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THE UNIVERSITY OF HONG KONG

**THE APPLICATION OF FACILITIES MANAGEMENT TO
HOTEL RENOVATIONS IN HONG KONG**

**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 2004

Declaration

I declare that this dissertation represents my own work, except where due acknowledgment 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.

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Name: _____

Date: _____

ABSTRACT

This dissertation investigates the extent of and barriers to the application of facilities management to hotel renovations in Hong Kong. The methods adopted to manage renovation projects in occupied hotels are examined. The dissertation is written with reference to various literature, questionnaires and interview. Valuable insights and information were acquired.

Renovations in occupied hotels inevitably create disturbance to guests, staff and operations. Facilities management strategies can be applied to minimize disturbance and ensure smoothness in meeting time, quality and cost requirements. Strategies should be imposed from the early inception stage, through the planning stage and renovation period, to the final post-renovation stage. Concentrations are put on strategies in the management aspect.

Questionnaires reveal the general trend of the application of facilities management in hotels. Two case studies are produced and analyzed to find out how the hotels achieve their goals in the renovation projects. Lessons learnt are summarized.

Facilities management is a relatively new topic and research studies between facilities management and hotel renovations were unpopular. The exploration of new knowledge throughout the course of researching was rewarding and interesting.

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- 5 Mr. Dennis Clarke, Area Vice President and Asia & Managing Director, Conrad Hotel;
- 6 Mr. Andrew Hirst, Hotel General Manager, The Excelsior, Hong Kong;
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CHAPTER 1 INTRODUCTION

Chapter introduction

This chapter consists of seven parts. The first part gives a brief picture of the background of the study, while the second part defines the scope of the study.

In the third part, the aims of the study are given as statements. The objectives of the study are subsequently identified in the fourth part.

The fifth part briefly introduces the methodology of the study while the last part outlines the whole study.

1.1 Background

The relationship between the demand for hotels and renovations

The hotel industry and the tourism industry in Hong Kong have undoubtedly close relationships and exert considerably large influence to each other. The demand for hotel rooms is definitely affected by the expected number of visitor arrivals. A projection by the Hong Kong Tourist Board showed a continuous growth of total visitor arrivals, with an estimate of 22 million visitors in 2005 upon the completion of Disneyland (Hong Kong Tourism Board, 2004). Calculations showed that the demand will exceed the total stock of hotels including newly completed ones by the end of 2005 (DTZ Debenham Tie Leung, 2002; DTZ Debenham Tie Leung, 2003). As a result, a bright prospect of the hotel property industry is forecasted, in light of the increasingly robust demand and tight supply (DTZ Debenham Tie Leung, 2002).

An obvious illustration was the numerous developments and submissions of change of land use applications from industrial/commercial uses to hotels to the Lands and Planning Bureau. The demand appears to be urgent and huge, because some of the applications were not situated in ideal hotel locations, in consideration of issues include incompatible environment, insufficient road capacity and inadequate supporting facilities. DTZ Debenham Tie Leung (2003) expected more applications to cope with the soaring demand which helps alleviate the upcoming shortage problem.

An increase in the supply of hotel rooms can result from the development of new hotels, the reconfiguration in newly renovated hotels and the change of use of existing buildings to hotels. When land is limited especially in prominent locations, new developments cannot be the ultimate answer to alleviate the shortage problem. Renovation of existing hotels is a

reasonable alternative in the long run as existing hotels occupy prominent locations and enjoy established brand names.

Hotel renovations and facilities management

Renovations of hotels are indeed essential, most commonly undergone aiming to cope for physical obsolescence or a change in market trends.

A typical hotel in Hong Kong is a highly complex property, which possesses four main uses: residential, commercial, retail and special services. Different types of facilities are required to facilitate individual activities for the various purposes of a hotel. Renovations in an operating hotel are therefore highly difficult to manage as they are characterized for their high level of uncertainty and complexity (Egbu, 1996). Moreover, projects of renovation usually mean noise, mess and disruption to guests and normal operations of the hotel. In addition, insufficient planning or communication may cause delays, over-budget or guest dissatisfaction. Apparently, some potential disruptions and possible drawbacks can be minimized or avoided. The application of facilities management may be one of the measures.

What links hotel renovations with facilities management is the common scope between renovation works and facilities management. Renovations are activities associated with the development or modification of the hotel's physical assets, while facilities management strategies deal with the aspects of property assets.

The application of facilities management to hotel renovations in Hong Kong is studied. Investigations on the extent of application are undergone and potential barriers to the application are identified. This may help understand how facilities management can be

promoted in the hospitality industry in sight of renovations.

1.2 Scope of study

This study concerns three major regions: hotels, renovations and facilities management. It focuses on the application of certain facilities management strategies to large-scale renovations in hotels in Hong Kong. It investigates into the management of hotel renovations in sight of the complexity and high degree of uncertainty (Egbu, 1996).

In consideration of the broad context of facilities management, only management issues are concerned in this study. Technical issues are beyond the scope of this study.

The scope of study is further narrowed down by an assumed situation under investigation, which include the followings.

- 1 The decision to renovate is made and considered most appropriate in considering alternative approaches such as new development or redevelopment.
- 2 The hotel property is physically suitable for renovations.
- 3 Continuous occupancy is decided which means the hotel continues to stay open for business while renovation works are undergoing.

To sum up, the scope of the study can be visualized by the research questions as follows.

- 1 What is the extent of application of facilities management to hotel renovations in Hong Kong?
- 2 Why facilities management strategies are not so widely applied if they have all the

benefits as claimed?

- 3 What are the barriers to the application of facilities management to hotel renovations?
- 4 What are the possible measures to tackle the obstacles and barriers?

1.3 Aims of study

The aims of the study are:

- 1 to investigate the extent of application of facilities management to hotel renovations in Hong Kong; and
- 2 to identify the reasons behind the non-application of facilities management to hotel renovations in Hong Kong.

1.4 Objectives of study

The objectives of the study are:

- 1 to identify the barriers to renovations in hotels in Hong Kong;
- 2 to identify the reasons for renovations in hotels in Hong Kong;
- 3 to investigate the approaches to budget for hotel renovations;
- 4 to identify the formal guidelines applied in hotel renovations;
- 5 to investigate the levels of inputs from and communications with guests, hotel staff and main contractor in hotel renovations;
- 6 to investigate the importance and level of planning of facilities management strategies in hotel renovations;

- 7 to identify the perceptions of hotel personnel on evaluations and records keep concerning renovations;
- 8 to evaluate the overall level of application of facilities management strategies in renovations in hotels; and
- 9 to identify the barriers to the application of facilities management strategies in hotel renovations in Hong Kong.

1.5 Methodology

In order to achieve the aims and objectives of the study, a sequence of tasks are carried out with the use of four research methods: literature review, case studies, interviews and questionnaires. The major tasks are as follows.

- Task 1: Literature search and review with regard to three main areas of the study: hotels, renovations, and facilities management
- Task 2: Selection of definitions of key terms of the study
- Task 3: Data collection through interviews and questionnaires for the observation of the general trend of application of facilities management strategies in hotel renovations in Hong Kong
- Task 4: Quantitative analysis of the current practice in renovations and application of facilities management
- Task 5: Further interviews to investigate into specific areas of the topic
- Task 6: Production of case studies to focus on particular regions of the study
- Task 7: Overall conclusions of various findings

The findings concerning the extent of application of facilities management to hotel renovations and the barriers to such application may be useful as a reference to help develop ways to promote the use of facilities management in the hospitality industry.

1.6 Organization of study

This study comprises seven chapters. Chapter One is the introduction including the background, scope, aims, objectives, methodology and the structure of the dissertation.

Chapter Two is the literature review. Key terms are defined. Overviews of renovations, facilities management and hotels in Hong Kong are introduced. Past research studies are reviewed as well.

Chapter Three is the methodology. Research questions are stated followed by descriptions of research methods, data collection and analysis methods.

Chapter Four is the summary of findings from questionnaires and interviews, together with the analysis and implications. An overview of the application of facilities management is presented.

Chapter Five and Chapter Six present two case studies respectively. Lastly, Chapter Seven summarizes the findings of this study and discusses the limitations of this study. Areas for further study are also suggested.

CHAPTER 2 LITERATURE REVIEW

Chapter introduction

This chapter is divided into five parts. In the first part, definitions of renovation and facilities management will be provided.

The second part is an overview of hotels in Hong Kong, describing the purposes, classification, activities and facilities of hotels in Hong Kong.

The third part is an overview of renovations. In this part, the types of and reasons for renovations will be summarized. The choices between renovations and developments, as well as for temporary closure and continuous occupancy will be contrasted. Lastly, the suitability for renovations together with the renovation process and problems will be discussed.

The fourth part concerns facilities management. First of all, the scope of facilities management will be investigated. Then, the linkage between facilities management and hotel renovations will be established, followed by a list of facilities management strategies applicable to hotel renovations. Lastly, the expected outcomes for and the barriers to the application of facilities management will be discussed.

The last part is a review of three major pieces of works done by researchers.

2.1 Definition of terms

2.1.1 Renovations

Renovation, refurbishment, restoration and rehabilitation are often used interchangeably with the assumption that they have similar meanings. Contrary to that, there was an interesting interpretation from a hotel general manager in Boston,

- renovation is noise, clutter, dust and disruption; restoration is better service, preservation, and regained reputation€ (Seacord, 1997)

There is no universally accepted definition for these terms. However, definitions, and possibly a distinction between them, are essential for the ease of this study. Definitions of the four terms are first quoted, followed by an interpretation in order to obtain a suitable definition for this study.

Definition of renovation

Seeley (1976), when writing about building maintenance, described renovations as a kind of maintenance which,

- consist of work done to restore a structure, service and equipment by a major overhaul to the original design and specification, or to improve on the original design, [Renovation] may include limited additions and extensions to the original building€

From the hospitality point of view, Stipanuk and Roffmann (1996) defined renovation as,

- the process of renewing and updating a hospitality property to offset the ravages of use and modify spaces to meet the needs of changing markets€

Hassanien and Baum (2001), from hotels' perspectives, viewed renovation as,

- the process of retaining or improving the hotel image by modifying the tangible product, due to a variety of reasons through any changes in the hotel layout (e.g. property structure-new extension) and/or any additions or replacement of materials and furniture, fixture and equipment

A conference report showed a visualized explanation of different types of renovation works as shown in Figure 2.1 (Sawada, 2000). Various types of renovation were categorized under the names *infill*, *support* and *tissue*.

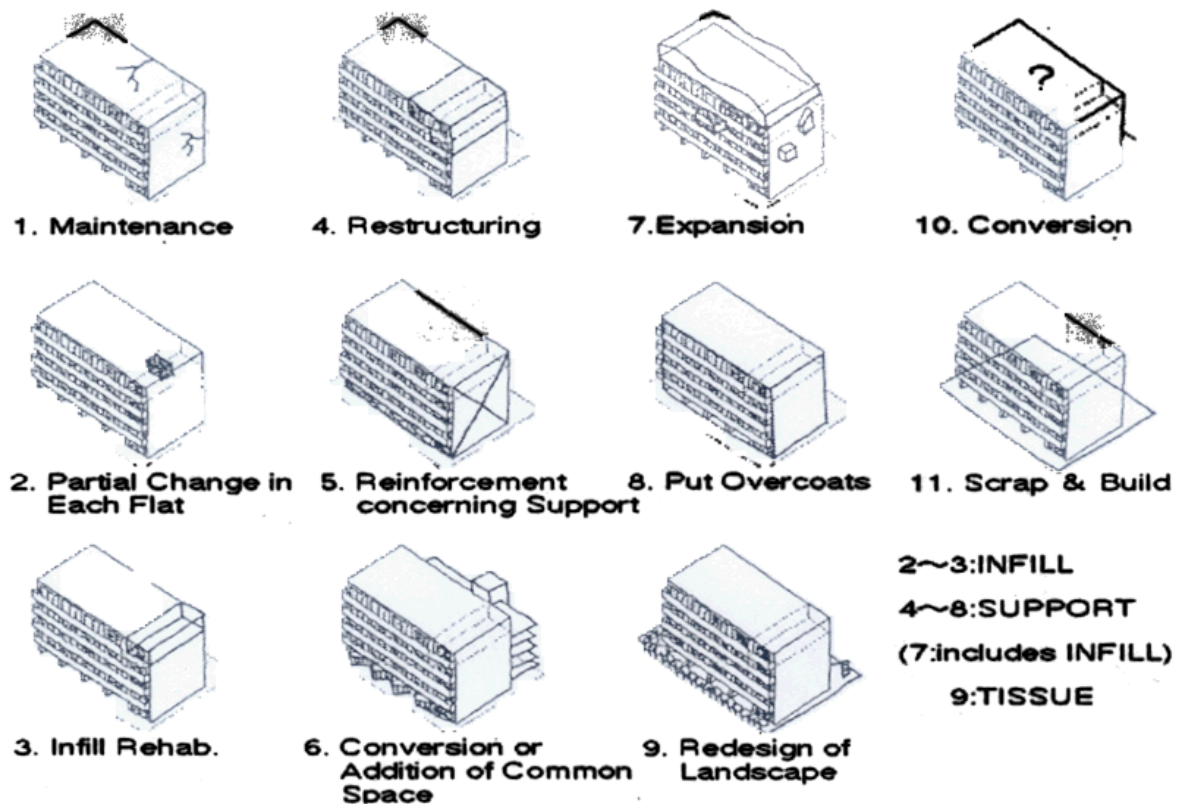


Figure 2.1 Types of renovation works

Source: Sawada S. (ed) (2000), *Towards the refurbishment and renovation of large prefabricated housing estates in East and Central Europe: Dessau conference report May 10-12, 1999*. London : Open House International Association

Definition of refurbishment

Marsh (1983) defined refurbishment as,

- the hard-headed business of making use of what is usable in the ageing building stock; the skillful adaptation of a building shell (which is valuable in its own right and not due to any historic mystique) to a new, or an updated, version of its existing use€

Marsh (1983) pointed out that, after refurbishment, the building should be as efficient as a purpose-designed building. He also illustrated that when a complete change of uses is involved, it must be a case of refurbishment.

Construction Industry Research and Information Association (1994) regarded refurbishment as,

- construction work to an existing building to update or change the facilities which it provides, and may include, or be carried out in connection with, some new-build extension for accommodation€

Quah (1999) described refurbishment work as of forms including •rehabilitation, upgrading, conversions, alteration and improvements€

Ransley and Ingram (2000) commented that,

- refurbishment can mean anything from simple decoration to the complete strip-out of a building back to its basic structure and its rebuilding, including reinstatement of all mechanical, electrical and other services€

Definition of restoration

Mazzolani and Iv.,nyi (2002) regarded restoration as a stream under maintenance and defined restoration as,

- the act of thoroughly repairing , so that it looks the same as it did when it was first made€

Cambridge dictionary defined restoration as •an act to return something or someone to an earlier good condition or position€

Definition of rehabilitation

Seeley (1976) defined rehabilitation as,

- a carrying out of building work to any property, or series of properties beyond normal routine maintenance, thus extending its life to provide a building or buildings which are socially desirable and economically viable€

Seeley (1976) furthered commented that rehabilitation is often supplemented with the terms •conversion€ and •modernization€ and •implies a broader approach to embrace the environment as well as interiors of dwellings€

Interpretation of the terms

The extent of renovation is broader than restoration in that sense that renovation not only restores the structure to its original status but also makes improvements and changes. Rehabilitation, refurbishment and renovation have similar meanings of improving both tangible and intangible parts of a structure, by renewing and rearranging the structural parts, facilities, layout and design.

As there is no significant difference between these three terms, the term •renovation€ will be used in this study for the purpose of simplicity and consistency. The definition of renovation suggested by Hassanien and Baum is adopted as they view renovation from hotels• perspectives and is therefore most suitable for this study.

2.1.2 Facilities management

Facilities management is a relatively new concept introduced to Hong. In the global context, there is still no universal definition for facilities management. Its scope and definition are still under hot debates all over the world.

People are often confused by the terms •facilities management€ and •property management€. Gilleard and Pan (1999) interpreted that property management services are restricted to the common areas and services of a building, while facilities management is also concerned with the management of tenant space. In other words, property management focuses on the built asset whereas facilities management is more user-oriented. However, both concepts are still being debated in Asia.

Although there is no universal definition for facilities management, there is a genuine need for a definition for this study such that the logic of the study can build on a clear fundamental concept.

Definition of facilities management

The International Facilities Management Association (2004) defined facilities management as,

- the practice of coordinating the physical workplace with the people and work of the

organization. It integrates the principles of business administration, architecture and the behavioural and engineering sciences

The association also described facilities management as a profession that,

- encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology

Baruer (1992) agreed on the definition made by The International Facilities Management Association and interpreted facilities management as,

- an orderly process for managing the incremental changes needed in buildings that result from changes in organizations

He further illustrated that facilities should be,

- combined and adjusted to work with humans to produce output in support of an organization's goals and objectives

Ransley and Ingram (2000) defined, in glossary of terms, facilities management contract as,

- a contract to look after a property, which may cover not just building and plant maintenance and renewal, but also the provision of services such as security, laundry or computer facilities

Hassanien and Losekoot (2002 cited Maas and Pleunis 2001 p.28) provided another definition of •the responsibility for coordinating efforts to ensure that buildings, technology, furniture and organizational trends are responded to, over time

Selection of definition

This study concerns the application of facilities management to hotel renovations which includes people, business operations, place and process. Hence, the definition suggested by the International Facilities Management Association is adopted as it expressly encompasses the above aspects.

2.2 An overview of hotels in Hong Kong

The decision to renovate requires considerations on what is required for a hotel. The purpose of a hotel should first be known. An ideal hotel has a number of requirements and standards. The characteristics of a hotel property and its facilities form the basis for the study of hotel renovations. Here, a fundamental idea on the purpose and classification of hotels in Hong Kong as well as the characteristics of a hotel property are introduced.

2.2.1 Purpose of a hotel

A hotel, according to Chapter 158 Hotel Proprietors Ordinance of the Laws of Hong Kong, means,

- an establishment held out by the proprietor as offering sleeping accommodation to any person presenting himself who appears able and willing to pay a reasonable sum for the services and facilities provided and who is in a fit state to be received€

It expressly told the ultimate function of providing sleeping accommodation. Generally, the main function of hotels is to cater for the demands of diverse clientele travelling for different purposes. In Hong Kong, hotels mainly serve business executives and leisure travellers.

A recent trend discovers the increasing need for large grand meeting and conference space, mainly due to globalization as well as the economic development of Hong Kong. Hence, while accommodation is the main service provided by a hotel, the provision of conference space is a feature to meet the increasing demand.

On top of that, subsidiary services are provided in connection to the two main services mentioned above. Examples include catering services as well as health and fitness facilities, which will be discussed in detail later.

2.2.2 Classification of hotels in Hong Kong

The Hong Kong Tourism Board Hotel Classification 2002 and the Richard Ellis Research Independent Hotels Classification System are two systems for the classification of hotels in Hong Kong.

The Hong Kong Tourism Board Hotel Classification 2002

The Hong Kong Tourism Board Hotel Classification 2002 (see Appendix I) is the most updated version of hotel classification system issued by the Hong Kong Tourism Board (Hong Kong Tourism Board, 2004).

In addition to the two criteria ..hotel room rates and staff to room ratio ..previously used for classification, other important factors, which include location, facilities and business mix of hotels, are used in the new classification system. For each of the five important criteria, scores are compiled based on results of surveys. A composite score for each hotel is calculated by

weighting the scores of criteria obtained from the hotel against the relative importance of the criteria. The weights of the indicators adopted reflect the opinion of hotel industry members as collected from surveys.

There are three categories of hotels classified under this system: High Tariff A Hotels, High Tariff B Hotels, and Medium Tariff Hotels. Others are known as Tourist Guesthouses, which are classified by Home Affairs Department.

The Richard Ellis Research Independent Hotels Classification System

The Richard Ellis Research Independent Hotels Classification System was issued in 1990 (Richard Ellis Ltd, 1991). It aimed at establishing a set of criteria which allows for greater accuracy in determining the grades of hotels (see Appendix II). The classification was based on the European •star€ grading system. It relied on qualitative as well as quantitative assessments of individual hotels. Criteria included tariff rates, facilities, level of services, room size and location.

There are six categories of hotels in Hong Kong under this classification system: 5-star, 4.5-star, 4-star, 3-star, 2-star, and Hostel/Guest Houses.

This study will adopt the Richard Ellis Research Independent Hotels Classification System as the •star€grading system is generally more popular and hence readers can more easily get the conception of general quality of the hotels using this system.

2.2.3 An overview of activities and facilities of hotels in Hong Kong

Characteristics of a hotel represent the nature of the hotel businesses and in turn affect the approach of hotel renovations as well as the application of facilities management. This section will therefore introduce the key features of hotel operations as well as the facilities commonly found in hotels in Hong Kong.

A hotel is a special property class. It is a combination of different characteristics of various property classes such as residential, commercial and retail. This is because of the nature and purposes of hotels. A hotel is multifunctional, as if it is a small community with all sorts of basic facilities, services and utilities inside a complex building. Harris and Watkin (1998) summarized the key features of hotel operations as follows. They include:

- ∩ the wide product range;
- ∩ the real-time activities requiring sound planning to ensure smoothness;
- ∩ the market-centred business with location factor being important;
- ∩ the labour-intensiveness requiring well-focused human resources management;
- ∩ the high fixed cost and low variable cost meaning limitations in cutting cost; and
- ∩ the fixed capacity of business due to fixed maximum number of rooms provided every day.

Generally, a hotel provides five categories of services: accommodation and room services, catering services, fitness and sports facilities, business packages, and special functions such as wedding and celebrations.

Accommodation and room services

Guest rooms are the basis of a hotel for accommodation and relaxation. An emerging trend for guest rooms is to provide a comfortable working environment for business executives.

Considerations for the design of guest rooms include comfort, durability, quietness, safety, and storage.

Catering services

Restaurants are almost, if not certainly, a necessity in a hotel. Lobby lounges and bars are relatively newer ideas. Nowadays, many hotels own a spectrum of dining and entertainment venues to meet different tastes and needs of guests.

Fitness and sports facilities

For 3- to 5-star hotels, a substantial set of fitness and sports facilities is usually included. They may include swimming pools, a health club with professional gymnasium facilities and spa services. Hotels with larger floor area may include various sports facilities such as tennis court.

Business packages

With the effect of globalization and the economic development of Hong Kong, international conventions and business opportunity enter into this territory. Meeting spaces such as business centre with a comprehensive range of technological facilities and services are often provided by hotels to attract and cater business travelers or local business organizations.

Special functions

Ballrooms, function rooms, a wide selection of versatile conference and banquet venues are often provided in hotels, equipped with facilities and technology suitable for hosting functions of any nature or scale, such as cocktail gathering, balls and parties, and even examinations.

Summary

The multi-functional purpose of hotels makes renovations challenging. Activities and facilities are complex. Egbu (1996) conducted a study on the difficulty to manage different types of renovation projects and revealed that hotel renovations were regarded as the second most difficult, with hospitals ranked the first. The difficulty is undoubtedly related to the characteristics of the hotel property. In later sessions, hotel renovations and management of such renovations will be discussed in detail.

2.3 An overview of renovations

Renovations are almost inevitable some years after the completion of construction of a property. Different parts of the property, specifically hotel, have different life and are described in Table 2.1 (Lawson, 1995).

In this section, the types of renovations are first reviewed. Reasons for renovations are then summarized. Renovations and developments as well as temporary closure and continuous occupancy during renovations are both contrasted. Lastly, the suitability for renovations will be investigated, followed by an elaboration of renovation process and problems.

<i>Renewal/Replacement</i>	<i>Period (years)</i>
Public rooms	
Refurbishment: renewal of carpets, fittings and furniture	5–8 ^(a)
Guestrooms	
Decor, furnishing fabrics	2–4 ^(b)
Carpets, electrical fittings	5–8
Furniture	7–10 ^(c)
Bathroom fittings	10–15 ^(c)
Capitalized leased equipment	5–8 ^(d)
Electronic, communication and computer equipment	5–8 ^(d)
Food service, kitchen and laundry equipment	7–10 ^(e)
Major engineering plant	10–15 ^(f)
Hotel buildings	20–25 ^(g)

Notes: ^(a)Major refurbishments planned to fit in with the concept life-cycle of the restaurant, bar, etc.
^(b)Two-year decoration usually combined with fabric and carpet cleaning.
^(c)May require renovation instead of replacement.
^(d)Affected by obsolescence, introduction of new systems.
^(e)Ten years for heavy-duty equipment.
^(f)Major overhauls and replacements. Servicing and maintenance carried out regularly.
^(g)For amortization of loans. Building renovation likely.

Table 2.1 Life-cycles for major renovations in hotels

Source: Lawson F.R. (1995), *Hotels and resorts: planning, design and refurbishment*, Oxford: Butterworth-Heinemann

2.3.1 Types of renovations

Usually, the types of renovations are defined in two different ways, either in accordance with the time of renovations or with the extent of renovations. Stipanuk and Roffmann (1996) categorized renovations, according to the scope of work, into three types: minor renovation, major renovation and restoration.

- The scope of a minor renovation is to replace or renew the non-durable furnishings and finishes within a space without changing the space's use or physical layout.

The scope of a major renovation is to replace and renew all furnishings and finishes within a space, and may include extensive modifications to the use and physical layout

of the space itself.

The scope of restoration is to completely gut a space and replace systems that are technically and functionally obsolete, while restoring the furnishings and systems that can still be used, given the current needs of the facility.

They also estimated the cycles of each type of renovation. A minor renovation should be organized every 6 years, a major renovation every 12 to 15 years, and a restoration every 25 to 50 years.

Another interpretation on the types of renovations showed four categories (Anon, 1994). They include cosmetic renovations, minor property renovations and additions, major facility renovations, and master planned renovations.

- Cosmetic renovations are regarded as maintenance-related upgrading driven by physical obsolescence.
- Minor property renovations and additions are driven by operational needs and/or changes in the marketplace.
- Major facility renovations should be undergone when the hotel is both functionally and physically obsolete. It is essential for the survival of the hotel and can be regarded as repositioning. New elements can be introduced.
- Master planned renovations are more comprehensive and the planning involved should take a long-term view of maximizing return on investment. Technological innovations are introduced to increase competitiveness.

Martin (1999) suggested another categorization (see Table 2.2). He classified renovations into five types: minor/cosmetic, services, structural, major and complete.

Type	Cost £/m ²	Approximate time to carry out (months)	Approximate payback period (years)	Description
Minor/cosmetic	170 - 400	1 - 3	2 - 5	This will involve re-decorating, improving signage and lighting, replacing floor coverings, exterior painting and repair, minor changes to the fittings. Typically takes place at 5-year intervals.
Services	200 - 400	3 - 6	5 - 15	Complete replacement of heating, ventilation and air-conditioning plant. Associated pipework, ducting, terminal units, controls and insulation may be replaced or upgraded as necessary. Typically takes place at 25-year intervals (control systems more frequently).
Structural	150 - 400	2 - 6	5 - 15	Addition of new lift shaft, escalators or risers, necessitating structural alterations.
Major	500 - 700	2 - 12	5 - 15	This will involve major changes to the services and the interior fittings but without any significant structural alterations. May include addition of raised floor, improvements to core areas and entrance halls, new lighting, internal shading. Typically takes place at 25-year intervals and in conjunction with a lease renewal.
Complete	800 - 1500	6 - 18	10 - 30	This will involve significant structural alterations, such as extension of the floors or partial demolition to create an atrium or stripping of the building back to the concrete frame. New cladding may be fitted together with the installation of new services and full fitting out. Timing of a complete refurbishment is variable but likely to take place in conjunction with a lease renewal.
New build	800 - 1500	18 - 24	10 - 30	Construction of a new building, excluding demolition of an existing building and loss of rent.

Table 2.2 Levels of refurbishment

Source: Martin A.J. (1999), *Refurbishment of concrete buildings: The decision to refurbish*. Berkshire: The Building Services Research and Information Association

Hassanien and Losekoot (2002) commented that time should not be used as a criterion in classifying the types of renovations because the frequency of renovation works depends on many variables, including legal standards, market conditions and insurance standards. The researcher of this dissertation also interviewed several hotel general managers and chief engineers for their classifications of renovations. All classified renovations into two to three types, without detailed definitions. In this study, as to permit comparison, Stipanuk and Roffmann's classification is adopted for its simplicity and compatibility to the interviewees' opinion.

2.3.2 Reasons for renovations

Besides financial and spatial concerns, the factors affecting the decision to renovate include the global environmental concerns, the concerns for the disabled, the growing tendency to combine business with pleasure, and the human resources issues of the hotels (Paneri and Wolff, 1994).

A successful renovation should focus on the marketing objectives of the hotel (Baltin and Cole, 1995). There are nine considerations in determining whether or not to renovate: market competitions, available market, targeted market segment, guest profiles, budget, potential amenities and aesthetics, management goals, marketing and distribution capabilities, as well as brand standards, strengths and constraints.

From the life cycle point of view, Hassanien and Losekoot (2002) viewed renovation as an inevitable process that requires high level of investment, hence commented that decisions to renovation should be made at the highest level, that is, the management level.

There are numerous reasons to renovate a hotel. They may include technological obsolescence, functional obsolescence and stylistic obsolescence as categorized by Stipanuk and Roffmann (1996). The followings are a list of reasons and situations proposed by various authors (Construction Industry Research and Information Association, 1994; Paneri and Wolff, 1994; Lerner, 1996; Stipanuk and Roffmann, 1996; Martin, 1999; Ransley and Ingram, 2000).

Physical concerns

- ∩ Worn-out furnishings and finishes should be renovated so as to prevent a valuable asset from deterioration.
- ∩ Sometimes a historic hotel genuinely needs restorations or revitalizations to keep it in a fully updated condition and remediate deteriorated physical plants and facilities.

Functional concerns

- ∩ The market for the mix of facilities offered by the hotel has changed, and new opportunities are available only through renovating underutilized facilities to meet changing guest demands.
- ∩ The hotel plans to move up their market base, say from 4-star to 5-star. Reinvention of designs and services are needed and should be achieved by renovations. After all, the hotel can provided facilities and services in line with guests•demand.
- ∩ Acquisition followed by renovations of an existing hotel sometimes presents an opportunity that is superior to the construction of a new hotel in terms of location, time and costs.
- ∩ New services with greater functionality and more energy efficient are to be adopted. This requires renovations to accommodate them. Similarly, renovation of facilities is needed when the safety and security systems of the hotel should be revised and updated.

- ∩ When a change of use of space or extension of rooms is required, renovation is needed.

Financial concerns

- ∩ When the business volume has declined and revenue is no longer capable to cover expenses and debts, renovations can improve the competitiveness of the hotel to break even again.
- ∩ There is a plan to increase yield by adopting higher room rates after renovations.

Aesthetic concerns

- ∩ The interior design is out-of-date and a source of embarrassment is directly linked to declining revenues.
- ∩ New designs are desired in order to attract new group of guests and retain the existing guests.

Statutory concerns

- ∩ Periodically, hotels have to observe and update in accordance to their legal obligations under law and contract. New regulations may require more updated facilities, which in turn require renovations to accommodate them.

Reasons for renovations are vast, so as the outcomes of renovations. A variety of contributions of renovations was suggested by different authors (Paneri and Wolff, 1994; Watkins, 1995; Stipanuk and Roffmann, 1996). They mainly fall into three major categories: improvements to the hotel property and systems, improvements to the operation of the hotel, and improvements to the business of the hotel.

Improvements to the hotel property and systems

- ∩ Renovations can freshen the look and feel of interior spaces and exterior appearance.
- ∩ Renovations provide a means to update and modernize the engineered systems that provide a safe, comfortable and convenient interior environment.
- ∩ The useful life of the property can be extended.
- ∩ Renovations can help the property to stay competitive.
- ∩ Security can be improved.

Improvements to the operation of the hotel

- ∩ Changes in response to market forces can be incorporated through renovations.
- ∩ It can improve the operational efficiency of the property. Hence, the productivity of both systems and staff can be increased.

