

**THE IMPACT OF ENVIRONMENTAL MANAGEMENT SYSTEMS:
THE EMPLOYEES' PERSPECTIVE - CASE STUDY
OF AN INTERNATIONAL HOTEL
IN HONG KONG**

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ABSTRACT

Research into Environmental Management System (EMS) started appearing in the late 1990s with most of these studies focusing on its driving forces, costs and benefits and EMS itself. In the hotel and tourism field, very little research has been done about EMS except for a few studies on environmental management, such as environmental protection practices and environmental performances of hotels. Recognising this, this research aims to explore and evaluate the application of EMS in the hotel context and the impact of EMS on hotel employees whose working attitude directly affects services to guests.

An extensive review of the literature on environmental management and environmental management systems identified various approaches to EMS. To develop a richer and deeper understanding of the application of the six core EMS elements identified in the hotel context and its impact on hotel employees, a qualitative case study was employed in which data was collected from an international hotel, from three levels of employees: executive, supervisory and general. A series of in-depth, semi-structured interviews was conducted and relevant documents were collected for analysis, with the company's consent.

From the hotel case, it was found that the motivation to EMS was different from that of other industries. Pressure from customers and legislation – the common reasons for EMS – was absent for hotel. Instead, it was more influenced by internal forces. The six EMS elements identified in the literature play important roles in developing and implementing EMS in a hotel context. In addition, four influential factors were identified in the formation stage: (1) *Corporate governance*, (2) *Piloting activities*, (3) *Initial gap analysis* and (4) *Partnership with external consultancy*. The findings on the impact of EMS on hotel employees indicated both positive and negative impact. The positive and negative influences of EMS on hotel employees were triggered by several human resources factors and the organisational motivations to adopt EMS and its outcome. Although EMS could help promote a bottom-up approach to change even within a predominantly top-down culture, a top-down approach to implement EMS was found more suitable for a hotel with a predominantly Chinese workforce due to cultural issues. Low involvement of employees in the planning stage did not seem to affect employees' commitment to EMS as long as correct organisational motivation to EMS was communicated to them. This study identified ten suggestions which developed the body of knowledge in mainstream environmental management research, especially related to EMS.

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LIST OF ABBREVIATIONS

EMS:	Environmental Management System
EMAS:	Eco-Management and Auditing Scheme
FIT	Frequent Individual Travellers
HKPC:	Hong Kong Productivity Council
HKSAR	Hong Kong Special Administration Region
HKTB:	Hong Kong Tourism Board
ISO:	International Organisation for Standardization
OP:	Operational Procedures
SP:	System Procedures
TQM:	Total Quality Management

Chapter 1

Introduction

1.1. Background

There are currently a number of significant environmental threats to the future of humanity, including global warming (Vital Signs 1999; and Sugden et al., 2003), depletion of the stratospheric ozone layer (Oberthur, 2001), over-consumption of non-renewable resources and global air pollution (Hertsgarrd, op cit, 1999). These environmental problems are exacerbated by an exponential growth in the global population bringing escalating demands on a shrinking resource base. The twenty-first century has opened with increasing competition for natural resources, sharp rises in the price of oil, rapid deforestation and catastrophic over-fishing of once seemingly inexhaustible oceans (Potts, 2007). Because of these environmental problems, the moral, ethical, social, and political arguments for taking action on environmental issues have become increasingly persuasive and widely accepted.

Concern in the public for the environment has grown significantly since the 1990s. The Brundtland Report to the United Nations, the first document on this topic of global significance, coined the term “sustainable development.” The World Commission on Environment and Development (WCED) defined the term as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). In other words, sustainable development seeks a balance between economic growth and environmental protection. Since then, “sustainable development” has become an important issue for many private and public organisations.

Business has an essential role to play in preventing environmental damage, as its production is responsible for much of the environmental degradation. Various organisations and pressure groups have been encouraging businesses to address their impact on the environment. For instance, in 1991, the International Chamber of Commerce presented its environmental charter – the first document of its kind specifying how businesses should respond to the environmental agenda. This was followed by the introduction of Global Environmental Management Initiative (GEMI), Chemical Manufacturers Association (CMA) Responsible Care, etc. In “*America’s Green Strategy*”, Michael Porter (1991) points out that the apparent conflicts or dichotomy between economic competitiveness and environmental management are false. He suggests that strict environmental regulations do not inevitably hinder competitiveness and that environmental technology can lead to competitive advantage. In fact, to enhance competitiveness, many companies have started doing something good for the environment. For instance, The Centre for Environmental Leadership in Business, Washington, has been working with auto and oil giants, including Ford, Chevron, Texaco and Shell, to draft guidelines for incorporating biodiversity conservation into oil and gas exploration (McKinney, 2004). The giant sport manufacturer, Nike, has created sulfur hexafluoride (SF₆ – a greenhouse gas) free air pockets, attached to the heel that had kept the company’s sneakers at the front of the pack for more than a decade (Holmes, 2006). In the catering industry, Starbucks has developed purchasing guidelines that reward coffee growers whose methods have the least impact on the environment (Maitland, 2002), while McDonalds has stopped buying chicken treated with Cipro-like antibiotics (Kim, 2003). Furthermore, more than 100 corporations worldwide, including General Motors, Bristol-Myers Squibb and British Airways, have been releasing data on their environmental and social performance according to protocols specified by the Global Reporting Initiative, Boston, a collaboration of

non-profit organisations and companies (Bank, 2002).

In addition, governments in many countries, desiring a cleaner environment, are encouraging companies to implement various environmental programmes and pursue formal EMS standards. For instance, in Singapore, 70% of the cost of obtaining ISO 14001 accreditation, an internationally-recognised EMS standard, is subsidized by the government. The Austrian Government has enshrined in legislation ISO 14001 as its preferred environmental management standard. Dubai has included ISO 14001 as a regulatory requirement (Chan and Wong, 2006). In many countries, compulsory environmental audits and stricter legislation have already put heavy pressures on businesses in various sectors to place more focus on environmental issues. For instance, penalties and fines have been shown to encourage companies to disclose their environmental activities publicly (Davidson and Worrell, 2001). The regulatory requirements to publicly disclose information about toxic chemical releases have caused many companies to undertake new management strategies that reduce environmental impacts (Konar and Cohen, 1997).

To achieve sustainable development, Environmental Management System (EMS) has emerged as one of the most effective tools since the 1990s (Quazi, 1999). As described by Rothery (1993), formal EMS ensures that an organisation, in all of its operations and activities, conforms to environmental targets set by its policies, which themselves relate to standards set by directives or other criteria. There are various EMS standards such as Eco-Management and Auditing Scheme (EMAS) and ISO 14000 standards. Private companies have tried to be more sustainable and to facilitate the implementation of environmental policies through the introduction of EMS (Chan and Wong, 2006; Coopey, 2003). According to a report by Hong Kong Quality Assurance Agency, up to the end of December 2005,

111,162 ISO 14001 certificates have been issued in 138 countries (HKQAA, 2006). These figures indicate that the importance of EMS for organisations is becoming more widely recognized across all industrial sectors. Yet, it is too early to evaluate environmental performance because most organisations have only recently implemented EMS (Ammenberg and Hjelm, 2002).

In the hotel industry, although more hotels have become interested in EMS, research about the adoption of EMS in the hotel sector has been sparse. The initiative for working on this research started with the curiosity of the author, "How can service organisations, such as hotels, apply EMS in their workplace where the quality of services to hotel guests almost always takes precedence?"

In addition, staff-related issues, such as employees' attitude, expectation and participation, and relations with management, are important and should be examined. The hotel industry is very labour-intensive (Choi et al., 2000), making it very different from other industries, such as manufacturing, farming and chemicals. The attitude of hotel employees directly affects the quality of services provided to guests because of a unique characteristic of the industry - "inseparability" i.e. service is provided by hotel staff and consumed by guests simultaneously (Lovelock, 1996; Zeithaml and Bitner, 1996). Therefore, a second related question aroused the author's interest "What is the impact of EMS on hotel employees who provide service to guests?" These two questions stimulated the author's interest to explore literature surrounding "EMS" and "its relationship with employees," hoping to find hints or answers to the above two questions.

Research on EMS began appearing in the late 1990s, with most of the studies emphasizing the costs and benefits of EMS, the driving forces to the system (Lozano and Valles, 2007; Galan, et al., 2007; Hans, 2001; Wong, 2000) and EMS

itself (Johnson, 1997; Roberts and Robinson, 1998; Woodside and Aurrichio, 2000). Previous studies in environmental management and EMS have generally tried to highlight the motives and reasons behind EMS, their strategies or identifying ways through which organisations conduct or support environmental management. There appears to be no research into the issues of EMS implementation and employee attitudes towards EMS. In the hotel and tourism field, the author found little research about EMS except a few papers reporting the environmental management of a few hotels, such as their environmental protection practices and performances, none of which added new knowledge about EMS of hospitality organisations. There seems to be no detailed organisational study into how a hotel makes formal EMS happen. Therefore, it is still unclear what happens after a decision has been made for a hotel to adopt EMS. Furthermore, studies on attitudes of employees towards EMS are not evident either. Given this lack of previous research, the author decided to explore this research niche by investigating the application of EMS in service organisations and employee perceptions about the impacts of EMS on their jobs. In order to limit the scope of study, the sample subject chosen is hotel employees in Hong Kong.

Specifically, the overall aim of this research is to examine how EMS impacts hotel employees. In order to support this research aim, this study addresses the following three research objectives:

1. to understand the factors that motivate a hotel to adopt EMS
2. to analyse the formation and implementation of EMS strategies in a hotel business and
3. to identify various aspects of EMS and evaluate their positive or negative influences on hotel employees.

First, the author attempts to identify the factors that motivate a hotel to adopt EMS

and the reasons behind these factors. There are different driving forces (Lozano and Valles, 2007; Galan, et al., 2007; Hans, 2001; Wong, 2000); the real motive of a hotel in adopting EMS is not always obvious. Some may adopt the standard to genuinely improve their environmental performance, but others may utilize it to simply gain a marketing advantage. The targets a hotel sets itself through EMS may represent “environmental tokenism” rather than a solid commitment to decreasing impact on the environment (Shayler, et al., 1994). In addition, the organisational motivation to EMS may affect hotel employees’ attitude and behaviour towards EMS.

Second, this study analyses the formation and implementation of EMS in a hotel context. Most previous EMS studies appear to only apply the EMS concepts to manufacturing industries, without questioning the applicability of these concepts to hotel firms (Chan and Li, 2001; Quazi, 1999; Chin and Pun, 1999). There may be important variances in the principles that guide the EMS developed and implemented in hotel firms, as opposed to manufacturing companies, because of the industry’s characteristics such as intangibility, heterogeneity, perishability and inseparability (Berry, 1980; Heskett, 1987; Lovelock, 1996; Martin, 1996; Rathmell, 1966; Shostack, 1977; Zeithaml et al., 1985). It is critical to assess what kinds of elements should be included in the EMS process in the hotel industry to enhance environment performance.

In the process of developing and implementing an EMS, it will directly or indirectly affect employees’ present job duties. Some previous studies indicated that job satisfaction of staff would be enhanced but with no detailed explanation given (Umweltbundesamt, 2000; Harrington and Knight, 1999; Rondinelli and Vastag, 2000). Therefore, the third main objective in this study attempts to identify various aspects of EMS and evaluate their positive or negative influences on hotel

employees who participate in the process of developing and implementing an EMS and to understand the reasons behind these aspects.

In order to achieve these objectives, the literature on EMS and employees' perceptions is reviewed. Primary data was collected from a case study within the Hong Kong hotel industry. The research method used in this study is described in Chapter 4, including detailed explanation about the data collection methods and data analysis.

For the author, this has been a journey of exploration and learning. It tells a story about the many challenges and difficulties encountered and overcome, the arguments and analysis conducted, and ultimately, the findings and conclusions.

1.2. Rationale of the Study

In the past, hotels did not emphasize environmental practices. Instead, hotels overwhelmingly focused on the quality of its accommodation and food & beverage which determined business success. However, the escalating number of environmental laws and increasing pressures from the market and consumers have raised corporate environmental awareness. Businesses, including hotels, have become much more aware of the relationships among environmental performance, scarce resources, public legitimacy, burdensome litigation and both short and long-run profitability (Schot and Fishcher, 1993). In particular, hotels face increasing pressure to pay appropriate attention to environmental issues, as they consume substantial quantities of energy, water, and non-durable products (Deng and Burnett, 2002 a, b). Managing energy and water consumption and wastes more efficiently can reduce cost and raise competitiveness. Increasing sensitivity to

the environment has led to new hotel design elements, leading to less environmental damage, more optimal use of energy, introduction of renewable energy technologies, etc. (Karagiorgas et al., 2006; Becken and Simmons, 2002). Environmental programmes such as recycling and composting are steadily increasing in hotels throughout the world (Bowe, 2005; Chen et al, 2005; Dodd et al., 2001).

The hotel industry has an additional stake in protecting the environment since its business success depends on providing attractive and safe surroundings (Chan and Wong, 2006). Some studies indicate that more and more consumers prefer environmentally-friendly hotels. For instance, Watkins (1994) found that about 70% of travellers are likely or extremely likely to stay in a hotel with proactive environmental strategy. The hotel industry is facing increasing pressure to pay appropriate attention to environmental issues. Yet, hotel management faces obstacles which hinder the implementation of environmental programmes. In fact, the implementation of environmental programmes might even mean a drop in the quality of services (Shaw, 2003). Therefore, apart from just implementing a few informal environmental practices to save energy and cut costs, hotel managers face an important question, "How to implement environmental practices more systematically and structurally?"

The implementation of EMS requires substantial investment in terms of both financial and human resources. The attitudes and behaviours of employees towards EMS are important determinants influencing a hotel's decision to implement EMS, as well as its success. Many practices involving EMS in hotels are related to waste separation, energy and water management, recycling, etc. (IHEI, 1996). All these practices have implications for the day-to-day activities of hotel employees.

People differ in beliefs and values. Some people believe that human beings have a responsibility towards future generations. Others believe that being environmental-friendly is not just the responsible thing to do, but the right thing to do (Tzschentke et al., 2004). Regarding employees' participation in EMS, some people believe that employees would appreciate working for environmentally-concerned companies participating in environmental improvement (IHEI, 1996). Yet, Brown (1996) reported that staff turnover rate was higher in hotels with environmental policies than ones without. Checkly-Layron (1997), an experienced hotelier from Canadian Pacific Hotels, asserted that the greatest challenge to promoting environmental programmes in hotels are getting people to truly emotionally buy into these ideas and changing their behaviour. To achieve this, it is necessary to understand and satisfy the environmental needs of the employees themselves.

The success of an environmental programme depends on the full co-operation and involvement of employees – an internal stakeholder (Forte, 1994; Gil et al., 2001). Employees are indispensable during any change process in an organisation, including refinement of existing systems or implementation of new systems, such as EMS (Morgan and Zeffane, 2003). The introduction of EMS can result in resistance from employees due to changes to routine operations. This can be attributed to human psychology, as most people are set in their ways and are reluctant to change old habits or practices (Oreg, 2003). Employees may attempt to impede the implementation of a new process or system. If a programme or policy is imposed, the response may be even more aggressive, leading to denials, delays or even sabotage.

The significance of employees as an organisation's stakeholder cannot be

under-estimated. This is particularly important in the hotel industry in which average employee turnover rates are high. According to the 1994/95 annual report of the Hong Kong Hotel Association, the average annual staff turnover rate among 63 participating hotels in a survey was 41.3%. More recently, evidence from a number of four and five-star hotels indicate that the staff turnover rate continues alarmingly around 40%. Mr. Mark Lettenbichler, Chairman of Hong Kong Hotel Association in his chairman statement 2005-2006 also indicated that the on-going concern of the hotel industry in Hong Kong was the labour and talent shortage. The high staff turnover rate may affect the consistence and quality of hotel service as well as environmental performance.

In the literature on EMS, despite the importance of employees, there is far more research on issues such as EMS planning (Chin et al., 1999; Pun et al., 2002), motivation (Quazi et al., 2001), benefits, drivers and impediments (Zutshi and Sohal, 2002) and EMS in various industries, such as chemical, mining, farming and construction (Chan and Li, 2001; Quazi, 1999; Chin and Pun, 1999) than on stakeholders such as employees. Research into the relationship between EMS and employees is seen as less attractive. Although some EMS literature claim that EMS produces primary benefits such as increased employee motivation, morale and satisfaction (Umweltbundesamt, 2000; Harrington and Knight, 1999; Mohammed, 2000; Rondinelli and Vastag, 2000; Chan and Li, 2001), no empirical evidence exists proving how and why EMS affects employees. Furthermore, previous studies about EMS provide little insight about the challenges involving employees during the implementation process, especially in the hotel industry. In fact, more researchers in ISO 14001/EMS implementation have pointed out that more qualitative and empirical studies in EMS and organisational stakeholder relationships are needed. (Affisco et al., 1997; Green et al., 1998; Holt, 1998; Dooley and Fryxel, 1999; Montabon et al., 2000; Walker, 2000; Darnall et al., 2000;

Madsen and Ulhoi, 2001; Cespedes-Lorente et al., 2003).

To date, almost all research and published studies on environmental management and EMS have been conducted in Western countries. Cultural differences may invalidate the applicability of the findings to a Chinese (Hong Kong) setting. Hofstede's ground-breaking research in 1980 highlights four cultural dimensions (individualism vs. collectivism, power distance, uncertainty avoidance and masculinity vs. femininity) and proves that people in different cultures behave differently (Hofstede, 1980). The environmental awareness and behaviour of Chinese people may be different relative to that of westerners. Therefore, conducting this study in a predominantly Chinese setting is, in itself, a valid research area.

1.3. Scope and Focus of Research

Much of the literature on EMS is related to the construction and manufacturing industries (Pun et al., 2001; Chin and Pun, 1999; Walker, D., 2000). This is mainly because of their highly visible impact on the environment and comprehensive environmental regulation. Yet, the applicability of these studies to the hotel industry is questionable.

Service industries can be differentiated from many other industries by the following unique characteristics: intangible, simultaneous/inseparable, perishable, and heterogeneous (Berry, 1980; Heskett, 1987; Lovelock, 1996; Martin, 1996; Rathmell, 1966; Shostack, 1977; Zeithaml et al., 1985). An example of "inseparable" is that between service providers and service quality. Customers often credit good service quality solely to the employees with whom they interact.

This is especially true in the hotel industry, where frontline staff are highly visible and serve to differentiate among competitor hotels.

The hotel industry experiences high staff turnover, probably due to long working hours, shift duties, working during holidays, etc. These and other factors may influence EMS in hotels. The focus of this study is to examine the application of EMS in a hotel context and investigate and evaluate the relationship between EMS and employees as a key stakeholder.

Although employee involvement in EMS is very important (Hui et al., 2001), previous research studies did not investigate and evaluate EMS from the employees' perspective or its impact on employees. This study will investigate the impact of EMS on employees so that relevant questions such as "what", "why", "how" & "when" can be answered (Yin, 1982). This research project will empirically investigate and evaluate the impact of and implementation of EMS on different levels of employees and how these employees interact together to make the process successful.

It is worthwhile noting that the author seriously considered including hotel guests in addition to hotel employees in this study to understand the former's views about the adoption of EMS in hotels to further improve the triangulation. Notwithstanding, this intention was eventually given up because of the concern that this would influence a hotel's interest in participating in the project, as no hotelier would like to have customers "disturbed" by in-depth research interviews. The author also considered interviewing hotel guests not from the case, but this approach seemed inappropriate as their responses could not validate the findings obtained from employees in this case study. Furthermore, the author's director of studies commented that the area of investigation of this study should not be too wide, as

the employee issue, alone, deserved full attention.

However, it is undeniable that hotel customers' perceptions on hotel EMS are an important area for future research, especially when "green consumerism" has become a hot topic nowadays (Gilg et al., 2005). A research project, either by quantitative or qualitative approach, should provide valuable insights into what hotel customers really feel about the adoption of EMS in hotels in which they pay to stay.

1.4. Structure of the Thesis

This thesis is divided into seven chapters:

Chapter 1

- identifies gaps in the existing literature on EMS
- states the objectives of this study

Chapter 2

- discusses the definition of EMS and its common elements
- explains how EMS has been applied in industry
- explains the critical success factors of EMS
- discusses the important role of employees in EMS
- justifies why hotel employees is the main focus in this study

Chapter 3

- introduces the history of Hong Kong
- presents the hotel and tourism industries of Hong Kong and the rise of environmental management in Hong Kong

Chapter 4

- describes and justifies the research methodology of this study
- explains the data collection methods employed and data analysis

Chapter 5

- presents the background information about the participating company
- presents research findings

Chapter 6

- examines the key factors identified in this primary research and compares them with previous research findings
- develops suggestions

Chapter 7

- presents the general findings of this research and discusses their implications, and contributions to knowledge
- provides recommendations for practice and further research
- explains the limitations of this research

Chapter 2

Literature Review

2.1. Introduction

This chapter presents detailed background about Environmental Management Systems (EMS). It provides a critical analysis of the research questions that are relevant to this study on the impact of EMS on hotel employees, and on the literature on the findings of other researchers that shed light on these questions. It starts by reviewing the development of environmental management in companies, up to the present. It then describes various EMS approaches that have emerged and the EMS framework used for this study. A review of the literature is carried out, covering various issues relating to EMS, including motivations, application, barriers, and critical elements of success. Particular attention is given to areas which influence one specific group of stakeholders under study – employees. A summary of the chapter, including gaps identified in the literature, is presented in the final part.

2.2. From Environmental Management to Environmental Management System

Environmental management is related to the principles and practices of sustainability. We can say that a sustainable firm is one that can satisfy its own needs, without diminishing the opportunities available to future generations (Sarkis, 2001; Wilkinson et al., 2001; Zhang et al., 2000). Practically, based on the principle of sustainability, environmental management can cover a range of environmental

activities, such as better management of resources, reduction of waste, etc. In fact, the need for environmental management has been emphasized by international agreements on sustainable development.

Environmental management generally refers to the practices of an organisation in such a way as to minimize the impact of that organisation on the environment. When reviewing the literature about the definition of environmental management, some scholars have defined it as a set of features. For instance, Thompson (2005) stated that environmental management responsibilities generally include: (1) waste minimization, (2) energy conservation and management, (3) fresh water resources management, (4) wastewater management, (5) hazardous substances management, and (6) involvement of staff, customers, and communities in environmental issues. Hart (1995) and Russo and Fouts (1997) developed another well-accepted classification of environmental management activities which are distinguished by “pollution control” and “pollution prevention”. “Pollution control” refers to activities aiming to keep pollution within specifications, such as activities to comply with legal norms. This approach is based on the techniques of waste removal, treatment and disposal and usually entails the use of specific facilities that treat the waste or pollution once it has been generated. Conversely, “Pollution prevention” is based on reduction at source, which is stopping waste before it can be generated. It includes practices that reduce or eliminate the creation of pollutants through increased efficiency in the use of raw materials, energy, or water to protect natural resources through conservation.

Some scholars further classified environmental management activities into two types, which are “technical or hardware” and “organisational or software” (Klassen and Whybark, 1999; Cramer, 1998; Peattie and Ringler, 1994). The “technical or hardware” type usually aims at the straight reduction of pollution output from a firm.

Activities may include modifications in the physical characteristics of the product, or changes in the machinery used to reduce the firm’s environmental impact. The “organisational or software” type includes activities such as environmental training, planning and control of environmental objectives, environmental reporting or top management support. These activities do not directly reduce pollution, but they affect a firm's formal environmental systems.

In order to place environmental management high on corporate agendas and encourage policies and practices for carrying out operations in an environmentally sound manner, the International Chamber of Commerce (ICC) developed 16 principles (see Table 2.1) in 1991. The first principle sets the tone: “to recognise environmental management as among the highest corporate priorities.”

Table 2.1 The 16 Principles of the Business Charter for Sustainable Development

1	Corporate priority	To recognise environmental management as among the highest corporate priorities and as a key determinant to sustainable development; to establish policies, programmes, and practices for conducting operations in an environmentally sound manner
2	Integrated management	To integrate these policies, programmes, and practices fully into each business as an essential element of management in all its functions
3	Process of improvement	To continue to improve corporate policies, programmes and environmental performance, taking into account technical development, scientific understanding, consumer needs and community expectations, with legal regulations as a starting point; and to apply the same environmental criteria intentionally
4	Employee education	To educate, train, and motivate employees to conduct their activities in an environmentally responsible manner
5	Prior assessment	To assess environmental impacts before starting a new activity or project and before decommissioning a facility or leaving a site
6	Products and services	To develop and provide products or services that have no undue environmental impact and are safe in their intended use, that are efficient in their consumption of energy and natural resources, and that can be recycled, reused, or disposed of safely
7	Customer advice	To advise, and where relevant educate, customers, distributors, and the public in the safe use, transportation, storage, and disposal of products provided; and to apply similar considerations to the provision of services
8	Facilities and operations	To develop, design, and operate facilities and conduct activities taking into consideration the efficient use of energy and materials, the sustainable use of renewable resources, the minimization of adverse environmental impact and waste generation, and the safe and responsible disposal of residual wastes
9	Research	To conduct or support research on the environmental impacts of raw materials, products, processes, emissions, and wastes associated with the enterprise and on the means of minimizing such adverse impacts
10	Precautionary approach	To modify the manufacture, marketing, or use of products or services or the conduct of activities, consistent with scientific and technical understanding, to prevent serious or irreversible environmental

		degradation
11	Contractors and suppliers	To promote the adoption of these principles by contractors acting on behalf of the enterprise, encouraging and, where appropriate, requiring improvements in their practices to make them consistent with those of the enterprise; and to encourage the wider adoption of these principles by suppliers
12	Emergency preparedness	To develop and maintain, where significant hazards exist, emergency preparedness plans in conjunction with the emergency services, relevant authorities, and the local community, recognizing potential transboundary impacts
13	Transfer of technology	To contribute to the transfer of environmentally sound technology and management methods throughout the industrial and public sectors
14	Contributing to the common effort	To contribute to the development of public policy and to business, governmental, and intergovernmental programs and educational initiatives that will enhance environmental awareness and protection
15	Openness to concerns	To foster openness and dialogue with employees and the public, anticipating and responding to their concerns about the potential hazards and impacts of operation, products, wastes, or services, including those of transboundary or global significance
16	Compliance and reporting	To measure environmental performance; to conduct regular environmental audits and assessments of compliance with company requirement, legal requirements, and these principles; and periodically to provide appropriate information to the board of directors, shareholders, employees, the authorities, and the public

Source: International Chamber of Commerce.

After the publication of ICC’s 16 principles, many international firms and industry associations began developing other principles, practices and codes of conduct. (UNEP, 1994), for instance, Global Environmental Management Initiative (GEMI) based on ICC’s principles, Chemical Manufacturers Association (CMA) Responsible Care, American Petroleum Institute (API) Strategies for Today’s Environmental Partnership (STEP). To manage environmental risks and opportunities more systematically and efficiently, one approach adopted by some firms towards environmental management is the implementation of a formal environmental management system (EMS). The following section will further discuss various EMSs that have been adopted.

2.3. Environmental Management Systems (EMS)

A review of the literature reveals different definitions of EMS. For instance, more than a decade ago, EMS was described by Rothery (1993) as a means of ensuring that an organisation, in all of its operations and activities, conforms to

environmental targets set by its policies, which itself relates to standards set by directives or other criteria. Similarly, Tibor and Feldman (1996, p.27) defined EMS as “an aspect of an organisation’s overall management function that determines and implements the organisation’s environmental policy”. More specifically, in Hagler’s model (1999), EMS can be viewed as (1) review of current environmental opportunities, (2) objectives and targets setting, (3) action planning and (4) monitoring. Steger (2000, p.24) defined EMS somewhat differently as a “transparent, systematic process known corporate-wide, with the purpose of prescribing and implementing environmental goals, policies and responsibilities, as well as a regular auditing of its elements”. As a matter of fact, according to current literature, different approaches of EMS can be found; they will be discussed in the following section:

2.3.1. The Evolution of Environmental Management Systems

There is no doubt that EMS has developed as a response to pressure for improvements in environmental performance. By the 1990s, both in the United States and worldwide, there was active support of “self-regulatory” instruments for environmental protection (Andrews, et al., 2001). In self-regulation, industry adopts codes of conduct and management tools to ensure their environmental implementation; a polluter is encouraged to consider the environmental impact from the beginning of the process or product innovation; and, emphasis is on prevention over treatment (Oluoch-Wauna, 2001). One set of voluntary self-regulatory tools which have been commonly adopted worldwide is EMS. But, how a firm establishes EMS and what approach it adopts to implement EMS may be different in different companies and fields. In fact, from the environmental management literature, several EMS approaches are advocated. For instance, some researchers suggest the development of EMS may parallel the establishment of other well known management programmes such as total quality management (TQM). TQM

programmes are often based on the Deming model of quality management, which consists of four phases: *Plan*, *Do*, *Check* and *Act* (Collins, 2000; Corbett and Cutler, 2000). According to Dennis (1997), the cycle of *Plan-Do-Check-Act* has the following meaning:

“Plan” what you want to accomplish over a given period of time and what you need to do to get there.

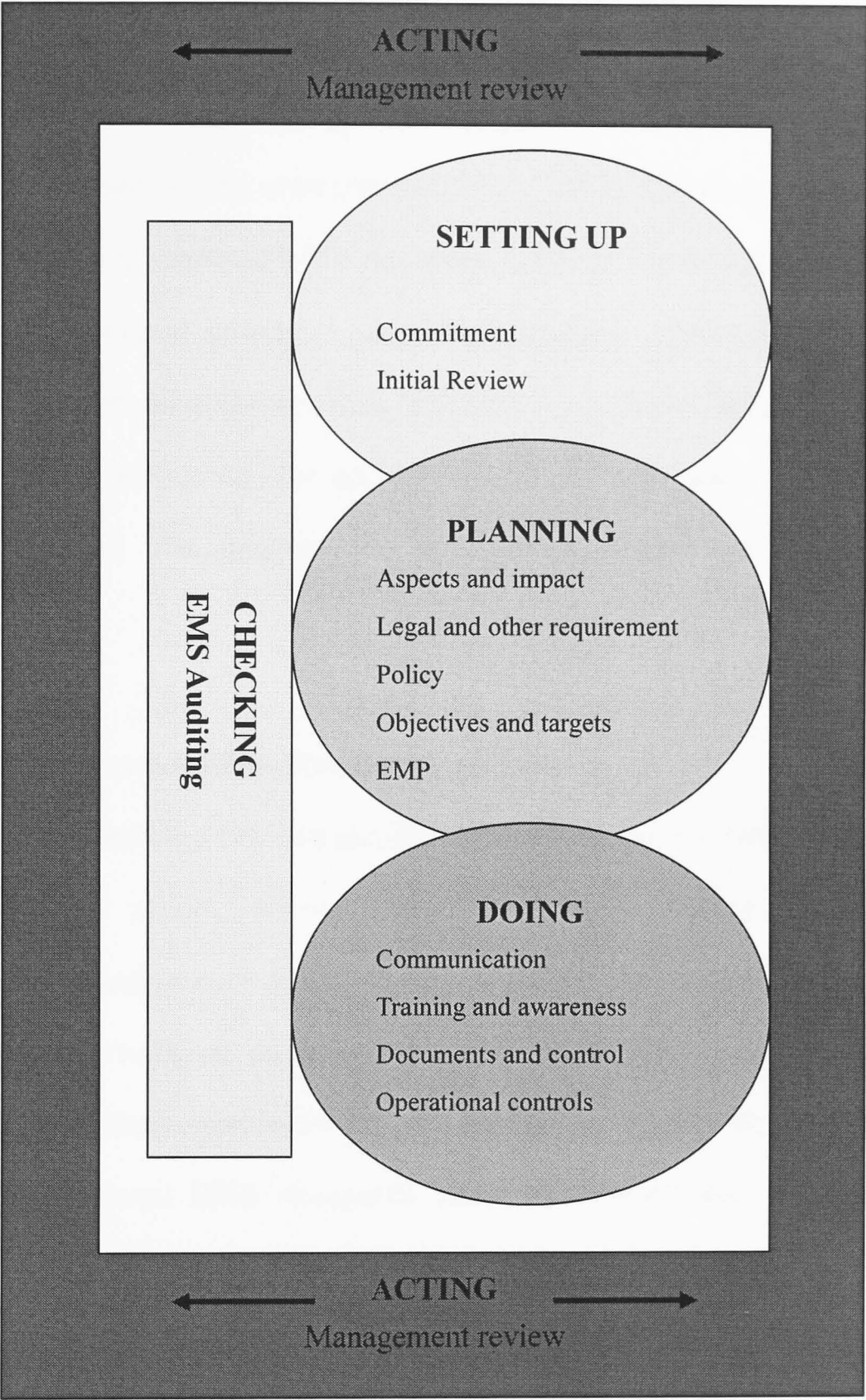
“Do” what you plan on doing. Start on a small scale with a pilot programme.

