edwards & Seabrooke	“Proactive property management”	<ul style="list-style-type: none"> <li>● Critique of conventional approach to prop. Management</li> <li>● Necessity for adoption of strategic approach</li> </ul>
	<b>1992</b>	Cronin & Taylor	“Measuring service quality: a re-examination and extension – service	<ul style="list-style-type: none"> <li>● Unnecessary to measure expectation, but only perception is sufficient</li> </ul>

		quality, consumer satisfaction & purchase intention”	
<b>1993</b>	Richard & Allaway	“Service Quality Attributes and Choice Behaviour”	● Example of addition of Technical SQ Attributes: Domino Pizza
<b>1993</b>	Hans & Jan E.	“The service quality concept and a method of inquiry”	
<b>Spring 1993</b>	Brown, Churchill & Peter	“Improving the measurement of service quality”	
<b>1993</b>	ZBP	“The Nature and Determinants of Customer Expectations of Service”	● Types of expectation: predictive and ideal and others ● Source of expectation: experience, ●
<b>Spring 1993</b>	PZB	“More on Improving Service Quality Measurement”	● Response to critics (BCP 1993)on psychometric issues of difference-score conceptualization ● Critics include reliability, discriminant validity, variance restriction and etc. ● Practical issue – SERVQUAL items are basic skeleton
<b>October 1993</b>	Teas	“Expectations, Performance Evaluation, and Consumers’ Perceptions of Quality”	● Criticism to SERVQUAL, esp. on its measurement
<b>1994</b>	PZB	“Reassessment of Expectations as a	● Disconfirmation measures provide richer information and

		Comparison Standard in Measuring Service Quality: Implications for Further Research”	● greater diagnosis value that does SEVPERF scale.
<b>1994</b>	PZB	“Alternative Scales for Measuring Service Quality: A Comparative Assessment Based on Psychometric and Diagnostic Criteria”	● Modification of SERVQUAL
<b>January 1994</b>	Cronin & Taylor	“SERVPERF versus SERVQUAL: Reconciling Performance-Based and Perceptions-Minus-Expectations Measurement of Service Quality”	● Response to (PZB 1994) ● Performance based measure i.e. SERVPERF scale is a better tool.
<b>Fall 1994</b>	Hemmasi <i>et al.</i>	“Measuring service quality for strategic planning and analysis in service firms”	
<b>1996</b>	Buttle	“Servqual: review, critique, research agenda”	● Comments to SERVQUAL
<b>1996</b>	Powpaka	“The role of outcome quality as a determinant of overall service quality in different categories of services industries: an empirical investigation”	● Confirm the role of technical service dimension

	<b>1997</b>	Johnson <i>et al.</i>	“The influence of experience on service expectations”	
	<b>1998</b>	Gronroos	“Marketing services: the case of a missing product”	
	<b>October 1998</b>	Dion Paul A. <i>et al.</i>	“An empirical assessment of the Zeithaml, Berry and Parasuraman service expectation model”	
	<b>Winter 1998</b>	Terry Grapentine	“The history and future of service quality assessment”	
	<b>1999</b>	Wong, A. O. M., <i>et al.</i>	“Analysing service quality in the hospitality industry”	
	<b>January 2000</b>	Dave Webb	“Understanding Customer Role and its importance in the formation of service quality expectations”	
P	<b>2000</b>	Rust <i>et al.</i>	“Using service quality data for competitive marketing decisions”	● Potential impact of service quality on competitive marketing decisions
	<b>2001</b>	Brady & Cronin	“Some new thoughts on conceptualizing perceived services quality: A hierarchical approach”	● Service quality is a multidimensional, hierarchical construct.

	<b>2001</b>	Gronroos	“The perceived service quality – a mistake?”	
	<b>2004</b>	Kang & Fames	“Service Quality dimensions: an examination of Gronroo’s service quality model”	
B	<b>2005</b>	Wong <i>et al.</i>	“Using the Building Quality Index to measure building performance in Hong Kong”	
B	<b>2005</b>	Ho <i>et al.</i>	“The Building Quality Index – A tool of building classification”	
	<b>2006</b>	Galetzka, M. <i>et al.</i>	“Service validity and service reliability of search, experience and credence services”	● Services are of different nature.
	<b>2006</b>	Kang	“The hierarchical structure of service quality: integration of technical and functional quality”	● Proposal of a two-component model concentrating on both the technical quality and functional quality
B	<b>2006</b>	Ho <i>et al.</i>	“Effects of building management regimes of private apartment buildings in Hong Kong”	

P - Related to Property management; B – Related to Building Quality Index