Improvements to the business of the hotel

- ∩ Renovations allow managers to change the mix and types of services and facilities offered to the public. Also, room rates can be maximized.
- ∩ Customer-driven renovations can meet market trends and tastes of guests hence showing care about guests. As a result, the hotel can keep guests coming back.
- ∩ The decline in the quality of the property will induce a potential decline in the business of the hotel. Hence, renovations can extend the period of strong business performance and minimize any periods of decline.
- ∩ Renovations can help repositioning the property within its marketplace hence maintaining economic viability and meeting competitions.

2.3.3 Renovations and developments

Renovation is not the only choice. New developments and re-developments are possible alternatives serving similar purposes.

To determine whether renovations are more preferable to developments, both redevelopment and new development, different aspects are studied. They include the physical condition of the building, economical and financial matters, environmental conservation, geographical factor, time factor and social issues.

Physical matters of the building

New developments need planning permissions, which has a number of limitations, such as height, plot ratio, number of parking spaces. Renovations generally require less or even no permissions and hence in this sense are comparatively advantageous (Martin, 1999).

Economical and financial matters

It is widely believed that renovation is often less costly (Summers and Fellows, 1987; Jurgens, 1992; Schwanke *et al.*, 1994; Rowe, 1995; Martin, 1999). Summers and Fellows (1987) added that with the renovation cost being lower and the works being completed faster, rental income will be yielded earlier and hence financial charges reduced. However, they commented that such a tight schedule would inevitably impose more pressures on contractors.

Also, Jurgens (1992) expressed a view that it is easier and more profitable to find funds for renovation than new development. In connection with this, Martin (1999) thought that the cost of finance for renovations is in turn lower than that of new developments. Martin (1999) also suggested that renovations can be phased such that part of the building can still be

occupied. As a result, business continues and income follows.

Contrary to the above, Quah (1999) stressed that costs of renovations are largely affected by the current physical condition of the building structure. So, only when the cost of renovations is estimated to be lower than the cost of demolition and rebuilding, this becomes a favourable factor to renovate.

Environmental conservation

Quah (1999) explained that refurbishment is more environmentally beneficial as less energy is required to demolish and rebuild a building, less pollution is resulted from refurbishment than as in demolition and hence it is less problematic for the disposal of waste materials.

Geographical factor

Hassanien and Baum (2002 cited Ruttles *et al.* 2001) stated that a lack of prime and spacious sites is a fundamental reason that supports renovations over new constructions.

Time factor

New developments are comparatively more time consuming than renovations (Martin, 1999; Hassanien and Baum, 2002 cited Ruttles *et al.* 2001). More time is required for obtaining planning permission, demolition and rebuilt if any (Construction Industry Research and Information Association, 1994; Martin, 1999). Martin (1999) estimated the construction time of renovations to be about two thirds of that of new developments.

Social issues

Hassanien and Baum (2002 cited Ruttles *et al.* 2001) pointed out that historic architecture can

be retained if renovation but not new development is chosen.

Summary

The decision to renovate or develop comprises many considerations. The most important one is obviously the financial issue, because running a hotel is inevitably a business. The hotel owner's ultimate concern must be the return on investment. However, the choice with higher return on investment may not be the final and most rational decision. There are some crucial factors such as time and location. Every decision is subject to a lot of constraints and business visions, including financial strength and business development plan.

The above only presents a general view of comparison between renovations and new developments. Therefore there cannot be a general conclusion for determining which of the two options ..renovations or developments ..is absolutely better than the other. Every case requires individual assessment.

Upon adoption of either option, the planning starts. Time, duration, cost, return, techniques, expertise are the next issues to be determined. They should be treated with care as renovation projects are not merely normal construction projects. For example, one of the biggest differences may be the continuous occupancy of the property during renovations. Such difference may result in the low priority of the efficiency of the renovation activities on the list of the client's management (Construction Industry Research and Information Association, 1994). Hence, upon the decision to either of the options, some other issues, such as continued occupancy and renovation characteristics, have to be considered and are discussed in later sections.

2.3.4 Temporary closure and continuous occupancy

Continuous occupancy of the property during renovations inevitably asserts influence on the planning, design and method of construction. It is essential to investigate into the factors affecting the decision of temporary closure or continuous occupancy. Taking this issue too lightly will give tremendous adverse consequences to the renovations and in turn affects the image of the hotel. Rowe (1995) suggested three major concerns in this issue:

- ∩ the extent of exterior works;
- ∩ the complexity of the works; and
- ∩ the safety issues and potential hazards.

The merits and demerits of continuous occupancy are discussed below.

Merits for continuous occupancy over temporary closure during renovations

There are numerous merits for continuous occupancy during renovations raised by various authors (Construction Industry Research and Information Association, 1994; Stipanuk and Roffmann, 1996; Seacord, 1997; Flynn and Flynn, 1999a).

- ∩ Valuable employees can be retained. Staff is important to the service and reputation of the hotel.
- ∩ The hotel's brand-building service levels and guest loyalty can be retained.
- ∩ Staying open means the continuation of business and in turn prevents the loss of guests and avoids the restart of business.
- ∩ The hotel can stay in business and continue to serve nearby corporate clients who rely on them for accommodation and meeting space. This keeps the hotel's long-term guests happy.
- ∩ The loss of goodwill of the hotel that results from temporary closing can be avoided.

Demerits for continuous occupancy over temporary closure during renovations

Several authors identified some major problems of renovations in occupied property (Summers and Fellows, 1987; Construction Industry Research and Information Association, 1994; Stipanuk and Roffmann, 1996; Seacord, 1997).

- ∩ Harmful materials such as asbestos may be discovered in renovations. Therefore in such case temporary closure can ensure safety of occupants. Extra protection is required for the occupants, the workers on site, the works and the clients• operations.
- ∩ Workload for the management and supervision authority may be heavier, so as for hotel staff due to possibly more frequent cleaning and handling of complaints.
- ∩ The problems associated with noise are to be dealt with as noise is not acceptable to guests or staff and hence require extra planning and effort.
- ∩ Construction costs are higher in providing temporary facilities. Moreover, costs and time are added because of the adverse effects on staff and guests. Furthermore, strict time and cost control of the project add cost.
- ∩ The efficiency of the works will be lower for it is occupied. Moreover, there may be less chance in attracting best contractors as the work is comparatively complex and has more uncertainty.
- ∩ There may be a risk of a loss of guests due to guest disruption, discomfort and dissatisfaction.

Finding reasons to make the decision to stay open is an easy task. However, dealing with the problems and difficulties associated with this decision is another matter. This study will focus on one of the possible solutions, if not the only one, that is the application of facilities management.

2.3.5 Suitability for renovations

Planning for renovations is a crucial part, with many considerations and challenges arisen in the process. It is necessary to have a clear picture on every detail. The property under renovations should be thoroughly surveyed. Not all properties are suitable for renovations. Besides, time and programming are another important issue in renovations. Not only the duration of the renovations concerns, the time for renovations also deserves critical planning. Therefore, two main factors, quality and time, should be considered.

Quality of buildings suitable for renovations

Schwanke *et al.* (1994) suggested that there are some prerequisite considerations to determine whether a property is suitable for renovations. The considerations include:

- ∩ the soundness of the structure and building systems of the property;
- ∩ the overall quality of the existing design and image;
- ∩ the potential environmental problems;
- ∩ the potential for expansions; and
- ∩ the presence of dysfunctional elements, for example poor access, poor layout and dead-end corridors.

Factors affecting the time and duration of the renovations

Choosing a suitable time for undergoing renovation is one of the key factors to minimize disruptions. With regard to past record and experience of a hotel, one can accurately predict the hot and slow seasons. Undergoing renovations in slow season can minimize disturbance to the general hotel operation and affect less guests.

In early conceptual stage, the programme of the works must be determined with caution.

Heavy works should be scheduled during slower times and the programme of the works must coordinate with the rooms division. (Feder, 1994)

2.3.6 Renovation process and problems

The hotels certainly wish to have everybody uninterrupted and with business as usual during the renovation period. Management of hotel renovations therefore requires identification of the processes of and problems in renovations. Strategies can then be produced to focus on and tackle problems in every aspect. Lawson (1995) summarized the changes and considerations to be made to different parts of the hotel during renovations (see Table 2.3).

Despite the fact that renovations actually involve many of the same considerations as any other constructions, the emphasis is placed on certain significant aspects, such as preplanning, budgeting and team building (Paneri and Wolff, 1994). Here, three basic stages for renovations ..planning, design and construction ..will be discussed below.

Planning

A crucial step in planning is to survey the property (Stipanuk and Roffmann, 1996). It helps determine what areas and facilities require renovations, identify the needs and stimulate ideas. Most importantly, it helps determine the exact scope of the renovation works. Not all areas or facilities identified are renovated. Renovations should be in line with the goals and objectives of the hotel and focuses should be selected. Therefore, fundamental understanding on the hotel's long-term objectives should be sought, in terms of the hotel's current market position, trends in demand and supply, as well as the desired market position for the hotel. Life-cycle maintenance should also be considered (Lawson, 1995).

<i>Area</i>	<i>Constructional changes</i>	<i>Engineering systems</i>	<i>Furnishings, etc.</i>
Rooms	Replanning divisions. Extensions. Conversions – suites. Bath/shower rooms. Fitting new windows, doors, locks, safes	AC/vent/heating. Lighting, power. Telephone, TV, video. Plumbing. Room management systems ^(a)	Bathroom fittings. Furniture, mirrors. Carpets, furnishings. Lamps, equipment. Decoration, signage. Terminal equipment
Circulation	Replanning of corridors, stairs, lobbies, elevators, service rooms, chutes, protection of evacuation routes	Elevators (guest service, goods), AC, lighting, power, vacuum systems, emergency telephones. Fire safety ^(b) , sprinkler and security systems ^(c)	Linings, decoration, carpeting, light fittings, signage. Fire resistant enclosures
Lobby and front office	Changes in layout. Redesign of lobby, toilets, rental spaces, front desk, safe deposit, offices and business centre	As above. House telephones. Telephone exchange. Public address and hotel management systems ^(d)	As above. Lounge furniture, furnishings, piano bar, uniforms, graphics
Public rooms	Changes in food concept, replanning interior design, bars, counters, kitchen planning	AC, lighting, power. Energy management. Background music. Restaurant/bar. Management systems. ^(e) Fire safety ^(b)	Furniture, carpets, furnishings, lamps, decoration features. Food service equipment, tableware, menus, graphics uniforms
Meeting rooms	Division of areas. Movable partitions. Foyers, cloakrooms. Direct access. Service circulation storage	As above. Computerized control. AVA projection systems. Interpretation systems	Furniture – meetings, banquets, seminars. Stage PA and AVA equipment. Food/bar service
Recreation areas	Extension, conversion or renovation to form swimming pool, surge pools, sauna, changing rooms, gymnasium, bar	AC/vent/heating, lighting, power, PA, TV monitoring, energy management, safety systems	Changing room furniture, fitness equipment, signage. Lighting, TV cameras
Back-of-house	Replanning of loading docks, kitchens, laundries, stores. Staff facilities. Plant rooms	AC/vent/heating, lighting, power. Refrigeration. Energy management. ^(f) Security, safety and maintenance systems ^(g)	Wall and floor linings, ceilings. Laundry and kitchen equipment. Stores, carts. Waste compactors. Employee toilets, showers and lockers. Dining room furniture

Table 2.3 Major renovations in a hotel

Source: Lawson F.R. (1995), *Hotels and resorts: planning, design and refurbishment*, Oxford: Butterworth-Heinemann

Budgeting is undoubtedly one of the most important concerns in renovations. Indirect costs can be huge for renovation projects. Planning and control play an important role in this issue.

Lawson (1995) and Stipanuk and Roffmann (1996) pointed out a number of concerns:

- ∩ extra cleaning required;
- ∩ difficulties and delays;
- ∩ complimentary goods and services or billing adjustments for comforting unhappy guests;
- ∩ replacement for regular facilities which are out of service;
- ∩ loss of revenue due to out-of-service facilities;
- ∩ loss of quality and goodwill due to interruptions;
- ∩ inefficiency and declining standards; and
- ∩ risks to safety and security.

Sometimes, simple changes in the renovation plan can significantly reduce these indirect costs.

As mentioned above, relocation of certain essential operations of the hotels may be needed. A typical example is when the kitchen is under renovations, a temporary on-site booth can be an elegant substitute.

On the other hand, statutory regulations should be observed such that the renovations conform to the most updated standard. Special attention should be put to areas such as entrances and exits, parking areas, and fire safety issues.

Circulation and existing mechanical and electrical systems are two other essential considerations in planning. The failure of which will lead to tremendous problems.

Finding a suitable contractor is always crucial to the success of the project. As hotel

renovations are highly complicated and involve many uncertainties, the contractor must be experienced to meet the requirements and deadlines.

Design

Renovations commonly involve four parties: the management level of the hotel, design professionals, contractors and purchasers. They should all participate in the design process, such that designs are with good constructability, fit the operation of the hotel, and materials are available and can be obtained within budget and time constraints.

On the other hand, the design of a hotel is affected by a number of factors. It also applies to renovations of hotels. Ransley and Ingram (2000) composed a list, including:

- ∩ company policy and future developments;
- ∩ concept and objectives;
- ∩ location and surroundings;
- ∩ function and operation;
- ∩ aesthetics and design features;
- ∩ budget and resources;
- ∩ business and planned life cycle; and
- ∩ logistics.

Stipanuk and Roffmann (1996), from the view point of facilities management, expressly highlighted the following factors that require focusing attention. They include:

- ∩ facility components;
- ∩ facility layout;
- ∩ materials;

- ∩ methods and types of construction;
- ∩ equipment; and
- ∩ systems.

Designs for the disabled people are also essential (Stipanuk and Roffmann, 1996). Considerations include safety, temperature regulation, security and independence requiring no special assistance.

Designs are the soul of the whole project. It will affect the renovation budget, the renovation schedule, and the appearance of the hotel for several years. It must not be overlooked.

Construction

Construction work requires clear instructions and guidelines to follow. Stipanuk and Roffmann (1996) recommended five prerequisite items to be well-prepared. They include:

- ∩ a complete description of the work .. construction documents .. to be done;
- ∩ a description of the duties and responsibilities of hotel management, the contractor, and the design firm;
- ∩ the cost of the work and payment method;
- ∩ the date of commencement, the date of completion, and interim deadlines for certain tasks; and
- ∩ the conditions that define final completion and acceptance of the works.

Changes in design always happen, especially in renovations inside occupied buildings. Careful written instructions and replies are essential. Telephone records and minutes of meetings should all be kept in proper order to ease later inspection as a reference.

Purchasing is another important issue. Stipanuk and Roffmann (1996) reminded that proper quality, quantities, on-time delivery and within budget are the four important ingredient for a successful purchasing effort.

Problems of hotel renovations

As the hotels stay open and still operate for business, the utmost concern of the management level towards renovations should be the disturbance caused, to guests and staff. Moreover, there are many other concerns with regard to the renovation project, for example the cooperation between renovation contractors and the management of the hotel.

Dust, noise and vibration are the three most disastrous problems in hotel renovations mentioned by various authors (The Hong Kong Contractor, 1992; Construction Industry Research and Information Association, 1994; Feder, 1994; Egbu, 1997).

On top of the above, here is a list of problem areas that the hotel management level as well as the renovation contractors usually experience (Summers and Fellows, 1987; Construction Industry Research and Information Association, 1994). They include:

- ∩ noise, dust and vibration;
- ∩ internal and external access;
- ∩ materials supply restrictions;
- ∩ storage of materials and waste;
- ∩ protection and maintenance of essential services for occupants;
- ∩ programming;
- ∩ supervision on site;
- ∩ pricing or cost;

- ∩ productivity;
- ∩ head office management;
- ∩ safety and security;
- ∩ selection of labour; and
- ∩ poor documentation.

Moreover, discovery of unforeseen conditions is possible almost throughout the renovation period. Uncertainty in renovations is predicted to be greater than that in new constructions.

For a successful renovation, there is a number of contributing management strategies. Peter Davies of Bovis Construction suggested three basic parameters essential for successful management of renovations (Ransley and Ingram, 2000). They are, to have a clear definition of the existing situation, the prescribed change required and the applicable constraints. A good liaison between the contractor and the client, as well as a good relationship between occupant and contractor are also crucial.

This study focuses on the application constraints found in hotel renovations. It is always true that, theoretically there are numerous strategies applicable to minimize problems and achieve success. However, in practice there exist constraints and obstacles to such applications.

2.4 Facilities management

In this section, the scope of facilities management will first be discussed. Then, the linkage between facilities management and hotel renovations will be identified, followed by a detailed description of facilities management strategies applicable to hotel renovations. Lastly, barriers

to the application of facilities management will be identified.

2.4.1 Scope of facilities management

The term •facilities€ is known as •something that is built, installed or established to serve a purpose€ (International Facilities Management Association, 2004). The most obvious aspect of managing the facilities is maintenance and repair. However, managing the facilities does not simply mean maintaining them. So, there is a need to study the scope of facilities management in order to have a clear picture of all related aspects.

In a study conducted by Hassanien and Losekoot (2002 cited Then 1994), six areas of management that facilities management needs to cover, which include:

- ∩ strategic management;
- ∩ asset management;
- ∩ service management;
- ∩ change management;
- ∩ people management; and
- ∩ information management.

In the same study, Hassanien and Losekoot (2002 cited FEFC and NAO 1997) listed another opinion which comprises the following five core subjects of facilities management:

- ∩ property management;
- ∩ financial management;
- ∩ organizational management;
- ∩ innovation and change management; and

∩ human resources management.

Baruer (1992) also mentioned some goals of facilities management which indirectly represents his view on the scope of facilities. The goals include:

- ∩ converting facility change form a reactive to a proactive function;
- ∩ improving the response to change;
- ∩ minimizing facility cost;
- ∩ enhancing productivity; and
- ∩ shortening the facility development process.

Although there are different interpretations on the scope of facilities management, it will post insignificant influence to this study because this study focuses on a specific issue ..hotel renovations in Hong Kong. Therefore, this study will include as much aspects as possible, as long as they are related to hotel renovations.

2.4.2 The application of facilities management to hotel renovations

How does facilities management relate to hotels and specifically, hotel renovations? Okoroh *et al.* (2002) expressed a view on the relationship between facilities management and hotels.

He defined facilities management in hotels as,

- the management of constructed facilities and organizational assets to improve their efficiency and add value to their performance and services€

Based on the relationship between facilities management and hotels, the application of facilities management to hotel renovations can further be developed.

To start with the fundamentals, properties are undoubtedly finite resources. Every property has a preset life time. Usually, properties at its early age perform well and perhaps reach its peak value some time later, but gradually decrease in value due to various reasons and most probably, deterioration. Park (1994) stated that the application of active facilities management can relieve the decrease in value. He suggested that refurbishment and alteration can prolong the useful life of properties.

From the renovation point of view, typical hotel renovations include modifications of the existing facilities ..the hotel's tangible assets ..and services, mainly aiming at extending the useful life of the hotel and maintaining or enhancing competitiveness and market share (Hassanien and Losekoot, 2002). Such modification of facilities in order to achieve effectiveness in operations, human resources and space is definitely one of the scope of facilities management. Hence, it is concluded that a close relationship between facilities management and hotel renovations is undeniable.

Hotel renovations are in most cases, if not all, disturbing. Sufficient and proper planning and precaution measures are essential for a smooth and successful renovation. Strategies of facilities management can help tackle problems associated with hotel renovations. For the purpose of this study, the emphasis is on the application of facilities management to hotel renovations in Hong Kong.

In this study, the emphasis is on the management of hotel renovations. A perfectly optimistic view on renovations is to see the renovations running smoothly, the contractors accommodating, the staff adapting to work easily and the guests staying in the hotel with satisfaction. This is easy to say but hard to plan and work out, due to the problems and

constraints accompanied with renovations.

There is a need to carefully plan the renovations in terms of time, cost and human resources, and also, to study how the renovations can be best managed throughout the process. Egbu (1997) introduced the concept of refurbishment management and described it as,

- a complex activity involving not only different professionals operating in a project environment, but also involves mobilizing and controlling design, expenditure progress and stands of production

McGregor and Then (1999) summarized points that require special attention when managing renovation projects in the scope of facilities management. They include a defined objectives, time limits, prescribed standards, cost limits and resources.

The focus of this study is put on strategies to tackle potential problems and minimize disruptions arising from hotel renovations. A possible solution is studied ..the application of facilities management. Despite the definition and scope of facilities management are still uncertain, there are a number of strategies established, where or not under debate, which can be applied to the hotel renovations aiming to minimize disturbance and facilitate smooth renovations. Detailed strategies will be discussed in the next session.

2.4.3 List of facilities management strategies related to renovations

There is a term called •strategic facilities management€ which is a concept built on the foundation of facilities management.

Jack (1994) investigated the meaning of strategic facilities management and explained as follows.

- **Strategic** implies a purpose for which a direction is set over the long term. It requires leadership and an understanding of the broader context in which facilities are operated.

- **Facilities** in this case include the buildings and services provided for the occupants or customers.

- **Management** means the professional and effective deployment of resources and being totally accountable for results which are measurable. It requires risk assessment and management.

He then combined the concepts and concluded that strategic facilities management is,

- improving value to the customer by either improving services for the same cost or delivering the same service at less cost, or the combination of the two

He especially explained the improved value as •better asset management•, •lower occupancy costs• and •more productive employees•

On the other hand, Barrett and Stanley (1999) listed a number of factors to be considered in constructions which is equally applicable to renovations (see Figure 2.2).

Now, applying theoretical knowledge to the practical, concrete strategies are needed. There is a list of facilities management strategies related to renovations suggested by a number of authors.

Factors

The summary analysis for 'empowering the client' is on page 39

- E1. Clients should be knowledgeable about their own organisations
- E2. Clients should be aware of the project constraints
- E3. Clients should understand the basics of the construction process
- E4. Clients should understand their roles and responsibilities
- E5. Clients should maintain participation in projects
- E6. Clients should gain the support of senior managers for projects
- E7. Clients should appoint internal project managers to manage projects
- E8. Clients should integrate business strategy and building requirements

The summary analysis for 'managing the project dynamics' is on page 57

- D1. Teams should establish project constraints at an early stage
- D2. Teams should establish programme, highlighting critical dates
- D3. Teams should agree procedures and methods of working
- D4. Teams should allow adequate time to assess client's needs
- D5. Teams should validate information with the client organisation
- D6. Teams should improve feedback to all parties throughout project

The summary analysis for 'appropriate user involvement' is on page 71

- U1. User involvement benefits should be understood
- U2. User involvement should be assessed relative to each situation
- U3. User participation should be planned to allow relevant data to be collected
- U4. User group dynamics should be considered
- U5. User involvement should be maintained throughout project

The summary analysis for 'appropriate team building' is on page 81

- T1. Team selection should focus on skills, not just financial considerations
- T2. Teams should approve and understand management structure of projects
- T3. Team members should remain consistent throughout projects

The summary analysis for 'appropriate visualisation techniques' is on page 90

- V1. Visualisation techniques should be employed to increase potential for shared understanding
- V2. Visualisation techniques should be adequately resourced
- V3. Visualisation techniques should be used effectively

Figure 2.2 Factors affecting construction

Source: Barrett P. and Stanley C. (1999), *Better construction briefing*, London: Blackwell Science Ltd

A defined objective

First of all, the reason why renovation is needed and is chosen must be clearly stated, before every further item is built on top of that as a foundation. McGregor and Then (1999) described objectives as the prerequisite feature of the whole process. They advised that a clear unambiguous statement of the business's objectives for the renovations should be made as it will be the starting point of the project.

Planning

Proper planning is the key element for a successful renovation (Rowe, 1995). One has to consider the sum of money, to finance the renovations, and the programme of the works, to minimize disruption and to make sure the works are within budget. A good planning can predict, react to and minimize potential drawbacks.

While a master plan for a renovation is a key starting point, the detailed plans in terms of time, job layout, working hours and the estimation of effect on guests and staff are of same level of importance, as told by Fred Kummer, Adam's Mark Hotels & Resorts' president (Flynn and Flynn 1999a).

Project brief

Project brief has four basic principles as described by Ransley and Ingram (2000, p.12): objectives of the renovations, budget for spending limits and required rate of return, time for both commencement and completion, and quality with standards specified. It is the document that include all necessary and crucial factors determined in the planning stage.

The project briefs serve an important role in communication. Ransley and Ingram (2000)

commented that good briefs should have the following characteristics:

- ∩ logical structure to ease reading
- ∩ clear presentation
- ∩ consistency of ideas
- ∩ progressive with stages of development defined

Early involvement of expertise

Rowe (1995) interviewed a hospitality services provider and got an opinion that •getting a lot of people involved early is important€ The design team must be in early discussions such that basic decisions such as budget and programme can be arrived with careful thought and leading to good coordination. Another advantage for early involvement of consultants is that the scope of work can be determined critically. It is because the consultants have a realistic view on the existing property and the market. Moreover, a better constructability of the works can be obtained if fortunately all kinds of expertise are involved in the design stage.

Input from guests

It is very important to understand that the renovated products should be what the guests are expecting for. As a result, guests• opinion should be sought in order to secure the marketability of the new designs and services (Hassanien and Losekoot, 2002).

Input from staff

Staff is the front line soldier for the battle. They are the ones who meet guests, who use the facilities and hence should be the ones whose opinions be sought. Based on their familiarity on the operations and the working environment, they can certainly provide concrete and sensible suggestions to improve the environment and productivity (Hassanien and Losekoot,

2002). However, the suggestions must be carefully filtered as some may not be feasible, applicable or even useful.

Communication ..between the hotel and the contractors

Good communication between the hotel and the contractors can avoid misunderstanding and delay. Construction Industry Research and Information Association (1994) emphasized the importance of close collaboration and sympathetic relationship between the parties. Flynn M.J. and Flynn L.K. (1999b) pointed out that the contractor has to learn how the hotel functions and hence what the management needs. Information, such as the hours of operation of different parts of the hotel, should be given to the contractors and must be specific.

On the other hand, Stipanuk and Roffmann (1996) strongly advised that there is a genuine need for establishing a set of clear and precise rules for the workers to follow. Rules should address parking, entrances and exits, sanitary facilities, lunch facilities, smoking, use of radios, hours of work, and identification of employees. Fig. 2.3 is an example of rules used in hotels. In addition, an important point is that the workers must be informed carefully that the rules are meant to facilitate the service delivery to guests, not to infringe the workers in doing their tasks. However, violations should be quickly dealt with in order to maintain discipline and order on the job. This can also help maintain the order of operations inside the hotel and prevent a loss of goodwill.

Communication ..among the hotel staff

Effective communication between the general manager and the management team is crucial. They have to know what is going on and hence facilitate the staff to handle frontline challenges in the best way possible (Flynn and Flynn, 1999a)

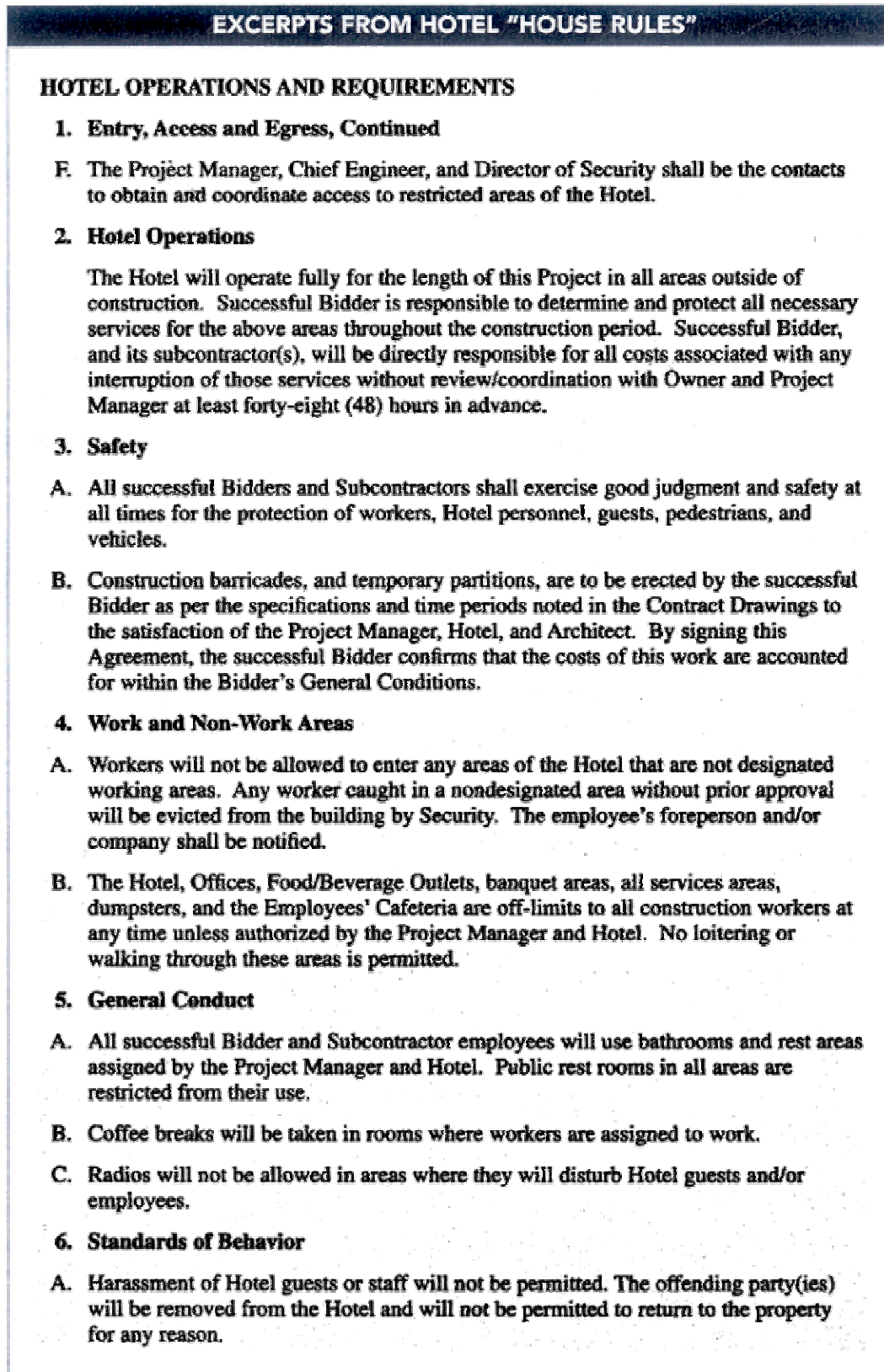


Figure 2.3 Excerpts from hotel •house rule€

Source: Kliment S.A. (2001), *Building type basics for hospitality facilities*. New York: John Wiley & Sons

There should be weekly or daily updates of the progress of the renovations, such that each and every staff in the hotel should know it well. It is because the operations and duties of the staff may be disturbed, and they may need to answer the guests' queries on the renovations. With the acknowledgement of the renovations, this can minimize the influence to the attitude and services of the staff and in turn avoid dissatisfaction of guests (Flynn and Flynn, 1999a). Practically, general staff can be informed of the plans and progress through an in-house newsletter or an attachment to their pay-cheques (Stipanuk and Roffmann, 1996).

Communication ..between the hotel and the guests

During renovations, it is important to convey to guests that the level of services has not changed, even though the number of services offered may be temporarily reduced. Communication with guests is essential and rewarding. Rowe (1995), quoting a lodging interiors group's opinion, concluded that communicating with guests by means of 'pardon our dust' signs and display boards showing improvements is essential for keeping the hotel's goodwill.

Communication should also be done in advance to bookings of rooms, by letting the potential guests know the general information and the progress of the renovations.

Time issue

Time is always a significant issue in construction works. The control of the progress as well as a review on the programme rely on the comparison between the actual and expected progress. As a result, dates of commencement and completion as well as interim deadlines are essential which affect cost and quality (McGregor and Then, 1999).

Space planning

In common renovation projects, there are a lot of materials to be used and waste to be disposed of. Material storage in renovations in occupied hotel is totally different from construction in new sites. Not all space can be used for storage and space are limited and restricted as the hotel is still operating as usual. It requires extra effort in programming for the storage of materials and waste, especially when the volume of materials is large.