“Check” the results of what you did to see if you achieved your objectives.

“Act” on the information. If you have succeeded, standardize the plan; if not, continue with the cycle to improve.

Similarly, Sheldon and Yoxon (1999) presented a diagrammatic representation of EMS, shown in Figure 2.1. The diagram shows the typical structure of EMS specifications divided into four components: (1) *Setting up*; (2) *Planning*; (3) *Doing*; and (4) *Management review*. Scholars further discussed details of these components: (1) *Setting up* – Top level commitment and an initial environmental review are essential to providing the foundation for EMS. (2) *Planning* – A firm should understand the environmental impact of its business’ activities and analyse the current environmental legislative and regulatory issues before establishing an effective environmental policy. Next is the setting of objectives and targets. Last is the development of an Environmental Management Programme (EMP). (3) *Doing* – This component emphasizes internal and external communication including awareness, motivation, training of employee, documentation procedures and operational controls. The above three components are connected with EMS auditing procedures needed to enable an organisation to keep track of its objectives. (4) *Management review* - This concerns the actions and reviews of EMS performed by top management. Sheldon & Yoxon’s model presents a clear picture of the activities involved in formal EMS.

Figure 2.1 EMS – Sheldon & Yoxon’s Model



(Source: Sheldon and Yoxon, 1999)

In addition to the two EMS approaches presented above (*Plan-Do-Check-Act*; *Setting up-Planning-Doing-Reviewing*), there are other EMS approaches. For instance, Hersey (1998) indicated that EMS should include commitment and policy, planning, implementation, measurement and evaluation, and review and

improvement. Actually, this is very similar to the *Plan-Do-Check-Act* approach. EMS can also be viewed as part of an overall management system which includes organisational structure, responsibilities, practices, procedures, processes and resources for determining and implementing the firm's overall aims and principles of action with respect to the environment (EEC, 1993). Similarly, according to ISO 14001, a globally recognized EMS standard, EMS is a management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving and reviewing, and maintaining the environmental policies (ISO 1996). That is its purpose is to put into practice the environmental policies of the respective organisation.

2.3.2. Different Formal EMS Standards

As more companies begin to use pollution prevention techniques and to recognise the relationships among them, some firms have started integrating their environmental management practices into more comprehensive systems. Industry associations, international organisations, and governments are also seeing the advantages of setting standards that corporations can use as guidelines. As a result, various formal EMS standards have been launched, some for specific sectors, others for industry in general. The best known of the general EMSs are Eco-Management and Auditing Scheme (EMAS), adopted in June 1993 by the Council of European Communities as "Regulation 1836/93" (Oluoch-Wauna, 2001), and the above-mentioned ISO 14001, issued by International Organisation for Standardization (ISO) in September 1996. The similarities of EMAS and ISO 14000 EMS standards are shown in Table 2.2 while their differences are shown in Table 2.3.

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Table 2.3 Difference between EMAS and ISO 14000

Item	EMAS	ISO 14000
Legal Status	Voluntary EU regulation integrated in the legal system of the European Union and the member states	<i>Voluntary industry standards and no relationship to legal regimes</i>
Applicability	Applicable to companies of industrial sector	<i>Applicable to all types of organisation</i>
Legal Commitment	Compliance with relevant environmental rules and regulations is necessary for certification	<i>A commitment to compliance is required in the policy, but compliance is not essential to obtain or retain certification</i>
Environmental Policy	Continuous improvement of environmental performance, the use of best available technologies not entailing excessive costs	<i>Continuous improvement of the management system to achieve overall environmental performance</i>
Audit	Includes environmental performance evaluation regarding the established environmental objectives	<i>Does not include performance issues</i>
Environmental Statement	A publicly available environmental statement is required	<i>External communication may include information on significant environmental aspects. Environmental statement is not required.</i>
EMS Verification	Third party verification is required	<i>Facility may choose to be third party or be self-certified; verification not required.</i>

Sources: 1. Krut, R. and Gleckman, H. (1998), *ISO 14001: A Missed Opportunity for Sustainable Global Industrial Development*, Earthscan Publications Ltd. ; 2. Rocha, C. (1998), *ISO 14001 and EMAS as Valuable Tools for Sustainable Production Activities*, pp. 1-9.

From Tables 2.2 and 2.3, it can be noted that both the standards are developed according to either the *Plan-Do-Check-Act* or *Setting up-Planning-Doing-Management Review* EMS approach. Yet, EMAS differs from ISO standards in several principal ways: (1) EMAS emphasizes environmental protection itself, rather than the system, but ISO 14000 is a tool for complying with the requirements of the system to maximize environmental protection; (2) EMAS requires both an “Initial Environmental Review” as an auditable component of the system and an “Environmental Statement” as a public declaration; (3) EMAS requires compliance with environmental legislation, but ISO 14000 requires a commitment to comply; and (4) registration for EMAS requires a process called verification, in which an external assessor has industry-specific expertise. Overall, EMAS is an EMS standard that requires substantially more commitment than ISO. It requires organisations to make public much more information, thereby, enhancing a facility’s transparency. This requirement for public disclosure also stimulates public pressure on a company to improve environmental performance (Nash and

Ehrenfeld, 1997). Through EMAS standards, a firm can comply with all relevant environmental legislation and achieve continuous improvement in environmental performance. Companies adopting EMAS can also obtain regulatory benefits. For instance, in the German state of Saxony, government and industry associations have signed an agreement to simplify rules for permits and regulatory procedures for industrial sites that participate in EMAS (Switzer and Ehrenfeld, 1999). These benefits were further confirmed by a study conducted by Morrow and Rondinelli (2002) which found that the most applicable benefits from EMAS (in their researched companies) were improvements in regulatory compliance and legal certainty, documentation, employee awareness, and efficiency.

In 1996, three years after the introduction of EMAS, ISO 14000 was launched to provide a common international EMS standard. Before the ISO standard, companies were forced to deal with dozens of potentially incompatible systems from each country in which they conducted business, increasing costs and trade barriers (Tibor and Feldman, 1996). Table 2.4 shows an overview of the complete family of ISO 14000 series. The series contains numerous guidelines pertaining to various environmental issues, as well as 20 environmental standards that are voluntary and process-based (Barnes, 1996; Hersey, 1998). ISO 14001 is a process standard, not a performance standard. It ensures that facilities have a workable environmental management system in place but does not actually mandate improvements in a facility's environmental performance (although it can be assumed that improved processes should lead to improved environmental performance).

Table 2.4 ISO 14000 Series

ISO No.	Title
ISO 14001	Environmental Management Systems – Specification with guidance for use
ISO 14004	Environmental Management Systems – General guidelines on principles, systems and
ISO 14010	Guidelines for environmental auditing – General principles
ISO 14011	Guidelines for environmental auditing – Audit procedures – auditing of environmental management systems
ISO 14012	Guidelines for environmental auditing – Qualification criteria for environmental auditors
ISO 19011	Guidelines for quality and/or environmental management systems auditing (this standard replaces ISO 14010, 14011 and 14012 since 2002)
ISO 14015	Environmental management – Environmental assessments of sites and organizations
ISO 14020	Environmental labels and declarations – General principles
ISO 14021	Environmental labels and declarations – Self-declared environmental claims (type II environmental labeling)
ISO 14024	Environmental labels and declarations – Type 1 environmental labeling – Guiding principles and procedures
ISO/TR 14025	Environmental labels and declarations – Type III environmental declarations
ISO 14031	Evaluation of environmental performance
ISO/TR 14032	Examples of environmental performance evaluation
ISO 14040	Life cycle assessment – Principles and framework
ISO 14041	Life cycle assessment – Goal and scope definition and inventory analysis
ISO 14042	Life cycle assessment – Life cycle impact assessment
ISO 14043	Life cycle assessment – Life cycle interpretation
ISO 14048	Life cycle assessment – Data documentation format
ISO 14049	Life cycle assessment – Examples for the application of ISO 14041 to goal and scope definition and inventory analysis

Source: International Organisation for Standardisation (2002)

The standards shown in Table 2.4 can be categorized into two groups: (1) organisational evaluation and (2) product development evaluation. ISO 14004 provides general guidelines. As stated in ISO 14004, ISO 14001 is the core document, which specifies the requirements for EMS and is the only standard against which an organisation can become certified for EMS. The primary guidelines in ISO 14001, *Environmental Management System: Specification with Guidance for Use*, contain EMS specification-certification standards (Hersey, 1998). It has seventeen elements including environmental policy, environmental aspects, legal and other requirements, objectives and targets, environmental management programmes, structure and responsibility, training, awareness, and competence, communication, EMS documentation, document control, operational control, emergency preparedness and response, monitoring and measurement, nonconformance and corrective and preventive action, records, EMS audits, and

management review (see Table 2.2)

Although ISO standards aim to provide a universal model for environmental management, there are drawbacks. An often cited criticism is its ineffectiveness in achieving the fundamental purpose of any green effort (due to its process-based characteristic) - reducing waste discharge into the natural environment (Krut and Gleckman, 1998). The reason behind this criticism is that ISO 14001 is an internal management tool that gives discretion to facilities without providing performance or compliance assurances to the public. In other words, there is no guarantee that the system will generate measurable improvements. Also, maintaining EMS and improving performance can be compromised because there is no provision for de-certifying a unit that becomes lax in its environmental practices (Powers, 1995). These criticisms beg the question of whether certification is necessary to ensure good EMS.

Other criticisms point to ISO as a bureaucratic, costly, paper-driven system which ties up resources, such as staff time (Carraro and Leveque, 1999). From Table 2.4, it can be noted that the core of ISO standards consists of an extensively documented management system (preparing and updating the required documents implies a certain degree of bureaucracy), setting down formal and written rules with which all employees are obliged to comply. In fact, many employees in many companies are frustrated in their efforts to implement ISO 14001 EMS because of increased paperwork and perceived reduction in efficiency. For instance, the staff in charge of environmental issues at a plant of Alcan Smelters and Chemicals Limited pointed out that paperwork did not generate progress (Olivier and Jean-Marie, 1998). This implies that an overly complex and bureaucratic management system may inhibit some companies from attaining the benefits of formal EMS.

In addition, environmental auditing, one of the core elements of the system is a very sensitive area from a legal standpoint. A serious non-compliance uncovered during the audit process might lead to social outcry or even legal action. Therefore, concerns about confidentiality and disclosure of potentially sensitive environmental information during third-party EMS audit may hinder companies' embrace of ISO standards. In terms of financial commitment, companies that mandate organisation-wide ISO 14001 incur substantial costs. Such costs are due to the creation of new EMS or modification of an existing one entailing staff time, documentation, materials and equipment, training, and environmental consultants (Kollman and Prakash, 2001). Therefore, a company that mandates all its facilities and divisions to certify to ISO 14001, especially a large-sized company, makes significant financial commitment. Because of these concerns, management is understandably hesitant to seek ISO 14001 certification (Cascio, 1996).

Despite many drawbacks, under pressure from the environmental protection revolution, the standardization movement for environmental management gathered strength by the early 1990s. ISO 14001 attained unique status as an international standard; it has achieved more credence and universal acceptance than its more parochial counterparts. For this reason, among others, it has already fulfilled an important function in the development of EMSs around the world. Compliance to the standard can help companies remain competitive in the marketplace (Delmas, 2001). This system also helps an organisation address legal, commercial and other challenges related to the environment (Woodside, 2000). For many companies, their competitors are seeking registration while their customers are demanding compliance to ISO guidelines (Clark, 1999; Chan and Wong, 2006).

Continuous improvement in requirements of the standards has led many registered companies to require that their suppliers also comply with the ISO 14000 standards.

For instance, an ISO-certified hotel in Hong Kong has regulated its fleet of limousines to refill gasoline from an ISO 14001 certified oil company.

By establishing and maintaining EMS that meets ISO 14001 standard, companies develop an effective Environmental Management programme. Some companies are even adopting major parts of the standards for environmental management without formally pursuing certification. For instance, Eli Lilly (1999), an international pharmaceutical company, used the ISO 14001 framework to facilitate each of its international sites to develop EMS before deciding to seek official certification.

ISO EMS has become the preferred approach to managing the environmental aspect of a company's operations. Among dominant multinational corporations, many are adopting or moving towards adopting ISO EMS standard. In fact, ISO EMS depends less on government regulations and more on voluntary, proactive efforts within the organisation. Up to the end of December 2005, 111,162 ISO 14001 certificates were issued in 138 countries, represented an increase of 24% over 2004, when the total was 89,937 in 127 countries (HKQAA, 2006). Many industry analysts also predict that the environmental protection series will eventually serve as the benchmark for the global market. In Hong Kong, more and more companies have received the standard accreditation including four hotels.

2.3.3. An EMS Framework Used in This Study

After reviewing the range of perspectives concerning the elements of EMS in the literature, it is found that the general themes of these guiding principles are very similar. It is clear that an EMS framework generally covers six core elements: (1) policy, (2) planning, (3) procedures and controls, (4) training and education, (5) communication, and (6) review and continual improvement with their own components. These core elements have been identified by other EMS researchers

such as Savely et al. (2007), Bansal and Hunter, (2003), Hilson and Nayee, (2002), Sroufe, (2000), Coglianese and Nash (2001), and Aboulnaga (1998). Table 2.5 outlines these six core elements and their different components. It is comprehensive enough to cover most, if not all, of the EMS elements included by other initiatives on environmental management as well as the EMS studies by academics. It is, therefore, adequate to employ this EMS framework to analyse and evaluate the use of EMS elements in a hotel environment and the impact of EMS on hotel employees.

Table 2.5 Elements and Components of an EMS Framework

EMS Elements	Components
Policy	Purpose Commitment Policy statement
Planning	Analysis Objectives and targets Implementation plan
Procedures and controls	Structure and responsibility Performance measurement Information management Document control Emergency response procedures
Training and education	Staff training and education Guest education
Communication	Internal communication External communication
Review & continual improvement	Management reviews Environmental audits

The following sections describe in detail the six EMS elements and their components, as shown in Table 2.5:

Element 1 - Policy

The formation of an environmental policy is usually one of the first steps in the development of any EMS. As specified by both EMAS and ISO 14000 (see Table

2.2), this defines the organisation goals towards environmental protection (Pringle et al. 1998). Brophy (1996) stated that an environmental policy was the very foundation upon which an organisation should base all of its interactions, decision-making, and future policies regarding environmental concerns. It provides a framework for setting environmental objectives and targets and reviewing them. Zobel (2008) emphasized that the definition of an environmental policy and the implementation of this policy within an organisation was the most central part in an EMS, because this process determined the shape and focus of the entire EMS. Although many models proposed developing environmental policy as a first step, Zobel and Burman (2004), however, argued that the environmental policy could become more meaningful and tailored to a firm when significant environmental aspects were determined first, then used to define an organisation's environmental policy. Wei (2003) suggested that the continual improvement concept of "plan, do, check and act" should be emphasized in the environmental policy. The researcher further stated that newsletters, internet and intranet websites, bulletin boards, trade journals, annual reports, business cards, and meetings with employees, contractors and suppliers could be used to market the environmental policy. Generally, the top management of an organisation was responsible for proposing the environmental policy (Gilbert and Gould, 1998). The policy element in this EMS framework consisted of three components, namely: *purpose, commitment and policy statement*.

Purpose

In the purpose component, an organisation needs to explain the reasons for the adoption of EMS and the actions required to be done in the system (CSA, 1994). The purpose generally reflects the organisation's beliefs, mission and vision, environmental concerns, stakeholder requirements, guiding principles and risk analysis (CSA, 1994). It is a blend of practical and ethical concerns; not only

knowing what needs to be done, but knowing why the organisation believes in doing it. From previous studies, it is found that the purposes of establishing EMS differ. Most are related to external factors such as corporate image, marketing advantage, customer or pressure from communities and authorities. Some are influenced by internal factors such as improving environmental performance and emergency preparedness (Poksinska, et al., 2003; Potoski and Prakash, 2004).

Commitment

Commitment refers to the priority that an organisation gives to environmental improvement and determines the degree to which EMS will succeed in improving environmental performance (Coglianese and Nash, 2001). Hilson and Nayee (2002), when investigating EMS implementation in the mining industry in Canada and Australia, indicated that the key to implementing a successful EMS is full commitment by management. Management's commitment to EMS is critical to its success (Abbott, 1992) by: promoting employee empowerment to effect changes, affecting organisational culture to support changes, instituting systems to promote desired behaviours such as incentive programmes, training, and communication throughout the organisation (Gupta and Sharma, 1996; Leitch et al., 1995). Jackson (1996) stated that real top management commitment comes from a clear understanding of what the EMS really is, the benefits of having such a system and the steps to achieving it. Gayler (1997) concluded that regardless of how carefully an EMS has been prepared or to what standard it has been designed, it is unlikely to achieve its environmental objectives and targets unless the implementation has the full support and commitment of all members of the organisation, especially senior management.

Policy statement

Before the development of a company's EMS, it is important to define the corporate goals towards environmental protection. Most often, this is stated in a policy or mission statement based on the results of a company's self-evaluation. A policy statement is used as a guideline for the establishment of objectives and their translation into measurable targets (ISO, 1996; Steger, 2000), which is the most proximal component to motivations for seeking certifications and is the most likely to have the active involvement of top management. Developing and adopting an environmental policy statement to which senior management is committed is very important. Below are two examples from the hotel industry. At Accor, the Chairman of the Management Board emphasized that the hotel group was committed to, and had committed resources to, an ambitious international environmental policy (Green Hotelier, 2002). The Hong Kong based Marco Polo Hotel Group's company's mission statement states *"We believe that our commitment and positive attitude to environmental concern makes a difference to our guests and the environment. At Marco Polo Hotel Group, we endeavour to develop practical guidelines, training, environmental activities and measurement to ensure all our hotels provide an eco-friendly environment for the benefit of our staff and the comfort of our guest"* (Green Hotelier, 2002a).

Element 2 - Planning

Upon the development of an environmental policy, a plan should be drawn up to achieve the corporate goal. From ISO's guidance on EMS (ISO, 1996), a planning process identifies all the environmental aspects of a facility's operations, legal and other requirements, a set of clearly defined objectives and targets for environmental improvement, and a set of environmental management programmes. Aboulnaga (1998) similarly stated that the planning element includes identifying the controllable environmental aspects, legal requirements applicable to its operations, objectives and targets for various environmental aspects, and an environmental

management programme to achieve its objectives. As a whole, the macro and micro aspects in the planning stages should be analysed for a formal EMS (Chan and Wong, 2006). In this EMS framework, planning includes three components, namely: *analysis; objective setting and documenting the implementation plan.*

Analysis

Analysis underpins an organisation's environmental policy. Its intent is to let management understand the company's current status vis-à-vis meeting regulatory requirements, satisfying stakeholder expectations, and minimising environmental impacts (Coglianese and Nash, 2001). This systematic evaluation of environmental aspects and significant impacts is necessary to provide the foundation for objective development. Ammenberg and Sundin (2005) stated that every company with certified EMS must identify its environmental aspects and then assess them to determine which aspects were significant, as EMS steered and controlled these significant environmental aspects. They emphasized that these identification and assessment processes were extremely important, since they determined the focus of EMS. The importance of employee involvement during the process of aspect / impact identification and prioritization was highlighted by other researchers such as Lawrence et al. (2002) and Wilson (2000).

Objectives and Targets

After a systematic evaluation of environmental aspects and significant impacts that provides the foundation for objective development, the organisation has to set up and review environmental objectives and targets at each relevant function. During the process, the views of interested parties should be considered in addition to legal requirements and its significant environmental aspects. In addition, Affisco et al. (1997) indicated that environmental targets should be specific and measurable environmental performance indicators, and these targets should be set to achieve

the environmental objectives within a specified time-frame. The objectives and targets had to be consistent to the environmental policy, and appropriate environmental objectives must be established to ensure corporate environmental policy was properly carried out (Hilson and Nayee, 2002). Objectives and targets flow from an organisation's policies which can be categorized into the following three categories (Bird, 1997):

- Monitoring objectives - Stating a commitment to monitoring or researching specific issues that are likely to bring about a change in circumstances, allowing improvement objectives to be set
- Management objectives - Ensuring that all controls relating to a particular impact are systematically applied
- Improvement objectives - Demonstrate that environmental performance is being improved and will always be part of a system's commitment to continuous improvements

Implementation Plan

To ensure achievement of established objectives and targets, an environmental management plan or an implementation plan should be developed which is a formal agenda for action in EMS (Tribe et al., 2000; Hilson and Nayee, 2002). It involves the formation of a strategy for achieving continued environmental performance via the day-to-day operations of an organisation, outlines the actions to minimise impacts, and link them to targets which will be revisited during audits and reviews. Plans need to be in place to designate responsibilities at relevant functions and specify a time frame to complete the programmes. These programmes should cater for new developments. Hilson and Nayee (2002) summarized that this task involved assessing corporate environmental objectives, analyzing environmental policies, assigning final responsibilities, and determining EMS implementation actions. Typical of such programmes are the packaging

redevelopment programme of McDonalds and the Pollution Prevention Pays programme of the 3M Corporation (Affisco et al., 1997).

Element 3 - Procedures and Controls

Once the direction and outline of EMS are ready, it is time for developing procedures and controls. Procedures refer to the expectations developed by an organisation of how things should be done. Controls refer to the system of organisation and specific checks instituted by management to ensure that things are done according to expectation. In general, the implementation of EMS involves various kinds of activities including roles, responsibilities and authorities of employees, controlled documentation of core elements and reference to related environmental documents; operational control and performance review of the environmental system, emergency preparedness and response for handling accidents, training awareness and competence, and communication (Bruner and Burns, 1998; Aboulmaga, 1998). In this EMS framework, the procedures and controls element includes *structure and responsibility, performance measurement, information management, document control, and emergency response procedures*, whereas training and communication are constructed as individual elements.

Structure and Responsibility

Organisational structure is an important control element in EMS. It includes the distribution of responsibility and authority for environmental practices to ensure personnel at different levels with dedicated responsibilities for the system (TQM, 1996). The defined responsibilities must be properly documented and communicated to all organisational members (Sturm, 1996). This allows the relevant personnel to have a better understanding of their roles in implementing the EMS and to avoid any conflict with their existing responsibilities. Any shortcomings in the current environmental management structure identified at the initial site

review should be rectified to enable the aims and objectives of the policy to be fulfilled.

Performance Measurement

To control the environmental plan, a system for measuring actual environmental performance should be in place. The primary purpose of this task is to assess the company's actual environmental performance against the stated environmental policies, objectives and targets that comprise the EMS action plan (Hilson and Nayee, 2002). Regular monitoring and measuring of operational activities should be carried out, and the results recorded should be clear and relevant to the particular operational objective being measured (Font et al., 2001). The results of the comparisons between actual performance and environmental objectives and targets should be analysed and lead to corrective action for situations of non-conformance (Affisco et al., 1997). Specific procedures and controls' techniques, including regular site inspection and use of checklists, can be established to ensure that performance measurements are properly done. Controls can be accomplished by using basic auditing strategies (Hilson and Nayee, 2002).

Information Management

In terms of information management, manuals of environmental procedures are a simple and effective way to convey information about environmental responsibilities. Ideally, each procedure in the manuals should relate to a specific EMS policy element. This document can serve as a permanent reference to the implementation and maintenance of EMS (Affisco et al, 1997). Developing good information management and procedures can enhance capability for an organisation's employees (CSA, 1994).

Document Control

For document control, records should be appropriately maintained and traceable to each activity, such as the calibration of measuring devices records and records of the process, including all non-conformance and corrective actions. Organisations should review and update their documentation at least once annually, irrespective of whether or not there have been changes made within the existing processes and procedures (Zutshi and Sohal, 2004). The ISO 14001 standard requires organisations to maintain an up-to-date documentation with appropriate labelling and numbering and a master copy of the obsolete documents for reference purposes.

Emergency Response Procedures

To deal with unanticipated events, such as fuel spill, emergency response procedures must be developed to make EMS truly effective. Procedures should be established to ensure that there will be an appropriate response to accidents. The procedures would take into account incidents arising as consequences of abnormal operating conditions and accidents and potential emergency situations (Affisco et al., 1997).

Element 4 - Training and Education

Because of its importance and direct impact on employees, the training and education element is individually set in the EMS framework used for this study. This contrasts with other frameworks which usually include this important component in different elements, such as the “implementation and operation” elements in ISO standard (ISO, 1996) and the “doing” elements in Sheldon’s model (1999). A number of researchers (e.g. Aboulnag, 1998; Dodd, 1997) suggested that companies should implement an EMS training plan concurrently with the EMS action plan, but Hilson and Nayee (2002) argued that a full training programme should be implemented after EMS was fully evaluated for weaknesses given the

potentially wide range of training required for all levels of staff. They stated that minimal training should only be provided up until the initial evaluation so that significant time and money could be saved, since critical environmental and operational issues were almost always overlooked from the beginning. The training and education element is divided into *staff training and education* and *guest education* in this EMS framework.

Staff Training and Education

ISO EMS standard requires that firms engage employees in environmental issues and increase their knowledge about their operation (Darnall and Edwards, 2006). Through training and education, it ensures that all personnel have the necessary skills and knowledge to achieve the organisation's environmental targets. Training can help motivate staff and enhance their awareness of environmental issues, as well as providing useful feedback to management about what is actually happening "on the ground" (Green Hotelier, 2000). Such actions help organisations improve internal efficiencies and increase strategic value, because they depend on intensive employee involvement (Hart, 1995) and team production (Willig, 1994). Environmental training may include a combination of practices commonly associated with the more generic activities of operations, such as solid waste reduction and energy conservation. Delmas (2001) emphasized that learning from other organisations' EMS experiences, both within the same and different industrial sectors was essential, as this assisted the organisation in reducing potential challenges or obstacles. Notwithstanding, inadequate training during EMS implementation can thwart environmental protection and improvement (Kuhre, 1995).

Guest Education

In addition to training for employees, education for guests whose support is vital for success in EMS should be undertaken, though it is not yet widely practiced in most tourism businesses. Education should aim at both increasing customers' awareness and understanding of environmental issues and offering them opportunities to be involved in the EMS process. Sending newsletters and other information highlighting the importance of EMS and showing videos have been practised by some organisations to educate their external stakeholder – customers (Zutshi and Sohal, 2004).

Element 5 - Communication

An organisation needs to establish procedures to communicate and report internally and externally on its environmental activities (Affisco et al, 1997). EMAS requires a system of implementation and operation including internal and external communication of the EMS, while ISO 14001 emphasizes internal communication. Sroufe (2000) indicated that EMS should involve summarizing and reporting of specialized environmental performance information to internal and external stakeholders of the firm. Therefore, the communication element in the EMS framework has two components: *internal* and *external communication*:

Internal Communication

Internal communication refers to formal or informal information disseminated among members of an organisation. In general, the “environmental” information is focused on design, pollution control and waste minimization, training, reporting to top management, and the setting of goals (Melnik et al., 2003). For instance, at the Four Seasons Hotel Miami, the director of loss prevention and safety, the self-proclaimed chief of police of recycling, meets regularly with a green team of core department heads (including engineering, housekeeping, management, stewarding and food & beverage) to share updates and discuss new environmental

issues. In addition, the hotel's weekly staff newsletter includes a green corner, where the director highlights eco-friendly information (H&MM, 2006).

External Communication

External communication refers to information exchange with an organisation's external stakeholders. The use of this information for external stakeholders is primarily found in annual reports, focuses on the outputs of the firm, and is used to enhance firm image (Melnyk et al., 2003). Many hotels communicate externally with and engage their guests in environmental programme through (Green Hotelier, 2001):

- Towel and linen laundry programmes to save water, energy and detergent
- Putting separate or divided waste baskets in rooms to facilitate recycling
- Conducting back-of-house environmental tours
- Inviting guests to environmental awareness events
- Inviting guests to contribute to wildlife or other environmental initiatives.

According to Sheldon and Yoxon (1999), both internal and external communications play a major role in making EMS work, as the communication process ensures that both employees and customers share the organisation's values, responsibility, and accountability (Stapleton et al., 1996). Yet, some hoteliers are cautious about involving hotel guests in environmental activities. For instance, the general manager of the Hotel Triton in San Francisco stated that "One of the big things is to focus on what we can do for the environment without affecting the guest and without lowering the quality of amenities" (H&MM, 2006a, p.40).

Element 6 - Review and Continual Improvement

A company's EMS should be reviewed to assure its continued suitability, adequacy, and effectiveness. The main purpose of this requirement is to ensure managers

have the opportunity to assess the overall performance and the need to adapt any of its elements, from policy through to the audits in order to continue improving the company's environmental performance. The primary aim at this point is "continual improvement" (Johnson, 1997), whether it means making adjustments to existing programmes and policies, implementing more environmentally sound technology, or introducing a new process entirely. As Kryger and Dyndgaard (2000) explain, the "improvement" can be as simple as exercising better control of an existing procedure, developing a more improved technique, or a redefining of environmental goals and objectives. The review in this framework includes the components of *management review* and *environmental audit*.

Management Review

Management review addresses each element of EMS with the objective of repairing weaknesses, inefficiencies and counterproductive processes. This review should be conducted by top management to ensure its continuing suitability, adequacy and effectiveness (Affisco et al., 1997) so that the EMS continues to be responsive to changing circumstances such as new scientific knowledge, changing national and international markets for products, marked changes in the environmental regulatory arena, or changes in stakeholder demands (Hilson and Nayee, 2002). Management review normally relies on internal environmental audits which enable the organisation to regulate itself and correct problems. According to Welch (1998), the agenda for any management review should include (1) a review of policies, objectives, targets, and environmental performance; (2) a review of audit findings; and (3) an evaluation of EMS effectiveness. To make effectiveness of EMS, both reviews and audits require a follow-up plan in which new targets are set for the next management cycle (Tribe et al., 2000), bringing the philosophy of continuous improvement to life. Fryxell and Szeto (2002) concluded that the management review component is considered effective when the contents of

review meetings are well communicated, the focus of meetings is on improving the system, findings (i.e. about non-compliance, from various statistical charts, and audit results) are reported honestly, and corrective actions are followed.

Environmental Audit

An environmental audit is defined as the systematic, documented verification process of objectively obtaining and evaluating evidence to determine whether specified environmental activities, events, conditions, management systems, or information about these matters, conform with audit criteria, and communicating the results of this process to the client (ISO, 1995). Periodic EMS audits shall be conducted to ensure compliance of the stipulated requirements (Affisco et al., 1997). The frequency of audit, selection of auditors and scope of audits should be clearly stated in procedures that are distributed to the employees concerned. It is essential that the audits are conducted within a structured management system and integrated with overall management activity (*Pollution Engineering*, 2001, p.56). To make the auditing process effective, auditors have to be up to date, constantly researching technological trends, economic development and realities of the business environment (Sayle, 1995, p.250). In fact, ISO 14012 establishes the qualification criteria for environmental auditors.

2.4. The Impact of EMS on Environmental Performance and EMS Application

Management today places more emphasis on EMS. Recruitment advertisements, particularly in the commercial field, often feature environmental awards such as ISO 14001 Certification as a promotional tool to communicate the company's value to the public and attract potential employees. EMS is a worthy subject for deeper

research and study. Nevertheless, the study of EMS seems to have been neglected until the late 1990's when more formal EMS standards were developed and introduced to the market. One pioneering studies on EMS was conducted by Affisco et al. (1997). Affisco's study compared three standards, (1) ISO 9000, (2) ISO 14000, and (3) The Malcolm Baldrige National Quality Award. The major importance of this study was the development of the following questions which provided impetus for future research:

- the impact on organisations during ISO 14001 implementation process
- whether ISO 9000-certified suppliers also require ISO 14000 certification
- impact of the integration of quality and environmental standards on organisations
- impact of cultural and economic factors on ISO 14000 adoption
- differences in EMS implementation due to company size
- stakeholders' views of their roles during EMS process

The Impact on Environmental Performance

After Affisco's study, other studies have addressed the questions raised by Affisco's study and examined EMS impact on environmental performance and the application of EMS in organisations. When reviewing studies about the relationship between EMS and environmental performance, most studies concluded that the implementation of a formal EMS led to better environmental performance. For instance, Hamschmidt (2000) surveyed all ISO-certified companies in Switzerland and found that 60% experienced some decreases in materials and energy flows relative to production, and 10% experienced strong decreases. Florida and Davidson (2001) surveyed 580 corporations in Pennsylvania, and found that facilities with EMS were significantly more likely to report recycling and reduction in air emission, solid waste and electricity use. Anton et al. (2002), surveying a sample of Fortune 500 firms, found that higher-quality EMS leads to lower toxic

emissions per unit output, particularly for firms with high past pollution intensity. From these studies, it is clear that companies with formal EMS normally achieve better environmental performance. Some studies in the United States indicate that companies which are environmentally friendly achieve better financial performance in the stock market (Meyer, 2000). In academic circles, the number of survey-based studies on the impact of EMS on environmental performance has been growing.