Besides storage of materials, circulation and access routes also play a crucial rule. One thing which is always correct is to keep the guests as separated as possible from the works, if possible. This can largely reduce the guests' exposure to disturbance such as noise and dust.

Materials

One thing that must avoid is the discrepancy between the design and the actual work done. Hence, the standards and requirements of materials must be clearly defined, with quantities ascertained.

Also, materials are better delivered to the rooms late at night or early in the morning using service lifts, if cargo lifts are not available, taking the advantage of slower guest traffic (Feder, 1994).

Use of prepackaged solutions

In order to maximize renovation investments, John McDonald of the Provisions Worldwide Procurement Solutions, suggested that chain hotels can establish a corporate design package with pre-selected furnishings and fixtures (Worcester, 1999). This can ascertain quality standards, reduce renovation time and ensure a consistent and high-quality guest experience.

He further explained that the time and money for searching suitable designs can be greatly shortened and the risk of delay due to supply of materials can be largely reduced.

With the application of facilities management, planning is expected to be adequate in handling anticipated emergencies and issues.

2.4.4 Outcomes for application of facilities management

To conclude shortly, there are mainly aspects of positive outcomes from the application of facilities management to hotel renovations.

- 1 The possibility of delay can be reduced.
- 2 The possibility of over-budget can be reduced.
- 3 Customer dissatisfaction can be minimized.

However, this is the most optimistic scenario in theory. In practice, there exist many constraints and barriers, which will be discussed below.

2.4.5 Barriers to application of facilities management

Understanding the advantages in applying facilities management strategies to hotel renovations, it is worthwhile investigating whether there exist obstacles or barriers that hinder the application of these strategies. Moreover, when designing renovation policies, the hotel management level should take into account the barriers to renovations as well as the barriers to the application of management strategies (Hassanien and Losekoot, 2002).

Hassanien and Losekoot (2002) identified some major barriers to the application of facilities management. They include:

- ∩ owners• awareness being the biggest barrier;
- ∩ the lack of money;
- ∩ the lack of appropriate experience; and
- ∩ the lack of suitable manpower.

Moreover, Ho *et.al* (2000) commented that cultural or regional difference might present barriers and difficulties for the practice of facilities management benchmarking in which the author of this dissertation believed that the same issue might also be the obstacles for the application of facilities management to hotel renovations especially in the sense that the difference might even be larger due to the inherited difference between the construction industry and the hospitality industry.

The owners of hotels are the ultimate decision makers of any proposal. Their attitude, knowledge and financial status undoubtedly affect every decision and plans. Hence it is not surprising to find it ranked high in the list of barriers.

Past research on the barriers to the application of facilities management is limited. This study aims to identify the barriers and difficulties in the application of facilities management to hotel renovations in Hong Kong, based on the background knowledge given by the above literature.

2.5 Review of past research studies

There are three main pieces of work highly related to this study. Each of which will be reviewed below.

Research study I

Hassanien and Losekoot (2002) carried out a research studying the renovations of hotels in the context of facilities management in Egypt. It evaluated the attitudes of hotel general managers about the importance of hotel renovations and the application of facilities management in the renovation process.

The findings showed that albeit the hotel managers expressed a belief in the importance of continual renovations, there is little evidence of strategic thought in the renovation process. They understood the significance of continual renovations aiming at meeting customer expectations and competitive pressures; however, they lacked strategic planning with regard to facilities management in hospitality. The focus of the hotel general managers appeared to be on the customer satisfaction aspects of hotel management.

The researchers advised that a renovation policy should be driven by an effective plan and renovation guidelines should be adopted by the decision makers in the hotel. They also stressed the significance of valuing renovations as an important facilities management tool. To make the suggestions practical in reality, the researchers illustrated the ways to utilize the discipline of a facilities management approach to renovation projects with the precaution of not adding a layer of bureaucracy and administration. While they explained that there may not be a genuine need to develop a facilities management department in the hotel, they specified that those involved in the renovation process in the hotels should be aware of the

wide-ranging impact on staff and guests of such renovations. They further advised hotels to look for and learn from existing best practice and experience of others.

Lastly, the researchers expressed that there is scope for a more strategic view of facilities management among hotel general managers and hotel owners. They believed that more research can be built on theirs, together with others, on some more areas ...managing customer satisfaction during renovation projects, obtaining customer feedback on the renovation process, opportunities and pitfalls of outsourcing, and purchasing issues.

This paper is the prime guidance to my research because it serves as an example of investigating the application of facilities management to hotel renovations in a specific geographical region.

Research study II

Another research carried out by Okoroh, Fones and Ilozor (2002), investigated the facilities management operations of medium sized hotels (11-50 rooms) in the UK which account for 90% of UK hotels. The key objective of the study was to work out any trends that suggest a relationship between the application of facilities management techniques and the success of hotel business. They studied the feasibility for the application of facilities management to hotels as well as the existing, if any, applications in place.

In the study, the researchers viewed facilities management in hotels as the management of constructed facilities and organizational assets aiming to improve efficiency and add value to the performance and services.

The research concluded that services and assets in hotels are not managed in a structured and/or effective manner, that a more holistic and strategic approach would be of value and that greater use could be made of the practices of facilities management.

This research forms a basis for investigating the extent of application of facilities management to the hospitality sector and the approach can be useful in my research.

Research study III

Egbu (1996) conducted a research on the characteristics and difficulties associated with renovations in general. He interviewed some large renovation organizations in England and composed a list of characteristics of renovations ranked with the perceived degree of difficulty (see Table 2.4). He compared the opinions between specialist renovation organizations and general ones and revealed a wide discrepancy between the two on several items such as site security, handling/disposal of site rubbish, contract document/arrangement, and restriction in plant usage.

The researcher also investigated the degree of difficulty of renovations for different types of property and found that hospitals ranked the most difficult and hotels the second most. Moreover, he also constructed a ranking of the frequency of occurrence of the characteristics of renovations based on the interviews (see Table 2.5).

The researcher concluded with the interviewees' perceptions on how best to overcome the difficulties of renovations, particularly in areas of cost control, dust control, influence of tenants on the regular progress of the works, pricing of the works, and variation/change orders to the works. He also recommended that guidelines on ways to overcome problems and

difficulties associated with renovations, of different property and across industrial sectors ... especially in the defence, hotel and health service sectors, should be produced.

The research is particularly useful in the sense that it provided a detailed picture of renovations in terms of characteristics, difficulties and frequency of occurrence. These data are useful in my study when constructing a list of items to be investigated.

Characteristics	Mean Score (N=142)	Rank
Cost control	1.528	1
Dust control	1.641	2
Influence of tenants on regular progress of works	1.669	3
Pricing of the works	1.711	4
Variation/change order to the works	1.739	5
Noise control	1.746	6
Site security	1.754	7
Storage of building materials and plant	1.782	8
Site access	1.873	9
Time prediction for completion of the works	1.908	10
Handling and disposal of hazardous/toxic substances	2.014	11
Keep site tidy	2.028	12
Maintaining existing services	2.056	13
Productivity control and maintenance	2.106	14
Maintaining site safety and welfare standards	2.141	15
Decanting buildings for commencement of work	2.155	16
Protecting the general public	2.162	17
Programming and scheduling of works	2.169	18
Quality control and assurance	2.169	19
Contract documentation/arrangement	2.225	20
Restriction on working hours	2.246	21
Protecting the works & adjacent buildings	2.246	22
Materials handling	2.261	23
Handling and disposal of site rubbish	2.317	24
Long and unsociable working hours	2.408	25
Restriction in plant usage	2.430	26
Supervision of the works	2.444	27
Liaison with tenant/occupier	2.458	28
Selection and recruitment of workforce	2.648	29
Materials supply	2.732	30
Coping with employee stress & absenteeism	2.817	31
Building regulations & other statutory control	3.035	32
Plant supply	3.338	33

Table 2.4 Degree of difficulty of renovation characteristics from renovation managers
 Source: Egbu C.D. (1996), Characteristics and difficulties associated with refurbishment, *Construction Papers*, 66, 1-8

Characteristics	Mean Score (N=142)	Rank
Variation/change order to the works	1.254	1
Keep site tidy	1.387	2
Cost control	1.408	3
Maintaining site safety and welfare standards	1.437	4
Programming and scheduling of the works	1.451	5
Quality control and assurance	1.465	6
Dust control	1.479	7
Time prediction for completion of works	1.479	8
Storage of building materials and plant	1.486	9
Supervision of the works	1.493	10
Site security	1.577	11
Productivity control and maintenance	1.592	12
Protecting the general public	1.599	13
Handling and disposal of site rubbish	1.620	14
Materials handling	1.648	15
Liaison with tenant/occupier	1.676	16
Maintaining existing services	1.697	17
Pricing of the works	1.746	18
Protecting the works and adjacent buildings	1.761	19
Noise control	1.796	20
Materials supply	1.803	21
Site access	1.852	22
Contract documentation/arrangement	1.915	23
Influence of tenants on regular progress of the works	1.937	24
Restrictions on working hours	2.120	25
Building regulations and other statutory control	2.204	26
Decanting building for commencement of work	2.282	27
Long and unsociable working hours	2.338	28
Handling and disposal of hazardous/toxic substances	2.373	29
Plant supply	2.387	30
Selection and recruitment of workforce	2.387	31
Restriction in plant usage	2.394	32
Employee stress and absenteeism	2.993	33

Table 2.5 Frequency of occurrence of renovation characteristics from renovation managers
Source: Egbu C.D. (1996), Characteristics and difficulties associated with refurbishment,
Construction Papers, 66, 1-8

CHAPTER 3 METHODOLOGY

Chapter introduction

This chapter focuses on the methodology of this study. It discusses the methods adopted for collecting the data required for the study, the merits and demerits of such methods, and the ways of carrying out such result methods.

This chapter includes four major parts. The first part clearly states the research questions with elaborations.

The second part discusses the research methods adopted in this study, which include the use of literature review, case studies, interviews and questionnaires. The reasons for, merits and demerits of the adoption of these methods are explained individually, followed by the identification of the relationship between literature review, case studies, interviews and questionnaires. The reliability and validity of the use of the research methods are then discussed.

The third part concerns the collection of data. Methods of sampling are indicated. The sample size and the targeted respondents are stated and the rationales behind such selection are explained. Potential biases are identified, followed by recommendations for tackling such bias.

The last part concerns the methods adopted for the analysis of the data collected. Detailed analysis and calculation methods are explained.

3.1 Research questions

Hassanien and Losekoot (2002) found that hotels generally did not apply facilities management to their renovations because of their unawareness of facilities management in a study conducted in Egypt. Facilities management, despite its debatable definition and scope, is theoretically advantageous when applied to hotel renovations (Hassanien and Losekoot, 2002). To understand the application of facilities management to hotel renovations in Hong Kong, it is essential to know the extent of application first. This study hence puts its focus on the extent of the application of facilities management to hotel renovations and investigates the barriers to the application in Hong Kong.

This study concentrates on the extent of application of facilities management and the barriers of such application. Past research on this topic is rare. Few examples of the research methods for similar topics are available. As a result, the researcher consulted Mr. Nigel Summers, Director of Horwath Asia Pacific, an international hospitality consulting firm, for his invaluable opinions. Inspiration on the methodology of this study was acquired.

The first issue to be identified is the extent of application of facilities management to hotel renovations in Hong Kong. The extent of application is shown by the actual strategies applied throughout the renovations, regardless of whether or not they know those practically applied strategies fall into the scope of facilities management. Different hotels may have different degrees of application of facilities management. The comparatively insufficient application of facilities management of certain hotels may be subject to a number of reasons. These reasons are useful in inspiring the development of corresponding methods in promoting the use of facilities management in the hospitality industry. The possible reasons are as follows.

First of all, hoteliers may simply be unaware of the concept of facilities management. The concept of facilities management is still developing. Training and education on facilities management in Hong Kong has just been introduced in recent years. Hoteliers may not know the existence of facilities management strategies, and just rely on their experience in the hospitality industry.

Secondly, the development of facilities management is still in an infant stage. Even if the hoteliers realize some of the benefits of the application, they may not be confident on all strategies and just applied some which conform to their usual practice. Also, the hoteliers may not be able to react so quickly to fully apply the strategies.

Thirdly, renovations take a long time to plan and implement. Facilities management strategies inside the hotels may be still under exploration and development, yet may not have been incorporated in the past renovations being investigated in this study.

Lastly, there may be a number of barriers in the application of facilities management, such as financial constraints and cultural limitations.

After identifying the barriers to the application of facilities management, possible recommendations in resolving such problems and removing such barriers are made.

To conclude, the research questions are as follows.

- 1 What is the extent of application of facilities management to hotel renovations in Hong Kong?
- 2 Why facilities management strategies are not so widely applied if they have all the

benefits as claimed?

- 3 What are the barriers to the application of facilities management to hotel renovations?
- 4 What are the possible measures to tackle the obstacles and barriers?

In order to find the answers to the questions, a number of research methods are employed. They include the use of literature review, questionnaires, interviews and case studies. Each of which will be discussed in later sections.

One point to note is that, in this study, there is no hypothesis to be tested. The topic of this study is a fundamental exploration of the perception on the application of facilities management to hotel renovations. The concept of facilities management has not been developed to any universally acceptable extent. Little research has been carried out in this topic. Hence it is impossible to generate hypotheses in a meaning way (Fellows and Liu, 2002). Fellows and Liu (2002) advised that artificial identification of variables and assumption of causal relationship between them should be avoided. Contrary to that, the suitable research method should observe the behaviour in question. Qualitative and quantitative approaches are therefore employed in this study.

3.2 Research methods

To investigate the application of facilities management to hotel renovations in Hong Kong, four steps are established in conducting this study as listed below.

Step 1: To study and review literature regarding hotels, facilities management and

renovations in Hong Kong.

Step 2: To give out questionnaires for collection of general opinions of hotel personnel on hotel renovations in Hong Kong.

Step 3: To conduct interviews on the application of strategies of facilities management with hotel personnel who are considered the most familiar with renovations from various classes of hotels in Hong Kong.

Step 4: To analyze the interview and questionnaire findings, and compare with the findings from literature review. Case studies showing particular aspects of the topic can be obtained from detailed interviews.

The anticipated outcomes are comprehensive case studies accompanied with general trend analysis with explanations and illustration from information gathered from interviews.

Among the numerous types of research methods, four of which are adopted in this study. The use of each has different functions, strengths and drawbacks. A combination can retain the strengths of each and meanwhile minimize the drawbacks. The following sections discuss the above issues one by one.

3.2.1 Literature review

Literature search is undoubtedly an important step at the early stage of the study. It aims at potential discovery of relevant theories or previous findings. Literature, as described by Fellows and Liu (2002), is findings from research which have not yet attained the status of theory, which means principles and laws. Literature is usually findings in particular applications of theory.

Literature review is a necessity in elaborating the fundamentals of the study (Fellows and Liu, 2002). It also helps raising the interest of the readers to continue reading the subsequent parts of the study.

In the literature review, past research studies are summarized, contrasted and critically reviewed. No personal opinion is incorporated. A complete and comprehensive review of literature can help develop and give insight to the study being conducted. Information found during literature search are categorized and presented in a logical sequence in order that readers can clearly understand the basis and logic of the study. An orderly manner usually starts with the definitions of the key terms of the study. The logic of the study is then elaborated stepwise. Meanwhile, limitations are stated and explained. Critical review of past research studies is clearly presented to ease the understanding of the overall idea of the basis of the study.

After the completion of literature search and review, the data collection process can then proceed.

3.2.2 Case studies

Case studies are in-depth investigations of the renovations of targeted hotels. Unlike questionnaires and interviews in which a vast population of respondents can be obtained, case studies are particular occurrence of the topic of research (Fellows and Liu, 2002). In the case studies, a mix of quantitative and qualitative methods is adopted to show the detailed information of that particular issue selected (Bryman, 1989). Case studies often employ a

variety of data collection techniques. This makes the researcher possible to check the validity of findings using very different approaches to collection data (Bryman, 1989). The use of both quantitative and qualitative approaches allows cross-checking of data and access to different levels of reality (Bryman, 1989).

The use of case studies has an advantage of allowing the generation of new ideas (Bryman, 1989). This is partly due to the nature of case studies, which yields deep yet narrow results (Fellows and Liu, 2002). Case studies focus on a particular aspect in the research topic and investigate deep into it. Broad results are rare unless large amount of comparable case studies are carried out. This points to the chief drawback of using case study, the problem of generalization (Bryman, 1989). A prevailing view of this drawback is that, it is not possible to generalize the results of research deriving from just one or two cases, which is a common number of case studies in most research studies.

In this study, the use of case studies aims at demonstrating real world examples of typical renovation projects, which form a representative sample. The strategies for the management of hotel renovations will be the focus of the case study. In view of data collection for the case studies, interviews are used accompanied by possible collection of documentary data. Not only the hotel personnel is to be interviewed, it is hoped that representatives from the renovation contractor can also be interviewed. Separate interviews are best approaches to obtain individual views of the two parties without the influence by the presence of the counterpart. Their views are then compared and contrasted.

3.2.3 Use of interviews

This study concerns the subjective opinions of hotel professionals on the application of facilities management to hotel renovations. Views and perceptions of hotel personnel on renovations form the blood of this study. Subjective information is best obtained from personal contacts. The use of interviews is the most direct and common one.

In interviews, the interviewer can discuss with and lead the respondents, and at the same time, the interviewer can request for clarification of ideas and opinions from the respondents. In addition, interviews are interactive. The interviewer can guide the questioning and enhance the respondent's participation, and meanwhile answer questions and queries raised by the respondents. These can contribute to well-organized and clearly understood interview results. Furthermore, interviews are more detailed than questionnaires in terms of content and scope.

On the other hand, the analysis of qualitative data is more difficult than that of quantitative ones as more filtering and sorting are required (Fellows and Liu, 2002). An apparent demerit of interviews is that the image of the interviewer may produce special effects that affect the answers of the respondents. In sight of this, the interviewer of every interview in this study is the same person, asking the same set of questions.

In this study, in-person interviews are preferred to telephone interviews. Although the latter have advantages of cost-efficiency and speedier data collection, the former have fewer limitations on the types and length of question. Visual aids can also be used in in-person interviews. More importantly, additional information or document may be obtained during in-person interviews. However, telephone interviews are also expected to be used when requested by some respondents who may not be able to arrange in-person interviews.

The form of semi-structured interviews is adopted. Semi-structured interviews are the intermediate between the two extremes, structured interviews and unstructured interviews. In structured interviews, there is little scope for probing the responses by asking supplementary questions to get more details, while in unstructured interviews, the topic of study is briefly introduced and respondents answer based on the descriptions (Fellows and Liu, 2002). Semi-structured interviews can enable structured questions which are easier in obtaining clear and specific answers, and at the same time, allow additional views or supplementary data requested by the interviewer or provided by the respondents.

Lastly, interviews are best held at the respondents' workplace, which are supposed to be most favourable to the respondents. Detailed information could be obtained more easily and readily. In addition, recording the interviews can yield higher accuracy. Without the need for taking notes, the researcher can discuss with the respondents more speedily and the interview process can be smoother.

3.2.4 Questionnaires

The questionnaires aim at collecting data in the following areas:

- 1 general information on the latest renovation in the hotel including the duration, the areas affected, a description of the renovation; and
- 2 assessment of the level of importance and the extent of planning of a given list of facilities management strategies.

Self administered questionnaires are adopted in this study. Self-administered questionnaires

require the respondents to answer all on their own. Such questionnaires are often posted or emailed to the respondents. No face-to-face contact is required.

There is an apparent advantage for self-administered questionnaires. The time and cost in using questionnaires are less when compared to conducting individual interviews, in case the opinions of a large population are to be acquired. Not all targeted respondents can be available for an interview within a designated time. So it is simply practically more difficult for the researcher to interview all of them, especially when time and resources are limited.

Moreover, filling in self-administered questionnaires is usually quicker than attending interviews and in most cases requires no appointment in advance. In terms of the rate of production, questionnaires are more preferable to interviews. Furthermore, there is little, if not totally no, influence from the image or characteristics of the interviewer when the respondents are filling in self-administered questionnaires, simply due to the absence of any interviewers. Even if strong image or messages are incorporated in the questionnaires, it remains the same to every respondent as soon as every of them receive the same set of questionnaire.

However, there are a number of demerits. Respondents can read the whole questionnaire before starting to answer the first question, therefore answers to early questions may be influenced by their knowledge on the latter ones, perhaps making answers to be more consistent than they would otherwise be. Furthermore, the questionnaires may have been passed on and the researcher cannot be certain who have answered the questionnaires. The comparability may be affected (Bryman, 1989). In this study, the researcher tries to contact the personnel before sending questionnaires in order to let them recognize that they are the

targeted respondents. On top of that, follow-up calls or emails to remind them for response are essential.

An obvious demerit of the use of questionnaires is that the researcher loses control on the pattern of responses. Different respondents may interpret the same questions as different meanings, hence producing different answers. Some questions may also be left unanswered. Similarly, questionnaires may not produce data with results of strong support. This is due to the fact that questionnaires are self-completed in nature, the responses may be biased and distorted (Fellows and Liu, 2002). Another demerit concerns the reliance on the sample. Even if the sample is determined logically and accurately, only the portion, if not all, in which the respondents take the initiative to respond can be analyzed. This may lead to a query on the representativeness of the result, because the result may not be perfectly generalized to form a result that truly and fully represents the whole target group.

Other common demerits as quoted by Bryman (1989) include the fact that in case the interviewer visits the firms, in this study the hotels, additional data may be collected, which is not possible when using self-administered questionnaires.

In this study, quantitative approach is used to obtain factual data for the application of facilities management strategies, which is represented by a degree of application, or simply application or non-application. On the other hand, the qualitative approach aims at gathering the opinions of and understanding the perceptions of hotel personnel on the application of facilities management in hotel renovations. Example includes the gathering of opinions of the importance of certain strategies.

The questionnaire went through several stages of development. An analysis of literature review was first carried out, followed by a discussion of questions with the researcher's supervisor. After that, a research-oriented view of the content and assembly of as well as the approaches to the questions can be obtained (Fellows and Liu, 2002). The direction of and the approaches to the questionnaire are confirmed at this stage. After that, opinions on the questions were obtained from Mr. Nigel Summers, the director of Horwath Asia Pacific, through personal interview. The revised questions are then initially piloted and completed by a small sample of respondents, observing whether the questions are unambiguous and easy to answer. Feedbacks from this group of respondents are used for making possible improvements and adjustments to the questions. Time required for filling in is also estimated.

Closed questions, filter questions and funneling are used in the questionnaires. There are altogether eleven closed questions. A set of responses are determined by the researcher while an option of "others, please state" is provided to encourage additional opinions. This reduces the rigidity of available responses which may constrain the responses.

A filter question is employed to let certain respondents skip some questions which are irrelevant to them. This speeds respondents through the questionnaires and maintains the relevance of the questions (Fellows and Liu, 2002). Extensive use of such filter questions is avoided to minimize the annoyance.

Questions are set in a form of funnel-sequence. Questions concerning the general views on the topic are first employed, followed by questions on specific focus of areas under study. Questions at the back concern the reasons behind and the extent of importance of such opinions.

All questions are set under the principles of unambiguity, unbiased and easiness to answer. This is particularly important as no interviewer is present to help them along whenever problems arise. Simple, precise and concise language is a prerequisite in ensuring easy and clear interpretation. Every question is counter-checked to ensure they are unbiased, in order to prevent misinterpretation. The format of the questionnaires is designed to be easy to follow. Questions are grouped in topics for smooth reading and easier answering. The relationships between the questions can then be more easily recognized.

The questionnaires start with an introductory statement providing a brief picture of the study, stating the level of confidentiality, the approximate length for filling in and the benefits for participation. Moreover, contact methods, mobile phone number or email address, are included for any enquiries or clarification.

The questionnaires are emailed or posted to named individuals in the hotels. Follow-up contacts were made with non-respondents to maximize the response rate.

3.2.5 Relationship between methods adopted

In this study, literature search is first performed. Then, questionnaires are built based on the information and facts reviewed from literature. In the midway, findings from the received questionnaires are analyzed and interviews are then conducted to investigate further into the general trends found from questionnaires. Case studies are produced with findings from in-depth interviews. After all, all findings from the various data collection methods are analyzed together and conclusions can be drawn. This eventually forms a new set of literature. As a result, there exists a triangular relationship between literature, questionnaires and

interviews, if case studies are treated as a combination of questionnaires and interviews in light of data collection.

Literature review, questionnaires and interviews yield different findings which require analysis and interpretation to form a set of implications. Findings of research works previously conducted are applicable to the particular situations when the works were executed, in terms of the particular time period, the particular geographical location, the particular economic climate and the particular environment, etc. In this study, the findings from questionnaires and interviews are sets of results representing the conditions under another set of particular situations specific to the study. The relationship between the findings of this study and those of the past research works should be studied in the next step.

The apparent advantage in adopting such multiple data collection methods is the acquisition of the benefits of all these data collection methods, and at the same time, minimization of the weaknesses of using either method alone. In this study, both qualitative and quantitative approaches are taken. As mentioned before, the use of cases studies alone yields deep but narrow results, while the use of questionnaires alone gives broad and general findings only. The combination of qualitative and quantitative approaches can reduce drawbacks of each individual approach, obtain their advantages and finally result a multi-dimensional view of the topic (Fellows and Liu, 2002).

Moreover, with the use of both quantitative and qualitative approaches, areas of convergence can be found with both sets of data pointing to a common finding. Bryman (1989) suggested that divergent findings emerged as well. Questionnaires may not include certain elements which are discovered in interviews. The questionnaires can provide data on general attitudes,

while the interviews reveal why the attitudes are held and how respondents come up to those opinions. This helps solve the problems of generalization of this study which would otherwise occur when a single data collection method is adopted.

Another advantage in adopting such multiple data collection methods is the enhanced validity compared to the use of single data collection method, where the validity of a measure refers to whether or not the measure really relates to the concept claimed to measure (Bryman, 1989). Fellows and Liu (2002) described validity as the likely truth of a hypothesis. Although this study does not have a hypothesis, validity is still an important issue as to verify whether or not the research methods are valid. There exist several types of validities. As far as this study is concerned, statistical inference validity, external validity and convergent validity are recognized and discussed below.

Statistical inference validity is high when the sample represents the population well (Fellows and Liu, 2002). In this study, as the population of hotels which has undergone renovations is small, the sample size is equivalent to the whole population under investigations. Statistical inference validity is achieved.

External validity refers to the extent of generalization of the findings over different circumstances (Fellows and Liu, 2002). Owing to limited time, the data collection process can only be administered once. Findings are hence based on the same circumstances which are characteristic of the current economic climate and business environment. As a result, there is a limitation on external validity in this study.

Convergent validity is also concerned in this study. It seeks to demonstrate that a particular

way of measuring a concept converges with other measures adopted. Convergent validity can be achieved by adopting more than one method of data collection (Bryman, 1989). In this study, as questionnaires, interviews and case studies are adopted as data collection methods. Such use of both qualitative and quantitative approaches can enhance convergent validity of the study.

Bryman (1989) referred reliability to the consistency of a measure. Reliability comprises two elements: external and internal reliability. Internal reliability refers to the degree of internal consistency of a measure, while, external reliability refers to the degree to which a measure is consistent over time. Bryman (1989) suggested the most obvious way of establishing reliability is to administer a measure on two different occasions and to examine the degree to which respondents' scores are consistent between the two. However, if the period of time between the two is close, the respondents may be able to recall the initial responses. This study has a preset period of time for completion, which is approximately one year. If data is collected twice or more, respondents are likely to recall their initial responses within such short time span. Ignoring the possibility of refusal of such practice by respondents, it is considered to be highly unpractical and of little use for administering a measure twice.

3.3 Data collection

Besides the choice of research methods, there are other considerations in the data collection process. Theoretically, there exist numerous data to be collected, however it is almost impossible to target on collecting all. The limitations of time and costs are the common considerations in determining the sample size. More importantly, sampling is crucial in terms

of its influence on the types and value of the data collected, as well as the response rate. Hence, it is an essential step to carefully consider the sampling issues.

In the following sections, the inclusion and exclusion in sampling are explained. The sample size is identified and the potential biases in the sample are discussed. Possible adjustments or recommendations are suggested.

3.3.1 Sampling

Sampling aims to provide a practical means of facilitating data collection to be carried out while ensuring the sample represents the population well (Fellows and Liu, 2002). The representativeness of a sample can only be certain with a survey of population. Therefore the first step is to define the population.

In this study, not all hotels have undergone renovations, as some hotels may be newly built in recent years. An initiate check of the actual population was done in two ways. Firstly, internet search was conducted to identify the year of latest renovations and the year of establishment. The second step was direct enquiries to general hotlines or emails of hotels to ask directly. Both methods are equally essential as not all hotels will answer such enquiries.

This study researches the application of facilities management to hotel renovations in Hong Kong. A finer focus is placed on the renovations with continuous occupancy. The targeted interviewees are therefore with the following criteria:

- 1 hotels ranked 3- to 5-star under the Richard Ellis Research Classification System;
- 2 hotels with major or master renovations undergone whilst the hotels stayed open for

business; and

- 3 hotel general managers or chiefs of engineering departments.

In connection to the first criterion, one must notice that 2-star hotels, hostels and guest houses are excluded in the sample. The rationale is that hotels ranked 3-star or above are more easily compared, in terms of facilities, operations, and business scale. The number of facilities and operations offered by these targeted hotels should be similar in order that the impacts of renovations to the hotel's operations are more comparable. Also, similar business scale means that the hotels serve the similar variety of guests, experience similar market forces and interpret market trends similarly. In addition, hotels ranked 3-star or above are more likely to be owned by chain companies. Records of renovations are expected to be more detailed and well-organized than those individually owned as the former ones may need to submit reports or share information to the mother company.

The second criterion indicates the exclusion of minor or cosmetic renovations. The results will definitely be more fruitful if the renovations are more complex, last long enough, as well as interrupt larger areas and more hotel operations. Major and master renovations are more likely to be in comparatively larger scale and higher complexity, and involve more personnel and planning than minor or cosmetic renovations. Therefore major and master renovations are preferred.

Moreover, no parameter of number of years within which renovations were undergone is set. It is possible that some hotels with renovations undergone too long time ago may not retain information on those renovations, or the personnel responsible for such renovations may have been changed after the renovations. However, any limitation on the time span may upset the

response rate. Hence, all possible data is sought first and adjustments will be done in the process of data analysis to improve the comparison. For example the extent of application of facilities management of different hotels may be affected by the different degree of emergence of the concept of facilities management during the renovations in different periods of time. Adjustments or considerations may include the development of and the knowledge on facilities management and the advancement in technology for precautionary measures such as noise control.

The third criterion concerns the position of the interviewees. Hotel general managers and chiefs of engineering department are targeted for interviews. It is because decisions of major renovations very often involve high management level (Hassanien and Losekoot, 2002). Also the hotel general manager is the highest authority who is supposed to be the one who gets hold of all information concerning the hotel. The manager is expected to know almost everything as every department in the hotel reports to him or her. Hence, the hotel general manager should be the most knowledgeable personnel. On the other hand, most hotels in Hong Kong have an Engineering Department or the similar. The chief of the engineering department, namely the chief engineer or the director of engineering, is often, if not always, responsible for the planning and supervision of renovations. As a result, the hotel general managers and the chiefs of engineering departments are the most suitable personnel who are knowledgeable of all data concerning hotel renovations.

The last point to note in the sampling criteria is that it seems that an ideal comparison should target on only one class of hotels, say 5-star hotels. However, it is impractical for two main reasons. Firstly, if one class of hotel is to be chosen, that is either 3-star, 4-star, 4.5-star or 5-star hotels, the sample size will be too small which means a smaller chance in finding hotels

of that designated class which is eligible and willing to participate in this study. Secondly, there is no formally published list of classification of hotels in Hong Kong. Some hotels may be ranked with approximation by the public.

The sampling criteria are intended to be not restrictive, as it is essential for striking a balance between reasonable comparables and good response rate. In order to get good response rate, that is the ratio of completed questionnaires to the number in sample eligible (Frey and Oishi, 1995), two measures are used. Firstly, follow-up calls or emails are good and direct reminders. They are usually made 4 to 7 days after the receipt of invitation or previous follow-up. Secondly, assurance of confidentiality in the invitation to interview and questionnaires can also help relieve the fear of the respondents (Frey and Oishi, 1995). The respondents generally feel more secured if confidentiality is ascertained and introduction of the interview or questionnaire provides sufficient information about the study.

There are currently altogether 71 hotels ranked 3- to 5-star in Hong Kong (Accommodation directory of Hong Kong, 2004). 29 hotels are identified to have undergone renovations in previous eight years, either found from internet search, through enquiry contacts or from data given by Horwath Asia Pacific. The remaining hotels did not give response to the enquiry, while internet search did not show any hints for renovations undergone. Questionnaires are sent to the 29 hotels while establishment of contacts with non-respondents are continuously tried.

3.3.2 Potential bias of sampling

The sample assumes that the targeted hotel personnel are comparable. However, they may

have different levels of working experience in the hospitality field, varying knowledge on the concept of facilities management, and different experience in hotel renovations. These are inherited characteristics of different respondents and can hardly be changed. In order to minimize this problem, the researcher would try to give as much background information as possible to ensure all of the respondents can have a clear idea of what the research and the topic are about.

3.4 Data analysis methods

This part focuses the analysis of data. Before the data analysis stage, the scales for ranking purposes in the questionnaires are determined, which affect the data analysis methods. In the data analysis stage, various statistical analysis methods are employed to give different perspectives on the findings of the study.

The uses of scales and statistics are discussed below.

3.4.1 Use of scales

In this study, the extent of importance and the level of planning of a list of facilities management strategies are to be ranked by the respondents in the questionnaires. The scoring system employed is ordinal scales. Ordinal scales are used in questions which call for ratings of quality, agreement and rankings (Fink, 1995a). A 5-point Likert scale of agreement is employed to represent the extent of application of facilities management strategies. An odd number scale is used to allow neutral opinions which may partly represent the unawareness of the issues. The scale is easy-to-use and is sufficiently well-known to ease answering. The

results obtained from using this scale can be easily compared and analyzed.

3.4.2 Use of statistics

Statistics is the mathematics of organizing and interpreting numerical information (Fink, 1995a). The results of statistical analyses are descriptions, relationships, comparisons and predictions

There are several techniques employed in this study.

Step 1: Tallying

Step 2: Calculation of the means, standard deviations, ranges

Step 3: Exploration of any correlations

Step 4: Creation of and presentation by charts and tables

The first step for grouping the data collected is by tallying. A tally or a frequency count is a computation of data fit into a category, usually in form of numbers and percentages (Fink, 1995a).

Measures of central tendency and measures of dispersion are employed to figure out the centre or average of a distribution of findings, and the range (Fink, 1995a). These measures are descriptive statistics which include the mean, median and mode depicting central tendency, and the range and standard deviation depicting the dispersion.

Mean is the arithmetic average of observations. However, means are sensitive to extreme values in a set of observations. Hence more techniques must be employed together to fully represent the set of observations. Median, the middle observation, can be used accompanied

with mean as it is not as sensitive as the mean to extreme values. Moreover, in order to find the most popular value of a set of observations, mode can be employed which is the value of the observations that occurs most frequently. Fink (1995a) summarized the conditions where the mean, median and mode are used. He suggested that the mean can be used for approximately symmetric distributions, while the median can be used for skewed distribution. The mode can be used when the distribution has two or more peaks and the prevailing view, characteristics or quality are being studied.

When measuring the spread of a set of observations, range and standard deviation are employed. Range is the difference between the largest observation and the smallest. However, it alone is insufficient to describe the distribution within the two extremes. Standard deviation is often employed and forms an essential part of many statistical tests (Fink, 1995a). It is a measure of the spread of data about their mean. In other words, it is the average distance that the average score is from the mean.

The relationships between two variables can be estimated through correlation. Comparisons can be made between two variables using statistical significance, showing the statistical meaning of the difference between the variables (Fink, 1995a). Cause-effect relationship cannot be obtained from correlations. Correlations suggest whether or not two variables have significant relationships.

CHAPTER 4 FINDINGS AND IMPLICATIONS

Chapter introduction

In this chapter, the findings are reported and grouped in statistical and organized manners. Interpretations are incorporated in these findings in a systematic order.

This chapter contains three sections. In the first section, the response rate is calculated and reported. A description on the respondents is also given.

The second section concerns the findings from questionnaires and interviews, where those from questionnaires are presented in charts and figures with opinions of hotel personnel quoted in corresponding topics. Implications of the findings are subsequently discussed and interpreted. Lastly, the third section gives a summary to the findings and the implications.

4.1 Response rate

Among the 71 hotels ranked 3-star or above, 6 hotels replied that they either had no renovations before or they had no planning in renovations. 29 were found to have renovations undergone or recently undergoing, from internet search and email enquiries. Questionnaires were sent to these hotels through email and by post based on their preference, and a total of 15 was returned after two follow-up reminder emails or phone calls. The response rate was 51.7%. Among the 15 hotels which helped filling in questionnaires, 6 accepted the invitation for interviews. The interviews were done between November and March.

The respondents for the questionnaires were mostly chiefs of engineering, while interviewees in interviews were mostly hotel general managers. All interviews took place in the interviewee's workplace.

4.2 Findings and implications

From literature search and the process of piloting of questionnaires, questions and relevant choices were set. In this part, the findings are categorized and presented in forms of charts and tables. Implications are discussed after the descriptions of each finding.

4.2.1 Barriers to renovations

The questionnaires asked respondents to indicate the main barriers to renovations. Five main barriers to renovations in hotels in Hong Kong identified include:

- 1 financial constraints;

- 2 difficulty in finding an optimum time to renovate;
- 3 the lack of experience in renovations;
- 4 the lack of suitable manpower for renovations or handling renovations; and
- 5 unwillingness from owners.

An additional item *fothers, please specify*• was provided.

This question aimed at finding out the actual barriers or obstacles faced by the hotels in renovations as well as observing the potential barriers in applying facilities management strategies. The results are indicated in Figure 4.1.

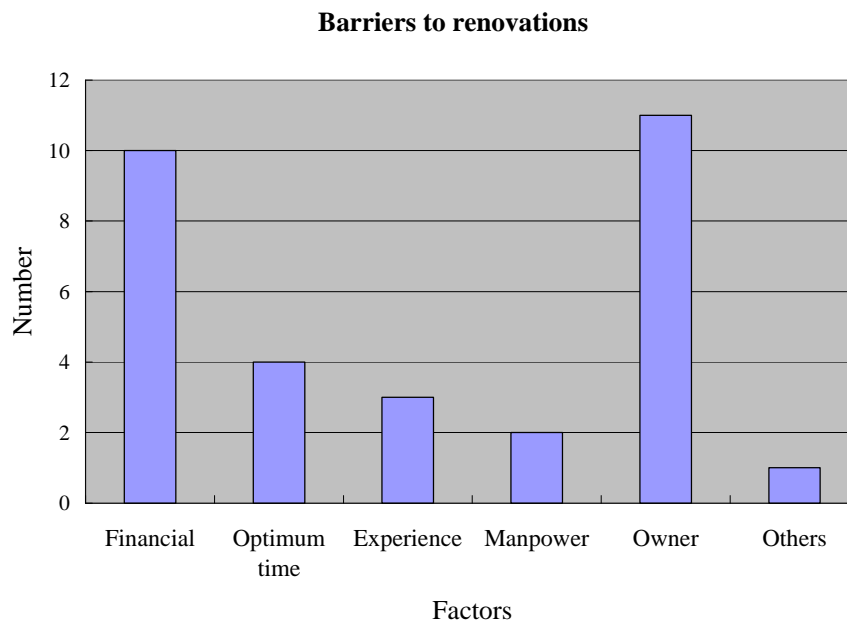


Figure 4.1 Total number of individual barriers faced by hotels

11 out of 15 respondents (73.3%) stated that owners were the main barriers to renovations, while 10 out of 15 (66.7%) mentioned financial constraints as shown in Figure 4.1. Interviews with hotel managers revealed that owners generally did not value the importance of renovations. Thorough discussions and elaborations were required to convince owners the genuine need for renovations. On the other hand, operating a hotel is definitely a business.

When investing in renovations, it was obvious that one would expect a return on investment. Renovations were front loaded, in which a substantial sum of money was invested and return would be yielded in the long run.

The difficulty in finding an optimum time to renovate, the lack of experience in renovations and the lack of suitable manpower responsible for renovations were less frequently considered as main barriers to renovations. The reason behind, found from interviews with hotel personnel, was the fact that renovation projects were contracted out. Very often, experience in renovations, manpower for renovations, extra work load for hotel staff were simply not treated as barriers.

One response to *fathers, please specify*• provided an additional barrier of *fthe difficulty in finding the right designer*•. Substantial search was needed and the process was time-consuming. The interviewee described it as *fa task with uncertainty*•. The quality and experience of the designer would certainly affect the standards of the design and the image of the hotel.

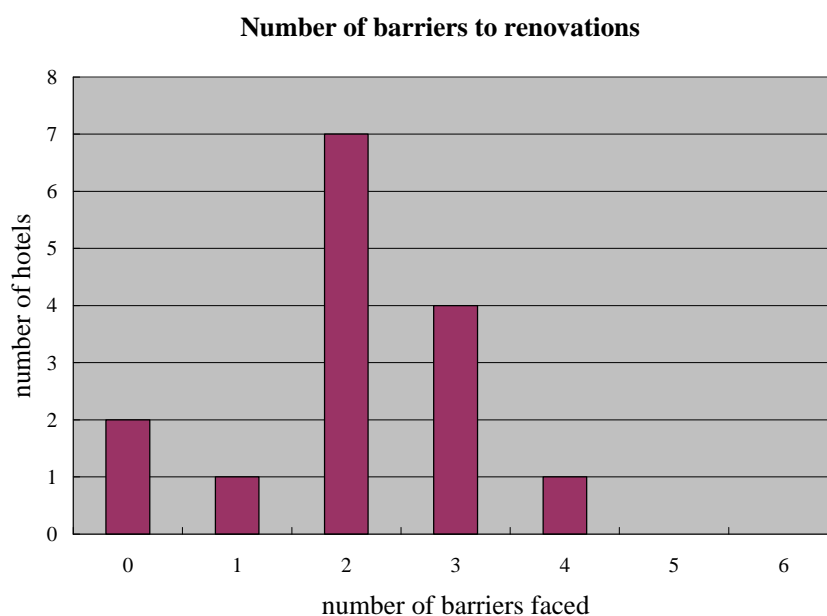


Figure 4.2 Number of barriers faced by individual hotels

In Figure 4.2, nearly half of the respondents faced two barriers to renovations (average = 2.07). An interesting phenomenon appeared. Two of the respondents faced no barriers. The two hotels were both owned by large-scale well-established companies and were ranked 5-star. The reasons behind the barrier-free phenomenon were suggested to be the financial strength of the mother company, the knowledge and understanding on the importance of renovations, as well as the experience in renovation projects from the subsidiaries.

Correlations

		Financial	Optim um tim e	Experience	M anpower	O wner
Financial	Pearson C orrelation	1	.107	.354	-.139	.533*
	Sig. (2-tailed)	.	.705	.196	.622	.041
	N	15	15	15	15	15
Optim um tim e	Pearson C orrelation	.107	1	.075	-.237	.023
	Sig. (2-tailed)	.705	.	.789	.396	.936
	N	15	15	15	15	15
Experience	Pearson C orrelation	.354	.075	1	.294	-.075
	Sig. (2-tailed)	.196	.789	.	.287	.789
	N	15	15	15	15	15
M anpower	Pearson C orrelation	-.139	-.237	.294	1	-.207
	Sig. (2-tailed)	.622	.396	.287	.	.459
	N	15	15	15	15	15
O wner	Pearson C orrelation	.533*	.023	-.075	-.207	1
	Sig. (2-tailed)	.041	.936	.789	.459	.
	N	15	15	15	15	15

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.1 Correlations between different barriers to renovations

The correlations between different barriers to renovations were found as shown in Table 4.1. It revealed that no two barriers showed significant correlations except for the financial constraints and owner. The correlation was significant at the 95% confidence level. Interviews suggested a reason for the positive correlation, that owners expressed high concern with financial implications of renovations. They were the investors who determined and approved the proposed expenditure. A return to investment was always expected and focused on.

4.2.2 Reasons for renovations

The questionnaires provided six reasons for hotel renovations in Hong Kong for selection as found from literature and piloting. They include:

- 1 to extend the useful life of the hotel;
- 2 to meet competition in the hotel industry;
- 3 to improve the current image of the hotel;
- 4 to retain existing guests;
- 5 to attract new guests; and
- 6 to improve the operation efficiency of the hotel.

An additional item of *fother, please specify*• was included to provide opportunity to express additional reasons.

This question aimed to observe whether there was an application or awareness of facilities management strategies. The results are indicated in Figure 4.3.

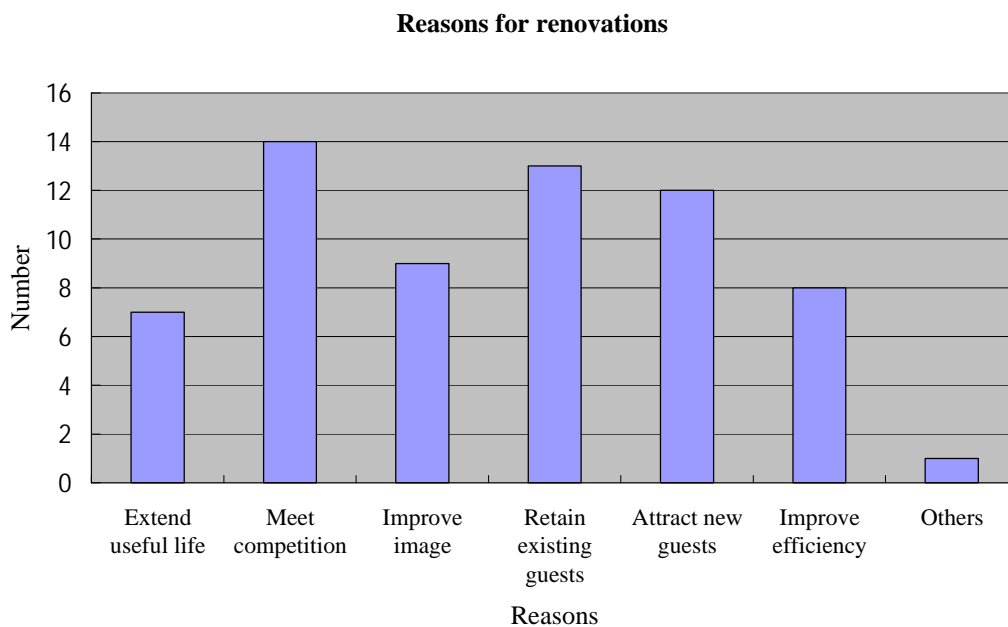


Figure 4.3 Total number of individual reasons for renovations

The three reasons for renovations most frequently considered by the hotels were to meet competition, to retain existing guests and to attract new guests as shown in Figure 4.3. The additional reason given in *other, please specify* was owner's insight. It was told in an interview that, the owners might have walked around and noticed the current market trend in the hotel industry, hence initiating the idea of renovating their own hotels in order to remain competitiveness.

The reasons *to extend the useful life of the hotel* and *to improve the operational efficiency* were the only ones concerning the facilities and operations of the hotel. They had relatively lower scores which might represent a fact that hotels were generally unaware of the facilities aspect of the hotel. In addition, interviews revealed an opinion that some hotels were still in a perfectly new and structurally sound condition. Therefore in those cases, *to extend the useful life of the hotel* was not the reason to renovate.

Correlations

		Extend useful life	Meet competition	Improve image	Retain existing guests	Attract new guests	Improve efficiency
Extend useful life	Pearson Correlation	1	.250	-.055	-.026	-.200	.607*
	Sig. (2-tailed)	.	.369	.847	.926	.474	.016
	N	15	15	15	15	15	15
Meet competition	Pearson Correlation	.250	1	-.218	-.105	-.134	-.250
	Sig. (2-tailed)	.369	.	.435	.710	.635	.369
	N	15	15	15	15	15	15
Improve image	Pearson Correlation	-.055	-.218	1	-.320	-.408	.327
	Sig. (2-tailed)	.847	.435	.	.245	.131	.234
	N	15	15	15	15	15	15
Retain existing guests	Pearson Correlation	-.026	-.105	-.320	1	.784**	-.367
	Sig. (2-tailed)	.926	.710	.245	.	.001	.179
	N	15	15	15	15	15	15
Attract new guests	Pearson Correlation	-.200	-.134	-.408	.784**	1	-.468
	Sig. (2-tailed)	.474	.635	.131	.001	.	.079
	N	15	15	15	15	15	15
Improve efficiency	Pearson Correlation	.607*	-.250	.327	-.367	-.468	1
	Sig. (2-tailed)	.016	.369	.234	.179	.079	.
	N	15	15	15	15	15	15

*. Correlation is significant at the 0.05 level (2-tailed).

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

Table 4.2 Correlations between different reasons for renovations

The correlations between different reasons for renovations were shown in Table 4.2. There were two significant correlations identified. Firstly, the correlation between *f*_{to extend the useful life of the hotel} and *f*_{to improve the operational efficiency of the hotel} was significant at the 95% confidence level. These two reasons fell into the category of facilities aspects and the positive correlation might indicate that renovations aiming to extend the useful life of the hotel might also improve the operational efficiency at the same time. This showed the consistent attitudes of hotel personnel towards the facilities aspects.

The correlation between *f*_{to attract new guests} and *f*_{to retain existing guests} was significant at the 99% confidence level. The highly significant positive correlation indicated that the adoption of renovations as a strategy was aimed at expanding the market shares rather than changing or maintaining the focus and target groups. Other correlations were not significant which in turn showed no significant relationship between other combinations of reasons.

4.2.3 Approaches to budget for renovations

Whether or not there exist particular approaches to the budget for the renovations was asked in the questionnaires. Three answers were provided for selection: *f*_{yes}, *f*_{yes, but subject to financial status} and *f*_{no}. This question aimed to know whether facilities management strategies concerning budgeting were applied.

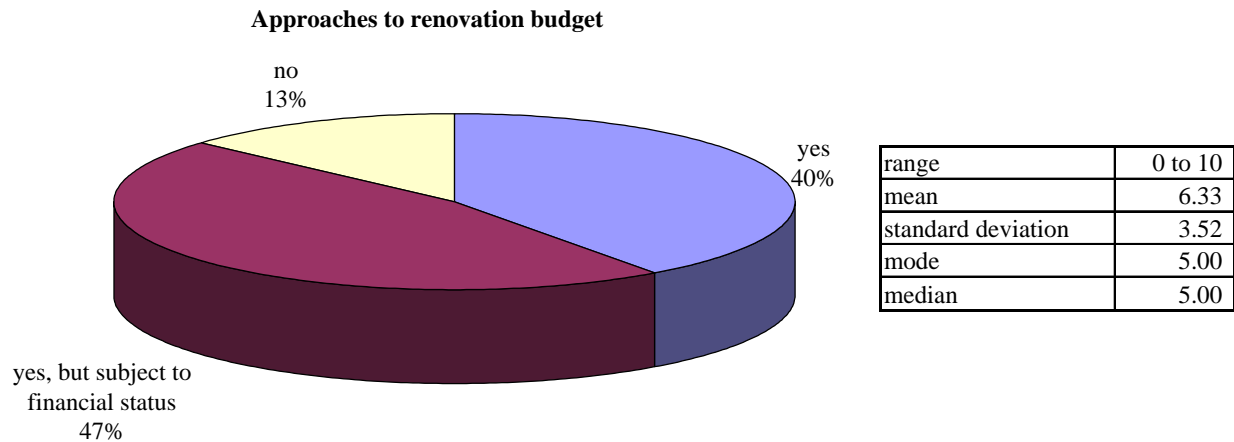


Figure 4.4 Adoption of particular approaches to renovation budget

Figure 4.4 showed that 87% of the respondents had particular approaches in arriving at a budget for the renovations. 47% expressed that the financial status of the hotel in the actual implementation stage of the renovations might affect the original budget. Interviews revealed views of hotel personnel that certain planned renovation activities of lower importance or less urgency might be postponed or even cancelled due to the financial constraints at the planning stage of the renovations. Some might even narrow down the scope of renovations. On the other hand, hotels owned by chain companies usually established sinking funds in which money was extracted from annual net profit for renovation purposes. Some might sign management contracts with terms like *gross profit x%* for upgrading the hotel. However, generally speaking, independent hotels did not have sinking funds for renovations.

4.2.4 Formal guidelines

The questionnaires asked the existence of a set of formal guidelines for the contractors to follow during renovations as well as the necessity in constructing such. Answers were restricted to *yes* or *no* only. The questions aimed at observing the application of facilities management strategies as well as the awareness of the necessity of the strategies.

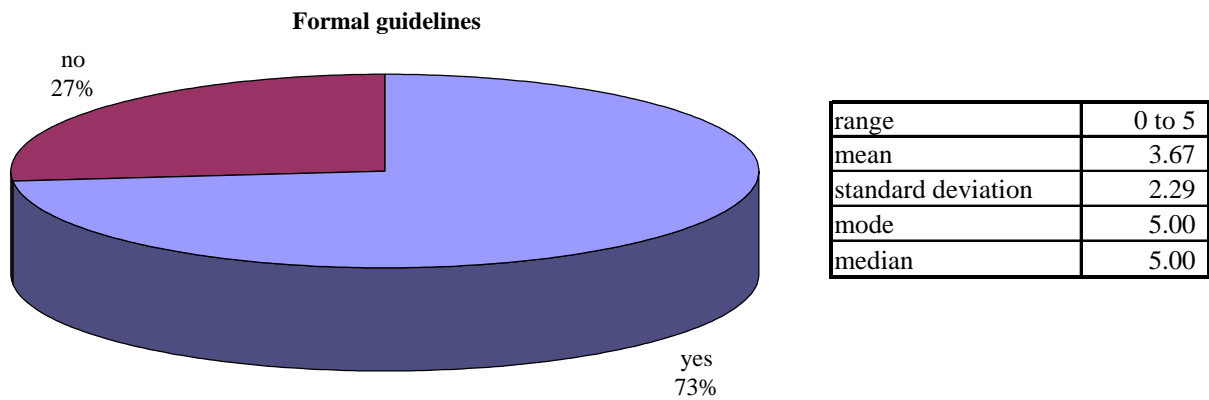


Figure 4.5 Existence of a set of formal guidelines to contractors during renovations

73% of the respondents had a set of formal guidelines to contractors as shown in Figure 4.5. The non-existence of guidelines to contractors was surprisingly high. Formal guidelines were generally considered important in hotels, as found in interviews, as to restrict and control the behaviours of construction workers in the hotel premises. Behaviours in hotels should be different from construction sites and construction workers were considered less careful than hotel staff. The non-existence might be due to the possibility that the responsibility for the issuance of guidelines rested on the managing contractor, but not the hotel.

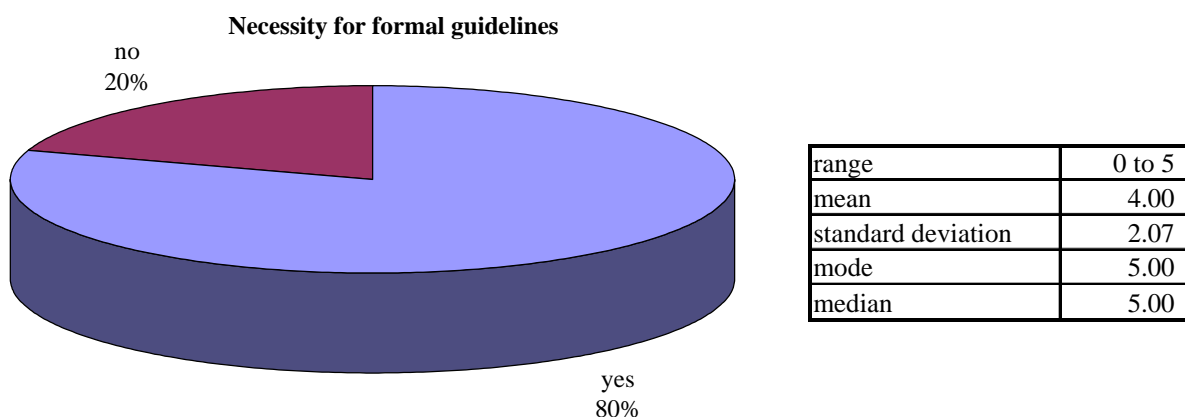


Figure 4.6 Perception on the necessity for the establishment of a set of formal guidelines to contractors during renovations

80% of the respondents agreed that there was a necessity in establishing a set of formal guidelines to contractors (see Figure 4.6). The other 20% might represent an unawareness of labour control in renovations in hotels. Some hotel might rely on the managing contractor to issue guidelines and control the workers' behaviours. They might also think that the behaviours of the workers were established for a long time and could hardly be changed through the issuance of guidelines. Moreover, guidelines might be interpreted as restrictions on freedom. Consequently, opposing forces might result. Hence guidelines were not necessary in this sense.

Correlations

		there exist formal guidelines	a need for formal guidelines
there exist formal guidelines	Pearson Correlation	1	.829**
	Sig. (2-tailed)	.	.000
	N	15	15
a need for formal guidelines	Pearson Correlation	.829**	1
	Sig. (2-tailed)	.000	.
	N	15	15

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

Table 4.3 Correlations between the existence of and necessity for a set of formal guidelines to contractors during renovations

The correlation between the existence of and the necessity for a set of formal guidelines to contractors was significant at the 99% confidence level as shown in Table 4.3. The strong relationship might be explained by the influence of the perception of a necessity in establishing the guidelines to the actual establishment and implementation. An interesting point to note was that there existed a respondent who did not have a set of formal guidelines yet agreeing on the necessity in establishing such. The reasons behind the non-application of specific guidelines in the previous renovation projects of the respondent might be the facts that the respondent was constructing one at the moment of interview, or the respondent found the contractor principled or reliable such that guidelines were not needed, or there was little need in constructing one as construction work was small-scaled, or such previous renovation

project involved construction workers experienced in working at hotels.

4.2.5 Inputs from and communication with guests, staff and main contractor

This part involves discussions of input before renovations, of communication during renovations, and of the combinations of the above two. The questions aimed to know the attitudes of hotel personnel on the customer-focused management as well as the application of facilities management strategies in communication terms.

Input before renovations

The questionnaires asked about the level of input from three different parties to the renovation project before the commencement of the works: the guests, hotel staff and main contractor. Five choices were provided for selection: *f*very high•, *f*high•, *f*medium•, *f*low• and *f*very low•. The results are presented in Figure 4.7, 4.8 and 4.9.

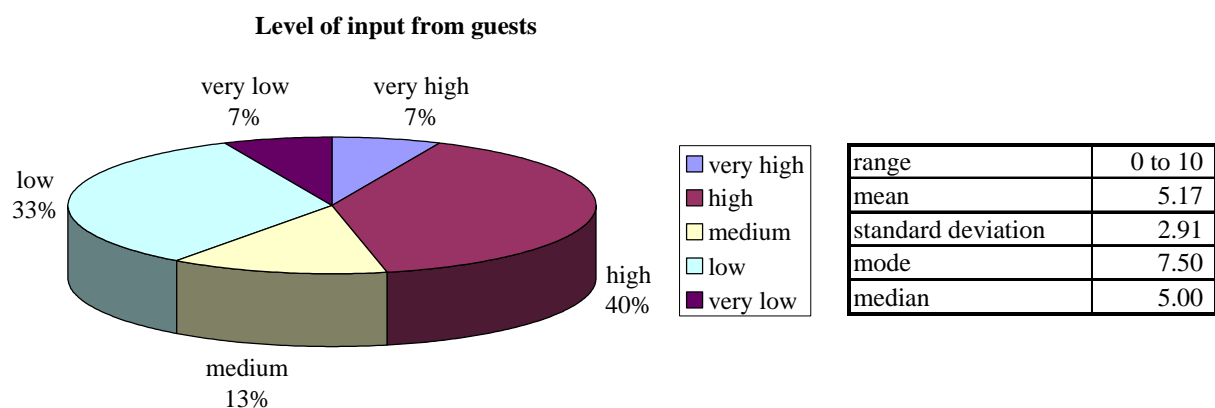


Figure 4.7 Level of input from guests before renovations

From Figure 4.7, *f*high• level of input from guests contributed 40%, compared to *f*low• level of input which contributed 33%. This observation suggested a rather wide-ranged level of

input from guests, again clearly shown in the mode and median which did not equate to each other. This might be due to different practices adopted in different renovation projects of the hotels. For example, if the renovation area was the restaurant or the lobby, guests' opinions might be very limited. However, if the renovation area was guest rooms, input from guests would then be very useful. On the other hand, the *low* or *very low* responses might reflect the unawareness of the importance of guests input and the relationship of input with guest satisfaction.

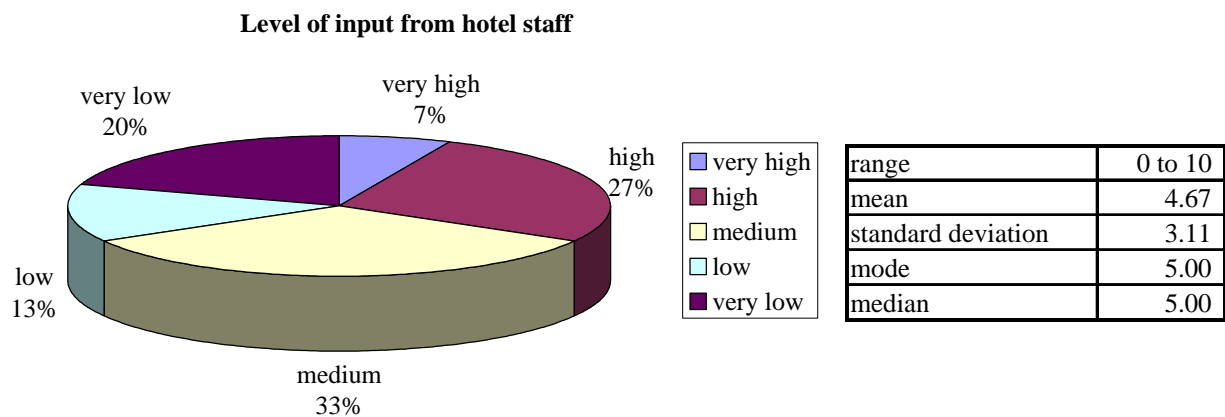


Figure 4.8 Level of input from hotel staff before renovations

34% of the respondents had *high* or *very high* level of input from hotel staff, with 33% *medium* and 33% *low* or *very low* as shown in Figure 4.8. The level of input from hotel staff was again wide ranging. The level of input from hotel staff reflected the level of awareness of operational efficiency issues of the new designs and configurations. Some views of hotel personnel obtained from interviews showed that, every renovation project should be highly related to the operations of hotel staff. Hence their input would be best used to ensure the operational efficiency as well as the success in renovations. Staff should be encouraged to express how they felt about the workplace and what they heard of from guests. Design drawings should be shown to the Housekeeping Department, the Sales and Marketing

Department and the Engineering Department to collect opinions from various viewpoints. An interviewee specifically mentioned the importance of staff input. It could help in staff retention, the enhancement of loyalty as well as the establishment of pride and a sense of ownership to the hotel. For those answering *low* or *very low*, an interview showed an opinion that inputs from staff were not required as staff *just need to stay at their posts*. On top of that, hotels might be unaware to the importance of input from guests or the relationship between the input and the operational efficiency.