Although quantitative survey-based studies are more common, qualitative approaches are also used to investigate the impact of EMS on environmental performance. Lozano and Valles (2007) used SWOT (strengths, weaknesses, opportunities and threats) analysis to study the environmental and economic consequences of implementing EMS within the context of local public administration, particularly regarding the City Council of Ohanes in Spain, the first European corporation to implement EMS according to ISO 14001 Standard. The study demonstrated that the application of EMS in the City's local activities provided economic and environmental advantages exceeding the economic costs of the system. The researchers also found that the resulting advantages went beyond the scope of local activities, generating spillover effects to other municipal activities.

In Asia, Kwon et al. (2002) studied the impact of ISO 14001 certification on compliance with environmental regulations by Korean companies. Researchers surveyed 138 companies and used government-released data to investigate regulation violation status. The study concluded that ISO 14001 certification is an essential strategy for industrial competition and to improve company/product recognition. ISO 14001 certified companies also showed more improvement than non-certified companies in regards to environmental performance.

The Application of EMS

In terms of the application, a common question about EMS is how organisations adopt and implement the system. Notwithstanding, few studies have been undertaken to study the implementation process of EMS. One of these studies was done by Dowie, et al. (1998) in Canada, using the case study approach, Researchers reviewed an institutional solid waste EMS developed and implemented at the Whiteshell Laboratories of Atomic Energy Canada Limited. The overall findings of the study suggested that solid waste EMS was successful in significantly reducing the waste sent to landfills. The success was due in a large part to the involvement of all stakeholders during the initial waste audit. The study also demonstrated that significant EMS success can be achieved with limited resources in staff and finances.

In Hong Kong, Chan and Li (2001), surveyed more than 200 local companies, mainly SMEs, to evaluate the implementation of EMS in Hong Kong. The study found that over half of the SMEs surveyed had not previously heard of ISO 14001 EMS, and most did not have plans to implement the standard in the near future. Most of these SMEs cited budget constraints as a barrier to implementing ISO 14001 EMS. The study concluded that business type was an important consideration in terms of EMS adoption. The researchers stated that industries with the potential for greater environmental impact (e.g. construction, manufacturing) need to invest more resources, both financial and human, into pollution control.

In the same year in Hong Kong, Pun et al. (2001), using the case study approach, investigated the development of environmentally-friendly construction operations, based on the experiences of the Hong Kong government's housing department. By interviewing 29 managers, professionals, architects and site staff of the department,

the researchers found that the department had developed a seven-step approach to implementing EMS: (1) self-assessment, (2) department policy, (3) organisation, (4) planning and implementation, (5) performance assessment, (6) regular reviews, and (7) continuous improvement. The study also found that the most serious pollutant sources found on construction sites in Hong Kong were waste (86 %), air (76 %), noise (65%), dangerous goods (65%), water (59%), and asbestos (41%).

In addition to manufacturing and construction, Viebahn (2002) studied the adoption of EMS in the education sector using material and energy flow analysis at the University of Osnabruck in Germany. Researchers studied how a university can adopt EMS to reduce the consumption of resources. The project produced the "Osnabruck Environmental Management Model for Universities." The Model comprised ten building blocks for EMS creation: (1) organisational structure, (2) internal environmental guidelines, (3) external environmental regulations, (4) environmental audit, (5) environmental goals, (6) environmental programmes, (7) environmental reports, (8) environmental information systems, (9) environmental training and courses, and (10) staff involvement / public relations.

In agriculture, Galan et al. (2007) evaluated the impact of farm practices on the environment, the first step in the analysis and implementation of EMS, by monitoring farm management practices. Researchers compared five tools most frequently used in France: IDEA, DIAGE, DIALECTE, DIALOGUE and INDIGO. Results of the study showed strong variation among the tools in terms of evaluating environmental impact, leading to the question of their validity in an agri-environment.

Table 2.6 Academic Studies on the Impact of EMS on Environmental Performance and EMS Application

Researchers	Research Methods	Key Findings	Contributions
Lozano & Valles (2007)	Qualitative approach by case study	• Demonstrated the application of ISO 14001 EMS in a city's local activities provided economic and environmental advantages. • The advantages generated spillover effects when extended to other municipal activities.	Understood the consequences of implementing an EMS from both environmental and economic point of view within the context of local public administration.
Galan et. al (2007)	comparing 5 tools most frequently used in agriculture in France	• Showed strong variation from one tool to another in terms of evaluating an environmental impact.	Allowed to suggest lines of thought for developing more relevant tools for (1) evaluating a farm's environmental performance and (2) helping farmers to develop a plan for improving practices within the framework of an EMS.
Chan & Ho (2006)	Single case study approach	• Indicated that hotels used (1) its own financial resources, or (2) external financial resources to develop and implement EMS. • Identified energy performance contracting as another promising financing tool for the implementation of the energy-related part of an EMS.	Provided indications and details on some creative financing techniques for setting up EMS in hotels. These financial strategies are the first of their kind in print.
Herremans et. al (2005)	Mainly survey-based with interviews of 20% of the sample.	• Indicated most tour operators in national parks in Western Canada had found "using codes to direct behaviour" to be highly useful EMS element. • A majority of operators used outside organisations and stakeholders to help determine their direction and goals. • Operators found working with land managers, regulators, and tourism associations relatively less useful in determining the company's environmental direction.	Determined to what extent tour operators in Western Canada who use natural, public-owned assets as a main feature of their business operations have developed formal or informal environmental management systems and which EMS elements they use most frequently and most successfully.
Anton et. al. (2002)	Survey-based study of a sample of Fortune 500 firms	• A higher quality EMS leads to lower toxic emissions per unit output.	Proved the environmental performance of a high quality EMS.
Kwon et. al. (2002)	Survey-based by using questionnaire & government-released data	• ISO14001 was proved to be an essential strategy for industrial competition and to improve company / product recognition. • ISO 14001 certified companies showed more improvement in regards to environmental performance.	Proved that the number of ISO 14001 certified companies in Korea have increased, and the environmental performance of these companies is demonstrably better than non-certified companies.
Viebahn (2002)	Case study approach	• Created 10 building blocks to create an EMS in education sector.	Developed a university-related EMS for the first time in Germany.
Florida & Davison (2001)	Survey-based	• Facilities with EMS were significantly more likely to report recycling, air emission reduction, solid waste reduction and electricity use.	Proved that good environmental performance can be obtained from EMS.
Chan & Li (2001)	A questionnaire survey of 200 local SMEs in Hong Kong	• Over half of the SMEs surveyed had not previously heard of the ISO 14001. • Most of the SMEs had difficulty in implementing the ISO 14001 due to budget limitations. • Indicated that the business type was an important consideration in terms of the	Indicated that research on ISO 14001 implementation in Hong Kong was limited and each business sector has its own characteristics, such as operational processes, products and markets, so that nature and extent of barriers, benefits and critical issues would be different.

		EMS adoption.	
Pun et. al (2001)	Based on a survey on the environmental practices and the impacts of pollutants produced in the public housing construction in Hong Kong and experiences sharing with the Housing Department in Hong Kong.	- Found that the housing department in HK had developed seven-step EMS approach to implement EMS. - Found that the most serious pollutant sources found on construction sites were waste; air followed by noise; dangerous goods; water and asbestos.	Contributed to identifying the elements and processes of EMS implementation, and explaining the procedural guideline of a seven-step EMS approach in managing construction practice.
Hamschmidt (2000)	Survey-based	60% of the 158 responded companies indicated some decrease in materials and energy flows relative to production. - Only 10% of the firms had experienced strong decrease. 40% either did not measure changes or experienced worse performance.	Reported the EMS impacts on environmental performance.
Dowie et. al (1998)	Qualitative approach by using case study of an institutional solid waste-EMS in Canada.	- Suggested that a solid waste-EMS was successful in significantly reducing the waste sent to the landfill. - Indicated the importance of the involvement of all the stakeholders during the initial waste audit.	Demonstrated the strengths and weaknesses of a simple, low-cost solid waste-EMS and there does not need to be an allocation of a substantial amount of money to develop and implement a successful solid waste-EMS.

Table 2.6 summarises the current literature on the relationship between EMS and environmental performance and EMS application in different organisations. Research clearly points to EMS as a feasible strategy for businesses in managing their environmental practices. Most academics now agree that implementing EMS is a worthy process which can lead to improved environmental performance (Anton et al., 2002; Kwon et al., 2002; Florida & Davidson, 2001; Hamschmidt, 2000). Yet, most studies in the past were conducted in industries such as manufacturing, electronic, chemicals, construction, and farming. This is understandable as manufacturing firms face complex and technical environmental issues, with older firms, such as paper products and batteries manufacturers, facing additional problems such as well-entrenched adversarial relationships with regulatory authorities, long-established orientation and practices towards environmental concerns, etc. Yet, it is obvious that environmental research specific to service industries has been neglected, despite the fact that the economies of developed nations have mostly migrated to service businesses.

The Application of EMS in the Hotel Industry

Literature review indicates that only a few EMS investigations have been conducted in the hospitality and tourism industry. In tourism, research about EMS and tour operators first appeared in 2005 (Herremans, et al. 2005). This research studied the extent to which tour operators in national parks in Western Canada, who used publicly-owned assets as a main feature of their business operations, had developed formal or informal EMS and the EMS elements which they used most frequently and successfully. Herremans' study offered insights on the implementation of EMS in tour operators. However, it did not study any operations in depth because the mail survey used was limited and did not capture enough details on the EMS elements used. In fact, the specific means by which environmental programmes are implemented has been largely overlooked in management literature. This highlights a need for more qualitative and empirical studies in this area.

In the hotel sector, Chan and Ho (2006) used the case study approach to investigate financing strategies which hotels use to support the formation of EMS. Findings indicate that hotels use various funding sources to develop and implement EMS: (1) own financial resources, or (2) external financial resources from universities e.g. engineering department, hotel schools, government funds and green bodies. The study further identified energy performance contracting as another promising financing tool for implementing energy-related parts of EMS. This study provides informative details on how a hotel can secure external resources to set up internationally-recognised EMS. Still, little information exists on the current status of EMS-related activities in hotels. Focusing on only one or two factors such as financial resources is not enough; a more comprehensive view is necessary to understand and evaluate EMS development and implementation. There is still little knowledge about how hotels are embracing environmental

management, applying EMS core elements, and their relationships in hotel operations, how resources such as money, time and people are allocated, including implementation and maintenance costs to ensure the effectiveness of the system.

2.5. Organisational Motivation to EMS

The starting point for EMS implementation is the motivation for adopting the system. Different organisations have different reasons for adopting EMS or seeking international EMS standard certification, such as ISO 14001. Several academic studies have examined the reasons why an organisation would consider adopting EMS or pursuing ISO 14001 certification. Table 2.7 shows a number of studies which indicate that companies adopt formal EMS such as ISO 14001 in response to pressure from customers and as a way of enhancing relationships with consumer groups (Chan and Wong, 2006; Roy et al., 2001; Stenzel, 2000; Clark, 1999; and Pouliot, 1996). For instance, Clark (1999), in his study, pointed out that many multinational companies are adopting EMS in response to pressure from their customers.

Some companies have employed formal EMS for better image and reputation or as reactions to government requirements and pressures from stakeholders. For instance, Bansal and Hunter (2003) indicated that ISO 14001 certification confers external legitimacy to certified organisations, enhancing their business image. Fryxell and Szeto (2002) found that firms seeking ISO certification to enhance their reputation have somewhat more effective policy statements and methods for assessing of environmental aspects and impacts. With an environmentally friendly image, a company would be considered by the public as a socially-responsible organisation. This is particularly important when government and society are

demanding a cleaner environment.

Some studies suggest that various environmentally-conscious stakeholders can effectively pressure firms to improve their environmental performance through EMS implementation. Organisations may use international EMS standards such as ISO 14001 as a way of enhancing relationships with consumer groups, communities, investors, etc. (Pouliot, 1996; Roy et al., 2001; Stenzel, 2000), as these standards make it easier for stakeholders to assess the company's commitment to improving environmental performance. Other studies indicate that legislation is a powerful driving force to motivate organisations to adopt formal EMS (Bohdanowicz, 2006; Chan and Wong, 2006; and Bansal and Hunter, 2003). In terms of trade barriers, Wilson (1999) indicated that some companies have already begun requiring suppliers to conform to ISO 14001 standards. For instance, large companies in the United States such as IBM, Ford and General Motors have been certified to ISO 14001 and are requiring their suppliers to implement and certify to EMS standards. This move is considered a significant push for the acceptance and growth of ISO 14001 throughout the U.S.A.

Literature indicates that companies often adopt EMS as an effective structure to implement environmental programmes. For instance, Cascio (1994) claims that an international EMS standard can help organisations simplify and integrate their environmental protection programmes into a more coherent framework. Christensen and Rasmussen (1998) state that EMS standard can be used as a way of introducing structure into a company to achieve more control over the company. Fredericks and McCallum (1995) state that an organisation may take the step to certify to internationally-recognised ISO 14001 EMS standard as (1) a model for EMS; (2) a format against which to audit EMS; (3) a method of demonstrating EMS compliance; (4) a process for third party and / or customer recognition; and (5)

public declaration of commitment to EMS.

Consensus in the literature indicates that it is easier for a company to develop voluntary EMS with international EMS standard. In addition, cost savings has been quoted as a core reason for companies to adopt environmental programmes (Bohdanowicz, 2006). In addition to these mentioned benefits, Chan and Wong (2006) found that corporate governance and legislation are two salient factors affecting whether a hotel will obtain ISO 14001 EMS.

In addition to providing a better and more systematic model to implementing environmental programmes, literature indicates that EMS provides additional benefits relating to employees, e.g. increased staff motivation. For instance, the German Federal Environmental Agency studied 1,264 German companies (different sizes, different industries) participating in EMAS (Umweltbundesamt, 2000). The most important reason cited by these companies for registering their EMS is to achieve continuous improvement in environmental performance, identify weaknesses and potential uses of energy sources, improve image, increase legal certainty and raise employee motivation.

Table 2.7 Previous Studies on Driving Forces to EMS

Reasons to EMS	Researchers	Research Methods	Contributions
Pressure from customers	Chan & Wong (2006)	Survey-based, 164 completed questionnaire out of the 1,097 sent to hotels in Hong Kong, Macau and China..	Likely the first study to investigate and identify a number of variables to predict the motivation of hotels in adopting the ISO14000 standards.
	Roy et al. (2001)	Survey-based, 250 completed questionnaire out of the 2,000 sent out to production managers of firms in the computerized database of the CRIQ, Quebec's centre for industrial research in Canada.	Examined factors such as manufacturing policies and competitive positioning in their role as driving forces behind environmental commitment. The study's result demonstrated that environmental commitment is often linked to sound management practices.
	Stenzel (2000)	Discussion paper	Examined ISO 14000 from a more regulatory approach rather than market-driven approach.
	Clark (1999)	Discussion paper	Indicated that major manufactures have begun encouraging EMS

	Pouliot (1996)	Discussion paper	among suppliers ISO 14000 as a way of enhancing relationships with consumer groups.
	Fredericks & McCallum (1995)	Discussion paper in Internet	Identified the benefits of ISO 14001 standard.
Pressure from community and environmentalists	Roy et al. (2001)	"	"
	Stenzel (2000)	"	"
	Fredericks & McCallum (1995)	"	"
Government legislation	Bohdanowicz (2006)	Surveying 349 hoteliers in Sweden and Poland via e-mail.	Cast some light on the perception of environmental issues within the hotel sector and on factors affecting relevant attitudes.
	Chan & Wong (2006)	"	"
	Bansal & Hunter (2003)	By analysing the annual report and press of 52 ISO certified firms.	Identified the most likely explanation for early adopters of ISO 14001.
	Umweltbundesamt (2000)	Survey-based study of 1264 German companies.	Examined the motivations to EMAS standard.
Investors and suppliers	Roy et al. (2001)	"	"
	Wilson (1999)	Report of two largest manufacturing companies in the United States.	Indicated that automakers require supplier to obtain ISO 14001 certification. The requirement in the nation's largest manufacturing sector was expected to extend well beyond the automobile industry into every facet of the U.S. economy
	Clark (1999)	"	"
Image and reputation	Bansal & Hunter (2003)	"	"
	Fryxell & Szeto (2002)	Survey-based. 29 completed questionnaire out of the 56 sent out to the environmental managers, environmental engineer or environmental officer.	Examined the relationships between motivations for seeking ISO 14001 to the effectiveness of three major components of EMS
	Umweltbundesamt (2000)	"	"
Cost savings	Bohdanowicz (2006)	"	"
Better EMS structure and control system	Fryxell & Szeto (2002)	"	"
	Umweltbundesamt (2000)	"	"
	Christensen & Rasmussen (1998)	Extensive interviews with managers of 12 companies in the printing house industry.	Indicated that the managers have learnt much from the systematic way of thinking of the management system and the improvement of working condition considered as a major advantage besides economic gains.
	Fredericks & McCallum (1995)	"	"
	Cascio (1994)	Commentary in newspaper	Identified the benefits of international environmental management standard.
Improved staff motivation	Umweltbundesamt (2000)	"	"
Corporate governance	Chan & Wong (2006)	"	"

Table 2.7 summarizes the literature on the variety of driving forces which influence motivations for adopting EMS. These drivers can be classified as external or internal to the adopting organisation. External drivers include pressure from customers, community, government, investors and suppliers; while internal drivers include a firm's desire to have better EMS structures and controls, cost savings, and enhanced image, reputation and staff morale. The interest of stakeholders seems to be the main trigger for seeking formal EMS standard. Many companies adopt formal EMS as a result of pressures from external stakeholders such as customers, government and investors or as an intention to fulfill process requirements from external stakeholders, such as insurance companies or financial institutions assessing the company's environmental performance for seeking finance. For instance, Peter Anscomb, corporate director of leisure and head of hotel finance corporate banking at the Royal Bank of Scotland, said that as the number to eco-lodge hotels and resorts increased, banks were likely to favour "green" hotels. He added that financially sound and environmentally friendly hotel proposals would find it easier to get funding (Caterer & Hotelkeeper, 2003). Insurance companies may also reduce rates on insurance policies covering accidental pollution releases if a company can demonstrate effective EMS. Among stakeholders, literature also mentions the influence of employees, although no detailed explanation has been given.

2.5.1. Motivation to EMS in the Hotel Industry

Erdogan (2003) indicated that there is a huge gap between environmental awareness and practice. Some studies have found that the tourism industry is only interested in environmental protection so long as it reduces operating and activity costs (Akis, 2001). It appears that enterprises in tourism will adopt energy-saving methods and proper disposal of solid waste only if they minimize related expenditures. These findings may be related to rising competitiveness in this sector

which has heightened the need for cost minimisation and profit maximization for survival.

In the hotel industry, Bohdanowicz (2006) investigated the influence of geo-politics, economics and socio-culture of a country on the environmental attitudes and pro-ecological initiatives incorporated in its hotel sector (see Table 2.7). By surveying 349 hoteliers in Sweden and Poland via e-mail, Bohdanowicz found that hotel operators generally recognise the need for environmental protection and many participate in related activities. The study concluded that the economic situation and pro-environmental efforts initiated by the government had a major impact on hoteliers' attitudes and actions. Another recent study regarding motivation towards EMS in the hotel industry was conducted by this author (Chan and Wong, 2006). In this study, we distributed 1,097 questionnaires to hotels in Hong Kong, Macau and China to predict the motivation of hoteliers in adopting ISO 14000 standards. By analysing 164 returned questionnaire, the study identified eight motivational factors that may prompt a hotel to adopt ISO standard: corporate governance, top management, market trends, ISO benefits, competitors, legislation, trade barriers, and customers. The result also indicated that the motivation for the adoption of the EMS was determined by internal forces more so than by external forces. More importantly, the research identified two factors which predict a hotel's tendency towards pursuing ISO certification: corporate governance and legislation.

Previous studies have indicated that hotels often plan environmental activities for cost savings, e.g. by reducing consumption of energy, water, materials, etc. (Bowe, 2005; Bruns, 2000). Indeed, many hotels have achieved cost savings through their environmental programmes. For instance, Hyatt Regency Chicago recovers approximately 70% of recyclable materials and has cut waste hauling costs in half through a comprehensive waste reduction and recycling programme. This recycling

programme has resulted in recovery of hotel items equivalent to US\$120,000. Westin Seattle achieved 66% reduction in guest room wattage and annual savings of US\$400,000, after the hotel changed light bulbs from incandescent to energy-saving compact fluorescent and improved control mechanisms (Mensah, 2004).

In the hotel sector, the trade press has stated that hotels often search for ways to improve their green profile to build an environmentally-friendly image, better manage energy consumption and save costs (Hotel Business, 2007). Pat Perry, managing director of consultancy Perry Scott Nash Group in the U.K. further claimed that, in addition to reducing costs, EMS gains public recognition for a company and helps motivate employees. Another study (Caterer & Hotelkeeper, 2003a) also suggests that EMS ensures compliance with legislative standards, leading to fewer statutory inspections, greater shareholder / stakeholder satisfaction and competitive advantage.

Table 2.7 confirms that much of the literature has concentrated on manufacturing industries. There has been significantly less research on the service sector, an issue requiring attention given the increasing importance of the service sector in many economies (Cespedes-Lorente et al., 2003; Miller, 2001). While acknowledging the contribution of the generic drivers identified in the literature, the current list of generic drivers are open to criticisms of reductionism. The fact that different drivers exist in different sectors consolidates the argument for further research in specific sectors. Most recent studies and trade press about motivations to EMS in the hotel industry have been survey-based, in which the “why” question has not been answered. Hence, the reasons behind the motivations have not been investigated in depth. Therefore, there is a need to develop a clearer understanding of drivers in the hotel context. Understanding an organisational motivation to EMS is important as the motivations will affect the effectiveness of major components of

EMS (Fryxell and Szeto, 2002). In addition, many managers hesitate to pursue environmental initiatives, such as the development of advanced EMS, because they are not sure of the cost / benefit trade-off. Thus, firms that are supported by stronger drivers, whether in terms of money or reputation, are more likely to introduce EMS, which would be implemented at a higher efficiency.

2.6. Critical Elements for Success in EMS

A review of the literature has identified a number of critical success factors associated with the implementation of EMS. A description of each of these critical success factors and their relationships with employees is presented below, under six headings: top management commitment, interdepartmental implementation teams, stakeholder Involvement, changes in employee attitudes, behaviour patterns and thinking process, external and social aspects, and technical aspects.

Top Management Commitment

Let's start at the top. Like most programmes implemented in a firm, top management commitment is critical to success. Research confirms the importance of top management commitment in EMS or other environmental programmes. For instance, Caban (1993) supported this argument by advocating that the success of a firm's energy conservation plan depends on its top management's attitude and commitment. Commitment from the top is required for cultural change and implementation of EMS to occur across the organisation (Nattrass and Altmore, 1999; Wagner, 2001).

Some researchers stated that top management support affected the success of

EMS by promoting employee empowerment to affect changes, shaping organisational culture to support changes, instituting systems to promote desired behaviours such as rewards or incentive programmes, providing training, increasing communication throughout the organisation, and allocating adequate financial, technological and human resources to implement the necessary system (Haklik, 1997, Gupta and Sharma, 1996; Leitch et al., 1995).

Others researchers asserted that senior management should support not only effective system, but also for continuous improvement, prevention of pollution, and regulatory compliance (Kuhre, 1995; Clements, 1996; Mitsuhashi, 1998).

Findings of the research clearly indicate that top management's attitude and commitment determine the success of a firm's environmental plan. From allocating sufficient resources, promoting the programme and motivating employees to ensuring continuous improvement, management commitment is critical. Yet, not all individuals in top management are highly committed to EMS. For instance, Ledgerwood et al. (1992) suggested that, in most businesses, environmental managers need to actively market the environment to senior management, clearly outline how EMS will benefit the enterprise, and train senior management on the relevance of the environmental agenda.

Interdepartmental Implementation Teams

The second critical success factor for EMS is teamwork. For instance, Beard and Rees (2000) described how "green teams" were used in Kent County Council, a UK local authority, to generate ideas, enhance learning experiences, explore issues, identify conflict and focus action to enhance understanding about why, what, how,

where and when to pursue the best practicable environmental options. Some studies pointed out that implementing EMS required that inter-disciplinary teams possess a good mix of technical, socio-economic, environmental and auditing expertise (Sturm, 1996; Strachan, 1996). Other studies stated that the team should include senior management and representatives from various line and staff departments, including manufacturing, legal, finance, purchasing and human resources (Hormozi, 1997).

Stakeholder Involvement

The third critical success factor for EMS involves stakeholders. Participation by different stakeholders, such as shareholders, customers, suppliers, employees, environmental advocacy groups, communities, etc. can increase the level of acceptance of such systems and their chances for success.

The role of stakeholders in the EMS process is a potential source of differences among EMSs. Some researchers stated that company managers might experience pressure from stakeholders such as governments, customers, local communities, employees and ecologists demanding them to strive for environmental protection (Donaldson and Preston, 1995; Harrison and Freeman, 1999). For instance, Procter & Gamble, a leading consumer products company, solicited consumer input on the environmental appropriateness of their products and packaging through focus groups. This showed how customers directly affected the design of a company's products in terms of environmental appropriateness.

In general, studies show positive relationships between facilities adopting EMS and their stakeholders. For instance, Hillary (1999) found that the relationship between firms and stakeholders improved in the presence of EMS. Delmas (2001) found that stakeholder involvement affected the competitive advantage of EMS: the

greater the involvement of external stakeholders in the EMS process, the stronger the perceived competitive advantage.

Some studies investigated the relationship between EMS and specific stakeholders. For instance, Green et al. (1998) investigated the relationship between suppliers and environmental performance to evaluate if green purchasing could be confirmed as an effective way of improving industry's environmental performance. In their case study-based research of the UK hardware retailer B&Q, the scholars questioned the necessity of collaboration with suppliers to procure benefits from environment improvement. In order to make this partnership between suppliers and the organisation successful, Milligan et al. (1999) commented that elements of trust, communication, mutual benefit, long-term perspective and top management commitment in the relationship are important. The importance of this relationship was confirmed by other studies (Theyel, 2000; Wong, 2000; and Klassen, 2000). Finally, a study by Walker (2000) investigated the relationship between ISO EMS and "customer" in the construction industry. Walker's study questioned the impact of organisational stakeholders on the EMS process. The study suggested that quality measures for environmental aspects of major stakeholders were poorly researched at the moment, that this gap needed to be filled, and that more case studies needed to be undertaken to investigate the impact of EMS and how it affects stakeholder perception of construction companies adopting the strategy. This author agrees with Walker's view, as studies about the relationship between EMS and stakeholders are scarce in the literature. Furthermore, the internal stakeholder - employees - seems to have been neglected in studies despite its important role in the success of EMS.

Frooman (1990) postulated that the extent of attention given by an organisation to its stakeholders is dependent on three attributes: (1) urgency, (2) legitimacy, and (3)

power. These attributes are accordingly determinant of questions such as (1) Who are they? (2) What do they want? (3) Have their needs be audited? (4) How are they going to try to get it? (5) What strategy has been adopted to meet their concerns or to manage a constructive dialogue with them? and (6) How can their satisfaction be maximised overall? In the past, studies have focused on stakeholders such as suppliers and customers because of their influence on the differences and effectiveness of a firm's EMS. Notwithstanding, the significance of employees during the adoption and implementation of EMS cannot be under-estimated, as they are the ones to perform the required environmental duties. Successful implementation of an EMS calls for the commitment of all employees of a company. That means, in addition to senior level employees, the lower levels of the organisation play an active role in promoting environmental initiatives (Kitazawa and Sarkis, 2000; Sun, 1999; Pun and Chin, 1998; Maxwell et al., 1997). Employees, regardless of their job or status in a company, are expected to take an active role in the environmental action plan, since without their input its success cannot be assured. The important role of employees in a firm's EMS implementation has led to the author's interest to examine their opinions and feelings about EMS in this study. This will be further discussed in section 2.7 – Employees – The Important Internal Stakeholder.

Changes in Employee Attitudes, Behaviour Patterns, and Thinking Process

The fourth critical success factor for EMS relates to the third factor just discussed – internal stakeholders, i.e. employees. This fourth element is changes in attitudes, behaviour patterns and thinking processes among employees. For instance, implementation of ISO 14001 EMS requires important changes in an organisation; these changes may include structure and responsibility, training and awareness, communication, documentation and control and emergency preparedness. As a result, the roles, responsibilities and authority of employees may also be re-defined,

documented and communicated. This allows employees to better understand their roles in implementing and maintaining EMS and to avoid conflict with existing responsibilities. In order to cope with these changes, changes of attitudes and behaviour among employees are essential. Notwithstanding, an individual's attitude, behaviour and thinking processes may not be changed so easily. For instance, individuals' daily work behaviour is guided by their organisational culture composed of a set of assumptions and values (Cai et al., 1999).

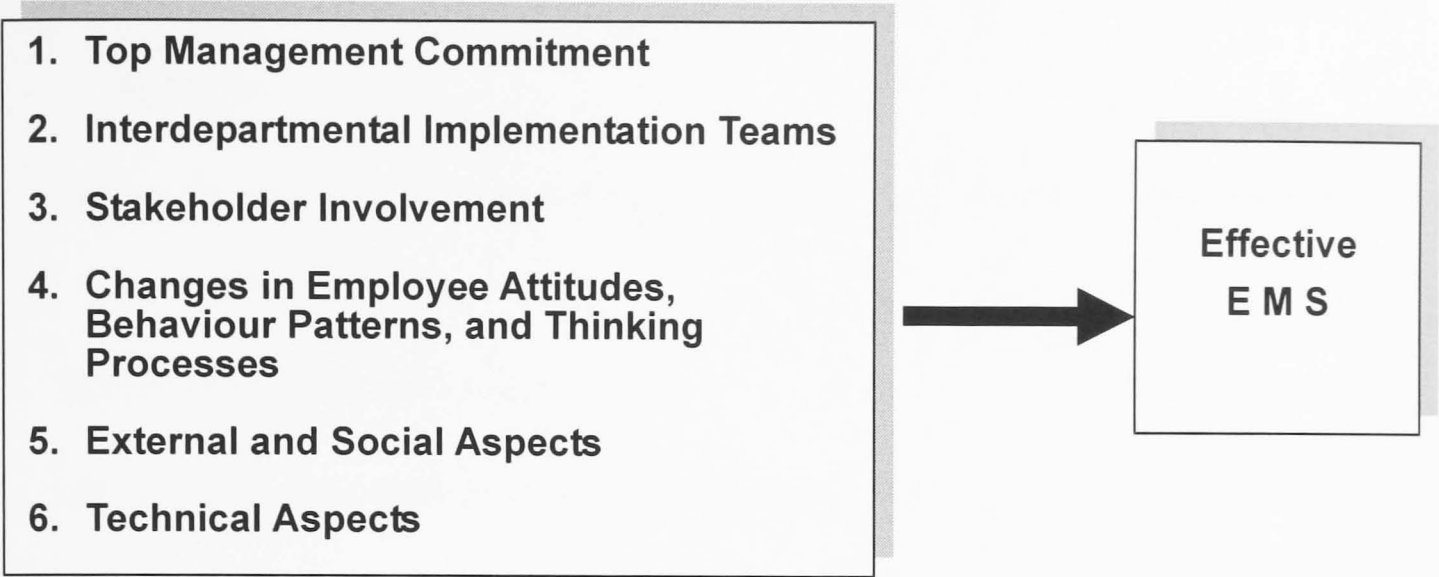
External and Social Aspects

The success of EMS is inevitably influenced by external and social aspects (Lin, 1995; Sayre, 1996). These form the fifth critical success factor of EMS. These may include environmental legislation and market pressure.