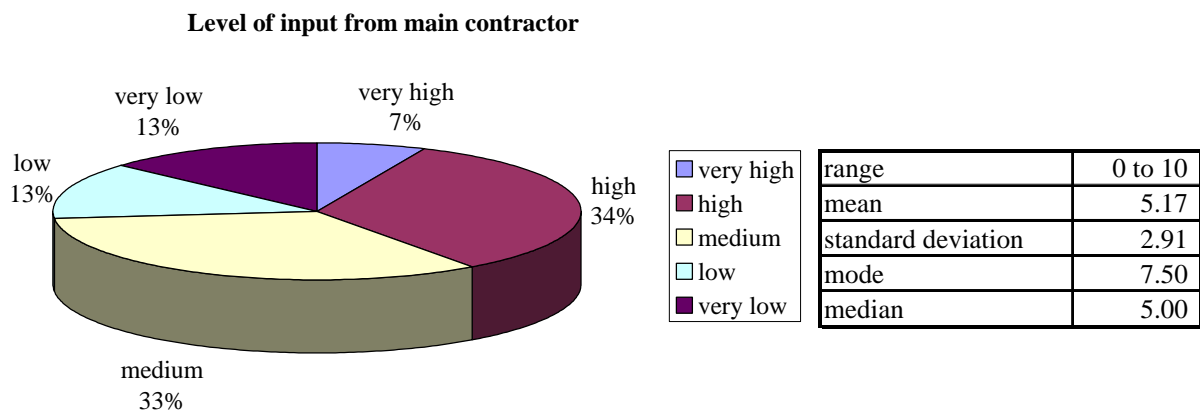


Figure 4.9 Level of input from main contractor before renovations

40% of the respondents had *high* or *very high* level of input from the main contractor, while 33% *medium* as well as 26% *low* or *very low* as shown in Figure 4.9. Varying opinions were again sought. This might be due to the different natures of the renovation projects undergone in different hotels. Some projects might be more complicated in nature such that the level of input from main contractor was essentially higher. However, there was a possibility that the hotels answering *low* or *very low* neglected the importance of input from main contractor which in turn reflected the unawareness of the issue of constructability.

Correlations

		input from guests	input from hotel staff	input from m ain contractor
input from guests	Pearson Correlation	1	.549*	.049
	Sig. (2-tailed)	.	.034	.862
	N	15	15	15
input from hotel staff	Pearson Correlation	.549*	1	.500
	Sig. (2-tailed)	.034	.	.058
	N	15	15	15
input from m ain contractor	Pearson Correlation	.049	.500	1
	Sig. (2-tailed)	.862	.058	.
	N	15	15	15

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.4 Correlations between the levels of input from different parties

The correlation between the levels of input from guests and from hotel staff was significant at the 95% confidence level while other correlations were all insignificant, as shown in Table 4.4. The reasons behind the strong relationship suggested might be the fact that the hotel industry was a services industry. It was customer-focused and service-oriented. Hotel personnel might perceive that inputs from guests and staff would play an important role in the success of the business, while the former represented the market trend and the latter reflected operational efficiency.

Communication during renovations

Beside the level of input from the three parties, the extent of communication between the hotel and the three parties, the guests, hotel staff and main contractor, during the renovation period was also asked. Three answers were provided: *f*etailed•, *f*average• and *f*not detail•. The results are presented in Figure 4.10, 4.11 and 4.12.

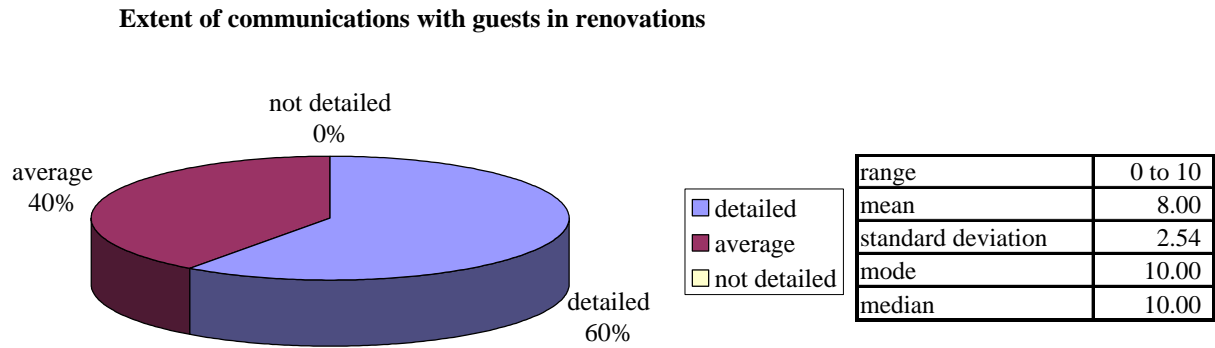


Figure 4.10 Extent of communications with guests during renovations

60% of the respondents had detailed communication with guests in renovations, while 40% had average level of communication and none with not detailed communications as shown in Figure 4.10. The fact that the majority had detailed communication might be due to the customer-focused nature of the hotel. Guests dissatisfaction was required to be minimized hence many items were required to be communicated in advance. The extent of communication was needed to be detailed too because guests were very sensitive to what they were and were not told, according to interviews with hotel personnel. Communications to guests could include indirect ones such as notifications to tour operators or travel agents of the renovations in advance. Closure of certain facilities as well as offers of discounts were communicated. On the other hand, guest opinions were sought through questionnaires which were common in hotels. Appendix III shows a typical example of guest questionnaire.

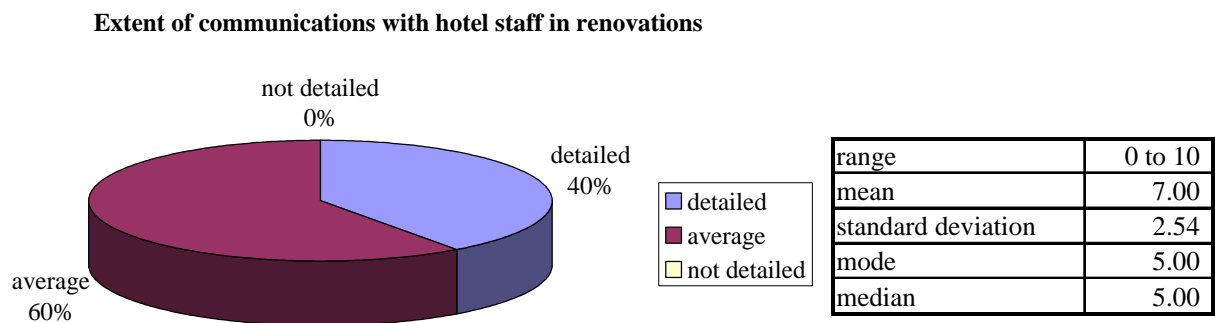


Figure 4.11 Extent of communications with hotel staff during renovations

60% of the respondents had average extent of communications with hotel staff during renovations, while 40% had detailed ones and none had not detailed ones as shown in Figure 4.11. Although many reported detailed communications with hotel staff, the majority had average extent of communications only. This showed an insufficient degree of communications with hotel staff. Staff walked around, provided services and answered enquiries from guests. It was necessary to let every staff know every weighty and updated item in the renovation works related to their positions, in order that they could be prepared to respond to unexpected circumstances. For instance, staff at kitchen should be well-informed in advance when water supply might be affected for a certain period of time owing to renovation works. Communications were highly important. This result might reflect the unawareness of the importance of communication with hotel staff.

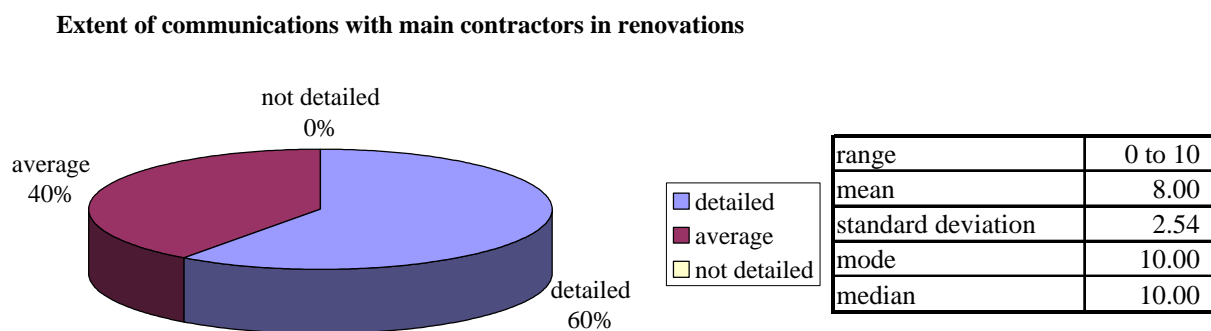


Figure 4.12 Extent of communications with main contractors during renovations

60% of the respondents had detailed communication with main contractor during renovations, while 40% had average extent of communication and none with not detailed communications as shown in Figure 4.12. Detailed communication was necessary as the hotel being renovated was still in business. Uncertainties and changes often happened, hence timely and frequent communication was necessary. The extent of communication, either being detailed or average, was highly dependent on the perception of the respondents.

Correlations

		com m unication w ith guests	com m unication w ith hotel staff	com m unication w ith m ain contractor
com m unication w ith guests	Pearson C orrelation	1	-.167	-.111
	Sig. (2-tailed)	.	.553	.693
	N	15	15	15
com m unication w ith hotel staff	Pearson C orrelation	-.167	1	.111
	Sig. (2-tailed)	.553	.	.693
	N	15	15	15
com m unication w ith m ain contractor	Pearson C orrelation	-.111	.111	1
	Sig. (2-tailed)	.693	.693	.
	N	15	15	15

Table 4.5 Correlations between the extents of communications with different parties

None of the correlations between the levels of communications of individual parties was significant as shown in Table 4.5. This showed that the levels of communications of the hotel with different parties were not constant, that meant there did not exist a common practice in communicating to all outsiders and staff. Hence, the level of communications depended on other factors, for instance the characteristics of the parties concerned as well as the nature and the purposes of communications.

The relationship between input and communication for the parties

The relationship between input and communication for the individual parties were analyzed in Table 4.6, 4.7 and 4.8 below.

Correlations

		input from guests	com m unication w ith guests
input from guests	Pearson C orrelation	1	.775**
	Sig. (2-tailed)	.	.001
	N	15	15
com m unication w ith guests	Pearson C orrelation	.775**	1
	Sig. (2-tailed)	.001	.
	N	15	15

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

Table 4.6 Correlations between the input of and communication with the guests

The correlation between the level of input from guests and the level of communication with guests was significant at the 99% confidence level as shown in Table 4.6. The strong relationship was related to the importance of guests in the hotel industry. Hotels were perceived to be customer-focused and service-oriented. The ideal case was that the guests would be satisfied with the output of the renovations. Hence, throughout the process, views of guests should be taken into account.

Correlations

		input from hotel staff	com m unication w ith hotel staff
input from hotel staff	Pearson Correlation	1	.656**
	Sig. (2-tailed)	.	.008
	N	15	15
com m unication w ith hotel staff	Pearson Correlation	.656**	1
	Sig. (2-tailed)	.008	.
	N	15	15

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

Table 4.7 Correlations between the input of and communication with hotel staff

The correlation between the level of input from hotel staff and the level of communication with hotel staff was significant at the 99% confidence level as shown in Table 4.7. The strong relationship suggested might be due to the constant level of perceived importance of operational efficiency from the planning stage to the renovation stage. All hotel personnel participated in interviews agreed that quality services were very important. Hotel staff was the frontline party who delivered service and affected quality. A respectful care should be given to staff in order that their operational efficiency could be enhanced and in turn quality services would be given.

		input from main contractor	communication with main contractor
input from main contractor	Pearson Correlation	1	.775**
	Sig. (2-tailed)	.	.001
	N	15	15
communication with main contractor	Pearson Correlation	.775**	1
	Sig. (2-tailed)	.001	.
	N	15	15

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

Table 4.8 Correlations between the input of and communication with main contractor

The correlation between the level of input from main contractor and the level of communication with main contractor was significant at the 99% confidence level as shown in Table 4.8. This suggested a strong relationship between the two which might be due to the constant level of perceived importance of the relationship with main contractor. The renovation works aimed to produce edge-cutting outputs. The relationship with the party who performed the task should be kept close. Active communications throughout the process should be enhanced such that the project could be finished on time and within budget, while the product could be satisfactory.

4.2.6 Importance and level of planning of facilities management strategies

The importance and level of planning of six selected facilities management strategies were asked in the questionnaires. The six selected strategies included the followings:

- 1 noise control;
- 2 dust control;
- 3 labour supervision;
- 4 security alert;
- 5 delivery time for materials; and

6 lifts and access for delivery of materials.

Five choices concerning the level of importance of the strategies were: *very important*, *important*, *no comment*, *quite unimportant* and *not important*, while the five choices concerning the level of planning of the strategies were: *very high*, *high*, *medium*, *low* and *very low*. The questions aimed at knowing the application of facilities management strategies as well as exploring the relationship between their perceptions and actual performance of the strategies. The results were presented according to individual strategies.

I. Noise control

Level of importance of noise control in renovations

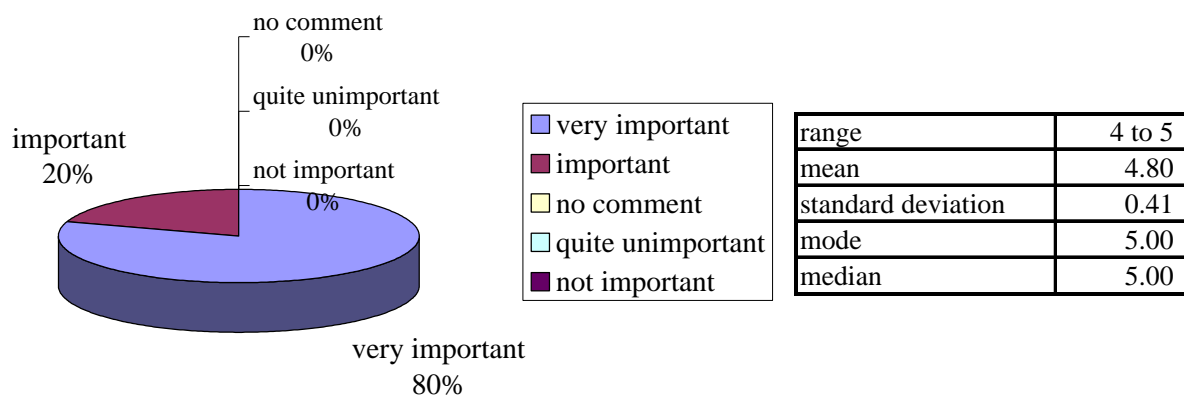


Figure 4.13 Level of importance of noise control in renovations

All respondents were of the opinion that noise control in renovations was *important* or *very important* as shown in Figure 4.13. Interviews revealed that noise was unacceptable for guests and very annoying to staff. Dissatisfaction might in turn cause a loss of guests and reputation.

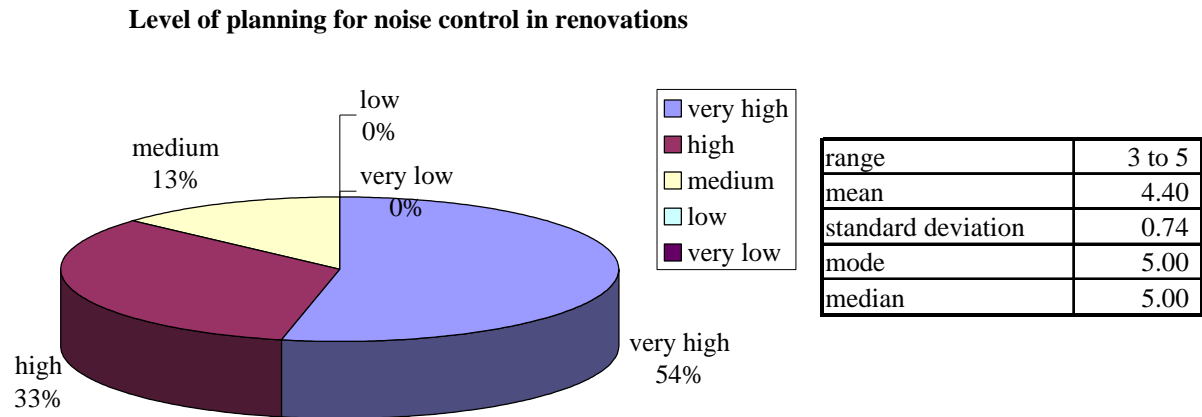


Figure 4.14 Level of planning for noise control in renovations

87% of the respondents had *high* or *very high* level of planning for noise control in renovations, while the remaining 13% had *medium* level of planning as shown in Figure 4.14. This reflected the high degree of actual planning concerning noise control. Planning mainly concerned precaution measures and building technology which included the use of suitable noise barriers and spatial arrangements during renovations, for example a temporary closure of the floors adjacent to the areas under renovation.

Correlations

		im portance - noise control	planning - noise control
im portance - noise control	Pearson C orrelation	1	.515*
	Sig. (2-tailed)	.	.049
	N	15	15
planning - noise control	Pearson C orrelation	.515*	1
	Sig. (2-tailed)	.049	.
	N	15	15

*. C orrelation is significant at the 0.05 level (2-tailed).

Table 4.9 Correlations between the levels of importance and planning of noise control

The correlation between the importance of and the level of planning for noise control was significant at the 95% confidence level as shown in Table 4.9. The strong relationship reflected the consistency in the perceptions on the importance of noise control, and the actual preparation and execution of the control.

II. Dust control

Level of importance of dust control in renovations

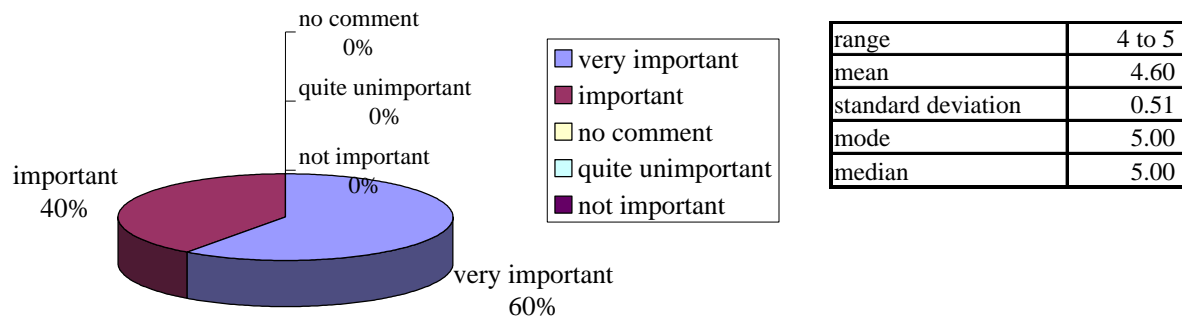


Figure 4.15 Level of importance of dust control in renovations

Similar to the case concerning noise control, all respondents were of the opinion that dust control in renovations was *important* or *very important* as shown in Figure 4.15. This might be because dust was also unacceptable for guests and added extra work loads to certain hotel staff.

Level of planning for dust control in renovations

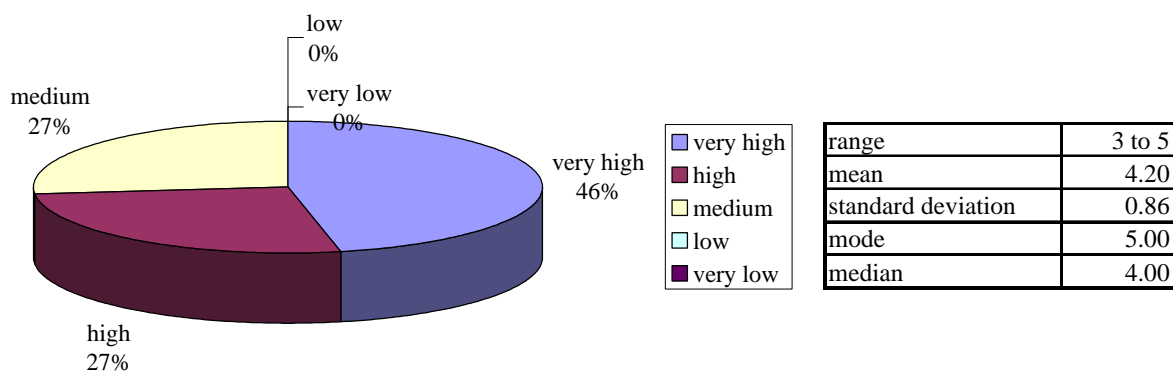


Figure 4.16 Level of planning for dust control in renovations

73% of the respondents had *high* or *very high* level of planning for dust control in renovations, while the remaining 27% had *medium* level of planning as shown in Figure 4.16. This reflected the high degree of actual planning concerning dust control. Planning also

mainly concerned precaution measures and building technology which included the use of suitable dust screens and spatial arrangements during renovations, for example the relocation of restaurants adjacent to the areas under renovations to escape from dust.

Correlations

		im portance - dust control	planning - dust control
im portance - dust control	Pearson Correlation	1	.686**
	Sig. (2-tailed)	.	.005
	N	15	15
planning - dust control	Pearson Correlation	.686**	1
	Sig. (2-tailed)	.005	.
	N	15	15

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

Table 4.10 Correlations between the levels of importance and planning of dust control

The correlation between the importance of and the level of planning for dust control was significant at the 99% confidence level (see Table 4.10). The strong relationship reflected the consistency in the perceptions on the importance of dust control, and the actual preparation and execution of the control.

III. Labour supervision

Level of importance of labour supervision in renovations

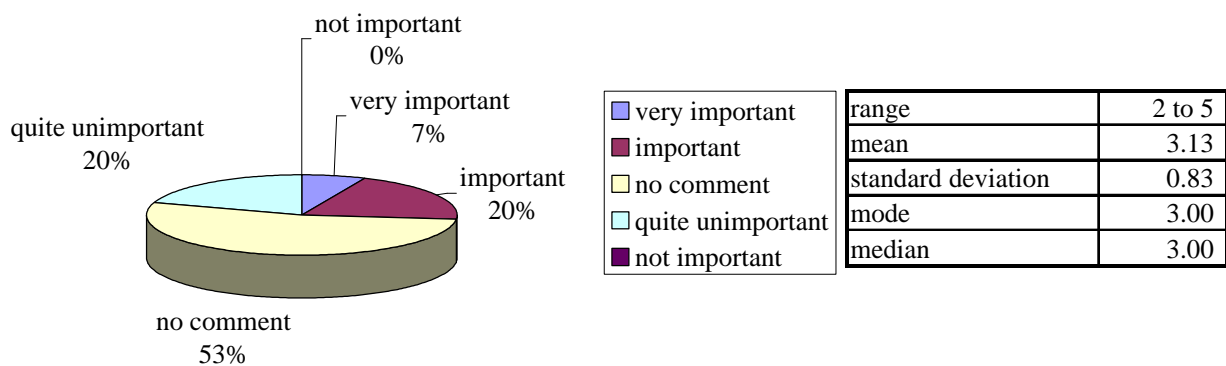


Figure 4.17 Level of importance of labour supervision in renovations

A majority of 53% of the respondents had no comments on the level of importance of labour supervision in renovations, while 20% considered the issue quite unimportant and 27% considered important or very important, as shown in Figure 4.17. This wide range of responses might suggest that some respondents were more aware of the labour issues than their counterparts. Moreover, this might be affected by the extent of the renovation project, in which small scaled projects might involve less workers hence the supervision issue was less significant. Furthermore, some hotels might rely on the managing contractor or the project manager to supervise the works as well as the workers. Therefore labour supervision sometimes appeared to be mainly the responsibility of other parties.

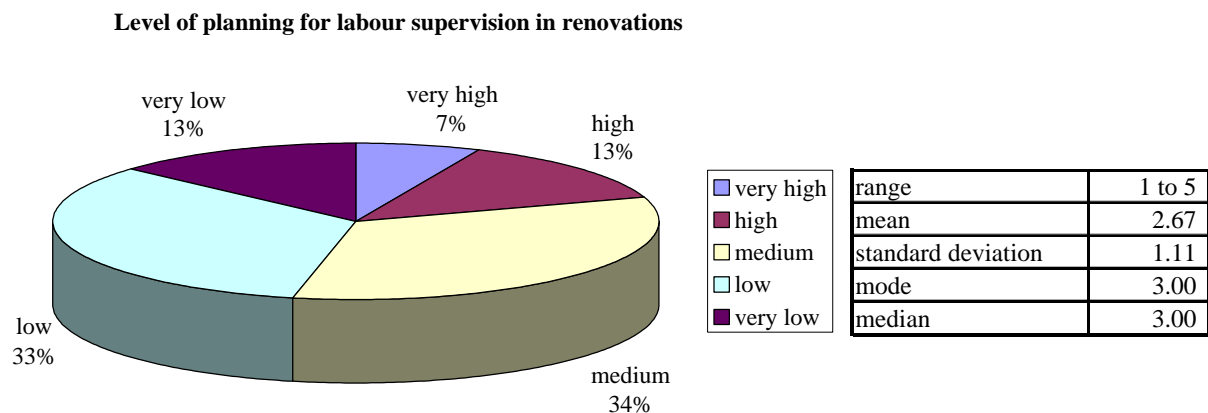


Figure 4.18 Level of planning for labour supervision in renovations

46% of the respondents admitted to have low or very low level of planning for labour supervision, while 34% admitted to have medium level and 20% high or very high, as shown in Figure 4.18. This reflected a wide range of results and very different practices adopted in renovation projects for labour supervision in different hotels. Sometimes the responsibility of labour supervision rested on the main contractor's shoulders, hence hotel personnel were not familiar with the planning of supervision.

		importance - labour supervision	planning - labour supervision
importance - labour supervision	Pearson Correlation	1	.744**
	Sig. (2-tailed)	.	.001
	N	15	15
planning - labour supervision	Pearson Correlation	.744**	1
	Sig. (2-tailed)	.001	.
	N	15	15

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

Table 4.11 Correlations between the levels of importance and planning of labour supervision

The correlation between the importance of and the level of planning for labour supervision was significant at the 99% confidence level (see Table 4.11). The strong relationship reflected the consistency in the perceptions on the importance of labour supervision, and the actual planning on the supervision, for example the preparation of a clear organization chart.

IV. Security alert

Level of importance of security alert in renovations

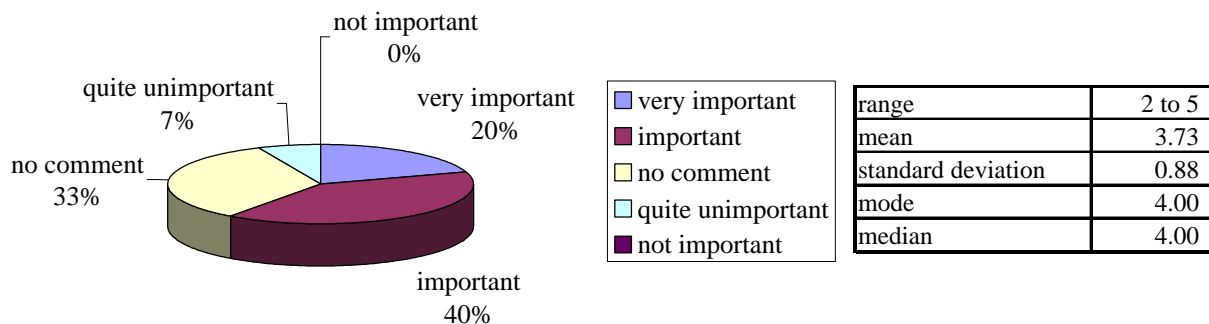


Figure 4.19 Level of importance of security alert in renovations

A majority of 60% of the respondents considered security alert in renovations as *important* or *very important*, while 33% had no comment and 7% considered the issue *quite unimportant*, as shown in Figure 4.19. This high degree of importance might be due to the

fact that the hotels were still in business during the renovations and the pedestrian flow during the period would be higher than that in normal times. One point to note was the relatively high proportion of *no comment* responses. It might reflect the unawareness of the assumed higher possibility of security problems during renovations. However, there was still a possibility that the respondents were unaware of the importance of security alert during renovations.

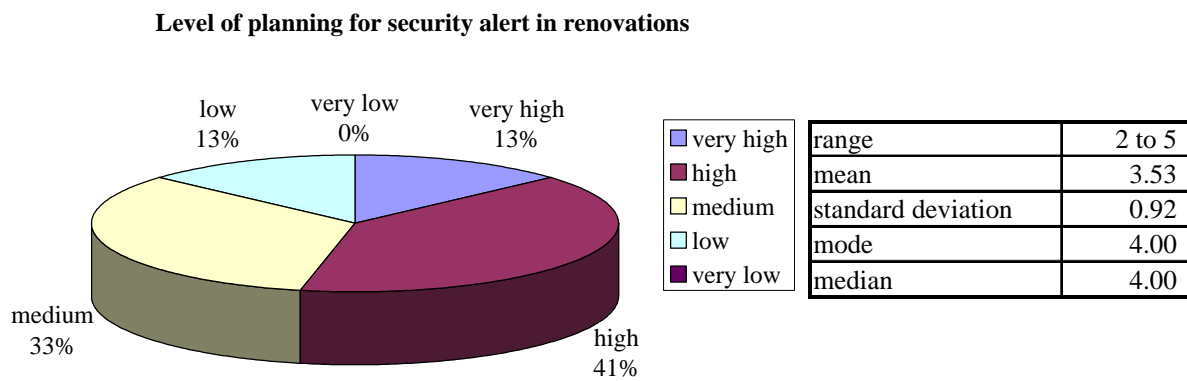


Figure 4.20 Level of planning for security alert in renovations

54% of the respondents had a *high* or *very high* level of planning for security alert in renovations, while 33% had *medium* level and 13% had *low* level (see Figure 4.20). The wide range responses showed the different implementation of security alert in the actual practice. The difference might again be due to the renovation projects with different scale. Smaller scale renovations might involve less workers and less affected areas, hence resulting a lower possibility in security problem and in turn a lower degree of planning on this issue.

Correlations

		im portance - security alert	planning - security alert
im portance - security alert	Pearson Correlation	1	.806**
	Sig. (2-tailed)	.	.000
	N	15	15
planning - security alert	Pearson Correlation	.806**	1
	Sig. (2-tailed)	.000	.
	N	15	15

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

Table 4.12 Correlations between the levels of importance and planning of security alert

The correlation between the importance of and the level of planning for security alert was significant at the 99% confidence level as shown in Table 4.12. The strong relationship reflected the consistency in the perceptions on the importance of security alert and the actual preparation on security issues, for example the employment of a security officer during renovations.

V. Delivery time of materials

Level of importance of delivery time in renovations

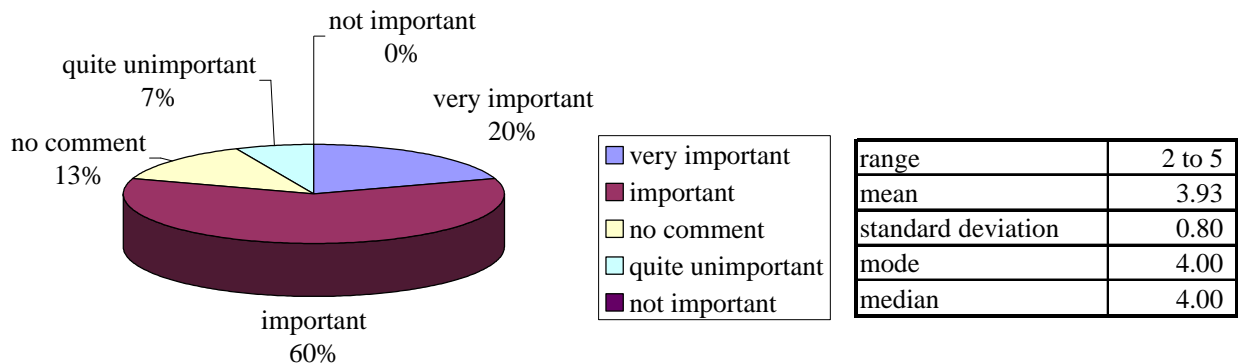


Figure 4.21 Level of importance of delivery time in renovations

A majority of 80% of the respondents considered the delivery time of materials in renovations as *important* or *very important*, while 13% had no comment and 7% considered the issue *quite unimportant*, as shown in Figure 4.21. The majority recognized the importance of timely delivery of material which had large influence to the progress of the works. However, the above concern appeared to be on the contractor's side. Therefore some respondents answered *quite unimportant*. What the other hotels cared might be the fact that delivery time was restricted to certain specific periods of low pedestrian flow in the hotels. Disruption of guests caused by the delivery of materials was unacceptable to the hotel.

Level of planning for delivery time in renovations

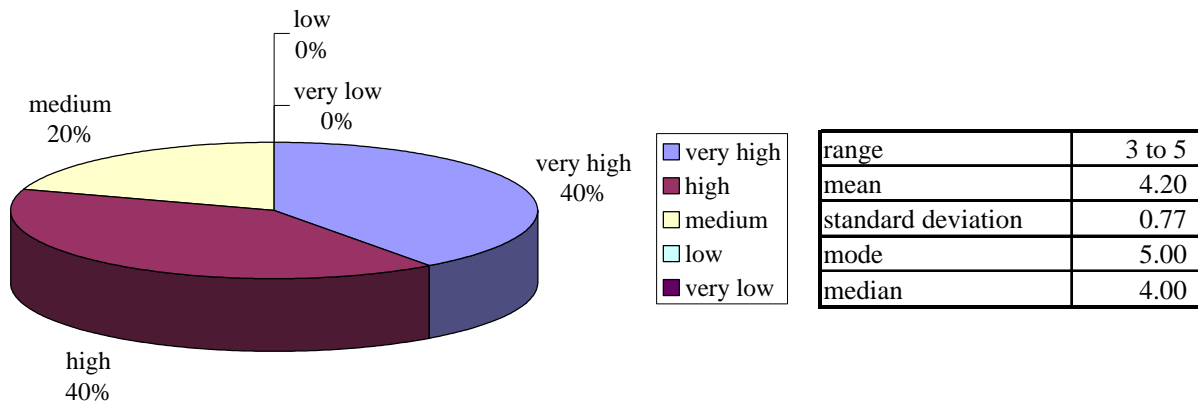


Figure 4.22 Level of planning for delivery time in renovations

A majority of 80% of the respondents had a *high* or *very high* level of planning for delivery time of materials in renovations, while 20% had *medium* level and none for *low* or *very low* (see Figure 4.22). The planning of delivery time of materials was not solely the responsibility of the contractor, but also the hotel. Close cooperation was required as the frequent change of schedule in the hotel would definitely affect the material delivery.

Correlations

		im portance - delivery tim e	planning - delivery tim e
im portance - delivery tim e	Pearson Correlation	1	.485
	Sig. (2-tailed)	.	.067
	N	15	15
planning - delivery tim e	Pearson Correlation	.485	1
	Sig. (2-tailed)	.067	.
	N	15	15

Table 4.13 Correlations between the levels of importance and planning of delivery time of materials

The correlation between the importance of and the level of planning for delivery time of materials was not significant as shown in Table 4.13. This reflected that the relationship between what was perceived and what was actually performed was inconsistent. This might

be due to the perception that the programme of the works was prepared by the contractor and some hotels did not have the responsibility to plan it. However, interviews showed that, cooperation during renovations was still important as the time table of the hotel updated very often which might lead to rearrangement of the sequence of the works and hence the delivery of materials.

VI. Lifts and access for delivery

Level of importance of lifts and access for delivery in renovations

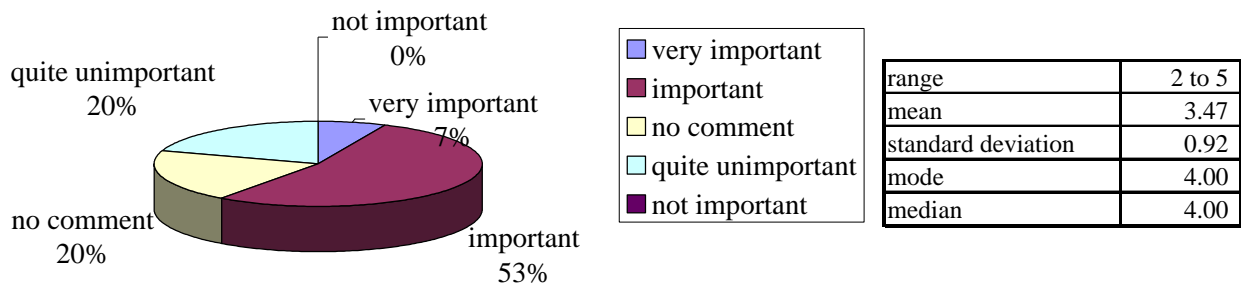


Figure 4.23 Level of importance of lifts and access for delivery in renovations

A majority of 60% of the respondents considered lifts and access for the delivery of materials in renovations as *important* or *very important*, while 20% had no comment and 20% considered the issue *quite unimportant*, as shown in Figure 4.23. A wide range of answers was observed. The number of lifts and the space for access were fixed in the hotel. When certain access points were allocated for the delivery of materials, less remained to serve guests. As mentioned above, disruption was unacceptable to hotels, hence some respondents considered this issue important. However, according to information provided by Horwath Asia Pacific, different hotels had largely different number of lifts and circulation network. Those with enough lifts and access space might not encounter problems and difficulties hence considered the issue unimportant.

Level of planning for lifts and access for delivery in renovations

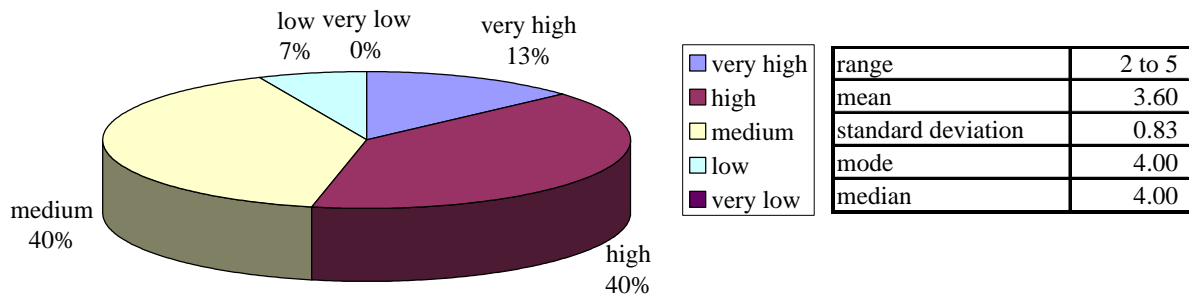


Figure 4.24 Level of planning for lifts and access for delivery in renovations

53% of the respondents had a *high* or *very high* level of planning for lifts and access for delivery of materials in renovations, while 40% had *medium* level and 7% for *low* as shown in Figure 4.24. The range of answers was very wide. The reasons behind might be the fact that some hotels had enough lifts and access space for the delivery of materials while some did not have much. Therefore, those with enough might not require as much planning as the counterparts.

Correlations

		im portance - access for delivery	planning - access for delivery
im portance - access for delivery	Pearson C orrelation Sig. (2-tailed) N	1 . 15	.641* .010 15
planning - access for delivery	Pearson C orrelation Sig. (2-tailed) N	.641* .010 15	1 . 15

*. C orrelation is significant at the 0.05 level (2-tailed).

Table 4.14 Correlations between the levels of importance and planning of lifts and access for delivery of materials

The correlation between the importance of and the level of planning for lifts and access for delivery of materials was significant at the 95% confidence level (see Table 4.14). The strong relationship reflected the consistency in the perceptions on the importance of the lifts and access for the delivery of materials, and the actual preparation and execution.

VII. Importance of strategies

Correlations

		im portance - noise control	im portance - dust control	im portance - labour supervision	im portance - security alert	im portance - delivery tim e	im portance - access for delivery
im portance - noise control	Pearson Correlation	1	.612*	.497	.625*	.821**	.641*
	Sig. (2-tailed)	.	.015	.060	.013	.000	.010
	N	15	15	15	15	15	15
im portance - dust control	Pearson Correlation	.612*	1	.473	.383	.458	.739**
	Sig. (2-tailed)	.015	.	.075	.159	.086	.002
	N	15	15	15	15	15	15
im portance - labour supervision	Pearson Correlation	.497	.473	1	.633*	.443	.661**
	Sig. (2-tailed)	.060	.075	.	.011	.098	.007
	N	15	15	15	15	15	15
im portance - security alert	Pearson Correlation	.625*	.383	.633*	1	.479	.518*
	Sig. (2-tailed)	.013	.159	.011	.	.071	.048
	N	15	15	15	15	15	15
im portance - delivery tim e	Pearson Correlation	.821**	.458	.443	.479	1	.729**
	Sig. (2-tailed)	.000	.086	.098	.071	.	.002
	N	15	15	15	15	15	15
im portance - access for delivery	Pearson Correlation	.641*	.739**	.661**	.518*	.729**	1
	Sig. (2-tailed)	.010	.002	.007	.048	.002	.
	N	15	15	15	15	15	15

*. Correlation is significant at the 0.05 level (2-tailed).

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

Table 4.15 Correlations between the levels of importance of different strategies

The correlation between the importance of noise control and the importance of dust control was significant at the 95% confidence level (see Table 4.15). This strong relationship was expected. In all interviews, hotel personnel related noise control and dust control together and recognized these two issues as the most prerequisite and important considerations in renovations. In consideration of guest discomfort and being customer-focused, hotels must treat this as an important issue. In addition, the two issues were very often associated and generated together in normal construction processes.

The correlation between the importance of noise control and the importance of security alert was significant at the 95% confidence level (see Table 4.15). The strong relationship might be due to the prediction that noisy and messy conditions might expose to more security problems. Therefore the control for the two items was related.

The correlation between the importance of noise control and the importance of delivery time of materials was significant at the 99% confidence level (see Table 4.15). Delivery of materials undoubtedly created noise. Both issues were inevitable, hence the solutions rested on the time management of the renovation works. Delivery of materials as well as the noisy works were restricted to certain periods when pedestrian flow was smaller.

The correlation between the importance of noise control and the importance of lifts and access for delivery of materials was significant at the 95% confidence level (see Table 4.15). The delivery of materials not only induced disruption to access but also produced a certain amount of noise. Noise control was essential in considering the routes for delivery.

The correlation between the importance of dust control and the importance of lifts and access for delivery of materials was significant at the 99% confidence level (see Table 4.15). Delivery of materials would leave dust along the access path in the hotel which required immediate cleaning. Dust control was therefore highly related to the arrangements of lifts and access for delivery.

The correlation between the importance of labour supervision and the importance of security alert was significant at the 95% confidence level (see Table 4.15). From the hotels' viewpoint, the involvement of outsiders, mostly construction workers, as well as the temporary storage of valuable construction materials in the hotel would likely to induce more security problems. So labour supervisions and the strengthening of security were closely related.

The correlation between the importance of labour supervision and the importance of lifts and access for delivery of materials was significant at the 99% confidence level (see Table 4.15).

The routes for the delivery of materials were predetermined and cooperation from labour was highly expected, otherwise disruption of guests as well as the works might result. Hence, the two issues were closely related.

The correlation between the importance of security alert and that of lifts and access for delivery of materials was significant at the 95% confidence level (see Table 4.15). The routes for delivery of materials should be secured and excluded from guests and other personnel, such that the safety of the pedestrians could be ensured and the materials were exposed to less possible damages. This explained the strong relationship between the two issues.

The correlation between the importance of delivery time of materials and the importance of lifts and access for delivery of materials was significant at the 99% confidence level (see Table 4.15). Undoubtedly, the delivery of materials required the concerns on two main factors: time and access. Therefore, both issues were considered important and were highly related.

VIII. Level of planning

Correlations

		planning - noise control	planning - dust control	planning - labour supervision	planning - security alert	planning - delivery tim e	planning - access for delivery
planning - noise control	Pearson Correlation	1	.877**	.436	.085	.476	.398
	Sig. (2-tailed)	.	.000	.105	.764	.073	.142
	N	15	15	15	15	15	15
planning - dust control	Pearson Correlation	.877**	1	.447	.217	.578*	.420
	Sig. (2-tailed)	.000	.	.095	.437	.024	.119
	N	15	15	15	15	15	15
planning - labour supervision	Pearson Correlation	.436	.447	1	.748**	.746**	.853**
	Sig. (2-tailed)	.105	.095	.	.001	.001	.000
	N	15	15	15	15	15	15
planning - security alert	Pearson Correlation	.085	.217	.748**	1	.645**	.678**
	Sig. (2-tailed)	.764	.437	.001	.	.009	.005
	N	15	15	15	15	15	15
planning - delivery tim e	Pearson Correlation	.476	.578*	.746**	.645**	1	.690**
	Sig. (2-tailed)	.073	.024	.001	.009	.	.004
	N	15	15	15	15	15	15
planning - access for delivery	Pearson Correlation	.398	.420	.853**	.678**	.690**	1
	Sig. (2-tailed)	.142	.119	.000	.005	.004	.
	N	15	15	15	15	15	15

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

* . Correlation is significant at the 0.05 level (2-tailed).

Table 4.16 Correlations between the levels of planning for different strategies

The correlation between the level of planning for noise control and that for dust control was significant at the 99% confidence level as shown in Table 4.16. Precaution measures for noise and dust were similar and were often planned together according to interviews with hotel personnel. Therefore the planning of them was highly related.

The correlation between the level of planning for dust control and that for delivery time of materials was significant at the 95% confidence level as shown in Table 4.16. Dust created by the delivery of materials was sometimes inevitable. To minimize dust and disturbance, the planning of delivery time of materials should be done with consideration of dust control. Hence, the two were highly related.

The correlation between the level of planning for labour supervision and that for security alert was significant at the 99% confidence level as shown in Table 4.16. Hotels concerned the involvement of outsiders as well as the temporary storage of valuable construction materials which would likely to induce security problems. Planning on labour supervisions together with the strengthening of security alert were considered together and were closely related.

The correlation between the level of planning for labour supervision and that for delivery time of materials was significant at the 99% confidence level as shown in Table 4.16. The delivery time of materials was often planned to be in times of low pedestrian flow. At those periods of time, workers ran around the hotel access points and were more exposed to guests. Supervision was essential in minimizing the disturbance to guests. Planning for the two issues was therefore correlated and required high cooperation.

The correlation between the level of planning for labour supervision and that for lifts and

access for delivery of materials was significant at the 99% confidence level as shown in Table 4.16. The planning for adequate labour was highly expected to deliver materials in predetermined routes, otherwise disruption of guests as well as the works might result. Hence, the two issues were closely related.

The correlation between the level of planning for security alert and that for delivery time of materials was significant at the 99% confidence level as shown in Table 4.16. The delivery time of materials should be at periods of low pedestrian flow in sight of the reduction of disturbance to guests and hotel staff, as well as the potential security problems when the place was crowded of people and messy. Hence, the planning for the two items was highly related.

The correlation between the level of planning for security alert and that for lifts and access for delivery of materials was significant at the 99% confidence level as shown in Table 4.16. As mentioned above, the routes for delivery of materials should be secured and excluded from guests and others, such that the safety of the pedestrians could be ensured and the materials were exposed to less possible damages. Planning was essential to be done together and this explained their strong relationship.

The correlation between the level of planning for delivery time of materials and that for lifts and access for delivery of materials was significant at the 99% confidence level as shown in Table 4.16. The planning for the delivery of materials obviously involved time considerations as well as routes and access points. This explained the strong relationship between the two.

4.2.7 Evaluations and records

The questionnaires lastly asked about whether or not there existed evaluation meetings and

formal records keeping. *fYes* and *fno* were the only choices of answers. The questions aimed at observing the application of facilities management strategies after the renovation stage. The results are presented in Figure 4.25 and 4.26.

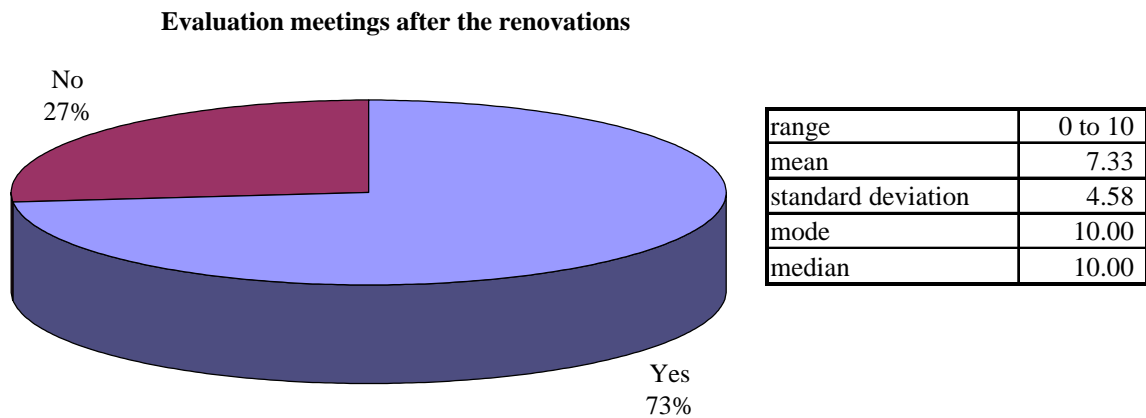


Figure 4.25 Evaluation meetings after the renovations

A majority of 73% of the respondents had evaluation meetings after the renovations while the rest did not have any, as shown in Figure 4.25. This reflected the perception of the respondents on the importance of holding evaluation meetings. Feedback from guests and hotel staff could be obtained from the meetings. Further amendment works could then be done. Any defects detected could be reported to the contractor and got fixed during the defects liability period. However, some neglected the importance of evaluation meetings. The reasons behind might be the fact that evaluation was treated as an agenda item in regular meetings in the management level but not a specific one.

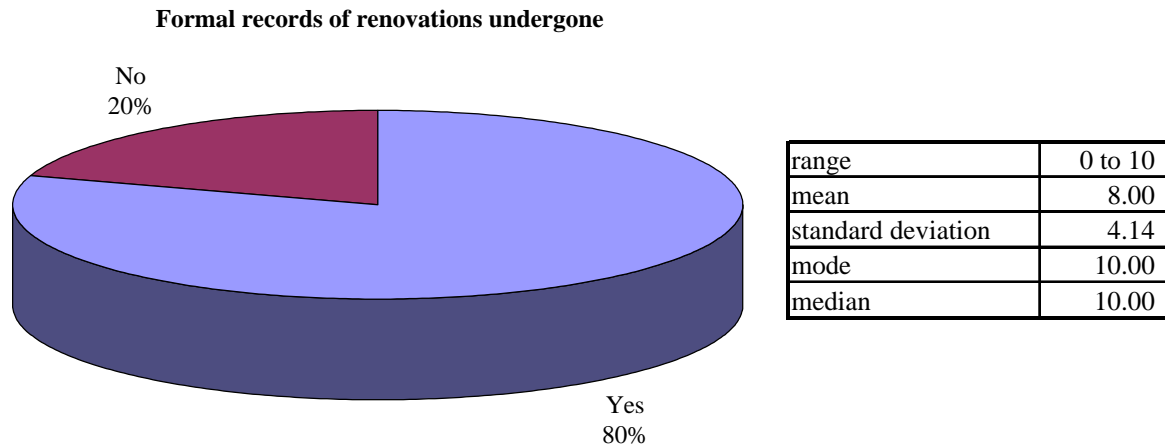


Figure 4.26 Formal records of renovations keeping

A majority of 73% of the respondents kept formal systematic records of renovations undergone while the rest did not, as shown in Figure 4.26. Renovation records were references for future projects. Keeping the whole set of documents systematically could ease future revisions. An interview revealed that the hotel did review the historical trend of the performance of renovations for setting forward the coming renovations. However, on the other hand, whether or not some respondents answering *fyes* were just performing a normal documentary practice to keep records of all events. A rather surprising result was that some did not keep systematic records. The reason behind might be the dispersion of documents in different departments in the hotels.

Correlations

		evaluation meeting	formal records
evaluation meeting	Pearson Correlation	1	.452
	Sig. (2-tailed)	.	.091
	N	15	15
formal records	Pearson Correlation	.452	1
	Sig. (2-tailed)	.091	.
	N	15	15

Table 4.17 Correlations between evaluation meeting and formal records

The correlation between evaluation meetings and formal records was not significant, as shown in Table 4.17. It might reflect the perception that the two activities were of different nature and were distinct.

4.2.8 Overall scores of individual hotels

An overall scores of individual hotels were calculated according to their performance in applying the above facilities management strategies. A summary table of the scores of the hotels together with a statistical analysis of the findings are listed below (see Table 4.18 and 4.19).

		Hotels														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
individual score	Full score=160	125.5	135.5	93.5	137.0	128.0	155.5	90.0	88.0	117.5	140.5	82.0	111.5	120.0	121.0	58.5
	Full score=100	78.4	84.7	58.4	85.6	80.0	97.2	56.3	55.0	73.4	87.8	51.3	69.7	75.0	75.6	36.6

Table 4.18 Total scores of individual hotels

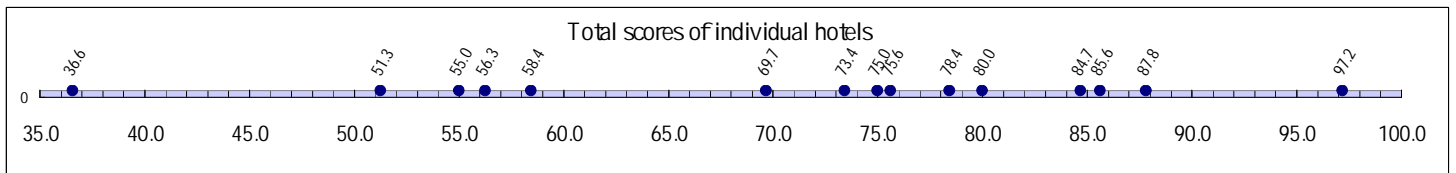


Figure 4.27 Line presentation of individual scores

Full score	100	160
Range	36.6 to 97.2	58.5 to 155.5
Mean	71.0	113.6
Standard deviation	16.4	26.2
Mode	#N/A	#N/A
Median	75.0	120.0

Table 4.19 Statistical analysis of the total scores of individual hotels

The mean score of the hotels was 71.0 as shown in Table 4.19. Nine hotels scored above the mean while six below. The range was very large (difference=60.6), so as the standard

deviation. There were no two hotels scoring the same as shown by the mode. This reflected the great difference in the extent of application of facilities management strategies to hotel renovations. The hotel scored the highest (score=97.2) applied a very high degree of facilities management strategies while the one scored the lowest applied some strategies to some extent yet highly insufficient. A group of hotels had scores gathered around the range of 70 to 85 while a smaller group gathered around 55 as shown in Figure 4.27. Generally speaking, there are two broad types of scores indicating two different extent of application of facilities management in hotel renovations. To sum up, the great difference among the scores of the hotels might be due to the existence of barriers to the application of facilities management strategies as well as the different levels of awareness to the application of such strategies.

4.3 Summary

The questionnaires revealed the general perceptions of hotel personnel on selected facilities management strategies. Reasons behind the perceptions were gathered from interviews and literature as well as observations of the researcher from various conversations with hotel personnel. Most results were expected yet some were quite surprising.

Findings showed that all respondents considered noise control and dust control as important strategies in renovations and correspondingly applied high or medium levels of planning to the two aspects. Literature showed that noise and dust are the most disastrous matter in renovations in hotel personnel's mind. Therefore the findings and literature are coherent.

Most considered security alert, delivery time of materials, and access for delivery as important strategies while applied considerable degree of strategies on the following aspects:

budgeting, delivery time of materials, access for delivery, evaluation meetings and record keeping. In addition, labour supervision received various perceptions in both importance and level of planning.

For each strategy, the percentage of respondents implementing high or very high level of planning on the strategy was always lower than the percentage considering it important or very important, except for delivery time of materials in which the percentages equate each other.

An interesting phenomenon was observed between the necessity of establishing guidelines and the actual implementation of guidelines. Some respondents agreed on the necessity of the establishment of a set of formal guidelines while did not implement any.

Another noticeable phenomenon was the wide-ranged attitudes on the inputs from guests, hotel staff and main contractor. Answers were rather evenly distributed. This suggested very different perspectives on the importance, the necessity as well as the worthiness of putting effort to such inputs. Different strategies in training staff and staff positioning were concerned too, as observed during interviews in various hotels.

To sum up, a majority of hotels had applications of certain facilities management strategies to their renovations. Some did not apply in individual aspects or strategies. The reasons behind the non-application were analyzed to be the unawareness of certain useful strategies and the barriers to certain applications. Barriers included financial ones and limitations from the existing hotel structure. More detailed discussion of the application of facilities management will be included in the case studies in the following chapters.

CHAPTER 5 CASE STUDY I • SHERATON HONG KONG HOTEL & TOWERS

Chapter introduction

The data collected for this case study was obtained from an interview with Mr. Ananda Arawwawela, the hotel general manager of Sheraton Hong Kong Hotel & Towers. The invitation for the interview was sent in November 2003 and continuous contact was held between December to March. The interview was finally held in mid-March at the executive office of the hotel. Relevant documents were obtained on the request to the manager in the interview.

This chapter takes the opinions of the hotel general manager from the perspectives of a hotel. Every details concerning the planning process, the renovation period as well as the post renovation stage are reported and analyzed. The theoretical application of facilities management found in literature search and the practical application are contrasted. Potential barriers are identified.

5.1 Background

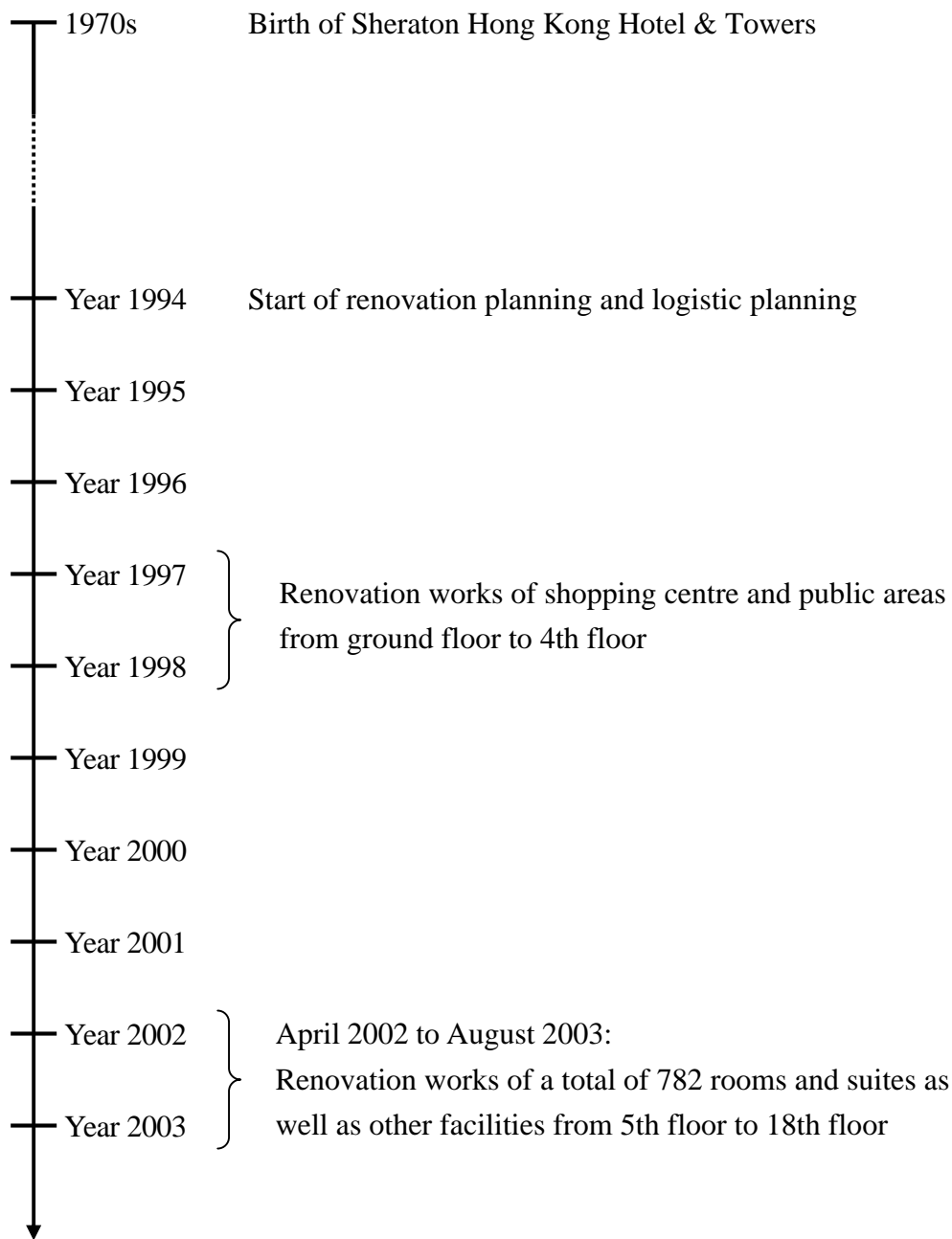


Figure 5.1 Timeline for the flow of issues concerning the renovations in Sheraton Hong Kong Hotel & Towers

Source: Interview with Mr Ananda Arawwawela, Sheraton Hong Kong Hotel & Towers

Figure 5.1 showed a brief picture of the stages of the renovations undergone in the Sheraton Hong Kong Hotel & Towers. The 30-year old hotel got the first idea of this renovation project

in a 10-year plan in the 1980s and started renovation planning and logistic planning in 1994. The scope of the renovations was fully discussed and defined by then.

The renovation work was divided into two phases. The first phase started in 1997 and completed in 1998, which include the renovations from the ground floor level up to the fourth floor. Areas affected are mainly characterized into three types: retail areas, hotel operations areas, and public areas (see Table 5.1). The total contract sum was about HK\$260 million.

Floor level	Main facilities and services
4th	Restaurants, meeting and event facilities
3rd	Ballroom, restaurants, meeting and even facilities
2nd	Important services including audit and business offices, reception; counter, retail shops, dining facilities and lobby lounge
1st	Retail shops
Ground	Arrival lobby for group check-in

Table 5.1 Main facilities and services on ground floor to 4th floor

Source: Interview with Mr Ananda Arawwawela

The second phase was commenced in April 2002 and completed in August 2003, which include the renovations of fourteen levels, from the 5th floor to 18th floor. These floors comprise 782 rooms and suites as well as other facilities and services including lounges, health centre, rooftop pools and restaurants. The total contract sum was about HK\$350 million.

Both phases of renovations are master renovations. Every single item is renovated, including the electrical and mechanical system, the ventillation system and the water systems. Various

facilities and services are upgraded, for instance, systems of information technology and energy.

Mr. Ananda Arawwawela explained his philosophy on these renovations of large scale and broad scope that, •when you open up a wall, fix everything inside. Do it all.€

5.2 Planning stage

In this section, all planning issues and pre-construction matters are elaborated. This stage mainly concerns the planning of renovation sequence, logistic planning and budgeting. Measures adopted in this stage are compared to strategies of facilities management to illustrate the extent of application of facilities management. Possible barriers in such application are also discussed.

5.2.1 Scope of renovations

In 1980s, the Sheraton Hong Kong Hotel & Towers incorporated the first idea of this large scale master renovation project in a 10-year plan. In 1994, planning began and the first issue dealt with was the scope of the renovations. The scope was thoroughly discussed, with various research and analysis undergone, and was finally defined clearly. Subsequent planning proceeded in accordance with the defined scope of renovations.

5.2.2 Renovation sequence

It is a common practice for hotels to renovate their guest rooms in a horizontal manner, that is, a floor-by-floor sequence, according to Mr. Ananda Arawwawela. Usually, hotels renovate in summer, two floors at one time (see Figure 5.2). For the Sheraton Hong Kong Hotel & Towers, if it was to adopt this practice, the renovation cycle would have lasted for 7 years. Also, for such a popular hotel with high occupancy rate, noise and vibration problems would be disastrous throughout these years. Mr. Ananda Arawwawela pointed out two unwanted situations that might possibly occur. The first situation is that if the guests see the newly renovated floor but are arranged to the current old style rooms, they will feel unfair as they pay for the same or similar price, and may eventually launch a complaint. This may leave a bad image and reputation to the hotel. The second situation is that guests may enter into the floors under renovations through stairs. This is unacceptable for hoteliers and may cause safety and security problems.