Technical Aspects

The sixth critical success factor of EMS is integration with technical aspects (Kuhre, 1995; Clements, 1996). These include the availability of monitoring and measuring equipment, production process enhancement, etc. For instance, many organisations have adopted electronic documentation systems due to its many advantages (Beath, 2001). The six critical success factors of EMS are shown in the Figure 2.2:

Figure 2.2 Critical Success Factors of EMS



From the above-discussed critical success factors to EMS, it is clear that successful implementation of EMS is dependent on several “human” factors such as top management support, teamwork, employee involvement, attitude, behaviour and responsibility though EMS can provide a structure that allows management the ability to better control a company’s environmental impacts. These “human” factors fall within more than one of the basic elements of EMS. For instance, top management support affects the element of policy and management review as well as the elements of planning, implementation, and checking and corrective action. Although most of these “human” issues relate to an organisation’s employees, little research presently exists in the literature examining the impact and effect of EMS on employees and the employees’ perceptions on how EMS strategy affects them other than a few studies mentioning that this voluntary management system may improve staff morale and job satisfaction.

2.6.1. Critical Success Factors for Environmental Programmes in Hotels

The effectiveness of a hotel’s energy and water management programmes is backed by important critical success factors. When investigating energy management in Hong Kong hotels, Deng and Burnett (2002) identified the following

key factors of a successful energy management programme:

- (1) full integration of the energy programme into the hotel's overall management systems,
- (2) sound energy use, purchasing and budgeting policies to upgrade existing systems,
- (3) corresponding action plan,
- (4) training of key staff in energy management,
- (5) periodical environmental monitoring or auditing.

The study offers insights about important factors to a successful environmental programme in the hotel sector. In addition to technical aspects, such as the upgrading of energy saving equipment, regular auditing, well-defined operation and maintenance programmes, etc., management commitment to integrating the programme into a hotel's overall management system, working out clear responsibilities, and training, and involving staff are critical. These factors are similar to the critical success factors to EMS discussed earlier. Human resources factors are often emphasized in addition to well-structured systems.

Anecdotal evidences show that green committees are often formed when a hotel first implements a green-related programme. Team members often include the hotel manager, various department heads and supervisory or general level employees from different departments. However, the role of the green team during the adoption and implementation of EMS and its effectiveness in the hotel sector are still under-researched.

In terms of stakeholder involvement, the growth in green travellers is another concern in the hotel industry. From the literature, it appears that international travellers are becoming more environmentally-conscious. For instance, Tearfund (2000) stated that 85% of holiday-makers thought that it is very important not to damage the environment while on holiday. 83% of travellers were inclined to support “green travel companies” according to the Travel Industry Association of America (1997). More than 60% of UK tourists were willing to pay more for their overseas holiday if the money goes towards the preservation of the local environment, or to local charities. 64% of people were prepared to pay 10 to 26 pounds more to selected tourism operators to ensure commitment to environmental protection (Tearfund, 2000). American research also found that tourists were prepared to pay an extra US\$19 per day to visit a “green” ski resort (Hutchinson and Ritchie, 2000). All these studies indicated that travellers are more likely to hold a relatively positive attitude towards environmental conservation. Increasing consumer sensitivity to environmental issues has encouraged service firms to consider environmentally friendly products and services from a marketing and sales perspective (Ottman, 1995; Wu and Dunn, 1995).

Yet, the clientele for each hotel differs, making guest responses a key factor. For instance, European and Asian guests sometimes object to “no-smoking” restrictions. Among Asian guests, Chinese tourists like smoking the most. Given that the rise of Chinese travellers to Hong Kong, this likely presents a challenge to hoteliers in Hong Kong implementing environmental policies or other green measures. Hotel management may worry that environmental programmes may reduce guests’ satisfaction. In fact, the quality of guest service may be influenced when the hotel implements EMS. For instance, to save paper, a hotel may provide newspapers and magazines to guests only on request. Saunders (1992) found that each Marriott hotel uses 5,000 pounds of paper product, including newspapers,

magazines, cardboard and office product in the average week! Dennis (1995) found that hotels such as Imperial Century Hotel & Resort Jakarta West invite guests to participate in environmental programme by selecting laundering of linens and towels on alternate days instead of daily. In Hong Kong, Island Shangri-La hotel places notices in rooms offering guests a choice of reusing their towels instead of having them replaced daily. No negative comments have been received from guests (HKPC Productivity News: 1996).

Increasingly, customers want service companies to take good environmental stances; ironically, they also want improved service that may be harmful to the environment. For instance, hotel visitors expect an impeccably clean environment at all times; yet few are interested in the chemicals necessary to maintain such a state. In hotel rooms, the use of soap and shampoo dispensers may reduce waste, but this is contrary to most customers' expectations (Dagmar, 1994). Pettit (1992) echoes that the implementation of Environmental Protection Actions may mean a drop in service standards. Aulbach (1988) further points out that many hoteliers believe that guests expect and demand certain amenities and services which are high energy users; therefore, the costs must be passed on to guests! In Hong Kong, four hotels have been certified for ISO 14001. Interestingly, all four hotels cater to corporate guests, who are more likely to choose a hotel for its convenience than for its environmental performance.

Furthermore, service providers need to be unique to each customer because of one of the characteristics of the service industry - *heterogeneity*. For instance, in hotels, every customer has unique needs, requiring the service process to be tailored to those needs. The customization of services has a contrary effect of reducing efficiency and limiting potential throughput. Therefore, service businesses

are likely utilizing more resources than a standardized process would entail. Hence, Fitzsimmons and Fitzsimmons (1998, p.27 - 28) state the issue:

“The presence of the customer as a participant in the service process requires an attention to facility design that is not found in traditional manufacturing operations. That automobiles are made in a hot, dirty, noisy factory is of no concern to the eventual buyers, because they first see the product in the pleasant surrounding of a dealer’s showroom. The presence of the customer on-site requires attention to the physical surroundings of the service facility that is not necessary for the factory.”

The variety of attitudes among hotel guests towards environmental practices will affect the environmental performance of hotels, since it creates dilemmas on whether to adopt certain environmental practices. This also strengthens the author’s confidence to investigate the impact of EMS on hotel employees.

2.7. Employees – An Important Internal Stakeholder

Some scholars postulate that new programmes yield better results when employees are treated as major stakeholders in the organisation (Mohrman et al., 1996). The International Standards Organisation (ISO) management system identifies “full employee involvement” as a prerequisite for successful working and achievement of environmental and quality objectives. Employees are directly or indirectly involved in the programme; they need to carry out certain specific tasks or engage in interdepartmental teams. In all cases, it is important for employees to identify with their employer whose principles and practices reflect their own beliefs; otherwise, it is hard for the company to retain staff who are unable to take pride in their employer’s actions (Green Hotelier, 2003). Enander and Pannullo (1990) cited that employee involvement affects cultural changes and significantly reduce

pollutants at source. Most efforts in pollution prevention rely on employees working and interacting with each other, often across departments. To improve the chances for success of environmental protection actions, employee involvement is vital, including teamwork, co-operation and individual employee initiative (Bruns, 1996).

A number of factors influence employee involvement in EMS. For EMS to be effective, it must influence certain aspects of the organisation relating to behaviour, such as attitudes of managers (e.g. to include environmental considerations in their calculations), decision making (e.g. promoting wider participation, and more inclusive agendas and priorities), structure of facility management (e.g. assigning new environmental responsibilities, creating and tracking indicators).

Given the challenges involved in changing entrenched behaviours and practices, there are many reasons why innovations, such as EMS, often fall short of expectations. For instance, the company may over-estimate outcomes (i.e. degree of improvement in environmental performance) based on the capacity of programme inputs (i.e. resources, top management commitment) and outputs (i.e. attitudinal and procedural changes). Mis-communication or unclear directives may create confusion about the company's vision and goals, and result in managers and employees being unsure about their tasks and behaving in inappropriate ways (Greeno and Robinson, 1992). Attitudes are very difficult to change, although such changes are usually necessary for successful EMS. While training and education can upgrade employees' skills and knowledge, they are less effective in changing attitudes. Inertia, even resistance, may sabotage EMS efforts. Some staff may feel threatened by change or intimidated by their own lack of knowledge about EMS; others may feel personally challenged or investigated during EMS review or audit (Netherwood, 1998). Therefore, it is useful for companies to understand these

influences from their employees' perspective, to increase the chances of success for EMS.

To ensure success of EMS, companies need to clearly define and assign staff responsibilities and authorities. Yet, when re-defining existing responsibilities and authorities the workloads of individual staff may increase or decrease, affecting staff satisfaction/dissatisfaction and morale. For instance, some employees may feel put upon by additional workload; others may feel threatened if existing responsibilities are changed. Furthermore, service industries, such as hotels, often lack expertise in pollution control technologies, risk assessment and management (Lin, 1995), affecting the company's environmental performance.

Despite the above-mentioned problems, research indicates that implementation of EMS, such as ISO 14001, can enhance staff morale, in addition to other benefits such as enhanced competitiveness and financial performance. For instance, Poksinska, et al. (2003) investigating companies in Sweden about the motives and benefits of implementing ISO 14001, found that employee morale moderately improved. Holt (1998) reported that most of the respondents of the thirteen surveyed companies in U.K. with EMS standards such as BS 7750 and EMAS believed that employee morale was enhanced. Rondinelli and Vastag (2000), studying the Alumax facility, also found that employees became more aware of environmental aspects, regulations and impact not only in the workplace, but also at home and in the community. Additionally, these employees increased their commitments to both waste reduction and recycling inside and outside of work.

Table 2.8 Literature about the Relationship between EMS and Employees

Researcher	Research Method	Key Findings about the Relationship between EMS and Employees
Poksinska et al. (2003)	Survey-based. 135 completed questionnaires received out of 268 mailed. The questionnaires were completed by top management or other managerial staff mainly from manufacturing and construction industry.	● Employee morale was moderately improved.
Rondinelli & Vastag (2000)	Case study of an industrial plant	● Found that employees became more aware of environmental aspects, regulations. ● Employees increased their commitments to both waste reduction and recycling inside and outside the plant.
Holt (1998)	Survey-based. 13 completed questionnaires received out of 30 mailed to companies in UK. The completed questionnaires were completed by senior management or managers responsible for environmental programme mainly from manufacturing, private utility industries and engineering consultancy.	● Employee morale was enhanced
Kirk (1998)	Postal survey-based. 85 completed questionnaires used for analysis out of 145 mailed to the hotel general managers in Edinburgh.	● Found that hotel managers are more likely to see benefits in terms of improved employee satisfaction.
Withiam (1997)	Survey-based study of more than 2,000 employees at 20 lodging properties by HVS Eco Services in US	● Most of the employees surveyed wanted the lodging property for which they worked to expand its environmental programmes.

Most studies about the relationship between EMS and employees (Table 2.8) indicate that staff satisfaction and morale are enhanced as a result of the adoption of EMS. It seems that an organisation that is committed to protecting the environment is more likely to bolster team spirit, loyalty, and ability to attract high quality staff. Yet, there are no studies investigating the ways in which the introduction of EMS affects staff. We do not know “why” employees feel good about EMS and “how” the system boosts their morale. The “why” and “how” questions have not been answered. In addition, most respondents in the above studies are managerial staff whose opinions may differ from that of their subordinates. Different groups of employees may have different perceptions as to the impact of EMS on their jobs and their working lives.

2.7.1. Employees in the Hotel Industry

In hospitality literature, Withiam, (1997) indicated that hoteliers overlooked one of the most obvious and important advantages when implementing environmental

programmes – increase in employee satisfaction. By quoting a survey conducted by HVS Eco Services, a division of HVS International based in Mineola (New York), the scholar emphasized that most employees surveyed wanted the lodging property for which they worked to expand its environmental programmes and were willing to change their own work routines to assist the property in its environmental initiatives; some were even willing to volunteer their own time to improve their hotel's environmental programme. Kirk (1998) surveyed hotel managers in Edinburgh to test the co-relation between characteristics of hotels and attitudes towards environmental management. He found that managers of hotels which are part of a chain or consortium are more likely to see benefits in terms of improved employee satisfaction. The following sections will review what environmental actions hotels are adopting and what hotel employees are currently doing related to EMS or other environmental programmes, based on previous literature and the author's own observations; it will further discuss why employees in this sector is selected for this study.

2.7.1.1. Environmental Actions by Hotels

Hotels consume substantial quantities of energy, water, and non-durable products. It has been estimated that most environmental impact created by hotels can be attributed to site planning and facility management; excessive consumption of local and imported non-durable goods, energy, and water; and emissions into the air, water, and soil (Mensah, 2004; Trung and Kumar, 2005). Although the industry does not grossly pollute the environment, nor does it consume vast amounts of non-renewable resources, it does have a significant effect on global resources (Kirk, 1995). Because of this, many hotels have started to implement various environmental initiatives – some are informal (e.g. green practices); others are systematic (e.g. EMS).

Environmental best practices refer to initiatives or actions which reduce environmental impacts, for example, switching off lights and air-conditioning when not needed to reduce energy consumption, double-sided printing or photocopying to reduce paper consumption, purchasing goods in bulk packaging to minimize packaging waste, etc. These practices not only reduce adverse environmental impact, but also reduce the operating costs for a hotel. Yet, such environmental green practices are often unstructured and uncoordinated, and carried out without systematic monitoring and control.

In an attempt to help hotel managers on sound environmental practices, various agencies, associations and NGOs have produced publications, such as magazines, books, manuals and information packs, on responsible environmental practices in hotels. For instance, International Hotels Environmental Initiative (IHEI), United Nations Environmental Programme (UNEP) and World Tourism Organisation (WTO) have all produced publications and other resources aimed at promoting environmental-responsible behaviour in hotels. Some hotels have created their own environmental manuals for their employees. For instance, Marriott International has developed its own environmental guide, Environmentally Conscious Hospitality Operations (ECHO) (Green Hotelier, 2002b). The publications recognise the importance of the environmental features of hotels and the tourism industry and call for environmentally friendly behaviour. Adopting the principles and practices advocated in these publications could be the first step towards committing the organisation to environmental responsibility, contribute to increased environmental awareness, and encourage environmental alliances in the hotel industry. In Hong Kong, many hotels without formal EMS undertake some environmental practices, to save operation and energy costs. Some examples are listed in Table 2.9 below.

Table 2.9 Examples of Some Environmental Practices Implemented by Some Hotels in Hong Kong

Name of Hotel	Environmental Practices
Langham Place Hotel Mongkok	● Installed energy saving devices in its electrical system
Panda Hotel	● Implemented paper-recycling programme since 2005 ● Encouraged hotel employees not to use elevator if possible ● Encouraged employee to make photocopy double-sided
The Marco Polo Hong Kong Hotel	● Each department has started to source environmentally friendly products
The Hong Kong Renaissance Hotel	● Has returned empty bottles and containers to suppliers for reuse or refilling.
The Holiday Inn Golden Mile	● Has microfilmed accounts records
The Mandarin Oriental hotel	● Has used linen bags for all laundry items ● Has used wicker baskets for the returned laundered clothing
The Excelsior Hotel	● Has drawn sea water for the use of air conditioning system and toilet flushing system.

In Hong Kong, over 90% of hotel guestrooms are equipped with thermostat / timer to control in-room temperature, saving energy used by air-conditioning systems, which accounts for about 70% of total electricity use in local hotels (Deng and Burnett, 2000). Tent cards are commonly placed in guestrooms, encouraging guest to save water by choosing not to have their bed linen or towels changed daily. Low flow showerheads to reduce water consumption are also common.

A higher level of environmental action is the setting up of Environmental Management System (EMS), to manage environmental risks and opportunities in a more systematic manner. According to a Pricewater House Cooper’s report, only 40% of large hotel groups surveyed in Europe had formal EMS, and only one hotel in this study was externally certified (Pryce, 2001). Pryce (2001) further quoted the results of a survey of small and medium-sized hotels in three U.K. countries which found that none of these hotels had implemented EMS. According to the tenth cycle of the ISO survey (ISO, 2000), among a worldwide total of 22,897 ISO 14001 certificates achieved by the end of 2000, only 66 certificates were obtained in the

hotel and restaurant industry. (The greatest number of certificates obtained was in the electrical and optical sectors.)

In Hong Kong, according to the directory of ISO 14001, certified companies in Hong Kong (EPD 2001) as of June 2001 stand at a total of 132, in various sectors, including: electronic, construction, transportation, printing, food service and hotels (see Appendix 2.1). Industries with the most number of certificates are construction / construction materials (26 certificates), electrical / electronic (21 certificates) and government departments (19 certificates). To date, only four hotels have obtained certification. They are Island Shangri-La Hong Kong, Kowloon Shangri-La, Hotel Nikko Hong Kong and Grand Stanford Inter-continental Hotel. In Hong Kong, it appears that few hotels have adopted the international EMS standard.

Research for this paper indicates that environmentalism is well recognised in the hotel industry in Hong Kong and across the world. Hotel businesses are willing to undertake environment projects which are low-cost and easy-to-achieve, such as energy, water and waste management. A survey by American Hotel & Lodging Association (AHLA) showed that reduction of energy consumption and waste management through recycling to be top concerns of hotel managers. Unfortunately, many hoteliers are unable or unwilling to implement more systematic or formal EMS, likely due to higher financial concerns.

2.7.1.2. Current Environmental Practices by Hotel Employees

When implementing environmental initiatives, whether informal environmental programme or formal EMS, hotel employees are usually asked to carry out additional job tasks to improve the hotel's environmental performance. For instance, office staff may be asked to use double-sided printing or photocopying; room

attendants may need to adjust guestroom temperatures, sort rubbish for recyclable items such as plastic bottles (Green Hotelier, 2001a); kitchen staff are required to turn off cooking equipment as needed, and not leave them on till the end of shift (The Hospitality Review, 2001); laundry staff are required to run full loads when washing, cut condemned linens into smaller sizes for other purposes such as cleaning; banquet staff are asked to set adjust air-conditioning temperature and fan speed (Green Hotelier, 2002b); engineering staff may need to turn central air-conditioning system on and off during various times; purchasing staff may need to make extra effort to search for eco-products and equipment. A well-designed EMS also requires more and better record keeping; this forces managers and workers to find better ways to do documentation. There is little doubt that formal EMS creates additional workload to hotel employees especially at the supervisory level. For instance, under formal EMS, supervisors may feel stronger pressure to ensure environmental compliance and meticulous documentation. Netherwood (1995) found that, in many organisations, the area with the highest inertia regarding environmental management is middle management. The additional workload may further affect these employees who are already under pressure to provide good quality guest service while balancing many business concerns.

Despite possible inertia and resistance, gaining support from employees is vital for success in environmental projects, as in other areas of management. Some hotels have introduced incentive programmes to motivate their employees. For instance, Canadian Pacific Hotels has introduced an employee incentive programme called "Seeing the Forest AND the Trees," aimed at rewarding their top Green Teams annually. Green Teams comprises employees chosen by their peers from each department at individual hotels. According to Wayne Sample, Green Team chairman at Hotel Vancouver, employees feel highly motivated by incentives

(Jaquette, 1998). Haklik (1997) echoed that rewards must be given to recognise efforts to make EMS a success.

Many studies point out that education and training are very important for the successful implementation of environmental programmes (Hart, 2005; Morrow and Rondinelli, 2002; Rondinelli and Vastag, 2000; Wong, 1998; and Wagner, 1996). In the hotel industry, employees often attend training both on-the-job and off-the-job, e.g. to update their knowledge on environmental issues and to learn how to operate equipment more efficiently. For instance, The Hotel Jardim Atlantico in Madeira, recipient of the Recognition Award and the Certificate of Achievement from Green Globe, conducts simple training to encourage its employees to look after resources, such as turning off water, lights and equipment when it is not needed, although it is difficult for local staff to understand the concepts of the environmental programme. Radisson SAS initiated a new Responsible Business training programme in 2002. All Radisson staff received training, focusing on global environmental and social concerns while linking them specifically to Radisson SAS operations. The Accor hotel group established its own university, the Accor Academy, which in 1994 trained and inducted 15,000 employees to push home a strong environmental message alongside its corporate and human resource programmes.

On a less positive note, some employees do not share their employers' interest in environmental protection and consider these training activities, as boring, even time-consuming or wasteful (Tracey and Tews, 1995). In addition, training logistics is especially complex in the hotel industry, as hotels are very labour-intensive businesses, with high seasonal and temporary employment.

The author concludes that the additional workload, trainings, documentation and auditing required by formal EMS or EMS certification have significant impact on individual staff. Among various industries, this impact may even be greater for hotel staff, as they may experience additional difficulties in balancing good quality service to hotel guests and the required environmental performance.

Deeper investigation on employee perceptions on EMS is needed. Hotels rely on their employees to deliver superior service. A high quality workforce is a source of competitive advantage for hotels (Enz and Siguaw, 2000; Greening and Turban, 2000). Customer satisfaction, service quality, and customer loyalty are influenced considerably by the beliefs and actions of hotel employees (Bitner et al., 1990). By providing outstanding service, hotel employees can enhance the image of the hotel and the level of perceived service quality.

2.7.2. Employees – A Barrier to EMS

In terms of the barriers to EMS, a review of the literature found no studies on barriers specific to the hotel industry, although several studies were found in other fields. For instance, Levy and Dilwali (2000) stated that lack of knowledge of effective conservation measures and limitation in staff availability are key barriers preventing more extensive participation when they surveyed the facility directors of universities. The researchers also identified barriers which prevent facility directors in most universities from initiating conservation efforts or choosing technologies that would minimise environmental impact. The barriers included: limited capital budgets, lack of knowledge of new technology, lack of institutional memory, lack of performance measures and difficulty in quantifying environmental gains. When examining the issues related to the implementation of ISO EMS in Singapore, Quazi (1999) identified several factors which hindered the implementation of EMS, such as complexity of ISO standards, legal ramifications, lack of incentives to

implement, cost of implementation, lack of management commitment, lack of total employee involvement and unclear responsibilities of employees. Post and Altman (1994) also stated that an organisational change agent encounters significant barriers in trying to implement EMS. The barriers are mainly categorised into (1) industry barriers and (2) organisational barriers. Industry barriers include technical information, capital costs, configuration of current operations, competitive pressures and industry regulations. Organisation barriers include factors such as poor communication, past practices and inadequate top management leadership, and employee attitudes.

The above-mentioned studies all identified employees as a major influence on the adoption and the effectiveness of EMS, in terms of their attitudes, involvement, knowledge and understanding of their responsibilities. However, how employees feel about EMS and its impact on them are still unknown. A review of the literature suggests strongly that successful implementation of EMS is dependent on several human resource factors such as top management support, interdepartmental implementation teams, employee attitude and involvement. Yet, little literature exists on the impact of EMS on human resources factors. A search through EMS literature and industry sources reveals few studies which focus on employees and EMS in the hospitality section. Most studies focus on the benefits of implementing environmental programmes or formal EMS in which enhancement of staff morale and satisfaction are claimed as benefits (Poksinska et al., 2003; Rondinelli and Vastag, 2000; Holt, 1998; Kirk, 1998; and Withiam, 1997).

Many aspects of this issue remain to be explored in the academic and practical literature. These include how employees perceive EMS and the positive / negative impacts of EMS on their jobs and working lives. There is a need for more qualitative and empirical studies in this area of EMS and the relationships of the specific

organisational stakeholder – employee, as these human resource factors may hold the key to EMS success, especially in the hotel business environment, a labour-intensive industry in which employee turnover is high. The following sections will discuss the labour intensity and labour turnover in the hotel industry.

2.7.3. Labour Intensity and Labour Turnover in the Hotel Industry

This section will review the literature on the nature of hotel employment relating to labour intensity and labour turnover and their impact in relation to this study.

Nature of Hotel Employment

In addition to good quality accommodation and meals, good customer service is important if a hotel wants to be a successful one. In order to deliver flexible and customer-oriented services to guests, the hotel industry increasingly looks for frontline staff who are multi-skilled (Calori et al., 2000), with good people skills and positive work attitude. On the other hand, “back of the house” jobs, such as room attendants, cleaning and maintenance staff; require lower skills as there is less interaction with guests (Hunter Powell and Watson, 2006).

In general, the hotel industry is largely reliant on “marginal workers” named by Wood (1997) such as women, young workers, casual employees, students, and relatively high numbers of part-timers. For instance, in UK, women make up around 58 per cent of the hospitality & tourism workforce (People 1st, 2006). Young people are also prominent within the industry. For instance, 37 per cent of the total UK workforce is under 24 years and 58 per cent under 34 years (People 1st, 2006). The industry also has higher proportion of part-time employees (52 per cent) than most other industries (HtF, 2003). In addition, students are an increasingly important segment of the labour market for the hotel industry (ILO, 2001). They are

prepared to work for low wages and be flexible in their working patterns (Canny, 2002).

Notwithstanding, it is difficult for hoteliers to attract high quality employees because of negative perceptions of hotel occupations and the associated cultural factors such as “face”, status and collectivism. A study by Debrah (1994) found that serving people was perceived as degrading work in traditional Chinese culture. The study indicated that many parents do not want their children to work in hotels, while many men do not want their wives to work in hotels. Working in hotels is perceived as one step from working in nightclubs. In Hong Kong, status and “morality” issues are crucial (Nankervis, 2000), and this has caused hotel jobs to be perceived as not preferred jobs. Many new employees leave the industry after working for a few months. For instance, Lam et al., (2002) found that the average turnover rate of employees with less than 1 year of service was between 44% and 66% for the period 1985 – 1999.

The problem of hiring and retaining high quality employees is exacerbated by the nature of hotel employment which is most commonly characterized by low wages, casualisation of the workforce, gender differentiation and the absence of incentives for long-term, integrated, hotel career management (Nankervis, 2000). .

Labour Intensity

Despite the difficulties in recruiting high quality employees, labour intensity is high in the hospitality industry (Ryan, 2008). Unlike other industries such as manufacturing, retailing and agriculture, the hotel industry is especially labour-intensive. Providing services usually involve considerable human activity, rather than a precisely determined process. Major hotel activities include room housekeeping, restaurant food preparation and service as well as bar service. The

physical conduct of all these activities requires a high labour component. In addition, a hotel needs to be staffed 24 hours a day, including evenings and weekends. Therefore, hotel employees can affect both the operation's cost and its service quality as a result of the labour intensive nature of the business.

Because of the high labour intensity in the industry, it is important for hoteliers to monitor labour productivity by using various performance indices such as restaurant sales per employee-hour worked (Guilding, 2002).

In terms of environmental management, the high labour intensity in the hotel industry exacerbates its impact on the environment (Mensah, 2004). The hotel employees' attitude towards environmental issues will affect a hotel's environmental performance and the success of any environmental programme, as they are the ones who perform the environmental duties.

The continued development of the hotel industry as well as the labour-intensive nature of the hotel business offer positive future job growth. Notwithstanding, the industry's staff turnover rate is very high. Price (1977) defined turnover as the ratio of the number of organisational members who have left during the period being considered divided by the average number of people in that organisation during the period. In the hotel industry, employee turnover rate is high, and it has become accepted as a fact of life by many employers (Lockyer and Scholarios, 2004). For instance, in Western countries, while the average turnover rate in all other industries is about 12% annually, turnover in hospitality industry averages 100% annually (Hall, 2000). The hotel industry is confronted with a higher labour turnover, particularly in the housekeeping department where the turnover rate is over 200% (Wolff, 1997).

The cost of turnover can be significant (Zopiatis and Constanti, 2007). For instance, it may cost an US hotel as much as US\$800 to replace an hourly employee and US\$12,882 to replace a front-desk associate (Hinkin and Tracey, 2000). Some of the costs associated with turnover are hiring and training new employees, lost sales, and poor customer relations (Mehta, 2005). Additionally, there is an emotional cost manifested by stress in the workplace for existing employees, supervisors, and customers (Hinkin and Tracey, 2000). High employee turnover also dampens employee morale and affects the service quality for hotel guests (Lam et al., 2002).

There are many reasons and causes of employee turnover. For instance, Marvin (1994) cited the following reasons for employee turnover: lack of recognition, lack of teamwork, incompatible management style, ongoing conflicts, quality-of-life issues, lack of control, stress, politics, pay versus effort, poor communication, poor recruiting, lack of orientation, lack of training, ineffective supervision, lack of leadership, job inequities, lack of management understanding, boredom, lack of job security, no opportunities for advancement, not enough hours, lack of benefits, high management turnover, lack of feedback, lack of standards, lack of respect, sexual harassment, racism, and personal reasons. Woods et al. (1998) conducted a study of turnover and diversity in the hotel industry, surveying almost 5,000 general managers of hotel properties and concluded that the five most cited internal causes of turnover were (1) rate of pay; (2) communication problems; (3) lack of advancement opportunities; (4) lack of recognition for a job well done; and (5) conflict with management.

In Hong Kong, hotel staff turnover is significant. As in other countries, hotel jobs in Hong Kong are very demanding, both physically and mentally. Hotel staff are expected to be well-groomed, well-mannered and disciplined at all times. They

work long hours and frequently face difficult guests. Nowadays, customers are increasingly demanding, and hotel employees are under pressure to develop a wide range of skills, including professional expertise, customer service and cultural sensitivity in order to provide “little extras” and exceptional service with “extra attention” (Tsaor and Lin, 2004).

Another difficulty relating to guest satisfaction for hotels is the “chained service” concept (Paraskevas, 2001). During a hotel stay, a guest may interact with room attendants, waiters/waitresses, concierge, security staff, etc. In other words, guests experience the services of the hotel in a “chain.” Any problems at any one step in the chain will dissatisfy the guest. Therefore, teamwork is crucial, and hotel employees need to work closely with colleagues across departments and levels. Choi and Chu (2001), investigating the determinants of hotel guests’ satisfaction and repeat patronage in Hong Kong identified the three most influential factors, in order of importance: staff service quality, room qualities and value. Chan and Wong (2006) echoed that beyond price, convenient hotel location and good service were key factors influencing frequent independent travellers (FITs) in their selection of hotels.

Seasonal business fluctuation is another unique characteristic of the hotel industry (Krakover, 2000). In Hong Kong, the number of tourists drastically drops during the Chinese Lunar New Year, usually around January or February. On the other hand, many exhibitions and conventions are held during March, April and May, bringing tremendous revenue to the hotel industry. These fluctuations directly affect the incomes of some hotel employees, e.g. food & beverage staff who rely on tips as a source of income. Among various cultures, Chinese people tend to save more for future contingencies. Thus, money appears to be very important compared to other job aspects for Chinese employees (Lam et al., 2001).

All these factors, mentioned above, contribute to high turnover in hotels in Hong Kong. Table 2.10 shows the annual staff turnover, with the lowest (27.4%) in 1985 and the highest (58.72%) in 1989. According to Chan (2000), the average staff turnover rate, for staff with below one-year service, went up 56.53% between 1985 and 1997. Lam, et al. (2001) further added that the highest turnover rate was reached in 1998, with 86 percent. It appears that the hotel industry in Hong Kong is rather weak in retaining newcomers.

Table 2.10 Hong Kong Hotel Staff Turnover Statistics

Year	Staff Turnover		
	Annual Average (%)	< 1 Year Service (%)	> 1 Year Service (%)
1985	27.40	13.95 (50.90%)	13.45 (49.10%)
1986	28.89	13.90 (48.11%)	14.99 (51.89%)
1987	39.08	20.91 (53.51%)	18.17 (46.49%)
1988	56.53	34.84 (61.63%)	21.69 (38.37%)
1989	58.72	38.81 (66.09%)	19.91 (33.91%)
1990	56.88	37.60 (66.10%)	19.28 (33.90%)
1991	51.98	33.06 (63.60%)	18.92 (36.40%)
1992	51.17	32.39 (63.30%)	18.78 (36.70%)
1993	47.28	28.42 (60.10%)	18.86 (39.90%)
1994	41.26	24.63 (59.70%)	16.65 (40.20%)
1995	32.00	16.58 (51.80%)	15.42 (48.20%)
1996	26.55	12.00 (45.20%)	14.55 (54.80%)
1997	30.61	13.74 (44.80%)	16.90 (55.20%)

(Source: Statistics of Hong Kong Hotels Staff Turnover (Hong Kong Hotels Association, 1985-1997) as quoted in Chan (2000) "A Study of the Impact of Job Factors on Newcomers Turnover Intentions and Organisational Commitment: A case study on the Hong Kong Hotel Industry, p.3)

There have been few research studies of employee turnover in the Hong Kong hotel industry, though the topic has been a focal issue for discussion among hoteliers and some academics for many years (Lam et al., 2001). Some studies indicated that job satisfaction factors are likely to play a major role in influencing labour turnover in the hotel industry. For instance, Chan (2000) surveyed 300 employees in 15 hotels to test six job factors on newcomer’s organisational commitment and turnover intentions: (1) training, (2) workplace relationship, (3)

mentorship, (4) post-entry socialisation, (5) job satisfaction, and (6) subject norm. The researcher discovered that training, mentorship, job satisfaction and positive subject norm increase organisation commitment and lower turnover intention.

Siu et al. (1997) studied 1,245 Hong Kong hotel employees, to find out what motivates Hong Kong hotel employees to remain “loyal,” thus reducing the turnover rate. The study identified three top motivators, (1) opportunities for advancement and development, (2) loyalty to employees, and (3) good wages.

Wong et al. (1999) investigated the impact of demographic factors on Hong Kong hotel employee’s choice of job-related motivators and found no interaction effect between independent variables: gender, marital status and position level. The study found differences in intrinsic motivators between male and female, married and non-married employees. Female employees value “interesting work”, “feeling of being involved” and “appreciation and praise for work done” more than their male counterparts. Non-married employees value intrinsic motivators, plus “opportunities for advancement and development,” more than the married colleagues. The study also discovered that managerial employees scored higher in “job security”, “feeling of being involved” and “opportunities for advancement and development” than supervisors and general staff. The factors affecting an employee’s feelings about his/her work serve as guidelines in this study.

According to the above studies, many satisfaction factors may trigger staff turnover in the hotel industry, such as Chan’s six job factors, Siu’s three motivators, and Wong’s intrinsic motivators. However, the impact of EMS on employees has been neglected in these studies, though Brown (1996) reported that the staff turnover rate was higher in hotels with environmental policies than the ones without. Whether EMS will increase or decrease staff turnover is still unclear though it is

claimed that job satisfaction and morale of staff will be enhanced through implementation of the system.

2.7.4. Hong Kong Chinese Employees' Behaviour

Culture encompasses beliefs, values, norms, etc. which collectively distinguish one group of people from another (Pizam et al., 1997). The impact of culture on how employees behave is significant (Robbins, 1994). In Hong Kong, hotel employees are mainly Hong Kong Chinese. The way they think and act affects the success of any new policy, such as the implementation of EMS. Therefore, it is worth reviewing the literature about Hong Kong Chinese's behaviour, especially in the hotel industry.

Many researchers (Ralston et al, 1992; Ng and Cheng, 1993; Ralston et al., 1993) compared ethnic Chinese people in various countries including Hong Kong, mainland China, Singapore, and the United States. These groups are found to exhibit different behaviours although they are ethnically similar. Wong (1996) developed a comparison framework to investigate how Hong Kong Chinese hotel employees behave by using four pillars of Western Management: planning, organizing, influencing and controlling. Wong's findings are summarized in Table 2.11.

Table 2.11 Chinese Cultural Values vs. Western Management Concepts

Western Management Concept	Vs.	Hong Kong Chinese Hotel Employees Values
Planning		
Strategic Planning		Follow Instructions
Management by Objectives		Management by Self Competence
Participative Approach		Benevolent Authority
Open Communications		Ordering Relationships by Status
Organising		
Communications Channels		Hierarchy Levels
Loyalty to Prospects		Loyalty to Favour (Ren Qing)
Team Effort		Unity of Command
Empowerment		Less Risk-taking (Moderation)
Influencing		
Management by Principles		Management by Reciprocation
Facts and Rules		Guan-xi (Relationship)
Confrontation		Protecting One's Face
Motivation by Hygiene Factors		Socialisation and Inner Circle
Controlling		
Performance Appraisal		Overall Group Performance
Control by Rewards		Control by "Advantages"
Formal Communications		Grapevine Communications
Formal Trainer		Informal / Unofficial Mentor

The four pillars of Western management employed in Wong’s study are used as a framework for the following discussion:

Planning

Planning, both short and long-term, is the process of determining in advance what should be accomplished and how it should be realized (Gordon et al., 1990). According to the study, Chinese people tend to be more “passive” in terms of planning, relative to their western counterparts. Hong Kong Chinese tends to follow Confucian ethics, which expects people to act within their position and to play according to a set of roles in a hierarchical structure. Historically, Confucian teachings emphasise hierarchy and filial piety, and the Chinese accept inequality of power as inherent (Dreyer, 1993; Bond, 1991). Confucian teachings have had a strong influence on the legal system of traditional China and the moral code of Chinese society. Confucius teaches the idea of law as relative to one’s status rather than as an absolute standard (Dreyer, 1993). Because of this, respecting senior people in terms of age, rank or experience, is a kind of “polite” attitude learnt in childhood. A superior’s instructions are “orders” and fulfilling them is a duty. Lockett

(1988) considers that such cultural factors would preclude implementation of Western HRM methods. Many other researchers have also observed limits to the introduction of new HRM systems and regarded Western training practices as potentially inappropriate in the Chinese context (Ding et al., 2000; Ilari and La Grange, 1999; Warner, 1999).

Hofstede (1980) indicated that Asian culture is a comparatively high “power distance.” Bond and Hwang (1986) supported this finding with a study on the hierarchical structure of interpersonal relations in Chinese Society. Open communication is not the Chinese norm. Chinese people value structural harmony (Westwood, 1992) and tend to avoid conflict. The Confucian belief in Moderation (the middle way) deeply affects Chinese thinking. Challenging a superior without valid reason is unethical. Offering opinions without being asked by a superior is impolite. The Confucian theory of “Wun Lun” (Five Cardinal Relationships) teaches Chinese people the proper manners of handling different kinds of people. Among the five relationships, the first one is that relationship between emperor and subjects, which serves as a guide for Chinese people in determining their behaviour towards their superiors. In addition, Chinese people consider “face” before voicing opinions, as Chinese people are extremely sensitive to “face” in their interpersonal relationships (Gilbert and Tsao, 2000). Even when asked, Chinese employees rarely express comments or ideas openly. Chinese employees evaluate the status of others, both formally and informally. Even people of the same rank may have different influencing power. In general, this kind of belief and behaviour inhibits participation in the “planning” process, as defined by western management beliefs and practices.

Western Management stresses the importance of including subordinates in planning; however, Chinese people may have a different view. According to

literature (Worm, 1997; Chen, 1995), leadership and decision-making are based on an authoritarian approach in Chinese firms. “Paternalism” is a common leadership style in Asia, especially in China (Gamble, J., 2006; Child and Markoczy, 1993). This type of leadership combines discipline and authority with fatherly concern and benevolence. Ronen (1986) cited in Westwood (1992) distinguished it from autocratic leadership by adding the elements of benevolence, mutual obligation and responsibility to others. Hill (1984) further described it as “the law of the father” – a psychodynamic examination of leadership.

Chinese employees expect leaders to act like “fathers” who protect them, are concerned about their needs and know how to treat them well. They believe that a good follower should be able to guess by “intuition” what the superiors wants and are content to perform the superior’s wishes. Vice versa, a good leader should be “smart” enough to plan ahead for the subordinates. Underpinning this is the Confucian thinking that subordinates have no place in discussions; and, the result is relatively weak participation of Chinese employees in planning.

Organising

Organising is the process of prescribing formal relationship among people and resources to accomplish goals (Gordon, et al., 1990). Because of high “power distance” (Hofstede, 1980), Chinese employees expect that senior personnel to transfer messages clearly from the top down so that they can perform their duties accordingly. Chinese employees respect hierarchy and status and follow the chain of command. Talking upwards is considered as “challenge” and “impolite”. Within a department or “inside group”, the levels of command are “terraced”; decisions or instructions are communicated top-down. Direct criticism is viewed as “you are invading my territory”, even if the criticism is right. Individuals do not interfere with other lines of business. For example, in a Hong Kong hotel, if a front desk agent

wants to express an opinion about a colleague in a restaurant, she or he will first speak to his/her superior who, then, speaks to the boss of the restaurant staff. This makes offering suggestions to other departments difficult as it can be seen as “invasion.” The ideas will likely not be accepted, regardless whether they have merit; while the person offering the idea is evaluated thoroughly. Because of this hidden cultural stigma, Chinese people are reluctant to speak up openly.

Jen-Chin (human obligation) is another important concept in traditional Chinese culture. Bond (1991) discovered that “Reciprocation” (or in Chinese, “pao”) is naturally accepted in Chinese ethics. The concept of pao (i.e. paying back those who treat you well) is a form of human emotional debt and has significant influence on one’s behaviours and attitudes (Chang and Holts, 1999). In Chinese culture, one is expected to remember others’ good deeds and to return the good deed through similar action. It is morally wrong for someone to forget others’ good deeds or not pay them back. This “pao” concept should be beneficial to organisations if employees perceive their employers as treating them well, as Chinese employees evaluate their relationship with their superiors or the company when deciding whether to stay or leave. Therefore, to retain Chinese employees, paying attractive salaries or providing promotion opportunities is not enough. Building better employee relations would be a more effective strategy in retaining Hong Kong Chinese employees.

Empowerment means delegating both responsibility and authority to subordinates (Littrell, 2007). In western management, some researchers believe that this is a good management tool to motivate employees and increase job satisfaction (Chemers, 2000; Smith and Peterson, 1994). However, with Chinese employees, this strategy faces certain barriers. Confucian culture values Moderation (middle way), leading to risk-avoidance attitude and behaviour. To protect themselves,

many Chinese employees prefer not to make decisions outside their job description, thus avoiding mistakes. The deep-rooted belief in the Confucian analects (Wayle, 1938) that “a manager’s role is to manage; a worker’s is to work” also affects the wide acceptance of empowerment in China. According to previous literature (Chen, 1995; Redding and Casey, 1976), leadership and decision-making in Chinese firms are based on an authoritarian approach, high power distance, adherence to hierarchy, and concentration of power at the top. Other studies also reported low preference for empowering employees in China (Mwaura et al., 1998; Richardson, 1997). In general, if western managers want to implement empowerment, they need to provide Chinese employees with clear and descriptive instructions concerning the precise limits of their responsibilities and decision-making authority.

Influencing

Influencing is the process of determining or affecting the behaviour of others. This involves motivation, leadership, and communication (Gordon, et al., 1990). In business relationships, two concepts are very important in Chinese society, guan-xi (relationship) and mien-tsu (face). In China, family and kinship relations are paramount cultural values (Hsu, 1972), in contrast to Western societies which are more individualistic and where people believe in controlling their own lives (Rotter, 1966). In business relations, guan-xi can be considered as drawing on connections or networks to secure personal or business favours (Gilbert and Tsao, 2000). Guan-xi has been pervasive in the Chinese business world for the last few centuries and it binds millions of Chinese firms into a social and business web today. In business, when making decisions, Western managers tend to use facts, figures etc. In contrast, Chinese managers tend to make decisions based on “guan-xi” (relationship), a holistic approach in looking at one’s relationship with a company or a person. Beamer (1998) found that Chinese managers favour organisations which nurture friendships among their employees, indicating the

importance of relationships in Chinese culture. The emphasis on “guan-xi” has received a lot of research attention in recent years (e.g., Law et al., 2000; Xin and Pearce, 1996). Traditionally, a person with good “guan-xi” with key officials can gain tremendous advantages. Some researchers argue that Western firms should focus upon guan-xi development (Luo, 1997) though guan-xi is much less relevant in foreign firms. For managers in Hong Kong, developing good guan-xi with subordinates is essential; good guan-xi between a superior and his/her subordinates solves many problems, as Chinese employees will reciprocate favours from their leaders (Chang and Holt, 1999). Pao (reciprocity) is another important concept in traditional Chinese culture (King, 1981) emphasizing that one is expected to remember others’ good deeds and to return the good deed through similar action (Wong et al., 2001). In general, empirical studies conducted so far support the important impact of specific forms of “guan-xi (e.g. relationship with supervisors) on employees’ behaviours and attitudes towards an organisation.

Mien-tsu (face) is one of the most important and sensitive aspects of a Chinese’s person self-image. This is a key component in the dynamics of guan-xi, as one must have a certain amount of prestige to cultivate and develop a viable network of guan-xi connections (Luo, 1997) and the amount of mien-tsu a person has is a function of social status (Gilbert and Tsao, 2000). The concept of “face” refers to using respectful language, being polite, avoiding criticism, avoiding confrontation with others in public places, and not damaging one’s or others’ reputation (DeMente, 1991). Giving “face,” described as a form of social currency in everyday transactions by Chen (1995), is considered a smart diplomatic tactic in human relations. For instance, subordinates give “face” to their superiors by attending informal gatherings after work. In general, Hong Kong Chinese employees do not like to criticize or confront others in order to give “face” to others unless they are first attacked or embarrassed in public. In addition, Chinese people will make every

effort to enhance their own face by at least not making mistakes (protectionism) (Gilbert and Tsao, 2000). They will purposely do favours for others (social investment) to increase their chances of getting favours in future, and this is called jen-chin (personal obligations). Similar to mien-tsu, jen-chin plays an important role in the cultivation and development of guan-xi, as it involves social exchange obligations, there is need for people to keep equity in mind.

In a collectivist society, such as an organisation of mostly Chinese employees, the dominant values are group oriented, i.e. concern for the welfare of the group (Alder, 1991). These values include harmony, unity, and loyalty which differ from individualist values which praise the achievements of an individual (Gilbert and Tsao, 2000). In Hong Kong, “inclusion” in a group is highly valued and occurs through socialization. Through activities such as mah-jong and karaoke, newcomers are gradually included into the group. To influence employees in a collectivist organisation such as a hotel with many Chinese employees, management needs to influence or motivate the whole group of employees, not specific individuals as it may result in disharmony among the personnel (Gilbert and Tsao, 2000).

Controlling

Controlling is the process of comparing actual performance with standards and taking any necessary corrective action (Gordon et al., 1990). In terms of discipline, Western managers are usually stricter given the historical backdrop of foreigners perceived as meting out unjust and harsh punishments to Chinese (Gamble, 2003, p.71). Notwithstanding, the recent study by Gamble (2006) investigating the application of western-style HRM practices to China indicated that local Chinese employees appeared to desire a more rigorous system of discipline than that introduced by their foreign managers. Because of the “collectivism” described by

Hofstede (1980) as people emphasizing group results over individual merits, Chinese employees in Hong Kong may defend themselves during performance appraisal interviews by pointing to the good results of the team. Even though an individual has weaknesses, it is acceptable if the team results are good.

Formal communication in Hong Kong hotels usually includes formal morning briefings chaired by the general manager or department heads. Nevertheless, Chinese managers rarely discuss serious issues over the table because of the risk of someone losing face (Gilbert and Tsao, 2000). They prefer to solve problems in private, on a one-to-one basis. Raising issues in public in a formal meeting without giving advance notice is considered as challenging someone's ability and could result in the breakdown of valuable *guan-xi*. Therefore, to avoid conflict, open communication is not the Chinese norm. Deal and Kennedy (1988) emphasized that "working the cultural network or *grapevine* – the primary but informal means of communication effectively" is the only way to get things done or to understand what is really going on in the Chinese community. In addition, The Chinese will only listen to those they trust (Pang et al., 1998). The level of trust between individuals often dictates the way they communicate. In general, two diverse forms of communication exist among the Chinese. Communication between "accepted" members of a group is free and uninhibited, whereas communication in the presence of an "outsider" restricts the freedom of expression (Pang et al., 1998).

In terms of the relationship with superiors, Hong Kong Chinese employees generally prefer to develop a long-term apprenticeship relationship with a mentor, also called a "master". This is consistent with the Chinese concept of filial piety and respect for one's elders. Though mentoring is a means to facilitate integrative learning, Bjorkman and Lu (1999) reported that few of the foreign firms they studied reported success with these "shadowing" systems when expatriate professionals

and managers were involved in these important development strategies. Tsang (2001) added that if the perceived social distance between expatriates and locals is high, transfer of knowledge is likely to be impeded.

Some researchers have demonstrated Chinese employees' strong commitment towards their supervisors and its impact on their overall organisational commitment (Chen et al., 1998; Wong and Kung, 1999). In certain trades, such as Chinese cuisine, when a head chef leaves, his whole team of cooks, including apprentices, usually leave with him.

From the above comparison between Western and Chinese management values, theories and practices, we can draw the following conclusions. In Hong Kong, Chinese employees are modest and averse to risk and change. This is to protect themselves from making mistakes, which can lead to criticism or discipline. Although tolerance and perseverance are highly valued in Chinese culture, Hong Kong Chinese employees will react collectively to protect their jobs by taking industrial action, for example, strikes at the Mandarin Oriental Hotel and Regal Hotels Group (Chow and Ng, 1992). In workplaces dominated by Chinese culture, managers are evaluated by employees not only for their technical skills, but also in terms of more intangible factors, such as ability to build good guan-xi, to give and save face, to cope with multiple demands from above and below, etc. Western management theories may be inappropriate in managing Chinese employees. Mindsets, attitudes and behaviour are deep-rooted in culture. Many high-end hotels in Hong Kong have Western managers managing Chinese staff. These hotel operators should not expect to easily and smoothly transfer Western techniques, philosophies and culture into the Chinese workplace.

2.8. Summary of the Literature Review and the Gaps Identified

This chapter focuses on the current studies about the development of environmental management and EMS in companies. The literature review revealed that different scholars have developed different concepts to explain what environmental management means; one approach towards environmental management is the implementation of a formal EMS which helps manage environmental risks and opportunities more systematically and efficiently. Different issues relating to EMS are reviewed in this chapter. The definitions of EMS have been reviewed and approaches to implement EMS advocated by different scholars and EMS standards are addressed. From the literature review, six main core elements of EMS are identified. They are (1) policy, (2) planning, (3) procedures and controls, (4) training and education, (5) communication, and (6) review and continual improvement.

Notwithstanding, the literature on environmental management and EMS, especially in the hotel industry, is still in its infancy. Some conceptual literature exists on EMS formulation from different perspectives. For instance, studies about the application of EMS in construction, electronic, chemicals, farming, education and manufacturing industries are more available. However, it is clear that environmental research specific to service industries has been neglected. There are no empirical studies on how EMS can be formulated and implemented in a hotel context, for example, on the factors influencing EMS development, the specific outcomes of these efforts, and practical recommendations for implementing EMS in a hotel. Given this, to contribute to the advancement of environmental management, there is a need for further in-depth empirical research studies investigating and evaluating the formulation and implementation process in the hotel industry.

Previous studies indicate that there are different driving forces to EMS which can be mainly divided into external forces and internal forces. While many studies indicate that companies with formal EMS normally achieve better environmental performance and cost saving, the interest of stakeholders seems to be the main trigger for seeking formal EMS standard. Notwithstanding, the organisational motivation to EMS in the hotel industry is unclear despite a few studies investigating hotel's motivation to ISO EMS or other environmental practices because the quantitative approach employed by these studies have not investigated the reasons behind these motivations in depth.

Previous studies about EMS have identified the critical success factors and barriers to EMS. From these studies, factors such as management support, quality of leader, green committee, stakeholder involvement, employee attitudes are proved important to the success of EMS while lack of skill and knowledge will hinder the process. It is obvious that successful implementation of EMS is dependent on several "human" factors, such as top management support, teamwork, employee involvement, attitude, behaviour and responsibility. Little research presently exists in the literature examining the impact and effect of EMS on employees and employees' perceptions on how EMS strategy affects their jobs although most of these "human" issues relate to an organisation's employees.

The literature indicates that previous studies about EMS have emphasized the driving forces, critical success factors, barriers, etc. but have neglected the impact of EMS on a key internal stakeholder - employees. This was noted by Affisco et al. (1997) advocating the importance of investigating stakeholders' views of their roles during EMS process. Walker (2000) further concluded that environmental aspects of major stakeholders are poorly researched. Although some studies have claimed

that EMS can lead to greater job satisfaction, they have not explained how job satisfaction is enhanced. Therefore, this research will focus on employees' perceptions about the impact of EMS on them. It is believed that understanding the relationship between EMS and employee is critically important to the success of EMS and the desired environmental performance, as this specific internal stakeholder physically operates the system and makes it work.

This research will go beyond the extant literature, as it will not only explore the antecedent elements which influence the implementation of EMS but also investigate the impact of EMS on hotel employees. This study is important especially when literature indicates that high staff turnover is common for the hotel industry, due to a combination of long working hours, shift duties, seasonal business fluctuation, and the constant pressure of dealing with customers on the frontline. This is particularly significant in light of a study (Brown, 1996), involving a sample of general managers from large and medium hotel groups in UK, which states that staff turnover rate of hotels with environmental policy is higher.

Correspondingly, the Chinese culture is reviewed so as to understand Hong Kong Chinese employees' attitude to their working experience. It discussed the influence of culture on employee behaviour and the different approaches in the debate of employee working satisfaction. Hofstede's (1991) cultural dimension of individualism / collectivism reflects the cultural differences between Chinese and Western cultures in group orientation and communication style. This means that western theories of management may be inappropriate in Hong Kong, as Chinese employees have thinking and behaviour deep-rooted in Chinese culture. Furthermore, no EMS studies exist on employees in Asia, such as Hong Kong, when it is well recognised that culture is a significant factor. The fact that EMS in hotels may be well-accepted by many Western employees does not mean that

Asian employees will favour these programme due to differences in cultural values and exposure to environmental issues. Previous literature failed to uncover studies on the effect of cultural factors such as value and attitude towards EMS concerning employees' working experience. Therefore, examining the characteristics of each factors relating to EMS and how they each positively or negatively affects employees will give further insight into EMS.

In order to investigate how employees' behaviour leads to satisfaction, literature on staff satisfaction and turnover in hotel businesses was reviewed. Previous studies indicate that employees' evaluation of their jobs often comprise several variables, such as participation, recognition, advancement, the work itself and working conditions. This helps explain how a workplace will influence employees' working satisfaction. These studies, however, have failed to develop a comprehensive understanding about the impact of EMS on employees. Therefore, it is important to state that the extant literature is still equivocal and needs further contribution and development. There appears to be little research on these issues relating to the impact of EMS on hotel employees. Because EMS will affect the entire company in terms of the policies and procedures, management structure and the control, etc., it is not known what happens when hotel employees face all these changes, especially when they fall into a dilemma in which service quality often contradicts environmental protection.

Based on the background rationale and the relevant literature reviews, a conceptual framework was established to guide this study. The EMS framework developed from the review of the literature will form the basis of the fieldwork investigation to understand how an EMS is developed and implemented in a hotel context. In terms of impact on the employees' job, a relationship between *EMS*, *Organisational Context*, and *Employees* exists. In the process of forming positive or

negative impact on employees' job, EMS elements consisting of six main elements, the organisational context such as the organisational motivation to EMS, management support, quality of leader, green committee and the EMS' performance, and the employees' evaluation of their job containing the variables such as participation, recognition, advancement and the work itself working condition, and cultural value may mutually influence each other. In order to identify these selected or unspecified determinants, in-depth face-to-face interviews with different levels of hotel employees were conducted, including managerial, supervisory and general levels. The methodology employed for the research will be discussed in Chapter four.

Chapter 3

Hotel Industry and Environmental Protection in Hong Kong

3.1. Introduction

This chapter focuses on two areas: (1) the hotel industry in Hong Kong and (2) the environmental protection in the industry.

Hong Kong was a small fishing village in the 1840's. The hotel industry was comparatively new in Hong Kong at that time. The earliest record of hotels was made in 1957 by the Hong Kong Tourist Association (now known as Hong Kong Tourism Board). In the first part of this chapter, the author presents a brief history of Hong Kong, environmental protection in Hong Kong, history of hotel development, number of tourists, growth of green travellers, and hotel growth rates in terms of room numbers and employees.

In the second part of this chapter, the author presents environmental protection in Hong Kong's hotel industry, the concepts of environmental aspects and environmental impact, followed by environmental legislations, codes and guides, voluntary schemes, specific to hotels in Hong Kong.

In this study, the author presents the literature of Hong Kong's hotel industry using a macro to micro approach. First, general background of the hotel industry of Hong Kong is presented. Then, general literature about environmental protection in Hong Kong is given before the presentation of its impact on the hotel industry. In short,

this chapter presents a broad general background of the hotel industry in Hong Kong (macro), then the introduction of environmental protection in Hong Kong, before touching environmental initiatives in Hong Kong's hotel industry (micro).

3.2. Brief History of Hong Kong

Hong Kong, meaning "Incense Port" or "Fragrant Harbour" (in Chinese), began as a small fishing village in the 1840's. After various treaties and conventions in the late 1800s, Hong Kong Island was ceded from China to Britain; other areas were leased. Since the 1960s, immigrants from China, escaping political unrest or economic poverty, have increased the population of Hong Kong (Hobson and Ko, 1994).

The Sino-British Joint Declaration (1984) returned the sovereignty of Hong Kong to China in 1997. It guaranteed the preservation of Hong Kong's way of life for 50 years after 1997, under "One Country, Two Systems." Hong Kong became the first place in the world to allow a capitalistic, free market system within a socialist mother country.

In the years leading up to the return of Hong Kong's sovereignty to China in 1997, there was much debate about the fate of Hong Kong after handover (Cottrell, 1993; Segal, 1993; Fortune magazine, 1995; Lloyd et al., 2000). Pessimists worried especially about: (1) Chinese insensibilities to democracy, (2) the rule of law, and (3) the containment of corruption.

Many Hong Kong residents emigrated overseas (e.g. to United Kingdom, United States, Canada, Australia, etc.). Emigration peaked after the Tiananmen Square incident in Beijing, China in 1989. However, in recent years, many have returned in

part, due to the economic boom and increasing job opportunities in Hong Kong and China. This group of people, who have stayed in foreign countries for a couple of years, may also bring back “more advanced” concepts and practices of environmentalism of the west in which environmental management is relatively common.

The years after the handover of sovereignty turned out to be turbulent years for Hong Kong – in many unpredictable ways. The Asian Financial Crisis which began in mid 1997 destroyed the economies of many Asian economies and the aspirations of its citizens. In Hong Kong, many businesses closed, and unemployment rose. During this period, the Hong Kong Government launched many mega projects such as the building of the Cyber Centre, Chinese Medicine Centre and Ferry Port. The most stimulating project was the building of The Hong Kong Disneyland Theme Park, with two hotels on-site, which created about 36,000 new jobs and gave a much needed boost to the poor economic atmosphere. Nevertheless, the impact of the financial crisis persisted for some years.

Other crises followed – the 911 terrorist attack in the United States (2001), the outbreak of Severe Acute Respiratory Syndrome (SARS) in Hong Kong (2003). The Hong Kong Tourism Board (HKTb) reported huge drops in visitor arrivals. In April 2003, the average hotel occupancy rate fell to 22%; for high tariff hotels, only 14%. The world-famous Peninsula Hotel recorded less than 10 occupied rooms in the entire month of April 2003. During the SARS outbreak, many people in Hong Kong avoided crowded places. Hotels, restaurants, shopping centres, cinemas, etc. became empty. Many sectors, including construction and manufacturing suffered serious job losses. Unemployment reached a record high of 7.8 per cent for February-April 2003. At the dawn of the millennium, facing both worldwide recession and local setbacks, running a hotel in Hong Kong became more difficult

than ever. In addition to the common strategy to layoff employees to save labour cost, more hotels have started implementing some ad-hoc environmental best practices to minimize consumption costs of energy and water to survive.

Fortunately, Hong Kong seems to have rebounded by mid-2000. The Hong Kong Government's Policy Address (2001) advocated tourism as a key engine to drive Hong Kong's economy. This policy, supported by the Chinese government, re-boosted tourism in Hong Kong, resulting in an impressive 23.4 million visitors and total tourism expenditure (inbound) of HK\$105.66 billion (US\$13.5 billion). Today (at the time of this paper), Hong Kong's economy appears well recovered and booming.

3.3. Environmental Protection in Hong Kong

Overall, the environmental quality in Hong Kong has been worsening, and this impacts on its tourism industry, one of its key economic engines. For instance, air pollution creates a persistent haze over the city, blocking the view of prime tourism sites (such as the view of the magnificent Hong Kong harbour from the Peak). A third of international visitors found the overall environmental quality in Hong Kong to be worse than other places they had visited (Benitez and Moy, 2005; Lam et al., 2003; Bauer and Chan, 2001)

In the past, Hong Kong has focused on developing the economy and raising profits and incomes for businesses and individuals while overlooking environmental issues. It was not until the 1990s that the community started taking note of the environment became alarmed at its deterioration, and demanded better living conditions, for themselves and for future generations.

Throughout the 1970s-90s, industrial waste polluted local waters and ambient air. High-sulphur fuel was commonly used; chemical waste from factories was often dumped - untreated – down drains; rubbish dumps and incinerators were located populated areas. In 1986, the Hong Kong Government established the Environmental Protection Department (EPD), superseding the previous smaller Environmental Protection Unit. In 1989, the Hong Kong Government published the White Paper, the first high-level paper to recognize Hong Kong's environmental problems. The paper drove several successful initiatives, including: control of emissions and effluents from factories and power stations; building three landfills and the Chemical Waste Treatment Centre to world-class standards; installing a number of large sewerage treatment plants; introducing controls on road and construction noise and plans against future noise; and introducing environmental education on the school curriculum (EPD 2001a).

Notwithstanding the Hong Kong Government's efforts to improve the environment, the city's major sources of pollution lay elsewhere – in its neighbouring province, Guangdong. Over the past 20 or 30 years, Guangdong's economic growth has outpaced its environmental infrastructure. Its provincial capital, Guangzhou, and environs are home to over 60 million people (and growing), with huge and increasing numbers of factories and vehicles.

To cope with these problems, Hong Kong works closely with neighbouring environmental authorities. In 1990, the Hong Kong-Guangdong Environmental Protection Liaison Group was established; since then, there have been regular discussions and exchanges of information. Hong Kong and Shenzhen conducted a joint environmental impact assessment (EIA) on the Shenzhen River Regulation Project, which has since become a model EIA in mainland China. Frequent visits

have been made by mainland experts to study Hong Kong's pollution control systems and facilities (EPD 2001a). In 1999, the Guangdong Governor and Hong Kong's Chief Executive issued a joint statement of co-operation on environmental issues, including a joint study on regional air quality. By 2001, Hong Kong has formed a new Council on Sustainable Development and made important steps towards improving its environmental performance (EPD 2001a).

3.3.1. Environmental Legislations in Hong Kong

To deal with environmental problems in Hong Kong, the Hong Kong Government has enacted a number of laws governing air, water, waste and noise pollution. The EPD is responsible for enforcing most of these laws under various pollution control ordinances. Enforcement is carried out by six Local Control Offices (LCOs), which inspect, license and approve operations and processes that contribute to pollution, respond to complaints from the public, and prosecute offenders. These six offices, covering the territory along district board boundaries, enable better contact with local communities. Examples of major pollution control ordinances are listed below:

- Air Pollution Control Ordinance (APCO)
- Noise Control Ordinance (NCO)
- Water Pollution Control Ordinance (WPCO)
- Waste Disposal Ordinance (WDO)
- Dumping at Sea Ordinance (DASO)
- Ozone Layer Protection Ordinance (OLPO)
- Environmental Impact Assessment Ordinance (EIAO)

In 1999, the number of convictions for pollution control violation was 1,681, an increase of 27.5% from 1998 (EPD 2000). By 2005, the number of prosecutions has dropped to 300 (EPD 2006). Many factors may be contributing to this dramatic decline. EPD's partnership programme is working effectively. Under this

programme, EPD forms partnerships with various business and industry groups, such as construction trade, restaurants, vehicle repair workshops and property management companies to promote better compliance with environmental laws. The drop in prosecutions reflects that pollution control in Hong Kong has improved remarkably in recent years.

3.4. An Overview of the Tourism Industry in Hong Kong

As the Asia Pacific region continues to prosper, a newly created burgeoning outbound travel market offers many development opportunities in tourism (Go and Heung, 1995). During the last ten years, international traveller arrivals and receipts in the East Asia Pacific region have risen faster than any other region in the world. The World Tourism Organisation (2000) predicts that more than 802 million inbound and outbound tourist arrivals to and from East Asia and the Pacific in 2020, representing an annual growth rate from 1995 to 2020 of 6.5%, over 2% points above the global average of 4.1%. More and more international travellers are choosing an Asian destination.

Tourism has become one of Hong Kong's key economic engines. As a former British colony and gateway to the Asia Pacific region, Hong Kong offers tourists unique experiences including local festivals, heritage and culture, shopping and dining. It is also a centre for regional and international trade, shipping, banking and finance, and conventions and conferences.

With strong growth beginning in the 1980s, the tourism industry has become Hong Kong's largest sector in the export of services, ahead of insurance, finance, and shipping (Kwong, 1997); and is now the second biggest earner of foreign exchange.

In 1966, Hong Kong recorded HK\$701.6 million (US\$89.9 million) of visitor expenditure; by 2005, it has multiplied 145 times to HK\$102 billion (US\$13.1 billion). In 2004, Hong Kong attracted over 21 million international travellers, representing a 40.4% increase over the previous year (HKTb, 2005). In 2005, over 23 million visitors arrived in Hong Kong (see table 3.1.). This is almost 3 times its population. For the past ten years, the hotel industry in Hong Kong has been enjoying high occupancy rates (average 85 percent).