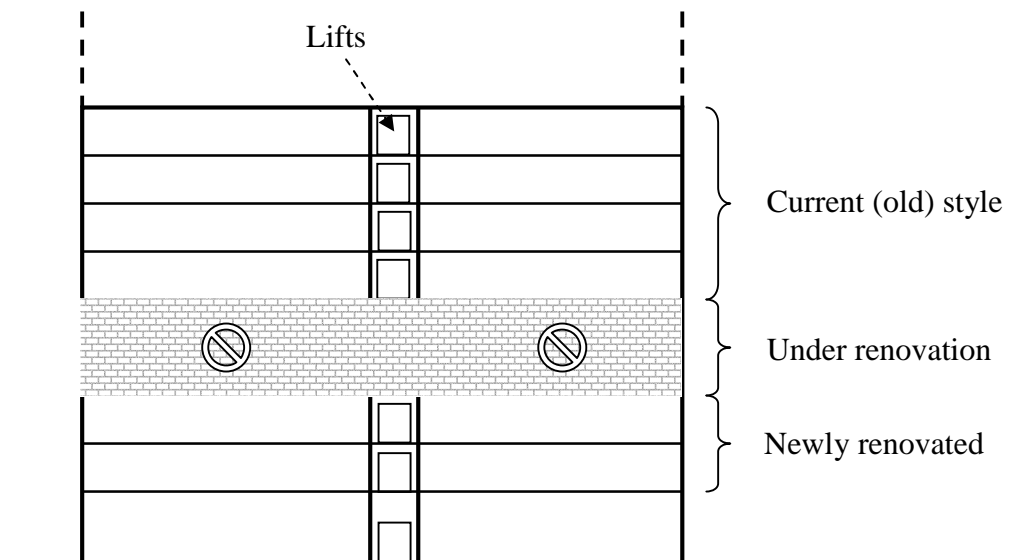


Figure 5.2 Section of a simplified hotel

Source: Interview with Mr Ananda Arawwawela, Sheraton Hong Kong Hotel & Towers

The hotel eventually abandoned the tradition horizontal approach and adopted the reverse .. a vertical approach (see figure 5.3). The lift shafts were situated in the middle of the hotel and

were planned to serve as a noise and dust barrier for renovation works. Zone one and zone two, as indicated in Figure 5.3, represent the block from 5th floor to 18th floor to the left and the right of the lift shafts respectively. Zone one was first renovated, while zone two remained open for business. When the renovation works in zone one were completed, the practice was reversed.

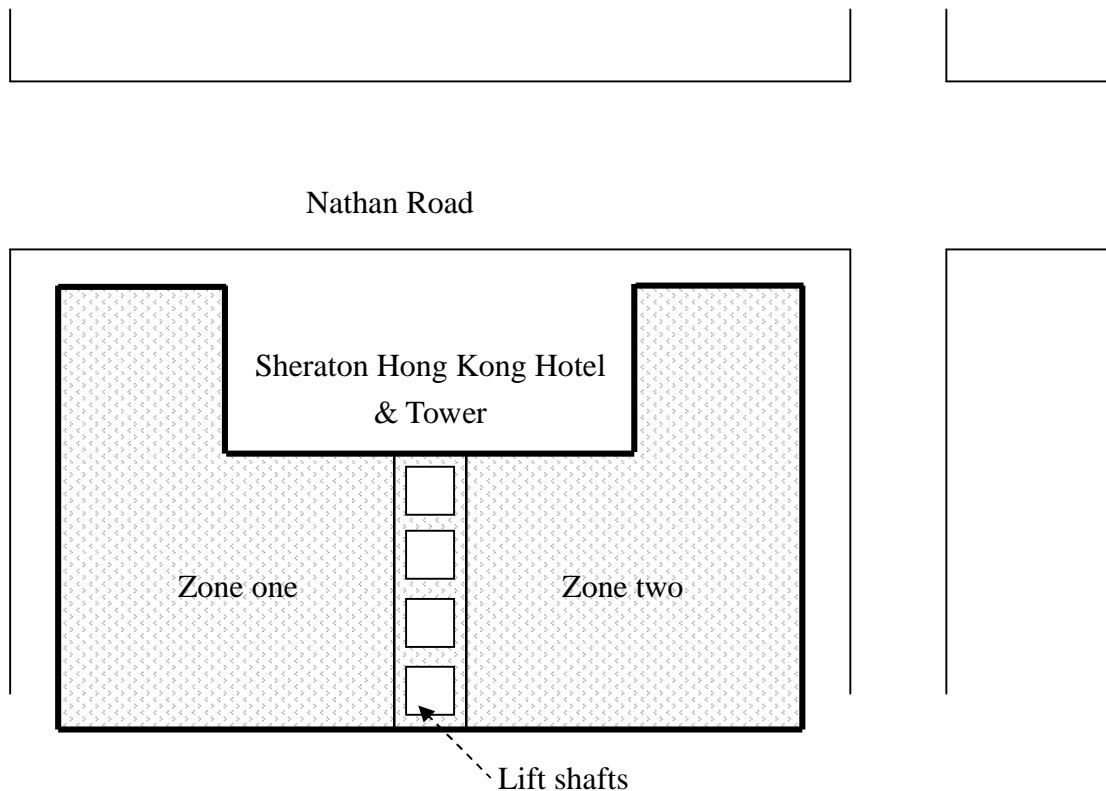


Figure 5.3 Simplified plan of the hotel for 5th to 18th floor
(Plan not in scale; for indication only)

Source: Interview with Mr Ananda Arawwawela, Sheraton Hong Kong Hotel & Towers

This vertical practice has several advantages over the horizontal practice.

- 1 The lift shafts acted as good sound barriers and excellent dust screens in addition to the provision of sound barriers.
- 2 Guests were not able to access the renovation areas as the whole staircase in the zone under renovations was under restrictive use.

- 3 This practice could maintain the consistency of design and quality of all available rooms in the same period of time. Guests dissatisfaction was avoided.
- 4 The renovation duration could be greatly shortened while at the same time the other zone could still operate.

However, this practice was not without demerits. If the floors in the same zone were all renovating, in case of complaint of noise from guests, one could hardly arrange any floor which would be quieter.

5.2.3 Logistic planning

The criteria of aesthetics and comfort play an essential role in the new designs. Logistic planning is often neglected, especially in the back of the house. The back of the house of a hotel was hidden areas where preparations and operations take place. The relationship between the back of the house and the hotel is similar to that between the kitchen and the restaurant. Despite the fact that most hotels generally have a belief that the back of the house does not make money and hence does not worth too many considerations, Mr. Ananda Arawwawela stressed that logistic considerations for the back of the house are very crucial as it affects how the hotel staff operates and in turn affects the quality of services provided. He illustrated the importance by the logistic planning of the 2nd floor. The 2nd floor comprises a lot of important facilities and services including reception, hotel offices, Chinese restaurant and lobby lounge, etc. The pedestrian flow is frequent and this floor is responsible to give the very first impression to guests.

Back to thirty years ago, the design of the Sheraton Hong Kong Hotel & Towers did not include many considerations on logistic considerations. The original layout of the main lobby

on the 2nd floor did not include the new hidden corridor network for the complex operation of various functions on the 2nd floor. As a result, all operational activities occurred in the lobby, causing disturbance to guests and inconvenience to hotel staff. An obvious example was the delivery of food or catering running through the main lobby from the service lifts to the lobby lounge.

The new layout incorporated the idea of logistic planning, in which the operational activities, such as the delivery of food and luggage could be done at the back of the house (see Figure 5.4). Although the corridor network occupied more space than before, it was worthwhile for such arrangement in the light of operational efficiency and quality services. Staff was happy about that and the lobby could have less traffic than the case before the renovations.

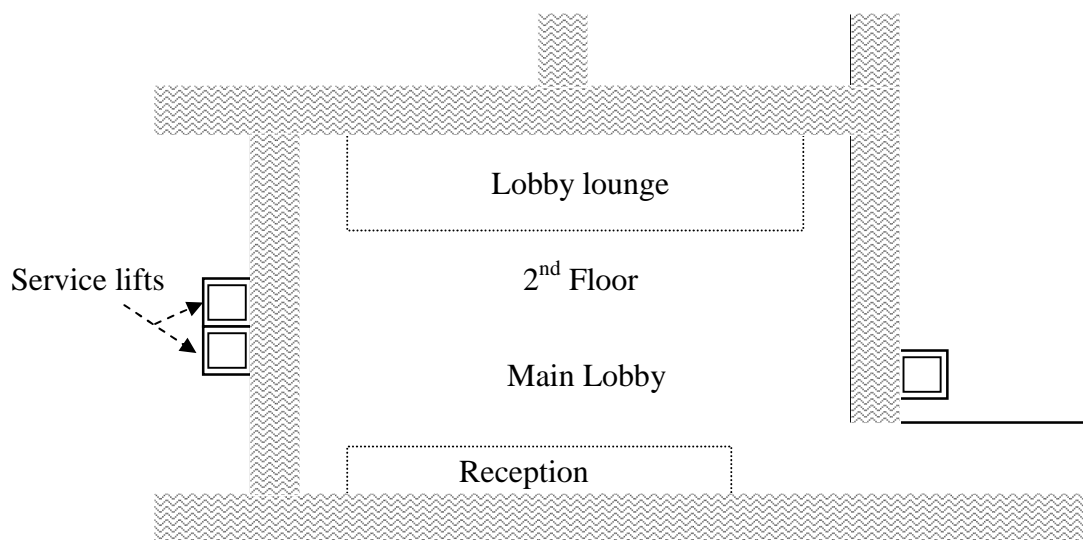


Figure 5.4 Conceptualized 2nd floor plan
(plan not in scale; for indication only; not reflecting real layout)

Source: Interview with Mr Ananda Arawwawela, Sheraton Hong Kong Hotel & Towers

5.2.4 Designs and inputs

It is considered important to strike a balance between conservative and modern designs, in

order to maintain moderately fashionable for around ten years. Interior designers and related consultants were employed and given very high degree of flexibility to design for the new look and layout. The hotel not only provided adequate information and requirements, but also invited guests and its staff to input their opinions to the designs.

Regular guests, for example large enterprises and institutions, were invited to state their views on the proposed new meeting and event facilities. On the other hand, complaints made by guests within two years were categorized and analyzed to see which facilities and services require special attention or adjustments. For instance, frequent complaints on water pressure problems implied the necessity for a thorough and complete test of the whole system, and perhaps a need for repairing or upgrading. Moreover, such opinions were reflections of part of the market trends too. Examples included opinions on the size of televisions and requests for the provision of information technology services.

On the other hand, opinions from staff were also obtained to see which parts especially required attention. Moreover, their opinions were invaluable as they were the frequent users of facilities and they were very sensitive to whether or not the proposed new designs were operationally prohibitive.

5.2.5 Budgeting

Operating a hotel is definitely a business. Everybody is expecting a return for the investment. Renovation is a kind of investment in this sense. The hotel has to forecast the future return in terms of internal rate of return, return on investment and payback, etc. Factors taken into account include the performance of competitors and the current and anticipated market

positions of the hotel. Based on the 30-year experience on the occupancy rate and revenue, the hotel could be able to estimate the return on investment. Supplementary to the above, the hotel's owner company has a team of in-house expertise to do the cost estimation with sufficient data and comparables.

The budgeting process was affected by some factors. First of all, the most apparent one was the scope of the renovation works, •The clearer what you want to do, the more accurate the cost approximation,€Mr. Ananda Arawwawela commented. He added that a contingency sum also weighed and quoted an example of unexpected debris found in the ventilation vent. Extra time, money and effort were required for such contingencies, whereas renovations contained many uncertainties.

5.2.6 Employment of consultants

The concept of •Partnership Meeting€was introduced to this renovation project. According to Mr. Ananda Arawwawela, the practice of partnership meetings was once used in Housing Authority projects. Before the commencement of the renovation works, the key consultants attending the meeting agreed on their responsibilities and made commitments to their roles and works to be carried out. When emergencies or unexpected incidents occurred, human behaviour tended to escape from the liabilities and refuse to admit their responsibilities on such events. This partnership meeting and commitment helped relieve this problem and enhance a cooperative relationship between different parties, the hotel general manager claimed.

5.3 Renovation stage

In this part, safety and security issues in the renovation stage are discussed. Guidelines for contractors and guidelines for recovery are introduced. The relationship with consultants as well as the communication with hotel staff are analyzed here.

5.3.1 Safety and security

When asked about the most challenging and important task in managing renovations, Mr. Ananda Arawwawela pointed out safety and security. From his point of view, contractors were generally not as careful as the hotel staff. Some workers may smoke in the workplace. Some may have temporarily disabled the fire services at the workplace without notifying the hotel. These similar events could cause disastrous accidents and unaffordable consequences. As a result, it was of absolute importance to include all possible guidelines in the contract documents, with penalties stated clearly.

5.3.2 Guidelines for contractors

Guidelines, concerning safety and security etc, for the main contractor were written throughout the framework of the contract documents during drafting stage. Guidelines for subcontractors were less and complied a sheet named •Contractor•s Safety Requirement Sheet€(see Appendix IV). In the sheet, it started with a general statement of commitment of Sheraton Hong Kong Hotel & Towers to provide a safe environment and work site. The main body included the followings:

1. safety and fire prevention regulations, including fire permit, supervision over shutting down of sprinkler system and automatic fire alarm system;

2. access to the premises, including reporting procedures and supervision;
3. contractor's obligations, including safety, health, damage, abusive language, smoking, dressing, eating, use of service lifts and washrooms;
4. safety procedures, including coordination with the Sheraton Floor Supervisor, personal protective equipment;
5. environmental waste, including chemicals, fire hazardous substances, and refrigerant management;
6. safe use of gondolas/suspended working platforms; and
7. fire protection and prevention procedures, including emergency procedures and fire protection/detection systems.

5.3.3 Communication with hotel staff

Communication with hotel staff should be done in every stage of the renovations. In the pre-construction stage, Mr. Ananda Arawwawela stressed that communication took a significant role in letting hotel staff know the objectives of renovations and understand the rationales behind. He expressed his hope that the staff could tolerate for the renovation period and reminded the staff that, after all, everybody in the hotel would receive the benefits from the renovations. He advised that it was worthwhile to promote the message of integrity and sharing, in the sense that when everybody went through the hardship together, the result would be fruitful and rewarding to all.

Such communication was crucial because renovations would certainly cause inconvenience to the normal operations of hotel staff. Hotel staff would be frustrated and get angry easily. Hence, early communication could help them be prepared for any possible adverse situations

that might occur in renovations. Also, comprehensive communications could enhance the loyalty of hotel staff and show concerns over them. These strategies could give a comforting effect to the hotel staff. In turn, quality services could still be ascertained during the renovation periods.

Throughout the renovation period, Mr. Ananda Arawwawela advised that timely and early communications were extremely important. Communications include any updates, time lines for the renovations, progress of the renovations and visualized image of the proposed new facilities.

5.3.4 Guidelines for recovery

Contingency plans were always important for such large renovation projects, as of its high degree of complexity and uncertainty. For instance, electricity failure might occur during renovations due to excessive load. Potential defects and accidents anticipated should be taken into considerations. Another example was the complaints launched by angry guests for the noise nearby. Respective planning was required to minimize the chance of occurrence of these events or delineate guidelines in dealing with the possible occurrence of them.

Clearness and easiness to manage are the two prerequisites in drafting the guidelines to ease the operations of the staff. On the other hand, consistency was vital from the guests' point of view, as they paid for the same price and deserved the same quality of services.

Guidelines might include compensations which matched against the potential problems. Some basic requirements of guest rooms should be borne in mind when offering compensations:

quietness, cleanliness, hot water supply and suitable temperature. Mr. Ananda Arawwawela specifically mentioned that the front line staff of the hotel should be given enough authority, power and discretion to offer suitable compensation. He demonstrated this idea by quoting a real example happened in the Sheraton Hong Kong Hotel & Towers during renovations. An angry guest launched a complaint against the noise near her room that seriously disturbed her work. The lady requested for an immediate check-out at the reception counter. The receptionist calmed the lady down and offered her a quiet working place to finish up her work. In addition, the receptionist expressed concern on the lady's stress and offered her a massage at the health centre for free upon the completion of her work. The lady later showed up at the health centre and saw the receptionist waiting there and greeting her. As a result, the situation changed from the loss of a guest to the gain of an anchor guest. The importance of authority spoke for itself. A coupon for a free meal would, most probably, not work as successfully as a free massage and a caring attitude in this case.

5.3.5 Relationship with consultants

Choosing the suitable consultants was a substantial task. The weightiest factor, according to Mr. Ananda Arawwawela, was the experience of the consultants ..how well they performed in their previous works. After appointment, the very first thing to do with the interior designers was to let them know all about the operations of the hotel. The benefit is apparent that the operational efficiency can be enhanced with a clear mind on the activities to be held in each area during the space allocation stage.

Mr. Ananda Arawwawela stressed his respect to the consultants, •do not second-guess them!€ He also warned the managers of different departments that, •do not try to be the consultant.€

Mr. Ananda Arawwawela explained that one should trust the consultants as they were the professionals and expertise. Another down-to-earth reason was that the hotel selected the professionals and paid for the consultants for their works. As a result, their ideas should be trustworthy. Mr. Ananda Arawwawela was of the opinion that no one should interfere or influence the suggestions of the consultants, with an exception where the proposal was prohibitive in the sense of operational efficiency. An obvious example is a white carpet which looks good but is hard to maintain.

Another important issue concerning the consultants was the continuity. Any change in the consultants would definitely induce higher cost, longer renovation duration and even declined quality of work. Such effects would probably reflect on the loss of business of the hotel and the reputation of the hotel. In order to obtain a guarantee and safeguard the hotel's interest, the continuity of the consultants was stated clearly in the contract.

5.4 Post-renovation stage

Evaluations were held after the renovations. Records of the renovations, including the contract documents and the minutes of meetings, were all kept. However, from the conversation, the manager appeared not to treasure the set of information and did not relate it for future use. Keeping the records seemed to be a normal documentary procedure.

5.5 Validity of the case study

First of all, the data collected for this case study was solely obtained from an interview with Mr. Ananda Arawwawela, the hotel general manager of Sheraton Hong Kong Hotel & Towers. There was little documentary proof of the application of the strategies. One may argue that the opinions were solely from the manager and they may not truly and fully reflect the actual situations. However, there should be no initiative to provide unrealistic information as the manager clearly understands that this study is solely an academic paper written by a university student and will not be used in any other circumstances.

Secondly, the durations for the two phases of renovations were comparatively short. Except for the reason of comprehensive planning beforehand, one should note that the first phase was undergone from 1997 to 1998. The economic downturn in Hong Kong affected all industries including the tourism and hotel industries. With the decline in the number of visitors traveling to Hong Kong, the occupancy rate of the hotel was low. As a result, the renovation works could be accelerated and hence the duration was significantly shorter than normal ones.

For phase two, it was undergone from 2002 to 2003, whereas Hong Kong had the Severe Acute Respiratory Syndrome outbreak. The sharp decrease in number of visitors as well as the suspension of classes greatly reduced the occupancy rate and the use of meeting and events facilities. As a result, the renovations could be accelerated as in the previous phase.

5.6 Summary

The renovations of Sheraton Hong Kong Hotel & Towers were undergone in a smooth and

successful manner. Comprehensive planning and management during the renovation stage surely contributed to the success of the renovations. All the strategies applied throughout the renovations conformed to the application of facilities management, in terms of effective communications, space planning, emergency planning, etc. The only demerit was the negligence on the rationale behind organizing evaluations and keeping records. As the hotel was supposed to be in business for some more decades, further renovations are highly likely to be organized in future. Past records and evaluations will be invaluable information and experience to later renovations.

Another issue raised during the interview was the barriers to the application of facilities management. Mr. Ananda Arawwawela did not identify any. There were little or no constraints to the application of facilities management in the renovations in Sheraton Hong Kong Hotel & Towers. However, Mr. Ananda Arawwawela illustrated one possible barrier from the owners and hoteliers concerning the space planning for the back of the house. He noticed that hoteliers were generally unaware of the importance of the back of the house. However, to be long-sighted, the smooth operations of the back of the house could certainly help relieve the congestion of different operations and provide a nice working environment to the hotel staff, hence resulting quality services. He recognized that many owners and hoteliers dared not invest in the back of the house. This would become a substantial barrier in improving not only the appearance of the hotel but also to provide better services and smoother operations. In view of this, it is important to persuade the owners in early planning stage the benefits of investing a sum of money into the back of the house.

CHAPTER 6 CASE STUDY II • EATON HOTEL HONG KONG

Chapter introduction

The data collected for this case study was obtained from two interviews with Mr. T. K. Yeung, the Chief Engineer of the Eaton Hotel Hong Kong, and an interview with Mr. K. Y. Ho, the General Foreman (Sun Fook Kong) of the Eaton Hotel Hong Kong renovation project. The invitation for the interview was sent in November 2003 and the first interview with Mr. T. K. Yeung was held in December at his workplace. Continuous contact was held between December to January. The second interview was held in late January and the interview with Mr. K. Y. Ho was subsequently held in early February at the hotel. Relevant documents were showed to the interviewer on the request in the interview, but not taken away due to confidentiality issues.

This chapter takes the opinions of both the Chief Engineer of the hotel and the General Foreman of the renovation project who represent the hotel and the contractor respectively. The strategies applied to the renovation process and the opinions on various strategies are reported and contrasted. Potential barriers of the application of facilities management are identified.

6.1 Background

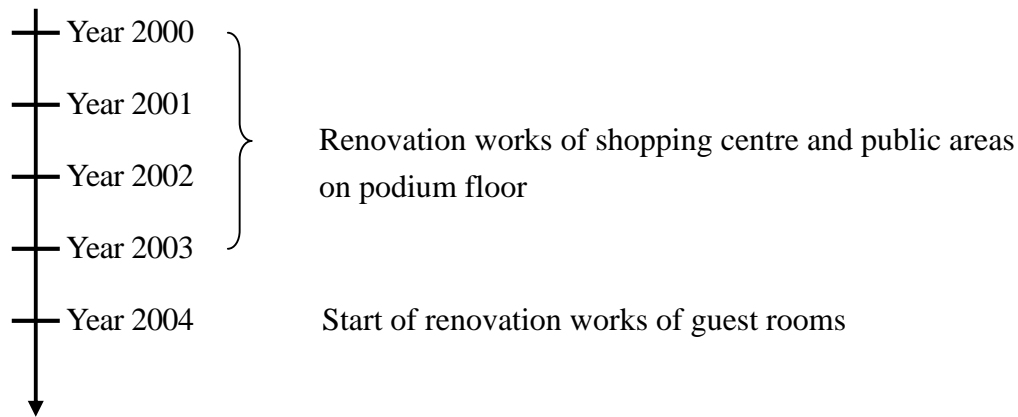


Figure 6.1 Timeline for the flow of issues concerning the renovations in Eaton Hotel Hong Kong

Source: Interview with Mr. T. K. Yeung, Eaton Hotel Hong Kong

Figure 6.1 showed a brief picture of the stages of the renovations undergone in the Eaton Hotel Hong Kong. The renovation inception was first included in a 7-year plan and subsequently 5- and 3-year plan. Budget approval process took place at the beginning and was brought to the management level for discussion of all department heads and managers. Owner's approval was sought after thorough discussions and the search for suitable consultants commenced. After the employment, licenses were applied and tendering process started. Contractors entered and renovation period started.

The renovation project was divided into two phases. The first phase started in 2000 and completed in 2003, which included renovations mainly on the podium floor. Areas affected included retail areas, cinema and public areas. The second phase will start in 2004 which include the renovations of guest rooms.

Both phases are master renovations. They not only involve cosmetic renovations but also

include a change of spatial arrangements and a change of use, such as the abandonment of the cinema on the podium floor.

6.2 Hotel management's view

6.2.1 Scope of work

When asked about the types of renovations, Mr. Yeung first elaborated with the characteristics of a hotel. A hotel is divided into *hard* and *soft* parts. *Soft* ones include furniture, wallpapers, etc that are more frequently replaced. *Hard* ones include walls, doors, etc that are less likely to be replaced too often. In his experience, the furnishings in a typical guest room last for about 7 years. Wallpaper, furniture and the similar will certainly need replacements by then. Such minor renovations merely involve the change of colour scheme and *soft* materials. As a result, such minor renovations are irregularly needed subject to changes in market trends. For the hardware such as marbles, it lasts for about 12-15 years. Major renovations involve this kind of hardware. For instance, the electrical and mechanical installments, walls and ceilings are renovated in major renovations.

When asked about the reasons behind the renovations, Mr. Yeung mentioned a few and stressed on the need to *extend the useful life of the hotel*. He illustrated this by a practical example concerning technology changes. Years ago, Eaton Hotel Hong Kong changed the entire hot water system: from the use of steam boilers to electrical water heater. Mr. Yeung provided that steam boilers contributed to an operational cost of \$3Million per year while the electrical water heater contributed to about \$1.5Million. Although the investment of

installation was about \$2Million, it could save money in the long run and was more environmentally friendly which gave less pollution to the district.

Moreover, Mr. Yeung described two practices to consider the necessity of renovations of facilities. One situation was a restrictive deadline in renovating or replacing a system. For example, the usual life of system A is 10 years. After 10 years even if the system is still functioning well, renovations or replacements will take place. The other situation was based on the drop in efficiency of the system. Both methods were adopted to different systems in accordance to their characteristics and the experience of handling such systems.

6.2.2 Budgeting

According to Mr. Yeung, the amount stipulated for renovation budget greatly depended on the owner's activeness to invest. In practical terms, he recalled that it was comparatively much easier in keeping a sinking fund before 1997, in which the sinking fund was a preset percentage of financial performance in each year.

In recent years, the renovation budget relied on the actual needs, usually urgent ones, of the renovations. Moreover, obstacles were very often found from owners. Negotiations concerning budget lasted for one to two months.

Even when budget was so limited, contingency sums must be kept at least 10% of the contract sum. However, as the construction industry was also suffering a severe downturn, the tender sums received were often below the budget set by the hotel. Mr. Yeung guessed that it was due to the lower labour and material costs.

6.2.3 Designs and inputs

Mr. Yeung commented that it was prerequisite to have clear understanding on the designs. 3-dimensional images of at least 90% similar to the actual outcome were requested. Difference was often unacceptable as there was no extra time for any further corrections. Operations in the hotel simply could not stand idle because of it.

In view of inputs for the designs, mock-ups were produced and the opinions from regular guests and travel agents were sought before renovations. Moreover, hotel staff was invited to express views on the mock-ups for further improvements.

On the other hand, the management level discussed the renovation objectives thoroughly in regular meetings where the participants were merely the hotel general manager and the heads of different departments. Hotel staff was not involved in discussions, but was informed in notice boards for voluntary reading. A few personal contacts or discussions might be done, between the heads and individual staff. However, the main focus of the hotel, company guests, was introduced to all staff. Hence everybody was expected to concentrate their attentions on the interests of company guests. This was expressly mentioned in meetings within individual departments.

6.2.4 Communications

Proper notices to hotel staff were essential. For example, would there be a suspension of electricity overnight, a notice should have been posted to notify everybody three days ago.

Notices to relevant government departments were served too. As a park and a public toilet

were the immediate neighbours of Eaton Hotel Hong Kong, the Leisure and Cultural Services Department, the Food and Environmental Hygiene Department as well as the Highways Department were notified of the renovation works.

In view of the communications with guests, complaints from guests during the renovation period were almost inevitable, if not absolutely, according Mr. Yeung. Measures to reduce dissatisfaction included early acknowledgment. When guests made booking of rooms, they would be acknowledged of the renovations undergoing or to be undergone. If the hotel recognized that there would be substantially large disturbance to guests, discounts would be automatically provided. Moreover, barricades and hoardings were designed to show the images of the hotel after renovations, such that guests understood more about the renovations.

Despite the preventive measures, more complaints were received during renovations contrast to normal times. The aspects of the complaints could virtually be everything, for example a blockage in staircases due to renovations. Mr. Yeung regarded this as a thought of guests to get compensation or discounts, and indeed the hotel would compensate them with discounts, upgrading of room services, a free meal or souvenirs.

6.2.5 Guidelines for contractors and supervision

During tendering interviews, the issue of suspension of works caused by avoidance of noise interrupting meetings of guests would have talked through. Extension of Time could not be claimed and no delay of this kind would be compensated. Contractors had to propose a duration that they had taken into consideration the possible suspensions of works. In other words, the risk rested on the contractor and was in turn shown in the tender sum and the

programme of the works.

On the other hand, there were internal controls against noise. Weekly notices were posted regarding the dates and time of suspension of work due to meetings of guests.

In addition to the above, general guidelines to the contractors were issued, for example, no smoking; workers with valid Hong Kong Identity Card and *fgreen card*; and the necessity of wearing safety helmets. The main contractor would have a safety inspector to monitor all the above. The hotel placed the responsibility on the main contractor and did not incorporate more controls except for the guidelines set.

6.2.6 Safety, security and supervision

In large-scale renovations, the contractor was obligated to employ 24-hour security guards. Patrolling after everyday work was required to observe any hazards left behind such as welding works. Insurance was also a must, however, the premium could be lowered with the employment of 24-hour security guards. Moreover, visitors to the site were required to wear site badges.

During renovation works, the barriers between the renovating areas and the operating areas required a 2-hour fire separation. On the other hand, supervisions from contractors were insufficient according to Mr. Yeung. The representatives of the hotel also supervised the whole process.

6.2.7 Meeting the proposed budget

According to Mr. Yeung, a contingency sum was reserved for additional work under Architect's Instruction. Owner's approval was not needed for the use of this amount. Moreover, Mr. Yeung expressed that it was the contractor's responsibility to keep the actual cost within the contract sum. Therefore, actual amount exceeding the budget was not frequently met.

6.2.8 Meeting the proposed completion date

Mr. Yeung provided that, if the renovation work is not finished upon the date of completion, the hotel can claim liquidated damages at \$30,000 per day according to the contract. Once, there was a delay due to the rejection of the Buildings Department on some submissions. The programme was lagged behind for about a month.

Mr. Yeung added that the Architect was responsible to monitor the programme of the works. Whenever there was a delay, there should be early detections and subsequent rearrangements. For example, a change of the delivery of materials from shipping to air freight. Moreover, project meetings were held periodically, once a week at normal times and twice or more a week during peak periods. Control of time was considered sufficient.

Mr. Yeung expressed an important note that, neither the contractor nor the hotel wanted to have delay. From the hotel management's point of view, the loss was not merely financial. Although the hotel could claim liquidated damages, the loss of reputation and goodwill could hardly be compensated. Sometimes, even with liquidated damages claimed, financial loss could not be totally recovered. He illustrated by the example of a proposed new restaurant. If it was expected to open in June, then orders and appointments would certainly be made in

advance. The delay of renovations and in turn the delay in opening would result in the decline in reputation and a substantial financial loss.

6.3 Contractor's view

6.3.1 Programming

Time estimation for designing the programme was determined by the average turnover rate, the periods of hot season and high occupancy rates, and the experience of the hotel as well as the renovation contractor. The programme of the works was predominantly depended on the time schedule of the hotel. In addition, it also relied on the pre-construction site survey of the contractor.

Weekly meetings were held, between the hotel and the contractor with related parties, to report on updated items in the hotel's time schedule and subsequently adjust the programme of the works.

6.3.2 Access

Mr. Ho identified that time was the most important factor affecting access, both internal and external.

Internally, temporary works and hoardings were erected and dismantled every day, followed by subsequent clearing of wastes and debris, if any, and cleaning. This practice was adopted

as most guests in the hotel commonly went out in the morning and came back in the evening. The time with little pedestrian flow inside the hotel was the period in between, say 10am to 5pm and 12am to 6am. As a result, the planning of access for the renovations must incorporate two prerequisites: keeping guests away from the renovation works and maintaining normal operations at peak hours.