The Hong Kong Government has strived very hard in recent years to develop the tourism industry in Hong Kong in view of the slowdown of other industries. For instance, in 1998, it created a new post, Commissioner for Tourism underlying the importance of tourism development for the future of Hong Kong. Hong Kong Tourism Board established the Tourism Orientation Programme to provide expert advice and placements to industry partners with funding by the government and support from leading tourism professionals and groups. Today, Hong Kong remains the most visited destination in Asia.

Table 3.1 Visitor Expenditures and Hotel Statistics (1966 -2005)

Year	No. of Visitors	Total Visitor Expenditure (HKD million)	Hotel Revenue (HKD million)	Per Capita Visitor Expenditure (HKD)
1966	505,840	702	145	1,387
1967	527,261	787	140	1,493
1968	618,468	1,001	188	1,619
1969	765,085	1,354	256	1,770
1970	927,407	1,821	325	1,963
1971	808,306	1,650	288	1,818
1972	1,082,220	2,106	287	1,946
1973	1,291,950	2,203	333	1,705
1974	1,295,462	2,387	365	1,843
1975	1,300,836	2,574	423	1,979
1976	1,559,977	3,464	545	2,220
1977	1,755,669	3,640	622	2,073
1978	2,054,739	4,644	892	2,260
1979	2,213,209	5,924	1,191	2,677
1980	2,301,473	6,060	1,408	2,633
1981	2,535,203	7,662	1,955	3,022
1982	2,609,100	8,186	2,233	3,137
1983	2,775,014	10,858	2,901	3,913
1984	3,151,672	13,558	4,026	4,302
1985	3,443,173	14,280	4,321	4,147
1986	3,733,347	17,244	5,047	4,619

1987	4,501,889	24,837	7,628	5,517
1988	5,589,292	32,496	9,301	5,814
1989	5,361,170	35,843	11,279	6,686
1990	5,932,854	37,978	11,482	6,401
1991	6,032,081	38,301	10,659	6,349
1992	6,986,163	46,699	12,930	6,684
1993	8,937,500	58,303	15,966	6,523
1994	9,331,156	62,512	17,620	6,699
1995	10,199,994	72,940	21,412	7,151
1996	12,973,764	82,462	25,558	7,046
1997	11,273,377	69,946	21,236	6,722
1998	10,159,646	53,079	14,857	5,544
1999	11,328,272	54,276	13,564	4,791
2000	13,059,477	59,283	15,363	4,539
2001	13,725,332	62,210	14,253	4,532
2002	16,566,382	74,460	13,078	4,904
2003	15,536,839	68,611	10,750	5,041
2004	21,810,630	89,849	14,524	4,478
2005	23,359,417	102,141	N/A	4,663

(Source: Statistical Review of Tourism in Hong Kong (1974-2005), Hong Kong Tourist Association. Data from 1966-1972 were derived from 1974 Statistical Review.)

Table 3.1 shows a steady increase in tourism from 1966 – 1996, in terms of the number of visitors, total visitor expenditure, hotel revenue and per capita visitor expenditure. Starting in 1997, a drop appears in all areas mainly due to the Asian Financial Crisis as mentioned earlier. From 1999 to 2005, the number of visitors bounced back significantly; yet, per capita visitor expenditure dropped to HK\$4,663. In other words, more customers came, but spent less money during the period. The global recession has caused many customers to spend more cautiously.

In analyzing visitors’ spending pattern in Hong Kong, the Hong Kong Tourism Board identified six categories: (1) shopping; (2) hotel bills; (3) meals outside hotels; (4) entertainment; (5) tours; and (6) others. Shopping is the undisputed number one for expenditure. On the other hand, hotel bills change in terms of spending pattern during the 40 years period. From 1966 – 1978, hotel bills occupied an average of 15.8% of total visitors spending. In 1979, it reached over 20%; in 1985, over 30%. From 1985 onwards, the percentage fluctuated between the 20’s and 30’s, with an average of 28.7 per cent (1986-2005). This phenomenon was supported by Yau and Chan (1990) who concluded that Hong Kong holds certain advantages over

other Asian cities, especially in relation to shopping, entertainment, service in hotels and price.

From 1966 to 2005, as a percentage of total visitors spending, “meals taken outside hotels” remained stable, averaging of 11.15% while “entertainment” recorded a drop. This drop may be due to an increase in total visitor spending, while the actual amount of money allocated to “entertainment” remained the same, thus generated a smaller percentage. Money spent on “tours” had a similar pattern to “entertainment.” It seems that visitors have been spending most on shopping and hotels. As for visitors’ average length of stay, in 2005, the average length was 3.7 nights. An increase compared to 3.32 nights in the past 28 years (1973-2000). HKTb continues to lead the drive to reach the benchmark of 4 nights per visitor.

As the number of travellers to Hong Kong increased rapidly, the profile of travellers’ origins has also changed. Table 3.2 shows the profile for Asian travellers and Western travellers coming to Hong Kong for the years 1996 – 2005. In 1996, the proportion was 78% (Asian) versus 22% (Western). In 2005, the proportion has shifted to 83% (Asian) versus 17% (Western).

In 2005, 23.4 million travellers came to Hong Kong; 54% from China, 10% from Southeast Asia, 9% from Taiwan, 8 % from North Asia (including Japan and South Korea), 7% from Western Europe, 7% from USA/Canada, and 2.5% from Australia/New Zealand (See Table 3.2.). The influx of Asian travellers to Hong Kong is undoubtedly the result of the rapid economic growth and rising prosperity of its neighbouring countries (Siu et al, 1987).

Table 3. 2. Traveller Arrivals by Markets, (1992 – 2005) (in thousands)

Country of Origin	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
USA/Canada	1,083	1,125	1,105	1,155	1,296	1,259	1,347	926	1,400	1,565
Europe/Africa/Middle East	1,455	1,286	1,126	1,149	1,223	1,171	1,263	946	1,380	1,726
Australia/N.Z./S.Pacific	425	382	358	362	417	387	410	306	483	620
Southeast Asia	1,823	1,627	1,273	1,511	1,747	1,746	1,905	1,360	2,078	2,413
North Asia	3,231	2,042	1,298	1,465	1,755	1,762	1,852	1,235	1,665	1,853
Taiwan	2,024	1,920	1,886	2,063	2,386	2,419	2,429	1,852	2,075	2,131
Mainland China	2,389	2,364	2,671	3,206	3,786	4,449	6,825	8,467	12,246	12,541
Macau	541	527	442	417	450	532	535	444	484	510
Total	12,971	11,273	10,160	11,328	13,059	13,725	16,566	15,536	21,811	23,359

(Source: Hong Kong Tourism Board, "A Statistical Review of Hong Kong Tourism 2005")

Table 3.2 shows Hong Kong’s top three tourism markets: Mainland China, Taiwan and Southeast Asia. These countries account for over 73 percent of total traveller arrivals in 2005. In 1997, China became Hong Kong’s top origin market for travellers. This trend is unlikely to change according to forecasts from Hong Kong Tourism Board.

Optimism about the future of the tourism industry in Hong Kong remains strong (Lloyd et al., 2000) with the following five favourable attributes:

1. Hong Kong’s free trade policy
2. The Basic Law, Article 119, ensuring healthy development of Hong Kong
3. Hong Kong as a unique place where East meets West culture
4. Hong Kong’s reputation as a “food paradise,” with its wide variety of cuisines
5. Excellent infrastructure, including easy and convenient transportation

Notwithstanding, the author thinks that this “Asian Wave” may affect Hong Kong hoteliers in adopting formal environmental programmes, as Asian travellers’ awareness and demands relating to environmental protection are still generally lower when compared to that of western travellers.

3.4.1. Growth in Green Travellers

In Hong Kong, the top tourist attraction remains Victoria Peak (34%), followed by Open-air Markets (25%) and Avenue of Stars (23%) (Table 3.3. 2005). Top visitors' special interest activities are gourmet dining (43%), heritage (27%) and traditional festivals (26%). Green tourism is favoured by 24% or 13.7 million travellers (Table 3.4. 2001). These travellers may prefer environmentally-friendly hotels when staying in Hong Kong.

Table 3.3 Hong Kong’s Top 5 Tourist Attractions in 2005

Ranking	Places Visited	% of Visitors
1	Victoria Peak	34
2	Open-air Markets – Ladies Market	25
3	Avenue of Stars	23
4	Ocean Park	17
5	Repulse Bay	17

(Source: Hong Kong Tourism Board: “The Statistical Review of Hong Kong Tourism 2005”)

Table 3.4 Special Interest Activities in 2001

Ranking	Special Interest Activities	% of Visitors
1	Gourmet Dining	43
2	Heritage	27
3	Traditional Chinese Festivals	26
4	Green Tourism	24
5	Art/Cultural Exhibits	22

(Source: Hong Kong Tourism Board: “The Statistical Review of Hong Kong Tourism 2001”)

3.5. The Hotel Industry in Hong Kong

Income from the hotel sector is a major source of revenue for the Hong Kong economy. The following sections describe the history of Hong Kong’s hotel industry in four stages: (1) Preliminary Stage, 1957-1969; (2) Development Stage, 1970-1979; (3) Expansion Stage, 1980-1989 and (4) Transformation Stage, 1990-2005. During this journey, changes and developments in the industry can be observed, in terms of the hotel room supply and number of employees.

The author will discuss how the industry has evolved through these changes and a number of issues that affect the industry. Further, the author will discuss environmental issues related to hotels in Hong Kong; environmental legislations, codes & guidelines in Hong Kong and their impact on the hotel industry in Hong Kong.

3.5.1. History of the Hotel Industry in Hong Kong

Based on the author own insights, the hotel industry in Hong Kong can be divided into four stages namely (1) Preliminary Stage; (2) Development Stage; (3) Expansion Stage; and (4) Transformation Stage. Each stage consists of a decade or more years of development:

Preliminary Stage (1957 – 1969)

The hotel industry in Hong Kong began with “hostels.” In 1957, there were only 19 hotels with 1,489 rooms, employing 1,900 persons (Hong Kong Tourist Association, 1957 – 1969). The only famous hotel in Hong Kong was The Peninsula. Both the number of hotels and hotel rooms increased gradually. By 1969, the number of hotels had doubled to 39, the number of hotel rooms had increased five times to 7,643, while the number of hotel employees had also increased five times to 9,900. During this stage, larger hotels with more rooms were built while “staff to room” ratio remained stable, at an average of 1.29 staff to 1 room (see table 3.5).

Table 3.5 Hotel Statistics in Hong Kong (1957 – 1969)

Year	Hotel No.	Hotel Employees	Hotel Room	Employee to Room Ratio
1957	19	1,900	1,489	1.28
1958	25	2,500	1,952	1.28
1959	28	2,900	2,238	1.30
1960	31	3,800	2,975	1.28
1961	32	4,500	3,460	1.30
1962	31	4,300	3,349	1.28
1963	34	7,600	5,907	1.29
1964	35	7,900	6,121	1.29
1965	34	8,000	6,190	1.29

1966	33	7,800	6,089	1.28
1967	30	8,700	6,752	1.29
1968	33	8,900	6,890	1.29
1969	39	9,900	7,643	1.30

(Source: Statistical Reviews of Tourism in Hong Kong (1957-1969), Hong Kong Tourist Association)

Since 1957, hotels in Hong Kong have been classified into 3 categories: (1) High Tariff, (2) Medium Tariff, and (3) Hostels and Guest Houses. In 1970, the High Tariff category was further divided into High Tariff A and High Tariff B. The table below shows the number of hotels in 2006 according to this classification.

Hotel Category	Number of Hotels
High Tariff A (i.e. 5 star)	21
High Tariff B (i.e. 4 star)	41
Medium Tariff (i.e.3 star)	53
Hostels / Guest Houses (i.e. 2 star)	486

(Source: Hong Kong Hotel Industry Review 2006 by Hong Kong Hotel Association, Hong Kong Tourism Board & Horwath Asia Pacific 2006)

Yu (1995) discovered that High Tariff A hotels hire more expatriates staff than High Tariff B and Medium Tariff hotels in Hong Kong. US-based multinational hotel groups hire more expatriates than local-based multinational and local-based hotel groups. Hotels with more rooms (i.e. 500 or above) hire more expatriates than those with fewer rooms. The study also showed that senior positions, such as General Manager and Food & Beverage Managers, are mostly occupied by expatriates. Yu proposed hiring and training local people in the hotel field. Wong (1996) further highlighted the need of adapting cross-cultural management in the hotel industry in Hong Kong and raised the importance of three Chinese values: (1) protectionism, (2) guanxi and reciprocation and (3) face management.

In 1961, the Hong Kong Hotels Association (HKHA) was founded, with 32 hotel members (employing 4,500 employees). The association works closely with the Hong Kong SAR Government and the travel industry to promote the interests of the industry and its members. It regularly disseminates guidance and information on

various issues affecting its members.

Development Stage (1970 – 1979)

In the 1970’s, three major industries dominated the economy of Hong Kong: (1) textiles and clothing, (2) wigs, and (3) electronics. During this decade, investors and entrepreneurs preferred investing in factories over hotels; and the number of hotels dropped from 53 (1970) to 46 (1979) in Hong Kong. Still, the number of hotel rooms increased based on a tendency of building more deluxe hotels with more rooms (with a decrease in medium-sized hotels).

During this decade, the number of hotel employees increased 1.23 times from 11,390 (1970) to 14,090 (1979). The “staff to room” ratio dropped from 1.29 (1960’s) to 1.16 (1970’s). This drop, though slight indicated a gradual concern for raising staff productivity. Overall, the hotel industry experienced slow but steady development in this decade. (see Table 3.6).

Table 3.6 Hotel Statistics in Hong Kong (1970 -1979)

Year	Hotel No.	Occupancy %	Hotel Employees	Hotel Room	Employee per Room Ratio
1970	53	90	11,390	8,567	1.33
1971	57	84	11,670	9,047	1.29
1972	55	81	12,830	10,782	1.19
1973	54	77	14,122	11,316	1.25
1974	55	71	14,442	13,190	1.09
1975	53	67	14,264	13,448	1.06
1976	52	79	15,125	13,347	1.13
1977	50	85	15,442	13,800	1.12
1978	49	89	16,833	14,168	1.19
1979	46	91	14,090	14,363	0.98

Expansion Stage (1980 – 1989)

Stepping into the 1980’s, the hotel industry enjoyed an “expansion era.” The number of hotels increased 1.5 times, from 46 (1980) to 69 (1989); the number of hotel rooms increased 1.8 times, from 14,989 (1980) to 27,031 (1989) and, the

number of hotel employees increased 1.8 times, from 18,101(1980) to 32,629 (1989).

The 1980's was a turbulent decade. China's Open Door Policy (1980) started attracting foreign investment to China, mainly in Guangdong Province next to Hong Kong, triggering a migration of industrial jobs from Hong Kong to China. The Sino-British Joint Declaration (1984) hurt the confidence of many Hong Kong people who moved overseas. In June 1989, the Tiananmen Square incident in Beijing triggered another crisis in confidence and another emigration wave from Hong Kong. Against this political backdrop, Hong Kong underwent a transition from an industrial to service-based economy. Its industrial workforce had to quickly adapt to service industries, such as hotels, banks and property businesses.

During this decade, Hong Kong's hotel industry experienced healthy growth. More people joined hotels, average "staff to room" ratio increased to 1.22 (from 1.16 in 1970's) and the industry expanded and gained international reputation. In fact, the confidence level really picked up from 1985 to 1989, as evidenced by increasing numbers of hotel and employees and rising occupancy rates. In 1989, in what was probably the first academic research paper about Hong Kong's hotel industry. Pine (1989) forecasted positive growth for the industry, but presciently raised the issues of high labour cost, high room tariff, the need to improve staff productivity and the shift from long-staying Western guests to short-staying Asian customers.

Table 3.7 Hotel Statistics in Hong Kong (1980 – 1989)

Year	Hotel No.	Occupancy %	Hotel Employees	Hotel Room	Employee per Room Ratio
1980	46	87	18,101	14,989	1.21
1981	47	87	20,394	16,323	1.25
1982	47	82	21,447	17,415	1.23
1983	48	83	21,409	17,570	1.22
1984	51	89	21,468	18,031	1.19

1985	57	88	21,867	18,180	1.20
1986	57	85	24,038	20,230	1.19
1987	56	90	25,684	21,022	1.22
1988	65	92	29,191	22,882	1.28
1989	69	79	32,629	27,031	1.21

(Source: Statistical Reviews of Tourism in Hong Kong (1980 – 1989), Hong Kong Tourist Association)

Transformation Stage (1990 – 2005)

Following several “emigration waves,” the business sectors in Hong Kong experienced a difficult period in terms of labour shortage. Many businesses, including hotels, had to use relatively high salary to recruit and retain staff. Fortunately, by the mid 1990s, many migrated Hong Kongers had returned, increasing the supply of skilled labour. In 1992 to 1996, the hotel industry enjoyed healthy growth in terms of occupancy rates, with an average of 85.6% (see Table 3.8).

Table 3.8 Hotel Statistics in Hong Kong (1990 – 2005)

Year	Hotel No.	Occupancy %	Hotel Employees	Hotel Room no.	Employee per room ratio
1990	75	79	33,829	28,146	1.20
1991	82	75	36,077	33,163	1.09
1992	86	82	36,769	33,534	1.10
1993	88	87	36,921	34,044	1.08
1994	85	85	36,436	33,490	1.09
1995	86	85	34,852	33,052	1.05
1996	88	89	34,534	33,425	1.03
1997	86	77	32,600	33,981	0.96
1998	88	74	27,028	35,102	0.77
1999	91	74	27,372	35,420	0.77
2000	98	83	26,321	41,491	0.68
2001	92	79	25,110	41,842	0.60
2002	91	84	24,117	43,624	0.55
2003	89	70	22,063	42,936	0.51
2004	92	88	17,216	44,362	0.39
2005	109	86	20,728	48,891	0.42

(Source: Statistical Reviews of Tourism in Hong Kong (1990 – 2005) Hong Kong Tourist Association)

1st July 1997 was a historic and unforgettable day for Hong Kong people. The world watched as capitalistic free-market Hong Kong was returned to China, its communist motherland. With the world’s media descending on Hong Kong to

witness the sovereignty hand-over, many Hong Kong hoteliers predicted huge bookings; some even set gimmicky room rates, such as HK\$1,997 per night. Unfortunately, the average room occupancy for that month barely reached 78%. Soon after, Hong Kong was rocked by a series of political and economic crises, including the Asian Financial Crisis, 911 and SARS, as described earlier in this paper. Lloyd et al. (2000) studied the impact of the return of Hong Kong's sovereignty to China on its hotel industry. 14 hotel general managers in Hong Kong predicted an immediate short-term lull in business, or recession, after the handover, followed by intensified competitiveness within the industry. In the long run, these managers predicted more 3-4 star and medium-sized hotels to accommodate changing markets from China and Taiwan. They also predicted a mix of labour influx and were concerned about the loss of experienced management staff. In general, the managers were optimistic that the volume of business would increase and that the hotel industry in Hong Kong would remain highly competitive with the rest of Asia.

3.5.2. Future Hotel Projects in Hong Kong

Table 3.9 Projection of Future Hotel in Hong Kong (2007 – 2011)

Year	Projected Hotel No.	Projected Hotel Room No.
2007	145	54,183 (3 extension projects included)
2008	152	56,348 (1 extension project included)
2009	159	58,822
2010	160	58,922
2011	161	59,222

(Source: Hong Kong Tourism Board 2006)

Table 3.9 shows a very positive trend in the number of new hotels in Hong Kong. As mentioned earlier, Hong Kong expects more tourists from China in the coming years. As mainland Chinese visitors, generally, do not demand deluxe service, but rather a hotel with all-round services at a budget price, more Medium Tariff or High Tariff B hotels are expected, but fewer High Tariff A hotels.

With increasing competitiveness, hotel management in Hong Kong has been under pressure to continuously raise labour productivity. Since 1997, average “staff to room” ratio has been less than 1, from 0.96(1997) to 0.42 (2005). In other words, the workload of hotel employees has become increasingly heavier, compared with earlier years. Labour is now recruited and trained to be multi-functional rather than specializing in one area only.

Stepping into the millennium, after overcoming many tough times and challenge, the hotel industry remains strong and has become even more important for the economic prosperity of Hong Kong, as Hong Kong evolves into a service-orientated society.

3.5.3. Hotel Financial Structure and Rate Comparison among Major Cities

For most hotels in the world, the main income source is room revenue. Hong Kong hotels are fortunate in that they can also rely on food & beverages revenue. This is mainly because of the dining out habits of Hong Kongers. Table 3.10 illustrates the current financial revenue of the hotel industry in Hong Kong.

Table 3.10 Hotel Financial Statistics (1999 – 2003)

	1999	2000	2001	2002	2003
Revenue (HK\$ million)					
Rooms	6,143	7,575	7,355	7,088	5,418
Food & Beverages	5,342	5,872	5,715	5,009	4,504
Others	1,234	1,233	1,183	981	828
Total Revenue (HK\$ million)	12,719	14,680	14,253	13,078	10,750
Expenses (HK\$ million)	11,249	11,749	12,109	10,588	9,422
Income Before Tax (HK\$ million)	1,471	2,932	2,144	2,490	1,328
Number of Rooms Occupied per Day	26,699	28,888	27,898	30,465	24,333
Number of Rooms Available for Sale per Day	33,677	34,648	35,370	36,262	34,799
Income Before Tax per room (HK\$)	55,096	101,495	76,851	81,733	54,576
Income Before Tax over Revenue (%)	11.6	20.0	15.0	19.0	12.4
Average Daily Room Rate (HK\$)	644	683	671	612	582
Occupancy (%)	80	83	79	84	70
Note: Income Before Tax per room = Income Before Tax / No. of Rooms Occupied per Day					

(Source: Hong Kong Hotel Industry, 1998 -2003. Hong Kong Tourist Association)

In Hong Kong, in general, room revenue accounts for over 50% of total revenue of a hotel, while room revenue plus food and beverage sales account for over 85%. Other less significant revenue sources include telephone, laundry, rent from shops etc. In terms of the cost and expenditure, Table 3.11 shows the typical costs of a hotel. Labour cost is typically a top expenditure, and it is not uncommon to see that an average of 33.5% for payroll and related expenses. Many other costs are necessary in order to run a smooth hotel operation. These include departmental expenses, food and beverage costs, rent, management fees, administrative, marketing, property operation and maintenance and energy costs. Energy costs are quite high for most hotels, up to 7% of total expenses. Therefore, when hotels encounter difficult times or need to cut costs, energy saving measures become important. This is likely one of the key reasons why hotels adopt EMS (Chan and Wong, 2006).

Table 3.11 Revenue and Cost Structure of the Hotel Industry (By %)

Revenue	1999	2000	2001	2002	2003
Room sales	48.3	51.6	51.6	54.2	50.4
Food sales	32.7	30.9	30.5	29.6	32.4
Beverage sales	7.6	7.3	6.9	6.4	6.4
Minor-operated departments	3.9	3.3	2.9	2.9	2.5
Telephone sales	3.1	2.7	2.2	2.0	2.3
Rental and other incomes	2.7	2.4	2.7	2.1	2.6
Other food and beverage sales	1.7	1.8	2.7	2.3	3.1
Spa / Health Club	---	---	0.5	0.3	0.3
Total	100	100	100	100	100
Cost Item	1999	2000	2001	2002	2003
Payroll and related expenses	34.7	30.5	34.5	32.7	35.0
Departmental expenses	11.1	9.9	9.1	9.4	9.6
Food cost	10.4	9.7	9.6	9.2	10.3
Rent	3.9	3.2	3.9	2.9	3.6
Management fee	2.7	3.4	3.2	3.2	3.2
Depreciation and amortization	2.9	3.9	3.1	3.5	3.6
Energy costs	6.0	5.3	5.9	6.0	6.7
Interest	6.5	4.0	3.3	3.6	2.5
Administrative and general	2.5	2.5	2.9	2.3	2.7
Marketing	2.6	2.5	2.6	2.4	2.5
Property operation and maintenance	2.6	2.5	2.6	2.3	2.8
Other fixed charges	1.0	1.3	2.4	2.0	3.3
Beverage cost	1.5	1.4	1.3	1.2	1.2
Income before tax	11.6	19.9	15.5	19.3	12.8
Total	100	100	100	100	100

(Source: Hong Kong Hotel Industry, 1999 – 2003. Hong Kong Tourist Association)

3.6. Environmental Protection in The Hotel Industry in Hong Kong

The hospitality industry has a vested interest in protecting the environment since it depends on attractive and safe surroundings as part of its core product (Sinclair 1995). Various companies in the sector including McDonalds, Cathay Pacific Airlines and the 10 international hotel companies that founded the International Hotel Environment Initiative (IHEI) (Inter-Continental, Ramada, Forte, Accor, Hilton International, Holiday Inn Worldwide, Marriott, etc.) have adopted environmental programmes: The experience of these and other hotel companies has proven that hotels can contribute to protecting the environment through energy management, water management and waste management programmes (Iwanowski and Rushmore, 1994).

Initially, hotel companies were slow to respond to EMS. By the late 1990's, some hoteliers, however, had begun adopting competitive strategies in environmental management. These strategies were based on research that illustrate responsible environmental performance can deliver operational cost savings as well as improve customer loyalty. For example:

- Research undertaken by Steigenberger Reservation Service (SRS:1994) found that 20% of the surveyed hotels initiated green measures because of financial considerations, 20% were motivated by guest concerns, and 30 % by municipal regulations.
- Watkins (1994) found that about 70% of travellers participating in a survey are likely or extremely likely to stay in a hotel with a proactive environmental strategy.

- A poll, carried out by the Association of British Travel Agents in 1992, found that 63% of tourists are concerned about the environmental quality of destinations they visit while 88% agree that tourists are becoming increasingly environment-conscious (Hong Kong Travel Bulletin: 1994)

In Hong Kong, the Hong Kong Hotel Association, through its Environmental Committee, has supported the project, “Keeping Hong Kong’s Hotel Industry Competitive into the 21st Century – Environmental Management Systems for Hotels” (PolyU 2000) during the past years. The project’s objective was to help hotels in Hong Kong become more competitive and profitable, while reducing adverse environmental impacts by implementing EMS. The project has been commended as a unique collaboration between academic institutions and the hotel industry, and has earned Hong Kong’s hotel industry a great deal of praise among international environmentalist (HKHA 2000).

The following sections will discuss environmental protection in the hotel industry in Hong Kong, starting with an introduction of the concepts of environmental impact and aspects.

3.6.1. Environmental Impact and Aspects of Hotels

Whilst hotels provide quality standards of facilities and services and continue to attract millions of guests each year, they are also a contributor to many environmental problems facing society, in particular, emissions to air, water, and land, and consumption of material resources. These problems can have an immediate or gradual impact, on the environment as well as human health. Further, poor environmental practices may give tourists a poor impression of Hong Kong and reduce their interest in further visits, thereby impacting on hotel business.

According to ISO 14001 (1996a), “environment” means the surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation. The surroundings in this context extend from within an organisation to the global system. Operations in each functional department in a hotel can have beneficial or adverse impact on the environment, directly or indirectly. An “environment aspect” is an element of an organisation’s activities, products or services that can interact with the environment. “Environmental impact” is defined as any change to the environment, whether adverse or beneficial, wholly or partially from an organisation’s activities, products or services. For instance, one of the environmental aspects for a hotel’s Engineering Department is the use of harmful chemicals, such as the CFCs in refrigerators and air-conditioners that can have adverse impact on the ozone layer when released into the atmosphere. Similarly, food and packaging waste is an aspect in the F&B Department that can add to the burden at landfill sites and also waste natural resources.

Not all environmental aspects lead to significant impact on the environment. Some have minimal or subtle impact. A significant environmental aspect is interpreted as an environmental aspect that has or can have a significant environmental impact according to ISO 14001 (1996a). The significance of each identified environmental aspect can be different in each organisation. ISO 14004 guidance (1996b) suggests that environmental concerns to be taken into consideration in evaluating the significance of impact include:

- the scale of the impact;
- the severity of the impact;
- probability of occurrence; and
- duration of impact.

The business concerns to be considered include:

- potential regulatory and legal exposure;
- difficulty of changing the impact;
- cost of changing the impact;
- effect of change on other activities and processes;
- concerns of interested parties; and
- effect on the public image of the organisation.

Appendix 3.1 is a register detailing significant environmental aspects and their associated impacts in the operation of a hotel based on the Environmental Management Manual for Hotels in Hong Kong (PolyU 2000). A total of 92 significant environmental aspects are identified and grouped into different areas. Significant aspects are: energy consumption, water consumption and discharge, materials use, emissions, emergency situations and contract-out services.

3.6.2. Energy and Water Consumption and Waste in Hong Kong Hotels

Energy is consumed by a hotel for various purposes everyday, including: gas for cooking, fuel oil for boilers to produce steam and hot water, electricity for all hotel electrical equipment and other building engineering services such as central air-conditioning, lifts and escalators, lighting, and for small power equipment. Likewise, large amounts of water are consumed in laundry, kitchens and guest rooms, with significant energy use for hot water. In a typical medium-sized hotel in Hong Kong, the annual energy and water bills may amount to several millions dollars, contributing significantly to hotel's total operating cost (PolyU 2000b).

Deng and Burnett, (2002a) investigated energy use in 16 quality hotels in Hong Kong. Among the three types of energy used in hotels in Hong Kong (electricity, diesel, gas), the study found that energy use in Hong Kong hotels is dominated by electricity, on average accounting for 73%, of total energy use. The greatest portion

of electricity was for air conditioning due to Hong Kong's sub-tropical climate. The study further indicated that electricity use in hotels is affected by both outdoor air temperature and number of guest, with the former being the stronger affecting factor. Diesel use is collectively affected by outdoor air temperature, number of guest and number of food covers with outdoor air temperature being the most significant affecting factor. For gas use, the number of food covers is perceived to be an affecting factor.

According to the "Good Practice Guide to Water Conservation for Hotels in Hong Kong" (PolyU, 2000c), the major end-users of water in a hotel are laundry (if any), guest floors and kitchens. It also indicated that water consumption in the laundry might dominate total consumption, while that for guest floor and kitchens may dominate the total in a hotel without in-house laundry. Deng and Burnett (2002b), investigating water use in 17 hotels in Hong Kong, also firstly presented the overview of water use in Hong Kong hotels. The study identified a number of operational factors that influence water use in hotels. By using multiple variable regression analysis, the study found that the laundry load, number of guests and number of food covers collectively affect water use in hotels in Hong Kong. Chan and Lam (2001) investigated "green" cost attributable to water consumption in the hotel industry in Hong Kong. The study surveyed 20 hotels on energy consumption in 1994-1996 and performed "green" costing on major water uses in hotels. The result of the study indicates that "green" costs per room, attributable to water consumption in hotels, range from HK\$3,657 to HK\$7,641.

With respect to waste management, in a typical Hong Kong hotel, six main operating areas can be identified. They are (1) offices; (2) stores; (3) engineering; (4) housekeeping; (5) laundry; and (6) food & beverage including outlets, kitchens and stewarding. These operations generate different kinds of waste, ranging from

paper to environmental hazardous chemical waste. Currently, there are no detailed statistics on waste arising and disposal involving hotels in Hong Kong. In fact, some hotels do not regularly monitor their waste. Generally, waste generated by a typical hotel in Hong Kong can be categorized as follows:

- *Waste paper generated from office operations* (e.g. newspapers, magazines, printed materials, cards, telephone directories, paper cups, wrapping paper)
- *Used office consumables* (e.g. ball pens, clips, rubber bands, toner cartridges, files, folders, floppy disks, batteries)
- *Packaging waste from suppliers* (e.g. carton boxes, glass, plastic and metal containers, Styrofoam boxes, plastic bags)
- *Waste generated from guest rooms* (e.g. plastic bottles for bathroom amenities, plastic products such as toothbrush, razor, shower cap, comb, laundry bags, shopping bags, used soap and toilet rolls, food and beverage containers, key cards, damaged linen)
- *Broken utensils, cleaning rags and consumables* (e.g. food and table decorations, menus, place mats, coasters, paper napkins, chopstick, matches, toothpicks, stirrers, from kitchens, restaurants and bars)
- *Food waste* (e.g. food waste and used cooking oil from kitchens, leftover food from restaurants and bars, spoiled and expired food from stores)
- *Chemical waste from laundry and engineering operations* (e.g. residue from dry clean machines, CFCs and halons from chiller plant, and cleaning agents for machinery)
- *Engineering and building waste* (e.g. broken equipment and components, damaged electric light bulbs and fluorescent tubes, worn carpets, furniture, wall paper, and building materials)

3.6.3. Common Hotel Actions to Save Energy and Water and Reduce Waste

Energy and water conservation is generally taken to be the responsibility of the

hotel engineering staff. Consumption can be reduced in two ways: conservation and efficiency. Conservation reduces unnecessary provision, e.g. by switching off equipment when not needed, or reducing oversupply when not demanded. Efficiency is about maintaining the required output whilst reducing input.

Energy and water audits are systematic studies which establish the quantity and cost of each form of energy input to a hotel building over a given period, e.g. over a year. With auditing results, hotel management can:

- establish where energy is being used in a hotel, and at what cost;
- help to determine the priorities for more detailed investigation of energy use;
- justify investment in energy efficiency measures; and
- raise the awareness of all staff by providing facts and energy use.

Audits can provide information for engineering staff to identify potential areas for energy and water conservation. An appropriate energy and water conservation programme can be developed and implemented, in consultation with those departments where saving are targeted (PolyU 2000b).

In terms of waste management practices for hotels in Hong Kong, the market value of waste is an important determinant of good practices. In general, only waste that has market value is separated for collection and recycling. In Hong Kong, things are rarely thrown away for free; by recovering paper, plastics, glass and other recyclable materials, it may be possible to save both the environment and one's money. Yet, Chan (2005), investigating environmental costs generated by hotels in Hong Kong, found that the costs attributable to water protection and solid waste management have been larger than the costs of air pollution during the late 1990s, as a result of government investment in building large-scale sewage treatment systems and landfills. It implies that hotel operators should place greater emphasis

on mitigating pressure on the environment from the consumption of water and disposal of solid waste.

3.6.4. Environmental Legislation, Codes and Guides Affecting the Hotel Industry in Hong Kong

As mentioned earlier, hotels generate environmental impact through its daily operations. While an environmentally responsible hotel operator may try to minimize environmental impact within operating and financial constraints, compliance with environmental legislation is the minimum level of action required. This can ensure avoidance of any financial penalties resulting from non-compliance, as well as any adverse publicity that might follow a conviction.

Under government legislation, hotel operators in Hong Kong have a legal duty in five areas: 1) discharges to local waters; 2) emissions to the air; 3) disposal of waste; 4) control of noise, together with 5) other legislation on health and safety issues. Appendix 3.2 further explains various hotel operations in these five areas that are affected by government legislation.

Apart from compliance with environmental legislation, hotels in Hong Kong need to make effort to comply with good practice guidelines and codes not covered by legislation. There are various codes, guidelines and voluntary schemes for energy efficiency relating to the hotel industry (See Appendix 3.4).

The environmental legislation, codes and guides can be regarded as the minimum standards for environmental actions in the hotel industry. Environmental legislation compels hotels to take certain actions so as to avoid financial penalties, whereas codes and guidelines encourage environmental good practices by providing guidance.

3.6.5. Voluntary Schemes and Awards in Hong Kong

In order to encourage actions that improve the environmental performance of hotels, Hotel Building Environmental Assessment Scheme (HBEAS), an initiative of HKHA, promotes environmentally friendly management and operation practices for hotels in Hong Kong (HKHA 2000). This scheme was developed under a grant from Hong Kong SAR Government through the Innovation & Technology Fund administered by the Innovation and Technology Commission (previously by the Industry Department). The scheme document was developed by Department of Building Services Engineering, Hong Kong Polytechnic University, under the guidance of HKHA Environmental Committee. Federation of Hong Kong Hotel Owners, United Nations Environmental Partnership, and International Hotel and Restaurants Association have all endorsed this scheme. HBEAS recognises management efforts to achieve good performance within financial and operational constraints. In addition, the scheme provides the benchmarking of performance against established standards, codes, and local performance indices. The scheme provides criteria and a rating system covering two aspects: environmental management, operations and maintenance practices; and facilities and building performance (Table 3.12)

Table 3.12 Issues Considered in HBEAS Assessment (HKHA 2000b)

Management, Operations and Maintenance	Facilities and Building Performance
● Environmental policy ● Environmental purchasing practices ● Waste management ● Management of ozone depleting substances ● Energy management ● Water conservation ● Building maintenance ● Operations and maintenance of building services systems ● Biological contamination ● Mineral fibres ● Radon	● Facilities for servicing the building ● Metering and monitoring equipment ● Energy management system ● Energy efficiency of air-conditioning installations ● Energy efficiency of lighting systems ● Energy efficiency of electrical installations ● Energy consumption ● Water conservation equipment ● Water consumption ● Thermal comfort conditions ● Indoor air quality ● Interior lighting ● Indoor noise ● Noise emissions

The baseline for the award of credits is legal compliance. Credits are awarded for meeting performance standards appropriate to hotel buildings in Hong Kong and also for compliance with local “good practice” guides and codes. Additional credits are awarded for exceeding the requirements of local good practice’s guides and codes. HBEAS certification comprises two ratings, one for hotel management and one for hotel building performance. The two ratings can be Excellent, Very Good, Good, and Fair based on the numbers of credits obtained.

The scheme allows self-assessment, to evaluate the current state of performance and to identify areas for improvement. Also, the scheme allows for an independent declaration of performance by a hotel, or independent certification by a suitably qualified auditor such as Business Environment Council (BEC 2001). HBEAS is considered a supplementary tool for environmental actions, but the standard itself does not require absolute specified performance.

There are other environmental awards and programmes which encourage companies including hotels, to take environmental action. The Hong Kong Eco-Business Awards was launched in 1999 by Environmental Campaign Committee (ECC), and jointly organized with Hong Kong Productivity Council, Hong Kong General Chamber of Commerce, and Chinese General Chamber of Commerce. A participating company will be judged not only on how well it manages its business from an environmental point of view, but also on their efforts to involve the public and their suppliers. The objectives of the award are to encourage companies to reduce their environmental impact and to get their suppliers, customers and the public to do the same, reporting 1999, Hotel Nikko Hong Kong won the top Green Retailer Award, while Cathay Pacific won the top Green Office award (ECC 2000). In 2000, CLP Power Hong Kong Ltd. won the Grand Award for

Best Environmental Reporting, while JW Marriott Hotel Hong Kong won for the Green Office Grand Award (ECC 2001).

In addition to environmental schemes and awards initiated by the private sector, Environmental Protection Department (EPD) produces a guide to assist Controlling Officers within the Hong Kong SAR Government in preparing environmental reports. The department released an instructional video on environmental auditing to all government departments. The private sector, including hotels, has also been encouraged to publish environmental reports and conduct environmental audits to improve their environmental performance (EPD 2001a).

The Government of Hong Kong SAR released Waste Reduction Framework (EPD 2001b) in 1999. The 10-year Plan outlined a comprehensive set of policies and measures that aims to reduce municipal solid waste as well as construction and demolition waste. The Waste Reduction Committee was established in February 1999 as one of the major initiatives under the Waste Reduction Framework Plan. The Wastewise Scheme is one of the key waste reduction initiatives developed from the plan. EPD is the organiser of the Scheme while the Hong Kong Productivity Council (Wastewise Advisor) is responsible for the co-ordination, assessment and provision of assistance to participating companies. It is designed to encourage and aid business operators in taking measures to reduce the amount of waste they generate. Businesses such as hotels joining the scheme would be required to set targets to reduce waste under guidance provided by the Wastewise Advisor (Waste Reduction Committee 2000).

There are other private and non-profit associations in Hong Kong, such as Friends of the Earth (FOE), a registered charity founded in 1983, dedicated to protecting and improving the environment in Hong Kong through education, research and

lobbying. They have organised various functions for the community, in which local hotels have participated. For instance, tree-planting activity is a popular staff function for the hotel industry and other local groups. In 1995, a “Green Christmas Campaign” was established aimed at encouraging corporations, government and all walks of life to send fewer Christmas cards, sending “electronic” Christmas cards instead. The Campaign was well received and 46 HKHA member hotels participated with the help of the Association (FoE 2001). A “plastic bottle recycling programme” was also initiated in which HKHA worked with a shelter workshop, to deal with the collection and recycling of plastic bottles from 11 participating hotels.

In the academic world, the first study related to EMS in the hotel industry in Hong Kong was carried out by this author and his colleague with the aim at developing a model for predicting the intentions of hotels to achieve the ISO 14001 EMS standard (Chan and Wong, 2006).

3.7. Chapter Summary

This chapter highlights changes in the hotel industry in Hong Kong. The earliest record about Hong Kong’s hotel industry appeared in 1966 with only 505,840 visitors generating HK\$144.7 million (US\$18.6 million) in that year. The hotel industry in Hong Kong has grown over the years, although it has experienced several drops, such as the 1967 strike, 1984 brain drain, 1989 Tiananmen Square impact, 1997 Asian Financial Crisis, 2002 911 incident in US and 2003 SARS outbreak. Industry experts are optimistic that more hotels will be built in Hong Kong, as more tourists (especially from China and other Asian countries) are expected to visit Hong Kong. The hotel and tourism industries in Hong Kong are looking forward to a brighter future.

In terms of hotel management, the workload of hotel employees has increased when compared with the earlier years, as they are recruited and trained to be multi-functional nowadays. Labour continues to be a significant cost for hotels, accounting for over 33.5% of the total operating cost on average.

While the hotel industry is one of the major economic pillars of Hong Kong, providing world-class facilities and services, it also contributes to serious environmental problems. Energy in the form of gas, fuel oil, electricity and water are consumed significantly during daily operations. Different types of waste are generated such as packaging waste from suppliers, broken utensils, food waste etc. Because of the problems, energy and water management and waste management practices have been implemented by some hotels. Environmental legislations, codes, guides and schemes, specific to hotels have been introduced by the government; and, they are regarded as the minimum environmental incentives for promoting environmental actions in the hotel industry. Some voluntary schemes and awards such as Hotel Building Environmental Assessment Scheme (HBEAS), have been initiated by HKHA to promote environmentally friendly management and practices for hotels in Hong Kong.

Chapter 4

Research Methodology

4.1. Introduction

This chapter begins with a discussion of various research paradigms and explains the appropriateness of the realism paradigm employed in this study. Next, it will justify the use of a case study as a method in this research. The validity and reliability of this case study will be addressed. It will explain the reasons for the choice of data collection methods, how the sampled company was selected and how access to it was facilitated and maintained. The use of the case study protocol to control the contextual environment of the case study will be acknowledged. The chapter details how data from the participating company were collected and analysed. The last two sections will discuss the limitations of case study research, its ethical considerations in this study and how they should be dealt with.

4.2. The Positivist and Phenomenological Paradigms in Research

There are two major approaches to theory development: deductive theory testing and inductive theory building (Parkhe, 1993; Romano, 1989). The differences between these two approaches can be viewed in terms of scientific paradigms. The deductive approach represents the positivist paradigm and the inductive approach represents the phenomenological paradigm (Easterby-Smith et al., 1991). Some of the differences between positivist and phenomenological paradigms are outlined in Appendix 4.1. In general, the positivist approach mainly focuses on developing and

testing hypotheses and generalising research findings from the data by employing more deductive quantitative methods such as experiments and surveys. By contrast, the phenomenological approach aims at developing a deeper understanding of ambiguous and multidimensional concepts through exploratory techniques (Easterby-Smith et al., 1991; Harrigan, 1983; Wood, 1999). These tend towards the more qualitative methods such as observation, in-depth interviews and group discussions. It is worth noting that there has been considerable philosophical debate about which of these research philosophies is superior and more suitable in the social sciences. Notwithstanding, some scholars suggest that both positivism and phenomenology have advantages and limitations, and that they can be complementary (Easterby-Smith, et al., 1991; Harrigan 1983; and Wood, 1999). They further note that the choice of research methodology obtains from the nature of the phenomena being studied and there are a number of factors that determine the choice of a research strategy. These factors include (1) the extent of the existing knowledge in the research area, (2) the research question, and (3) the researcher's skills, time and available resources (Robson, 1993; Remenyi et al., 1998). Depending upon these factors, researcher may choose one or both of these approaches.

Among the major implications of positivist approach are the need for independence of the observer from the subject being observed, and the need to formulate hypotheses for subsequent verification. Positivism searches for causal explanations and fundamental laws; it generally reduces the whole into its simplest possible elements in order to facilitate analysis (Easterby-Smith, 1991; Remenyi et al., 1998). Hypothesis testing, statistical analysis and the specification of relationships between variables are often seen as important criteria to determine the importance of research results. However, the positivist research tradition has

been criticised not only for not being able to give in-depth explanations for complex issues, but also for not providing practical implications for managers and executives (Bettis, 1991, Dess et al., 1995; Gopinath and Hoffman, 1995). On the other hand, phenomenology has started receiving more attention over the last two decades. It has inspired in-depth and exploratory research studies that provide explanations and understanding of social and cultural dimensions in the research areas. For instance, several research studies following the phenomenological approach and using qualitative techniques have had a great impact on management practices (e.g. Mintzberg, 1973; Peters and Waterman, 1982; Pettigrew and Whipp, 1991; Pettigrew et al. 1992).

For our exploratory in-depth research project, the most appropriate research strategy would be to follow the phenomenological approach by employing qualitative techniques to understand social phenomena from the actor's own perspective and examine how he or she experiences the world. The overall aim of this study is to develop a better understanding of a complex and under-researched area of environmental management systems in its application to the hotel business. Only qualitative research methods are sensitive enough to allow for a detailed analysis of changes that also addresses how and why they come about. This is unlike the more quantitative methods which can only assess changes that occur over time but fail to take into account the "how" and "why" (Cassell and Symon, 1994, p.5). Furthermore, quantitative research techniques would not be able to provide sufficient in-depth and detailed information when researching the complex and evolving nature of EMS implementation.

The aim of this study is not to validate or prove any theories but rather to explore and examine how people feel about EMS in the hotel context and their perceptions

regarding its impact on their jobs. Qualitative methods such as participant observations and in-depth interviews yield descriptive data that are sensitive to issues of this kind. They explore change processes over time, decode people's meanings, adjust to new issues and ideas as they emerge, and contribute to the evolution of new theories (Easterby-Smith et al., 1991). This study strives to understand on a personal level the views and perceptions behind people's actions; a qualitative approach allows the author to stay close to the empirical world (Blumer, 1969). By listening to people and the concerns and issues they raise and looking at the documents they produce, the author can obtain firsthand knowledge of social life unfiltered by operational definitions or rating scales in quantitative research.

4.3. The Appropriateness of The Realism Paradigm

The phenomenological paradigm can be further divided into three types: critical theory, constructivism and realism (Guba and Lincoln, 1994). Critical theory emphasises social realities incorporating historically situated structures. Thus critical theory researchers aim at critiquing and transforming social, political, cultural, economic, ethnic, and gender values. As a result, research inquiries are often long-term ethnographic and historical studies of organisational processes and structures. Assumptions are essentially subjective; knowledge is grounded in social and historical routines and is, therefore, value-dependent (Guba and Lincoln, 1994). However, this paradigm is not appropriate for this study, as the author does not aim to be a "transformative intellectual" to liberate people from their historical mental, emotional and social structures (Guba and Lincoln, 1994, p.112).

Another paradigm is constructivism. Constructivism holds that truth is a particular belief system held in a particular context. Like critical theory, constructivism inquires about the ideologies and values that lie behind a finding. So what is called reality actually consists of “multiple realities” that people have in their minds. Researching this constructed reality depends on interactions between interviewer and respondent, that is, the researcher has to be a “passionate participant” during his/her field work (Guba and Lincoln, 1994, p. 112). This constructivist approach may be suitable for some types of social science and consumer behaviour research such as those about religion, beauty and prejudice. However, it is rarely appropriate for environmental management research because the approach excludes concerns about the important, and clearly “real”, economic and technological dimensions of business (Hunt, 1991).

Finally, realism believes that there is a “real” world to discover even though it is only imperfectly understood (Godfrey and Hill, 1995; Guba and Lincoln, 1994; Tsoukas, 1989). It understands reality as holistic, and socially constructed, rather than objectively determined. It tries to understand and explain a phenomenon, rather than search for external cause or fundamental laws (Easterby-Smith, 1991; Remenyi et al., 1998). Magee (1985, p. 61) summarises three ontological assumptions in three “worlds”. World one is positivist and consists of objective, material things. World two is related to critical theory and constructivism, and is the subjective world of minds. World three is related to realism and consists of abstract things that are born of people’s minds but exist independently of any one person. Thus, Popper distinguishes realism’s world three from the very objective world one and the very subjective world two. In particular, the distinction between the two qualitative paradigms of realism and constructivism is captured in Stake’s (1995) distinction between intrinsic and instrumental case research. In an intrinsic case

study, the case itself is the focus. In an instrumental case study, the case is being used to understand something else, that is, to understand world three in Popper's terms. In other words, a participant's perceptions are being studied for their own sake in constructivism research. But in realism research, these perceptions are being studied because they provide a window on to a reality beyond those perceptions.

In brief, qualitative research actually operates within three paradigms – 1) critical theory, 2) constructivism and 3) realism. Among these three in phenomenology, realism is the preferred paradigm for case study research for several reasons. First, case study research areas are usually contemporary (Boing, 1994), that is, they usually require inductive theory building. This is because deduction from already existing principles of a “paradigm” is likely to be difficult where accepted principles and constructs have not been established or are clearly inadequate. Second, realism does not suffer from the limitations of relativism (Hunt, 1991) that constructivism and critical theory do, for realism is often characterized by some degrees of researcher objectivity. It holds that there is an external reality (Tsoukas, 1989). This is despite the complexity of that reality and the limitations of a researcher's mental capacity that make the triangulation of data essential to refine fallible observations of that reality. In other words, case study research efforts usually involve the collection of perceptions of “unobservable” external world phenomena such as perceptions that are “unobservable” (Hunt, 1991).

4.3.1. Induction and Deduction

Grounded theory is at one extreme of the induction versus deduction continuum and emphasizes generating theory from data alone (Glaser and Strauss, 1967; Strauss, 1987). On the premise that “the adequacy of a theory” cannot be

dissociated from the process by which it is generated, some researchers (Glaser and Strauss, 1967) claim that inductively developed, grounded theory is superior in terms of its usefulness to “logico-deductive” theory which is generated from prior assumptions. They claim there is a probability of moulding the facts that appear to match a given theory (Maanen, 1983). So the extreme position of grounded theory is one where there is “no theory under consideration and no hypothesis to test” (Eisenhardt, 1989).

However, Glaser and Strauss (1987) have recently refined their position and conceded that in practice it is difficult to ignore the theory accrued in one’s mind before commencing the research process. Common prior knowledge, gained through the process of socialization, will inevitably influence the researcher’s formulation of the hypothesis (Manicas, 1989), and the researcher should refrain from uncritical appropriation of this reserve of ideas. Thus, starting from scratch with an absolutely clean theoretical slate is neither practical nor preferred. In brief, it is unlikely that any researcher can genuinely separate the two processes of induction and deduction. Richards (1993) suggests that “both prior theory and theory emerging from the data are always involved, often simultaneously,” and that “it is impossible to go theory-free into any study”. And, this more moderate, somewhat pluralistic position is apparently becoming more accepted, even by earlier proponents of a grounded theory approach to case study research. Other researchers (Miles and Huberman, 1994) also conclude that induction and deduction are linked research approaches. It is more useful to see these two approaches as complementary rather than as opposite (Remenyi et al., 1998).

Thus, some prior theory can have a pivotal function in the design of a case study and an analysis of its data. Pure induction may prevent the researcher from

benefiting from existing theory, just as pure deduction may prevent the development of new and useful theory. Parkhe (1993) argues that “both extremes are untenable and unnecessary” and that the process of ongoing theory advancement requires “continuous interplay” between the two. Indeed, prior theory can be viewed as some additional evidence that can be used to triangulate on the external reality of case study research’s realism paradigm.

In this case study research, the prior theory developed from the literature and the pilot study is the first step in the theory-building process. This study acknowledges that “fact and theory (induction and deduction) are each necessary for the other to be of value” (Emory and Cooper, 1991). Given that a blend of induction and deduction is the most preferred position in this study, the research issues presented at the end of the literature review have been ignored at the start of the semi-structured interviews used to collect data. For instance, the starting question after the preliminaries would invite an interviewee to tell a story of his or her experience of implementing EMS in a hotel? Such first questions captured the interviewee’s perceptions and not the author’s. However, more probing questions developed from literature on research issues were prepared in case the interviewee did not raise them in the first unstructured parts of the interview.

4.4. Justification of The Methodology – (Case Study)

Case Study is one of several ways of doing social science research. Others include experiments, surveys, histories, and the analysis of archival information. Each strategy has advantages and disadvantages, depending upon three conditions: (a) the type of research questions, (b) the control an investigator has over actual

behavioural events and (c) the focus on contemporary as opposed to historical phenomena (Yin, 1994).

In general, case study is the preferred strategy when “how” or “why” questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context when the boundaries between the phenomenon and context are not clearly evident; and when multiple sources of evidence are used (Yin, 1989). In this study, in addition to investigating the application of EMS in a hotel environment, the author mainly wants to examine how hotel employees perceive the impact of EMS on their jobs and the reasons behind them. This is the contemporary phenomenon within a real-life context. The author has little or no control over the behavioural events. This is why the case study method is considered appropriate to carry out this research. In addition, case study is also particularly useful where areas of perceived complexity exist (Yin, 1989) and complexity is generally recognised to be a feature of service industry organisations such as hotels.

Previous research has not treated the impact of EMS on employees in different levels within a company, especially in the hotel industry. Most studies about EMS have solicited the thinking of top executives. Research about the feelings of hotel employees, especially at the supervisory and general levels when facing the implementation of EMS, is not well developed.

Our empirically designed case study will be divided into two main phases: (1) exploratory, pilot test (inductive) and literature review (deductive) and (2) a main study. The goal of pilot study supplemented by literature review is to use the obtained data and information to formulate the core components of EMS and to

identify the factors that may affect employees at workplace. This is useful in explaining how and why EMS will affect employees in the hotel industry.

It would provide an opportunity to explore employees' experiences and feelings about EMS in their workplace context (Stake, 1994; Yin, 1994), and capture and document the knowledge and experiences of industry practitioners (Benbasat et al., 1987). This is an area in EMS research where there has been little theory available (Eisenhardt, 1989). This study does not aim to generalise research findings but to provide detailed analysis and understanding of adoptive motivations, EMS development and implementation in hotel environment, and its perceived impact on staff.

4.5. Validity and Reliability of This Study

The case study method has many advantages, but there are also criticisms. Bromley (1986) argues that researcher bias has an impact on the internal validity of the data. Becker (1986) points out that researcher may have "feelings" for the subjects and that conclusions, being drawn, may suffer from a lack of reliability. It is also difficult to generalize findings to different settings as phenomena and contexts are necessarily dependent.

To solve the problem of validity and reliability, four tests have been commonly used to establish the quality of any empirical social research (Yin, 1994). They are as follows:

1. *Construct validity* – establishing correct operational measures for the concepts being studied

2. *Internal validity* (for explanatory or causal studies only, and not for descriptive or exploratory studies) – establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships
3. *External validity* – establishing the domain to which a study’s findings can be generalized
4. *Reliability* – demonstrating that the operations of a study – such as the data collection procedures can be repeated, with the same results

These four tests are relevant to case study research because case study is a form of empirical research. Table 4.1 lists the four widely-used tests, their recommended case study tactics and a cross-reference matching these two sets.

Table 4.1 Case Study Tactics for Four Design Tests

Tests	Case Study Tactic	Phase of Research in which Tactic Occurs
<i>Construct validity</i>	● use multiple sources of evidence ● establish chain of evidence ● have key informants review draft case study report	data collection data collection composition
<i>Internal validity</i>	● do pattern-matching ● do explanation-building ● do time-series analysis	data analysis data analysis data analysis
<i>External validity</i>	● use theory in single-case studies ● use replication logic in multiple-case studies	research design
<i>Reliability</i>	● use case study protocol ● develop case study data base	data collection data collection

(Source: Yin 1994)

Similarly, Lincoln and Guba (1985) identify four measures: (1) *Dependability*; (2) *Credibility*; (3) *Transferability* and (4) *Confirmability*. These are to evaluate the trustworthiness of qualitative studies common in case studies which are very similar as those recommended by Yin.

4.5.1. Tactics Used To Improve Quality of This Research

In order to ensure research quality, the author has followed the case study tactics as recommended by Yin (1994). The following sections will discuss the tactics being employed to improve research results in four main areas: (1) *Construct validity / Credibility*, (2) *Internal validity*, (3) *External validity* and (4) *Reliability* which were mentioned in the previous section.

Construct validity / Credibility:

People often point to the fact that a case study investigator fails to develop a sufficiently operational set of measures and that subjective judgments are used to collect data. As recommended by Yin (1994), the author used multiple sources of evidence such as 1.) documentation 2.) archival records, 3.) interviews and 4.) physical artefacts during data collection in this study in order to enhance *Construct Validity and Credibility*. For instance, employees' perceptions of their influences in their hotel undergoing EMS implementation were tapped by a combination of qualitative techniques, including individual in-depth interviews. Apart from primary data, secondary sources such as the hotel's environmental policy, its promotional materials and reports about its environmental performance were collected and studied.

To maintain the chain of evidence, this report has made sufficient citation to the relevant portions of the case study such as by citing specific documents, and interviews, including the time and place an interview took place.

Internal validity:

Internal validity is concerned only with causal or explanatory case studies, an investigator is trying to determine whether event x led to event y. This is not

applicable for this exploratory study.

External validity / Transferability:

The *external validity* problem has been a major barrier in conducting case studies. Critics typically state that single case studies offer a poor basis for generalizing. Many of their findings may not be transferable in different circumstances. Notwithstanding, the one-case design is not without merits. For instance, Yin (2003) has argued for the importance of doing unique case studies involving extreme, rare, critical, and / or revelatory cases. The case selected for this study is indeed a unique one. This will be further explained in the section 4.6 of this chapter in relation to the criteria of case selection. By comparing findings with the pilot case, the triangulation of the data sets would indicate similar findings and theoretical conclusions so that a certain degree of external validity could be claimed (Gyimothy 1999); transferability is possible to some extent by choosing an empirical setting that has characteristics parallel to the one being studied.

Reliability / Dependability:

This criterion is achieved if a later investigator follows exactly the same procedures as that of an earlier investigator, conducts the same case study all over again, and arrives at the same findings and conclusions. In order to achieve this, all the case study research procedures and analysis in this study were carefully documented and presented in the appendices while the case study database was developed to enhance its reliability and dependability. In addition, a case study protocol was also used. A protocol is to control the contextual environment of the case study (Yin, 1994). Controlling the contextual environment is an important consideration in the design and application of qualitative research approaches (Emory and Cooper, 1991), in addition to careful consideration of theoretical and literal replication.

The development of the case study protocol has assisted this research in two ways. First, it allowed the author to detail in advance the procedures and requirements to be followed during data collection. Second, the protocol provided direction for the author to improve the reliability of the research findings. Based on the recommendation from Yin (1994), the case study protocol used for this study included the following:

- An overview of the study – consisting of the objectives and auspices, and case study issues which the author would send to the contact person or key informant first and after that to every interviewee.
- The field procedures – key informant / contact person helping the author to uncover a suitable sample project, providing documentation and assisting the author in within-case sampling was identified. Then, a guided hotel tour was arranged to enhance the author's understanding of the studied hotel's EMS. With the permission of the hotel's senior management, some documents were reviewed before conducting an interview. Interviews conducted would have an open character (i.e. short questions, long answers, tell your own story, use your own words). Besides, the interview would be MP3-taped; and afterwards transcribed literally.
- Interview questions – a list of case study questions that the author must keep in mind in collecting data was prepared.
- A guide for the research report – The outline, format for the narrative, and specification of any bibliographical information and other documentation were included in the guide.

4.6. Criteria For Case Selection

Case studies can involve one or multiple-cases. In view of time and funding constraints and the popularity of single-case study research in tourism and hospitality research (Xiao and Smith, 2006), this research project has adopted a single case approach. According to Yin (1994), single-case study is an appropriate design under several circumstances:

- The case represents a critical case in testing a well-formulated theory
- The case represents an extreme or unique case
- The investigator has access to a situation previously inaccessible to scientific observation.

When selecting cases to study, convenient access whilst exhibiting the appropriate components of EMS would be an important issue. It was preferable that the case should be in Hong Kong because of the resources and time requirements. It was also decided that the official language of the studied hotel should be English and Chinese so that the author could communicate with relevant informants in their languages and look at the company's relevant documents without language barriers. HKCom Hotel was selected because of its unique and special characteristics and its reputation in environmental protection. It is one of the most environmentally-friendly hotels in Hong Kong. Its leadership in environmental protection has been well-accepted in the local hotel industry. The company is also the first hotel in Hong Kong and Asia-Pacific to obtain the internationally-recognised ISO 14001. Because of these achievements, the hotel's executives have often been invited by other hotels and organisations in other industries, such as hospitals, to share its EMS experience.

Furthermore, the hotel met the suggested criteria for selecting a strategic initiative

(such as an EMS) for research investigation. (Alexander, 1991). These were as follow:

1. the company should formally allocate resources for the project (i.e. hotel EMS),
2. the implementation process should be completed or about to be completed (i.e. ISO certified, and keep improving the EMS system to meet the ISO's "continuous improvement" criteria),
3. the initiative should be part of the strategic plan or direction of the company (i.e. HKCom Hotel promotes itself as an environmentally-friendly hotel),
4. the project should be representative of how most strategic initiatives are developed and implemented in the firm (i.e. after obtaining ISO 14001, HKCom Hotel continues to share its good environmental practices with other sister hotels within the group).

Although there is no single recipe which sets out how a sample should be selected and access could be gained, several researchers have stressed the need to be flexible and opportunistic. For instance, Buchanan et al. (1988) recommends using friends and contacts wherever possible. Similarly, Easterby-Smith et al. (1991) notes that access is much easier when researchers have a friendly contact. In this research project, access was granted through the support and guidance of the vice president of the HKCom Hotel group who is a former boss of the author. As Hoffmann (1980) notes, most researchers have friends, relatives, and acquaintances who have contacts within organisations. The vice president then referred the author to the Area Director of Human Resources of HKCom Hotel. Such director is referred to as gatekeeper (Burgess, 1991), because his permission is crucial, as it was the case with this author.

A straightforward approach was used to access other hotels. In such cases, letters were sent to the managers of targeted hotels directly to request permission with an explanation of the study's purpose and potential benefits for participating hotels.

4.7. Biographical Note

It is impossible to divorce this research project from the author's career history. Before embarking on an academic career, the author spent over ten years in the hotel industry, including job positions in different hotels, such as a room attendant in housekeeping, a runner in front office, a chief receptionist in front desk and an assistant manager in rooms division. Although greatly enhancing the author's understanding of hotel operations, none of these jobs offered direct access to a hotel EMS. However, the author recalled some hotel workers complaining of additional workload as a result of the implementation of environmental programmes. The author's interest in the hotel's EMS only started after he took up a teaching post at the Hong Kong Polytechnic University. There were two sources which stimulated the author's interest in EMS. The first was the author's teaching curriculum, which included the subject, Environmental Management in Hospitality Industry. The author became curious in how EMS can be implemented in the hotel industry in which service quality is paramount. The author also became interested in what employees of a very complex hotel environment think and do about various environmental programmes or formal EMS which affect guest services. The second, closely related to the first, was opportunities to meet guest speakers from outside academia who were invited to give lectures on EMS to students and who piqued the author's interest on the subject. .

These two sources, while giving "insider" status, allowed the author "second-hand"

experiences of a hotel business' involvement in EMS and the people who actually worked in it. This became useful preparation for this research by (1) helping the author interpret the collected empirical materials in the course of fieldwork, (2) allowing the author to gain rapport with the informants, and (3) helping sensitize the author to the practical and professional knowledge relating to EMS.

4.8. Case Study Procedures

Qualitative findings must be analytically generalisable by searching for evidence of new, specific and unique ideas. This is different from statistical generalisation which focuses on what is general, average and representative. In a case study, several options are available to researchers to collect data including interviews, non-participant observation, participant observation, documentation and archival records and physical artefacts (Yin, 1994). But no one method can cover every aspect of a research area whereas all data collection methods are often complementary (Robson, 1993). To achieve broader and often superior research findings, a combination of data collection methods is therefore chosen for this study. These include individual face-to-face semi-structured interviews, and analysis of company documents and statistics. All of these are considered appropriate strategies to obtain in-depth context-specific information about specific subject areas (Yin, 1994). Multiple data collection methods can provide valuable and rich data about EMS under investigation and its impact on staff in the participating company.