Externally, delivery of renovation materials and disposal of wastes were concerned. Access planning was essential in the sense that arrival and departure of guests were not disturbed or even the guests might not be able to notice any delivery or disposal. Exact time for delivery of renovation materials was estimated according to the programme of the works, and then communicated to the suppliers. The disposal of wastes was inherited with higher difficulties. Renovations often involve higher degree of uncertainty. The amount of waste produced was highly uncertain. Mr. Ho told that the practice adopted was to find an always-on-call waste truck. Moreover, the truck was instructed to park at the side street, in order to avoid obstruction of normal operations.

6.3.3 Materials and wastes

Time was again of utmost importance in handling the supply of materials and disposal of wastes. For the supply of materials, the quantity of materials delivered every time must be considered carefully. This is because the hotel was still in business and had a lot of operations, there was not much excess space for storage of surplus materials in a considerable long period of time.

While Mr. Ho identified that the ordering and storage of materials required extra planning, the

pricing of the materials in renovation projects was not of special significance and was highly similar to, if not the same as, the practice in new construction projects.

6.3.4 Noise

The control of noise in Eaton Hotel Hong Kong was mainly based on the technology adopted and sound barriers erected. Mr. Ho expressed that the extent of noise control was highly dependent on the hotel management's decision on the technology and quality of sound barriers, which was in turn the decision on cost allowed on this item.

Furthermore, suspensions of the works were almost unavoidable when there were important meetings or arrivals of important guests. Mr. Ho complimented that the communication between the hotel and the contractor was good in this sense that a one- or two-week time schedule would be given to the contractor in advance showing the time for suspension of the works in certain areas due to the above said reasons.

6.3.5 Costs

The tender sum submitted by the contractor was based on information from the site survey and experience. As renovations were inherited with high degree of uncertainty, two tender sums were submitted indicated two different labour rates, one for normal working time and another for non-normal.

6.3.6 Supervision on site and head office management

Supervision on site was of significance due to the complexity and high degree of uncertainty of renovation works. Such supervision was the responsibility of the main contractor or management contractor. The hotel's engineering department also supervised and represented the hotel as a whole.

Many parties were involved in the renovations. Meetings were held throughout the whole renovations, including the planning stage and the post-renovation evaluation. The owner of the hotel involved at early meetings and handed over to the hotel for after the confirmation of some major decisions such as budget and image. The contractor, the consultant and the sub-contractors were the parties employed by the hotel representative which was the Chief Engineer of the hotel. These parties or some of which were gathered during site surveys, meetings, cost estimation, tendering and appointment of sub-contractors, etc.

Each party should be clearly informed and understood that the main contractor or the management contractor and the hotel chief engineer were the highest management level in the renovation project.

6.3.7 Labour

Selection of the workers was slightly different from that for new construction works. The image of the hotel must be considered. Relevant guidelines set by the hotel should be followed.

In addition, whenever teams of new workers or sub-contractors emerged, a briefing

concerning the guidelines and rules to be followed must be attended before the commencement of their part of works.

On the other hand, to maintain a stable productivity of the works, communication was crucial. Communication should be timely and accurate, such that the possible adjustments and alternative arrangements can be adopted quickly. As a result the programme of the works might not be affected in a great extent.

6.3.8 Safety, security and protection

Safety of workers was ensured and measures adopted conformed to the Labour Ordinance of the Laws of Hong Kong, as well as the safety guidelines commonly adopted by the contractor.

Except safety issues, security matters must be considered too. Mr. Ho said that insurance was the main arrangement in relation to the security issues.

Protection of the works was done solely by hoardings. Mr. Ho identified that the criteria for such hoardings was aesthetic issues, simply because it would affect the image of the hotel.

There were no special measures in protecting the works or the workers. The arrangements were similar to those adopted in normal construction projects.

6.3.9 Documentation

Mr. Ho expressed his opinions that documentation arrangements in renovations and that in

new constructions were nothing different. Relevant documents of the renovation works must be well communicated, arranged and recorded. These documents might later be used as a proof to safeguard the rights of different parties.

From the perspective of communications, Mr. Ho commented that renovation works required earlier and timelier receipt of relevant documents due to the uncertainty of the works and the subsequent requirements for possible sudden adjustments.

6.3.10 Maintenance of essential services

Temporary suspension or dismantling of some existing utilities and facilities in the hotel might be required during the renovation process. Examples included the fire safety services and the lifts. These types of actions could induce changes to the access and the programme of the renovation project. Two-way communications were again of vital importance. Otherwise, serious results might occur. Guests might complain and the hotel operations might be obstructed, hence causing harm to the reputation of the hotel. The safety regulations might be broken and hence penalized by the relative authorities. The renovation works might be delayed.

Hotel facilities were open for business during the renovation period. To maintain a certain level of the business volume and at the same time ease the progress of the renovations, the renovations of some facilities of the hotel were inevitably held at night despite the higher wages of the workers. Restaurants and function rooms were typical examples. Guestrooms were usually renovated at normal working hours in order to keep costs at a lower level.

6.3.11 Differences between new construction projects and renovation projects

When asked about the differences between new construction projects and renovation projects, Mr. Ho identified two main differences: communication and material ordering. Communication became especially important in renovation projects owing to the high degree of uncertainty and frequent changes. The delivery and ordering of materials required extra planning. The usual practice adopted by the management contractor was to allow the delivery of materials the earliest two months in advance of the actual period of usage.

Mr. Ho also mentioned another important issue in the renovations in hotels. An ideal case was that the newly renovated areas should fit perfectly with the existing features. However, in the practical sense, it was highly impossible to produce mock-ups for all proposed features, mainly due to time and cost constraints as well as the huge amount of works to be done. Two- and three-dimensional drawings were considered as the best replacements. Presentations were made and hopefully decisions could follow. However, in the contractor's view, the representatives of the hotel were very sensitive to and demanding on the designs, such as the colour schemes. The hotel representatives were very familiar with the actual environment and facilities of the hotel, hence giving much influence to the designs. Moreover, as the hotel was still in operation and received advance orders to provide services right after the expected completion date, the hotel tended to ensure the appropriateness and the compatibility of the designs in an early stage. Decisions were therefore often made late hence affecting the programme of the works as well as the sequence of the works. As a result the duration for planning was comparatively long.

6.4 Validity of case study

The data collected for this case study was obtained from two interviews with Mr. T. K. Yeung and one with Mr. K. Y. Ho individually. This separate arrangement strengthens the say that both interviewees are not influenced by their counterpart as compared to a combined interview with the two together. In this circumstance, they would not know what their counterpart expressed and hence was expected to be capable of freer communication of ideas.

On the other hand, one may argue that the opinions representing the two sides, the hotel and the contractor, were solely obtained from the chief engineer and the general foreman, in which they may not truly and fully reflect the actual situations. However, there should be no initiative to provide unrealistic information as both of them clearly understand that this study is solely an academic paper written by a university student and will not be used in any other circumstances. Moreover, the chief engineer did not know that an interview would be held with the general foreman until the completion of the second interview when the researcher asked for the contact of the contractor. Therefore, if it is a necessity to compare the likely degree of trustiness between the two interviewees, one can be ascertained that the opinions from the chief engineer are reflecting the truth.

6.5 Summary

This case study took the approach of looking at similar issues in the renovations from two different perspectives, one from the hotel management's point of view and the other from the contractor's. What the two interviewees responded was the same in terms of performance of strategies, but a bit different in terms of the perceptions of importance.

Also, the hotel appeared to rely on the contractor for a number of issues including safety, security and keeping budget. Reliance on the architect was also found in sight of time management. Guidelines for contractors seemed to be insufficient.

As observed in this case study, barriers to the application of management include the tight budget for providing more comprehensive means for issues such as security. Manpower for active involvement in the renovation project was inadequate too. Negligence was observed in certain areas which had room for improvements. Examples include guidelines to contractors and supervision on site.

However, from the conversations with the two interviewees, cooperation and communication were satisfactory. The contractor showed understanding on the operations of the hotel and coordinated the works accordingly.

To sum up, the communication between the two parties during renovations was generally good and close. However, discrepancies and conflicts were found in some aspects, for example the lengthy revision of detailed designs and the suspension of works in certain areas.

CHAPTER 7 SUMMARY AND CONCLUSIONS

Chapter introduction

This chapter consists of three parts. The first part summarizes the findings from literature, questionnaires, interviews and case studies. The usefulness of the findings is discussed subsequently.

The second part identifies the limitations and inadequacies of the study, while the last part suggests areas for further research.

7.1 Summary of findings

This study concentrates on the application of certain facilities management strategies to large-scale renovations in hotels in Hong Kong. The extent of application and the reasons behind the non-application are the main foci.

The general trend on the extent of application of facilities management revealed an average score of 71.0 for the respondent hotels, showing certain degree of application in hotel renovations in average. The extent of application will not be satisfactory until full scores are recorded. Two groups of hotels clustered at the scores of 55 and 78, showing two main streams in terms of extent of the application. Respondents mainly lost scores at levels of planning for certain facilities management strategies and the inputs and communications with guests, staff and contractor.

Inadequacies in planning and communications were discovered. The main constraint expressed by the respondents was financial restrictions. Another prediction on the cause of inadequacies was the unawareness or negligence on the importance of certain aspects such as valuable input from staff for operational efficiency.

Interviews also revealed some degrees of benchmarking and research on the positioning of the hotel before the implementation of renovations. Areas of interest were benchmarked, either internal or external, and compared monthly, on factors including number of emergency maintenance orders. Indices were developed, such as the total number of guest room work orders completed per number of room nights. Contrasts were made between factors, such as the number of emergency maintenance orders and the number of corrective maintenance orders. Breakdowns were made to facilitate the improvements of certain specific areas, such

as the breakdown of emergency work orders into areas including air conditioning, electrical, lighting, door, furniture, plumbing, etc. Trends were caught for each area and problematic locations were identified. Targets for the following month were clearly stated to exert control on the identified problem areas. Examples include: to reduce appliances related work orders by completing improvement of TV signal network, and to revise air conditioning maintenance method in order to reduce the number of guest complaints.

The barriers to renovations in hotels found in questionnaires and interviews conformed to findings from literature. Various reasons for renovations in real world examples were expected too. Findings of the above phenomenon, greatly contribute to the investigation of the barriers to the application of facilities management. Financial constraints, negligence on the importance of certain issues as well as inadequacies in communications were the major barriers to the application of facilities management strategies to hotel renovations in Hong Kong. Most importantly, the management level of hotels should first understand the benefits and importance of the application of facilities management. Explanations to the hotel owners can then be more convincing and subsequently more resources may be invested. At the same time, communications between different parties in the renovations can be more effective and the output may be more satisfactory and fruitful. Rewards in terms of money return as well as reputation of the hotel can therefore ascertain the wisdom of the owner's investment.

This study is significant in understanding the development of facilities management in hospitality industry, as research on facilities management in the context of hospitality was unpopular. Also, the application of facilities management to renovation projects can be further developed to establish a sophisticated set of strategies for better management of renovations. In particular, management of renovations in the hospitality industry was rarely addressed

despite its high degree of difficulty. In addition, the hotel industry is always famous for its customer-oriented and service-focused objective. The traditional strategies adopted by hotels in management can help supplement the developing strategies in facilities management. On the other way round, facilities management strategies can draw into certain aspects in facilitating hotel management. Hence, the relationship between development of facilities management and the hospitality industry can be an interactive one and mutual benefits can be obtained.

7.2 Limitations of study

This part discusses the limitations and inadequacies of the study.

- 1 Facilities management is a relatively new topic. Hot debates are still undergoing not only in the definition of the subject but also its scope. Losekoot *et al.* (2001) regarded facilities management as ill defined in the context of hospitality industry.
- 2 Statistics and research studies concerning hotel renovations were very limited. Contacts were made with the Hong Kong Tourism Board, the Hong Kong Hotels Association and Horwath Asia Pacific. Neither of them had formal figures, statistics nor research studies concerning hotel renovations. Extracts from certain reports were available yet information was highly insufficient. Internet search for hotel renovation information was unsuccessful too. Property consultancy firms as well as hospitality consulting firms were the major targets. Most research reports on hotels were done long time ago, and further contacts revealed that research was no longer undergone for recent years.

- 3 The number of interviews and questionnaires was not adequate to show a sound general trend. The sample size included the hotels in which renovations were ascertained through internet search as well as direct enquiries. It might have ignored the non-respondents which might have renovations. If time allows, it may be possible to invite more for interviews and questionnaires.

- 4 Comparability between the responses may be questioned. The hotels have different backgrounds. Some are owned by international hotel management enterprises while some are independent. Moreover, the renovations under investigation were in different natures or scales, albeit they were all major or master renovations. On top of that, respondents were of different degree of experience in the aspect of renovations. Whether or not their opinions can be generalized to represent the whole population may be doubtful. Furthermore, only a portion of the sample took the initiative to respond. Only this portion can be analyzed. The generality of the findings may be questioned.

7.3 Areas for further research

This study puts its focus on the application of facilities management and approaches from the perspectives of hotel management. There are many other aspects related to this study and can provide opportunities for further research. In particular, further studies can build on this work and investigate from a customer focused approach by obtaining guests feedback and handling guest dissatisfaction. Moreover, outsourcing and benchmarking in the context of facilities management can be researched in the hospitality industry.

Research similar to this study can be done to investigate the application of facilities management to renovations in other properties, for example hospitals ..for its highest degree of difficulty in renovation management. Last but not least, the development of facilities management in hospitality industry is also an area for further research.

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APPENDICES

Appendix I The Hong Kong Tourism Board Hotel Classification 2002

Appendix II The Richard Ellis Research Independent Hotels Classification System

Appendix III Guest questionnaire sample

Appendix IV Contractor's safety requirement sheet

Appendix I

The Hong Kong Tourism Board Hotel Classification 2002

(Source: Hong Kong Tourism Board, *HKTB Hotel Classification System*, available at <http://partnernet.hktourismboard.com>)

Hong Kong Tourism Board Hotel Classification System 2002

1. The Hong Kong Tourism Board in 2001 has modified the hotel classification system to reflect more accurately the quality and service of hotels in Hong Kong.
2. In addition to hotel room rates and staff to room ratio, other important factors such as location, facilities and business mix of hotels are used in the new classification system.
3. These factors are weighted to their relative importance according to results of survey among current hotels:
 - (a) Facilities (82%)
 - (b) Location (62%)
 - (c) Staff to room ratio (54%)
 - (d) Achieved room rate (54%)
 - (e) Business mix (49%)
4. A new scoring system is adopted in the classification of hotels. For each important indicator selected above, scores are compiled based on results of the survey, except for average achieved room rate, which is based on results of the monthly Hotel Room Occupancy Surveys for January – December 2000.
5. The scoring method for each indicator is given as follows:

(a) Facilities

Separate assessments on F&B, IT, business as well as health and related facilities are undertaken to consolidate the score for facilities. The scoring methods for individual components of facilities are shown below:

<u>Components</u>	<u>Score</u>	
F&B facilities	0 to 10	(based on number and quality of F&B facilities)
IT facilities	0 to 2	(based on number of IT facilities – internet booking service, in-room internet access)
Business facilities	0 to 2	(based on number of business facilities – business centre, conference facilities)
Health and related facilities	0 to 6	(based on number of health and related facilities – jogging track, health centre, swimming pool, tennis court, squash court, golf putting green)

(b) Location

	<u>Score</u>
Tsim Sha Tsui, Central, Admiralty, Wanchai (North), Causeway Bay	5
Jordan, Other Wanchai areas,	4
Other Kowloon and Hong Kong areas	3
Shatin, Tsuen Wan	2
Other NT areas and outlying islands	1

(c) Staff to room ratio (SRR)

	<u>Score</u>
SRR ≥ 1.20	3
1.20 > SRR ≥ 0.70	2
SRR < 0.70	1

Notes: – In line with the retrenchment of staff resources in the hotel industry in the past three years, the average staff to room ratios adopted in the hotel classification system for 2001 have reduced by over 20% as compared to those for 1998.

– In compiling the staff to room ratio, the number of staff establishment is used.

(d) Achieved room rate (ARR)

	<u>Score</u>
ARR ≥ 850	3
850 > ARR ≥ 450	2
ARR < 450	1

Note:– The above class boundaries are based on the average achieved room rates of existing High Tariff A Hotels, High Tariff B Hotels and Medium Tariff Hotels.

(e) Business mix (BM)

	<u>Score</u>
BM ≥ 30%	2
BM < 30%	1

Note:– Based on results of the Visitor Survey in 2000, business travelers constituted 30% of the total visitors.

6. A composite score for each hotel is calculated by weighting the scores of indicators obtained from the hotel against the relative importance of the indicators. Reflecting the opinion of hotel industry members as collected from the survey, the weights of the indicators adopted in the hotel classification system are given as follows:

<u>Indicator</u>	<u>Weight</u>
Facilities	0.25
Location	0.20
Staff to room ratio	0.20
Achieved room rate	0.20
Business mix	0.15
Overall	1.00

7. The composite score of a hotel, which is compiled based on the scores obtained for the indicators and the weights of the indicators, is an overall measure reflecting the category standing of the hotel. Under the above scoring and weighting methods, the composite score of a hotel will range from 1 to 4.
8. Based on the composite score compiled, the category standing of the hotel will be determined according to the following criteria:

<u>Hotel Category</u>	<u>Composite Score</u>
High Tariff A Hotels	3.00 or above to 3.99
High Tariff B Hotels	2.00 or above to 2.99
Medium Tariff Hotels	1.00 or above to 1.99
Tourist Guesthouses	- self explanatory -

Note:– Tourist Guesthouses are classified using the list provided by Home Affairs Department.

9. The Hong Kong Tourism Board does not make public the listings of hotels by category. However, individual hotels are informed of their respective category so that they can compare their own performance against their category averages when reading research reports on hotel industry published by the Hong Kong Tourism Board.
10. In order to maintain a consistent base for data comparison, an observation period will be given before any action is taken to change the category standing of a hotel in which, based on the classification system, change is necessary.

Appendix II

The Richard Ellis Research Independent Hotels Classification System

(Source: Richard Ellis Ltd (1991), *Hong Kong Hotel Market and Tourism Report*. Hong Kong: Richard Ellis Ltd.)

SECTION III ANALYSIS OF THE EXISTING HONG KONG HOTEL SECTOR

III.i) TYPES OF ACCOMMODATION

Hong Kong Tourist Association hotels classification system

The Hong Kong Tourist Association (HKTA) bases its classification of Hong Kong hotels on the room rate for a standard double room, assuming double occupancy, as follows:

Medium Tariff:	Below HK\$990
High Tariff B:	HK\$990 or above, and below HK\$1,500
High Tariff A:	HK\$1,500 or above

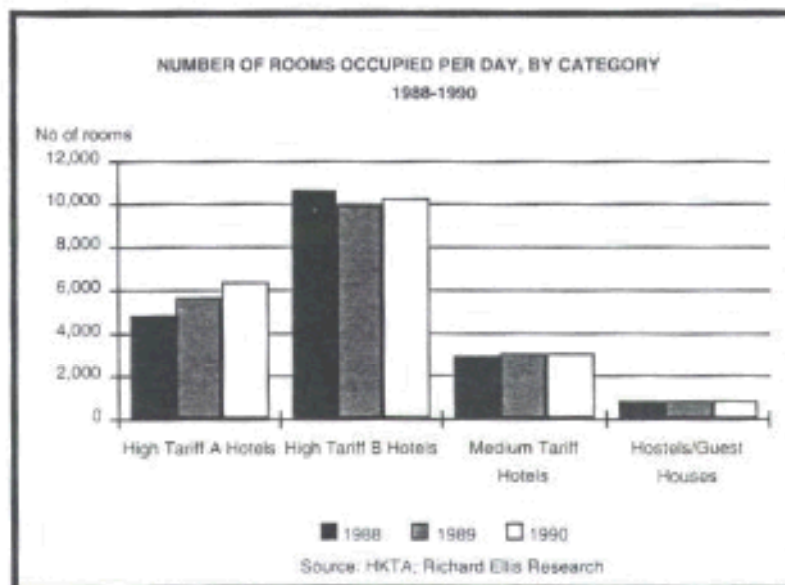
The HKTA classification also includes a grading based on an average staff/room ratio as follows:

Medium Tariff:	Below 0.97 staff per room
High Tariff B:	0.97 staff per room or above
High Tariff A:	1.60 staff per room or above

In the event that an individual hotel does not fulfil the requirements of an established category, the HKTA imposes an arbitrary judgement to determine its class. This judgement generally is based on the facilities provided by the hotel.

A further category, Hostels and Guest Houses, is used in the HKTA's definitions. This is a self-explanatory category, which applies the lone criterion of name of the establishment in its assessment. Graph 3.1 below shows the number of hotel rooms occupied per day for each category of accommodation over the three-year period 1988-1990:

Graph 3.1



The popularity of High Tariff B hotels is well illustrated in Graph 3.1. In 1990, more than 10,000 rooms in this category were occupied per day, compared with 6,000 High Tariff A hotel rooms, 3,000 Medium Tariff hotel rooms and 800 hostel or guest house rooms.

In total, 20,495 rooms were occupied in all categories per day in 1990, compared with 19,310 rooms occupied per day in 1989.

Richard Ellis Research independent hotels classification system

For the purposes of its first "Hong Kong Hotel Market and Tourism Report", published last year, Richard Ellis Research devised an independent classification system for existing Hong Kong hotels, with the aim of establishing a set of criteria which allows for greater accuracy in determining the grades of hotels scheduled for completion over the coming three years.

While this classification relies on qualitative as well as quantitative assessments of individual hotels, it allows a closer comparison of existing hotels and projected hotels and hotels under development. Such comparison would not be possible using the HKTA's classification system, since hotel developers decide on the tariffs they will set closer to the date of completion of the hotel.

Richard Ellis Research has elected to base its independent Hong Kong hotels classification system on the European "star" grading system, which, in addition to tariff rates, also includes facilities, level of service, room size and location in its grading analysis.

Specific facilities/services considered under the Richard Ellis Research classification system include:

- Restaurants
- Bars/lounges
- Onward booking facilities
- In-room facilities, e.g., TV, shower/bath, bar refrigerator, etc.
- Laundry/valet service
- Shopping facilities
- Sports/health centre facilities
- Conference facilities
- Banqueting facilities
- Facilities for the handicapped
- IDD telephones
- Cables, telex and facsimile
- Local and overseas parcel and postal service
- Shuttle bus service
- Sightseeing tours
- In-house medical services

Using the star-grading system, Richard Ellis Research has determined that there are six categories of hotel in Hong Kong, as follows:

Richard Ellis

Hostel/guest house:	cheap, basic accommodation; often dormitory style
2-star:	low-end medium tariff hotel, offering minimal facilities
3-star:	upper-end medium tariff hotel, offering fair facilities
4-star:	low-end high-tariff hotel, offering good facilities
4.5-star:	good high-tariff hotel, offering very good facilities, but lacking one or more criteria to make it a 5-star hotel
5-star:	upper-end high-tariff hotel, offering excellent facilities in a prime location

Appendix III

Guest questionnaire sample

(Source: Conrad Hotel)

Completely fill in
your response

Correct

Incorrect

GUESTScope™

During my stay, I experienced:

Your Guest Room

	Very Much Agree					Very Much Disagree		N/A
	7	6	5	4	3	2	1	
A clean room	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A clean bathroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A comfortable room	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A well designed work space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everything working in my room	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Restaurants Overall

Friendly restaurant staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality food and beverage (taste, appearance, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prompt service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accurate food and beverage orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value of food and beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fitness Amenities

Equipment that worked well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good equipment selection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clean fitness center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clean swimming pool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Overall Stay

Overall value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall positive experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall very satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supposing I was here again, I would stay at this hotel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Purpose of visit? Convention or Group Business Pleasure

Did you have a hotel product or service problem during your stay? Yes No

If yes, did you report it to the staff? Yes No

How well was it resolved? Excellent Acceptable Unresolved N/A

Please tell us the nature of the problem. _____

Comments or employees you would like to acknowledge.. _____

Name: _____ Room Number: _____

Date of Stay: _____ Phone Number: _____

Address: _____

Email: _____

PLEASE DO NOT WRITE BELOW LINE

HOTEL USE ONLY

A B C D E

001 - 001 - 002

Appendix IV

Contractor's safety requirement sheet

(Source: Sheraton Hong Kong Hotel & Towers)

CONTRACTORS _____

CONTRACTOR'S COMPANY NAME: _____

ADDRESS: _____

TRADE & AERAS WORKED _____

CONTRACTOR'S SUPERVISOR ON THE JOB

GENERAL STATEMENT

Sheraton Hong Kong Hotel & Towers is committed to providing a safe environment and work site for all employees and general public. In support of this commitment, all contractors conducting business at Sheraton Hong Kong Hotel & Towers have an obligation to comply with the polices and procedures of Sheraton Hong Kong Hotel & Towers.

SAFETY AND FIRE PREVENTION REGULATIONS

- a) All exits and egress corridors shall remain active unless other provisions have been made with the approval of management and local authorities.
- b) A fire permit must be obtained in advance in order to use flame or spark producing equipment to any anywhere on site.
- c) Combustibles shall be stored away from buildings in suitable containers and/or enclosures and secured. Storage of materials shall be stable and self-supporting.
- d) Flammable liquids shall be kept in closed metal containers and the contents clearly identified.
- e) Proper fire extinguishing equipment shall be provided by the contractors.
- f) Notification to, and authorization of, Sheraton supervision is required in order to shut down automatic sprinkler system and automatic fire alarm system.
- g) No open burning is permitted.

- h) Excavations, opening and overhead work shall be barricaded or roped off and warning signs installed in the likely avenues of approach.
- i) Barricades or warning signs of any type subject to personnel access during hours of darkness shall be illuminated or identified with warning lights.
- j) All access routes for emergency vehicles shall be open and available.

ACCESS TO THE PREMISES

- a) All contractors must report to the security area prior to working anywhere on site. Security will issue visitor pass which must be displayed on personnel at all times. Contractors are not permitted to bring children or animals onto Hotel property whilst engaged in work. Designated restricted areas may not be entered without permission of Sheraton supervision.
- b) Employees of contractors must wash hand at the 2nd Basement designated hand-wash area before entering to the Hotel area.

CONTRACTOR'S OBLIGATION

- a) Contractors shall safeguard the health and safety of employees, covering all machinery, equipment, substances and appliances used in work on site.
- b) Contractors have an obligation to remind their employees to avoid injury to themselves or others, and must not interfere with or misuse equipment or building services, which provide protection for health, safety or welfare of employees and the public.
- c) Contractors are responsible for their own health and for the health of any other person around them. All contractors, therefore, are required to arrive for work fit to perform all duties and responsibilities assigned.
- d) The Contractors shall ensure all their employees are provided with and wear protective respiratory equipment and protective clothing when cleaning or serving cooling towers and sewerage tanks.
- e) Any Sheraton Hong Kong Hotel & Towers facility or equipment damaged by the contractor will be repaired at the contractor's cost.
- f) Loud, coarse or abusive language within the vicinity of staff, guests and visitors will not be tolerated and may result in the cancellation of the contract.

- g) Before commencing work on site, the contractor shall insure against legal liability and workers compensation.
- h) Smoking is not permitted within the Hotel property.
- i) Food can only be consumed in the staff canteen or other areas of the hotel by prior arrangement. Otherwise all food is to be consumed off site.
- j) Contractors and contractor's employees are to be reasonably dressed at all times to a standard acceptable to Hotel management.
- k) Using of Hotels' service lifts for equipment or material delivery must be arranged with Engineering Department in advance.
- l) Using of Hotel's washrooms by Contractor's employees is strictly prohibited.

SAFETY PROCEDURES

- a) **Coordination**
Work in any area shall be co-ordinated with the Sheraton Floor Supervisor.
- b) **Code Requirement**
All work conditions and procedures shall comply with the Hong Kong Labour Department and Local Code Requirements.
- c) **Clearance of Passageway**
Aisles and passageway shall be kept clear of obstructions to provide free and safe movement of material and personnel.
- d) **Accident & Incidents**
All accident and incidents shall be reported immediately to the Security Department or the Hotel's representative in charge.
- e) **Personal Protective Equipment**
The contractor shall provide and ensure all employee wear personal protective clothing when required, such as safety helmets, eye protection, respiratory protective equipment, hearing protection, protective footwear, hand protection and safety harnesses where applicable.
- f) **Protection of the Work Site**
The contractor shall provide protection of work including proper fencing, guarding, lighting, safety tagging, watching of work for suitable safety

precautions to protect the public, owners and occupiers of this and adjoining properties for the duration of the work on site.

g) Work Permits, Flame Cutting and Welding

Naked flames, grinding or use of heating equipment shall not take place without a HOT WORK permit from the Engineering Department. All welding and cutting shall comply with the relevant standards or regulations covering this type of work.

h) Machine Guarding

All mechanical equipment brought onto Sheraton Hong Kong Hotel & Towers grounds must be guarded. No equipment is to be operated with guards removed.

i) Electrical

All portable electrical equipment owned by the contractor that is to be used within Sheraton Hong Kong Hotel & Towers grounds must be in a safe condition. Electrical equipment may be inspected by a representative the Engineering Department and if not found to be in a safe condition, the contractor may be requested to stop work until the equipment is repaired or replaced. All contractors must use portable safety switches when using electrical equipment.

j) Working at Heights

The standard for Working at Heights and Working on Roofs requires person working above 5 ft. to be protected from falling. All equipment for working at heights supplied by the contractor must be well maintained, and comply with the relevant design standard applicable.

k) Lockout/Tag out System

Where equipment is isolated for servicing, repairs or tests, the contractors shall lock out, render safe and tag such equipment, and shall not restart such equipment until he/she can ensure re-commissioning such equipment will not endanger any person. Sheraton Hong Kong Hotel & Towers lock out and tag out system must be used.

l) Hazardous Substances Stored on Site

The contractor, supplier or consultant shall advised of all potentially hazardous substances moved on site, either compressed gasses, flammable liquid or solids, oxidizing agents, poisonous and infectious substances, or corrosives, and provide material safety data sheets (MSDS) for each substance proposed for use on site and ensure the correct handling, storage and usage of these substances. Training of Hotel staff is a requirement prior to any substances being put to use.

m) Plant

All tools and equipment brought into the Hotel premises for the performance of work by the contractors must meet current Standards (if applicable) and be maintained to the manufacturer's specification. Sheraton Hong Kong Hotel & Towers is not responsible for any tools or equipment brought on site by contractors, etc.

n) Clean Up/Disposal

The responsibility to clean up all rubbish and dispose of the same rests with the contractor.

ENVIROMENTAL WASTE**a) CHEMICALS**

Contractors must ensure that chemicals, cement or sediments do not enter storm water drains within Sheraton Hong Kong Hotel & Towers grounds. All waste is the responsibility of the contractor to remove unless otherwise agreed.

b) FIRE HAZARDOUS SUBSTANCES

Combustible scrap shall be removed at end of each day.
Solvent waste, oily rags and flammable liquids shall be kept in fire resistive containers until removed from the premises.

c) REFRIGERANT MANAGEMENT

The contractor shall allow for such equipment and responsible procedures in handling refrigerants, to be decanted and reused, to avoid the risk or release to atmosphere and damage to the ozone layer.

SAFE USE OF GONDOLAS/SUSPENDED WORKING PLATFORMS

In relation to use of gondolas by the contractor, the contractor has to comply with the general duties on safe use of gondolas/suspended working, under the regulation of the Factories and Industrial Undertakings Ordinance, Chapter 59.

FIRE PROTECTION AND PREVENTION PROCEUDRES**a) Emergency Procedures**

Should the emergency evacuation sirens sound, please evacuate to one of the 3 assembly areas and notify the Hotel person responsible for your contract of your presence. Attached to this document is the location of Sheraton Hong Kong Hotel & Towers including the assembly area for your reference.

During an emergency, every effort shall be made to permit free movement of emergency vehicles and personnel.

b) Fire Protection/Detection Systems

The contractor shall not change, alter, isolate, bypass or render inoperative any fire protection or detection systems in the property, without a "Red Tag" permit available from the Chief Engineer and shall use additional portable fire protection equipment where the potential for fire risks may be present in the work proposed.

Please return the completed sheet to the Sheraton Hong Kong Hotel & Towers,
Engineering Department

I have read the regulations above and agree to abide by them wholly.

Signed : _____

Company Name: _____

Date: _____