Collecting multiple data from staff at different levels and in different functional areas provides a variety of forms of evidence about EMS implementation. Triangulation

generates in-depth research findings and wider perspectives. In fact, using multiple data collection methods is particularly recommended in ensuring the validity of research findings (Denzin, 1998; Huff and Reger, 1987; Hartley, 1994; Harrigan, 1983; Robson, 1993; Yin, 1994).

The following parts of the chapter evaluate the appropriateness of each data collection method adopted in the research process: (1) semi-structured interviews, and (2) document analysis.

4.8.1. Semi-structured Interviews (also known as in-depth interviews) With Hotel Employees

The heart of the case study method is the in-depth interview. Carrying out semi-structured interviews with key informants was chosen as the main data collection method for this study. Key informants would provide invaluable and rich information about EMS implementation activities and their implications from the point of view of those closest to the phenomenon under investigation. The semi-structured interview method was selected mainly for the following reasons:

- The information required from the participating hotel was anticipated to be complex. It would be inflexible to adopt standardised data collection methods such as structured interviews or questionnaires for the type of information sought. Questionnaires and structured interviews would not allow informal probing which was necessary to capture the “richness” of data on EMS development, its implementation and impact on employee perceptions about their jobs.

- This research required data from different staff levels of the participating hotel. The semi-structured interview method provided flexibility and adaptability. It enabled the enquiry to be tailored to pursue interesting responses and investigate employee perceptions during EMS implementation at different staff levels.

In addition, an initial semi-structured interview protocol was designed according to Mason (1996), Robson (1993) and Taylor and Bogdan (1984). This helped when preparing for interviews and identifying specific interview questions. In order to encourage informants to tell their versions of the development and implementation of EMS and related staff issue, it was decided informants would be asked general questions and allowed to tell their versions. However, it was also decided that when necessary, probing questions related to the variables identified in the pilot test about employee perceptions on their jobs would be asked.

The interview schedules can be divided into three main parts: *Warm-up*, *Development* and *Closing*. These are explained as follows:

1. **Warm-up:** This stage aimed to update the informants about the research project, and establish an informal environment and trust needed for a comfortable interview (Hammersley, 1993). For this project, the informants were briefed about the author's background, research aims, the structure and length of the interview, confidentiality of the collected data and informants' anonymity. Moreover, consent to the interview being audio-taped was obtained. Then, the author would start with general questions about the informants' background, role and experience.
2. **Development:** This was the longest section in each of the interview schedules. It included questions about the informants' views on environmental protection,

environmental management in the hotel industry, how EMS was designed and implemented across the company and its impact on staff perceptions about their jobs. There were probing questions about the reasons for EMS, preparation activities, key actors, communication methods, likes and dislikes for the programme, and problems and difficulties faced during the implementation of EMS. Questions were also asked about the reasons for these problems and how these problems were overcome.

3. **Closing:** This closing stage included a main question on whether the informants would like to add anything related to the impact of EMS on employee perceptions about their job. Before closing, there were questions on whether the informant would recommend relevant company documents and other key informants for interviewing.

It was decided that the data about EMS would be collected from three levels of hotel employees: executive, supervisory and general. This would provide a richer database for analysis on staff perceptions on EMS at different levels.

Before the interviews, a field visit was arranged to enhance the author's understanding of the company's overall environmental practices and the key components of EMS, even though the author has more than 10 years of working experience in the hotel industry.

4.8.2. Approach the Informants

For in-depth interviews, informants were selected to maximize the richness of information to be obtained. Employees in the following twenty positions would be invited for the study: (1) Chairman of EMS Committee (if any), (2) Environmental

Management System Manager, (3) Executive Housekeeper, (4) Director of Human Resources, (5) Director of Engineering, (6) Purchasing Manager, (7) Housekeeping Floor / Public Area Supervisor, (8) Duty Engineer, (9) Laundry Plant Supervisor, (10) Stewarding Supervisor, (11) Chairman of Green Committee, (12) Room Attendant, (13) Public Area Cleaner, (14) Engineering Technician, (15) Laundry Staff, (16) Stewarding Staff, (17) Outlets' Waiter and Waitress, (18) Purchasing Staff, (19) Members in Green Committee, and (20) Office Staff. These 20 positions were confirmed by one of the EMS managers of the studied hotel as having implemented environmental practices directly in the case. The selected informants were directly or indirectly affected by their company's EMS and that was why they were selected to take part in this study to share their views and experiences. Furthermore, all informants were asked at the end of each interview to introduce the author to other potential informants who could contribute to the research project. This created a "snowball" effect to build a pool of informants.

With the assistance of the Area Director of Human Resources, the author was able to review the complete list of company employees and select those according to predetermined criteria of importance. This is a strategy common in quality assurance efforts. The criteria established were: (1) informants must have worked for the studied company for at least six months, (2) part-time employees were not included in the study, and (3) all informants must be at least 18 years old. This ensured that the selected employees would have sufficient knowledge of the hotel EMS. The list of all employees in the company was further divided into (1) executives, and (2) supervisory and general staff. When selecting executives, their involvement in EMS was the most important consideration. Executives who agreed to be interviewed are shown in table 4.2. For the supervisory and general level employees, 22 positions were randomly selected by computer to minimise selection bias. The list of final informants was carefully examined by the author to

make sure (1) they were actually involved in the hotel EMS, (2) each person in the sample was as different as possible from the others in the nature of work, stages in career, gender and ages. This maximized sample variation so that great diversity in a relatively small sample could be achieved. Eventually, the following informants, also shown in table 4.2, were selected. Their perspectives, whether at the executive, supervisory and general levels, were all worthy of study for qualitative research.

Table 4.2 Detailed List of Informants

Informants from HKCom Hotel	Job Title	Gender	Education level	Age range	Number of years of Experience in the hospitality industry	Number of years working for HK Com hotel
Executive Level						
1	Regional Director of Engineering	M	University	45-59	20	10
2	Area Director of Human Resources	M	University	35-44	20	15
3	Area Director of Purchasing	M	University	35-44	16	16
4	Director of Housekeeping	M	Secondary / high school	45-59	35	14
5	Front Office Manager	M	Secondary / high school	35-44	14	10
Supervisory Level						
6	Duty Engineer	M	University	25-34	2	2
7	Duty Engineer	M	Secondary / high school	35-44	20	14
8	Service Manager (Chinese Restaurant)	M	Secondary / high school	35-44	N/A	14
9	Service Leader (Fine - dining Restaurant)	M	Secondary / high school	25-34	12	12
10	Service Leader (Japanese Restaurant Kitchen)	M	Less than secondary / high school	45-59	20	14
11	Service Leader (Housekeeping)	F	Secondary / high school	25-34	13	12
12	Sous Chef (Fine – dining Restaurant Kitchen)	M	Secondary / high school	35-44	20	13
General Level						
13	Technical Officer (Engineering)	M	Secondary / high school	45-59	40	15
14	General Mechanic (Engineering)	M	Secondary / high school	45-59	N/A	15
15	Service Associate (Housekeeping)	F	Secondary / high school	16-24	4	4
16	Senior Room Butler (Housekeeping)	F	Less than secondary / high school	25-34	12	12
17	Room Butler (Housekeeping)	F	Secondary / high school	25-34	12	12
18	Room Butler (Housekeeping)	F	Secondary / high school	16-24	3	3
19	Public Area Attendant (Public Areas)	M	Less than secondary / high	45-59	11	11

			school			
20	Tailor (Linen Room)	F	Less than secondary / high school	45-59	11	11
21	Operator (Laundry Plant)	F	Less than secondary / high school	45-59	13	13
22	2 nd Chopper (Chinese Restaurant Kitchen)	M	Secondary / high school	45-59	15	15
23	5 th Fryer (Chinese Restaurant Kitchen)	M	Less than secondary / high school	35-44	14	14
24	Steward (Stewarding)	F	Less than secondary / high school	45-59	10	10
25	Steward (Stewarding)	F	Less than secondary / high school	35-44	17	11
26	Service Associate (Garde Manger)	M	Secondary / high school	16-24	1	1
27	Communications co-ordinator (Communications)	F	University	25-34	2	2

Informants were briefed on the background of research projects, its aims and its potential benefits. The author emphasized that the study would probably contribute to knowledge in the field of environmental management in hotels. The issues of confidentiality, resources and time requirements from the informants were also explained.

4.8.3. Interview Venue

It is important to find a private place where the author can talk without interruption and where the informant would feel relaxed. Many people feel most comfortable in their own homes and offices. Individual interviews with executives were conducted in their office. For those who did not have their own offices, a private place in the company was arranged for the interview, such as a training room.

4.8.4. Managing the Interview

The author strived to create an atmosphere in which people felt comfortable talking openly about themselves. The interview was relaxed and conversational so that the

author and the informant could interact and talked naturally to each other. The author behaved in a non-judgmental manner, such as avoiding negative judgements about the informants or criticising them. This helped encourage the informants to open up.

The informants were invited to tell the story of their experience with EMS. This was a typical question: "Can you share your experience about how your hotel environmental programme was initiated and implemented?" Such questions captured the interviewee's perceptions and not the author's. They were encouraged to talk about their experiences in the freest possible terms to provide strong opinions, phrases, comments and interesting stories. In-depth interviewing sometimes requires a great deal of patience, as informants could talk at length about things in which the author had no great interest. The author did not interrupt them but could usually get the informant back on track through subtle gestures, such as refraining from nodding or taking notes (Patton, 1980), and by gently changing the subject during breaks in the conversation.

Informants were not only encouraged to talk. They were asked supplementary questions and were pressed to elaborate on their answers. This was less structured than a questionnaire-based interview. The author prepared an interview guide (see Appendix 4.2) listing topics for the interviews and the resultant list of data needs in case the interviewees failed to think of any ideas related to the topic at hand. An interview guide is an important tool to make sure key topics are explored with a number of informants, especially in multiple-informant studies (Kvale, 1996). It is worth mentioning that a few leading questions were employed to avoid embarrassing silence during the warm-up stage of the interview. This is because some people, especially Chinese, are reticent in a formal setting.

According to Hofstede's study (1980), Asian culture is a comparatively "High Power Distance" culture. Respect for senior people in terms of age or hierarchy is a kind of attitude learnt from childhood. Because of high power distance, Chinese people tend to appear passive. It is common for Chinese people not to express themselves freely and openly when meeting someone new to them.

Focus group interviews were not employed in the study, as they were very difficult to arrange for hotel employees who worked on different shifts. Hotel employees in Hong Kong especially work under a heavy workload and have a busy schedule. The raw data of interviews are the actual quotations spoken by interviewees. There is no substitute for these data. Therefore, with the consent of the informants, a high-functioning MP3 recorder was used to record all interviews to ensure accuracy and permit the author to be more attentive to the interviewee.

The use of the MP3 recorder does not eliminate the need for taking notes. (1) Notes taken during an interview can help the interviewer formulate new questions, particularly where it is appropriate to check out something that has been said earlier. (2) Taking notes facilitates later analysis, including locating important quotations from the tape itself. Since all the interviews in this study were MP3-recorded, notes consisted primarily of key phrases, lists of major points made by the respondents, and key terms or words shown in quotation marks that captured the interviewees' own language.

All interviews were conducted in the native languages of the respondents, mainly in Cantonese. Interviews were transcribed in the original Chinese and English, notes taken during the interviews were regularly consulted during transcribing, in order to

check the sense of the written text with the recordings. English translations aimed to be literal rather than colloquial, in order to keep the original richness and structure of thought in the narratives. All these helped to minimise misinterpretations of the data.

There are a number of concerns about using interviews as a data collection method (May, 1997). For instance, they are reported data rather than first hand evidence. As the interviews rely on people's perceptions and past experience, the collected data may be inaccurate or incomplete. A further issue is that people may not be able to remember all problems, activities and events which took place a long time ago. People may tell their own version of events but not the whole truth. Given this, Denzin, (1998) and May (1997) have suggested that other data collection methods should also be employed to collect the first hand data. For our purpose, document analysis was used to complement in-depth semi-structured interviews.

4.8.5. Analysis of Documents

Because of the triangulation which refers to the combination of methods or sources of data in a single study (Denzin, 1978; Patton, 1980), the author examined the written documents of the studied case to gain a deeper and clearer understanding of the setting and people being studied. It often makes sense to focus on written documents for the ease of analysis (Kress, et al., 1997) although documents can contain pictures, diagrams, emblems and the like, as well as words (Prior, 2003, p. 5). These written documents provide an opportunity to cross check research findings. Robson (1993) summarised that analysis from the information obtained from documents was less time-consuming and costly when compared with other data collection techniques. The documents were in permanent form which was ready for collection for analysis; they could be re-analysed, thus allowing reliability

checks. More importantly, documents allowed researchers to conduct so-called “desk research” without disruptions. Despite these advantages, researchers might have only a limited or partial set of documents while the analysed documents might have been written for other purposes which might not match one’s research focus. Burgess (1984) emphasized that matters of authenticity or distortion of documents should be taken into account. Therefore, careful consideration and treatment were required when selecting documents for analysis. According to Prior (2003, p.163), a researcher should state at the outset of the research project what, exactly s/he was seeking to achieve, and what was to be included in the field of study while the selection of documentary materials should be in accordance with these principles established in order to play to reliable standards.

When collecting documents, only certain kinds of documents were selected in this qualitative study for analysis to gain a particular insight into the EMS planning and implementation process and its impact on employees, despite the requirements of random and representative samples of data normally required by quantitative research. It is reasonable to side-step such requirements with qualitative research (Prior, 2003, p.153). The various sources used in this study, therefore, included (1) the company documents from HKCom Hotel, including written policy statements, minutes of ISO committee meeting, internal memos, faxes, letters, job descriptions of the ISO green committee members and part of the company EMS manual etc. related to the different phase of EMS development and implementation, and (2) publications about the HKCom Hotel such as publications of trade journals and newspaper articles, etc. These materials were studied in detail with the following objectives:

- Development / Planning of EMS as recorded,
- Employee involvement as recorded,
- Training activities as recorded,

- Communication between EMS developers and employees,
- Communication between EMS developers and suppliers / contractors,
- Problems encountered during development / implementation and their relationship to employee involvement
- Vehicle of employees' involvement actually employed in the development and implementation phase of the EMS.
- Achievement or failure of the system and their relationships to employees' involvement.

Part of the relevant information is included in the appendix and a full set of documents is available for examination (Appendix A.4 – A.10). These documents were examined not as objective data, but rather to lend insight into organisational processes and perspectives of the people who wrote and used them as well as to alert the author to fruitful lines of inquiry. The data were compared and analysed in conjunction with interviews. This kind of approach was thought to be particularly useful in terms of increasing the richness of the case study data, echoed by Mehmetoglu and Altinay (2006), and constructing the “full picture” of the hotel's EMS environmental practices.

The documents used have been filed in the case study database held by the author and are available to readers on request. This is particularly important; as Yin (1989) states, preparation of a case study database enhances reliability. These documents provide crucial information to every case study topic because they cover a long span of time and many events and settings. They give exact names, references, places and details of events (May, 1997; Yin, 1994). Notwithstanding, the written documents are regarded as private and sensitive. The author, therefore, did not ask to see the documents until he had been in the company for a while.

4.9. Pilot Case Studies

Pilot case study helps investigators to refine their data collection plans with respect to both the content of the data and the procedures to be followed. Yin (1989) emphasises that a *pilot test is not a pre-test*. It should be used to assist a researcher to develop relevant lines of questions. The main aim of the test is to act as the guideline for both research design and field procedures of the study. As suggested by Yin (1989), more relaxed rules for both the selection and nature of these pilot cases should apply.

4.9.1. *Pilot Case 1 – (The PLCom Hotel)*

The main objectives of this pilot case were (1) to get some ideas of a hotel environmental programme either formally or informally and (2) to understand what hotel employees feel about the implementation of EMS in a hotel.

The PLCom Hotel was chosen as the pilot case 1 for the following several reasons:

1. The Hotel Manager (*informant*) is a former colleague of the author when he was in the hotel industry. The informant is highly congenial and accessible. The access to the hotel is made easy by the prior personal contact.
2. The hotel site is geographically convenient.
3. The hotel has implemented environmental measures from which the author will have a chance to discover the attitudes of employees.

Before interviewing the hotel employees, a hotel tour for the author was arranged by the hotel manager to better understand its operations and environmental practices. The author also visited the hotel several times after the tour to meet the hotel manager, chief engineer and other employees involved in any environmental

initiatives to gain insights about the hotel environmental practices and the hotel employees' feelings about EMS.

4.9.1.1. Background of the PLCom Hotel

The PLCom Hotel is owned by a Chinese businessman. The hotel is located at Causeway Bay, one of Hong Kong's busiest shopping, business and entertainment districts. The hotel has 792 guest rooms, 7 function rooms, 7 executive boardrooms and 4 food & beverages outlets.

During the hotel tour, it was observed that the hotel has installed facilities to save energy. For instance, it has installed a "Benalla" air-conditioning system, which automatically resets a guest-room's temperature to the hotel's established temperature after the guest has left the room, in all guest-rooms to save energy. The hotel has also installed energy-saving light bulbs in all hotel guest rooms' bathrooms and guest-floor corridors. However, the hotel has not installed any device to save water.

Surprisingly, it was observed that the hotel did not implement any proactive environmental measures apart from the above-mentioned ones. Although the hotel used to have an energy conservation committee comprising of all department heads from year 1998 to 2000, it no longer exists. The reasons for these changes towards environmental protection can be surmised from interviews with informants:

- 1) *No Monitoring System* – During the interviews, one employee mentioned that they were not evaluated on their environmental performance. For instance, department heads were asked to control water usage in their areas but no standard was set. Neither punishment nor award was given whether or not they had performed their duties.

- 2) *No Owner Support* – The manager mentioned that several proposals were submitted to the owner asking permission to install, for instance, heat pumps and water saving shower heads to save energy and water. The proposals were turned down by the owner.
- 3) *Manpower Problem* – The hotel used to have a system which stored condensed water from HVAC system for re-use by the hotel's cooling tower. One employee from Engineering department stated that the measure was eventually aborted because of the cost and additional manpower needed to operate the system. In addition, the recycle programme previously implemented to eliminate major waste to the environment was terminated because of mounting workload and shortage of employees due to tight budgeting.

From this pilot case, the author learned that the commitment of a hotel owner and its top management play a significant role in the success of EMS in a hotel. Their attitude can affect hotel staff perceptions about their jobs. The findings here strengthen the author's confidence to investigate the impact of EMS on hotel employees.

4.9.2. Pilot Case 2 – IGSCom Hotel

The main objective of pilot test 2 was to test the appropriateness of the interview guide which would be used in the semi-structured interviews. Eight in-depth interviews were conducted with the help of the quality system manager of IGSCom Hotel. The hotel management, however, declined to participate in the actual study. The hotel started implementing a formal EMS in 1999 and eventually became ISO 14001 certified. The informants of the pilot test were all recommended by the Quality System Manager who was responsible for the hotel's ISO 14001 & ISO 9000 programmes. Table 4.3 outlines the informants' job titles, genders and experience. The informants were chosen because they helped implement the EMS

in the pilot hotel. In addition, it was clear that the EMS project had an impact on their jobs and their working activities.

Table 4.3 Information about the Participants from the IGSCom Hotel

Informants	Job Title	Gender	Nationality	Number of years of Experience in the Hotel Industry	Number of years working in Pilot Hotel
1	Assistant Controller	F	Chinese	15+	15+
2	F & B Cost Controller	M	Chinese	19	8
3	Quality System Manager	F	Chinese	6	6
4	Food & Beverage Manager	M	Chinese	16	5
5	Restaurant Manager	M	Chinese	10	10
6	Steward	F	Chinese	17	17
7	Executive Housekeeper	F	Chinese	20+	20+
8	Floor Supervisor	M	Chinese	22	22

The table shows that most of the informants interviewed in the IGSCom Hotel have substantial experience in the hotel industry. Some of them are very loyal to the company.

4.9.2.1. Data collection process

The interviews all took place either in the informants’ private office or in a quiet meeting room in an uninterrupted environment. Informants all held relatively senior positions. 50% of the informants declined to have the interview audio-typed despite an explanation and guarantee of confidentiality. Therefore the author had to take notes to record the key issues mentioned by the informants. The author made every effort to transcribe from interviews and MP3 tapes as soon as possible, as it was very important for the data collected to be presented in a workable format (Hampton, 1999).

During the interviews, some informants asked the author to provide personal opinions on some matters that could easily affect the order of questions originally designed. The author gently steered clear of these questions to avoid “getting trapped.”

The duration originally planned for the interviews was one hour. Based on the experience from the pilot test, an hour was not enough for many interviews. For instance, the interview with the hotel's Food & Beverage Manager lasted nearly two hours, as the informant was very eager to share many stories to further illustrate the issues being discussed.

During interviews, it was important for the author to pay attention to the informants' postures and movements as well as their quality of voice, such as variations in volume and pitch, as the actual meaning of the narrative given by an informant could be quite different from what was being said. For instance, when asked how she felt about the additional duties related to the environmental programme, a steward replied laughingly:

"OK la (in high pitch)."

This could imply she was not actually satisfied with the additional workload.

4.9.2.2. Improvement of interview guide

The original interview guide did not include questions on the core elements of EMS implemented in the studied hotel, as it was thought that the information could be assessed from the hotel's documents. But some informants commented that it would be good to ask such a question, especially during interviews with senior level staff who were normally involved in the planning stage of EMS, because documents could not reflect all the facts. Hence, a question exploring this area was eventually included in the final interview guide.

During the data analysis process in this pilot test, open-coding was used to look for

themes, concepts and ideas that required further exploration. These were not included in the original interview guide but were repeatedly mentioned in the interviews recorded and from reading and re-reading of the notes and the initial transcripts.

Additional questions about specific areas were worked out and put in the interview guide so that these areas could be further explored during the actual study. This was done by identifying variables in the pilot test, as follows: 1) *increased workload*, 2) *strict control of management*, 3) *immediate benefits*, 4) *internal communication*, 5) *content of training programme*, 6) *opportunity to get involved in planning stage*, 7) *environmental knowledge of management*, 8) *financial resources*, 9) *leadership and quality of EMS committee*, 10) *management support*, 11) *job satisfaction*, 12) *trust from the management*, 13) *physical facilities*, 14) *working habits* and 15) *increased environmental awareness* (see appendix 4.3).

4.10. Case Study Analysis Procedures

Although there is no one absolute and right method of analyzing qualitative data, analysis is mainly concerned with two things: (1) data reduction and (2) interpretation (Holland, 2002). It involves coding data and categorizing the evidence. In brief, it is a process of bringing order to unstructured data and reducing data to manageable parts (Rossman and Rallis, 1998; and Holland, 2002).

In this study, most in-depth interviews of informants were MP3-recorded with their consent. In addition, the names, dates, times and venues of the interviews were written down immediately after each interview. Although some researchers

suggested that data collection and analysis should be interplayed simultaneously, the author could not analyse data immediately after the interviews due to his busy teaching commitments. Notwithstanding, the recorded data in the MP3 made in the author's own language (Cantonese) were repeatedly listened to in order to ensure that all the detailed contexts were written down. The recorded data were transcribed by the author himself into English for further analysis since the author was the best person to know the themes and contexts of the interviews.

Having transcribed all the recorded data, it is essential to present the data in a workable format before actual analysis (Hampton, 1999). Therefore, the collected data was relocated in the same category, as the interviewees answered a question in a different time frame sometimes. Then, by reviewing the data transcripts again and again, the author located the concepts in order to identify the salient themes, recurring ideas and patterns of belief that helped the author answer research questions (Rossman and Rallis, 1998). Mainly based on suggestions by Robson (1993), the author followed the following steps when handling qualitative data:

1. Listen to each MP3-recorded tape several times to identify emerging themes from the content of the interviews.
2. Re-read the data transcripts and documentation to locate concepts and the links between them, and use analytical memos to help interpret the data at a conceptual level. The data would be taken apart in various ways and then put together again to form a consolidated picture.
3. Compare the data to identify categories and their development (Strauss and Corbin, 1998). The author compared and grouped similar incidents to assign to them the same conceptual label. This is termed 'categorising'.

In addition, computer databases for qualitative data analysis was employed, to help analyse data in a more effective way as well as providing means for storing,

accessing, and managing qualitative data. It is even relatively effective in supporting theory building (Dey, 1993; Easterby-Smith et al., 1991). According to Dey (1993), the central part of qualitative analysis is to (1) select a bit of data and thereafter to (2) assign it to a category that require laborious chores such as storing and organising data, searching, filing and indexing data, and coding, retrieving, annotating, and displaying data. The computer qualitative analysis software offer useful help in examining a large volume of data that can save time when handling all these mechanical research tasks (Silverman, 2000; Holland, 2002). Still, the author identified and interpreted the significant themes, patterns, categories himself, as the computer could not interpret the data. In this research, QSR NUD*ist (Non-numerical Unstructured Data Indexing Searching and Theorizing) was employed for qualitative data analysis, as the software was particularly useful on research projects involving large numbers of interviews with the same interview schedule. It allowed the author to conduct a thematic analysis within and between documents while it was also a very useful tool for the purpose of comparison between interviews. The following section will explain the analytical steps in greater detail.

4.10.1. Steps to Analyse the Qualitative Data

4.10.1.1. Approach of Analysis

The analysis of qualitative data involves three stages (Miles and Huberman, 1994): (1) data reduction; (2) data display; and (3) drawing conclusions. With data reduction, one attempts to identify categories, themes and concepts that emerge from the data. Data displaying refers to the organisation of the categories and themes into some form of ideograph such as a typology, taxonomy, map, matrix or model. Conclusions are drawn by constantly comparing data against other data. This may involve examining the nature, or patterns, or both of the relationships, if any, between the data.

Although there is no one right way to analyse qualitative data (Dey, 1993; Tesch, 1990), it is suggested that researchers can employ either “inductively oriented approach” or “theoretically driven approach” (Miles and Huberman, 1994). In fact, inductive and deductive analysis, which can be mixed and used together in many researches (Orton, 1997; Pettigrew, 1997), were both employed in this study.

The inductive approach is important for exploratory research study such as this one, as it provides the author with an open mind to (1) identify if there are other new elements or concepts that were not identified in the previous literature review and (2) understand how these new elements or concepts will influence hotel employees during the implementation of EMS. Therefore, when doing open-coding, preference and priority would initially be given to inductive coding. In inductive coding, the assigning of a code was derived from the data itself without any reference to any pre-conceived notion or idea. In fact, one of the principles of qualitative analysis is the inductive development of theory as the research progresses. Therefore, new concepts and elements can be expected to emerge as the analysis progresses.

In line with the inductive approach, theory-driven approach would also be employed. This deductive coding approach was made on the basis of a categorical scheme suggested by a theoretical perspective or formulated by the author. This approach can provide the added dimensions of personal and previous research experience. A coding scheme was derived from the literature review and pilot study which highlights the emerged key factors that affect staff perceptions in the workplaces. The factors affecting the employee perceptions in the workplaces would be treated as a “code” (see Appendix 4.4).

By employing both the inductive and theory-driven approaches, the meaning of the

qualitative data can likely be clarified as the author works to understand EMS in a hotel environment in greater depth.

4.10.1.2. Steps to Analyse In-depth Interviews

During analysis, data from all the transcripts were re-read again and again to locate the concepts and compare them. The author wrote down all the identified codes from literature review (i.e. theory driven approach) and all the potential codes (i.e. inductive approach) before all the evidence was coded. An “indexing tree-structure” was thereafter established.

Since the NUD*IST computer package was used to help manage the qualitative data, all the transcripts had to be reformatted in a form the NUD*IST could recognize before importing the transcripts to the computer package. For instance, the “italics” and “bold” could not be used in all the transcripts. The documents should be as plain as possible. Then, when importing the transcripts, the following steps were followed:

Step 1: Creating projects

Three projects corresponding to staff levels - (1) senior level; (2) supervisory level; and (3) general level - were created in which the transcripts from these 3 different levels would be stored, to be analysed later. This arrangement helped the author identify the similarities and differences in the perceptions of the 3 different levels of employees on the hotel EMS.

Step 2: Exploring and coding documents to link them to categories which are established in the index system

Coding is the first step which is the major task for qualitative data analysis. All the interview transcripts must be coded before they can be analysed. When doing the

open coding which represents an initial coding procedure, a researcher needs to keep both the original study aim in mind and remain open to multiple or unanticipated results. Therefore, the author would (1) identify and underline the keywords and phrases; (2) identify the adjectives and qualifiers of the keywords, if any; and (3) identify the key phrases in order to single out the main message being conveyed in each unit of text. During the open coding process, the author adopted an attitude – “more is better” so that the coding is well-grounded. At the beginning, the coding could be quite comprehensive and include many categories, incidents or interactions. In addition, the author avoided finding data to match any pre-conceived ideas or categories. Otherwise, it would not allow the data to speak for themselves while the author ran the risk of imposing biases on the study findings. When coding the transcripts, some passages were grouped in more than one code since they related to more than one theme that the author could identify. But the computer would automatically count only one in case the same phenomenon was coded twice. On the other hand, original codes would be modified or refined or merged together if the newly immersed codes were set against the original examples. It is also worth noting that when coding, a comment in a document which triggered ideas would be noted down immediately, otherwise it might be forgotten. A record of similar comments would also be made so that the author could keep track of them and refer to them later in the analysis.

Sometimes, a text did not refer to any node or any sub-node. But the author believed that the text was important, so a new code or sub-node would be created for the text. All the new codes found would be added into “Free Nodes” or the “Index Tree”. The “Free Nodes” was mainly for the unconnected ideas, (i.e. any free-floating concepts, which had not been linked to any tree structure) while the “Index Tree” was for connected ideas. (i.e. the processes which would facilitate the next stage of the analytical process – the writing of the report).

Step 3: Verifying the results of coding

The results could be verified through “Node Search” to ensure that all the documents were properly coded. In addition, a listing of all the sections of text coded in a certain way could be simply obtained. Thus, a listing of all passages, for example, coded “Management Commitment” could be obtained. By using the search procedures, the author could search either documented texts or coding nodes to discover and explore patterns and themes. By looking for the concepts, characteristics and attributes related to the identified theme(s), different categories and sub-categories could be developed. (Pls. see Appendix 4.5)

The relationship between categories could be identified through the display of Index Tree in the computer system. The index system was made up of nodes (i.e. codes) which contained the author’s thinking about the study. With the nodes in a hierarchical index tree, the author could organise data, clarify each concept and identify their relationships, commonalities or disparities.

Step 4: Validating the identified themes

Comparison of themes that emerged in each individual interview was carried out. Identified themes were validated if mentioned simultaneously by different informants because of its re-occurrence. The author was constantly engaged in a comparison of the data that had been collected.

4.10.1.3. Steps to analyse the documents collected from the hotel

For documents and reports collected from the company, summary documents would be developed. The document summary forms were read several times and coded. As one of the objectives of this study is to investigate how a hotel company can develop and implement a formal EMS effectively, the reading of documents

was initially done to search for emergent themes in both deductive and inductive ways so that the main elements of developing and implementing an EMS in the company could be proposed.

4.11. Limitations Of Case Study Research And How They Are Handled

Case study research forms the core of this research study. Although the case study method has many advantages, there have been criticisms.

A criticism of the case study method is that it suffers from a lack of rigour and an excess of bias. The dangers of ad hoc theorizing and of neglecting to test data are great. The use of “subjective” judgments during the data collection stages can render constructs invalid.

In the context of this research, perhaps the most critical aspect of the case study approach is that it provides a limited basis for the traditional “scientific generalization” (Yin, 1994; Remenyi et al., 1998). Notwithstanding, like all experimental observations, case study results can be generalized to obtain theoretical propositions (analytical generalization) but not to populations or universes (statistical generalization). Thus, the aim of case studies cannot be to infer global findings from a sample to a population, but rather to understand and articulate patterns and linkages of theoretical importance.

4.12. Ethical Considerations

Like other aspects of business, research demands ethical behaviour from its participants. When ethics are discussed in research design, the first thoughts are about protecting the rights of the informants. In general, research must be designed so that a respondent does not suffer physical harm, discomfort, pain, embarrassment, or loss of privacy. In order to safeguard this, the following guidelines were formulated in this study:

Benefits of informants

Whenever direct contact was made with an informant, the research benefits was discussed. During interviews, the author began with an introduction with name, the name of the research organisation, and a brief description of the purpose and benefit of the research. This put people at ease, because they knew to whom they are speaking, and it motivated them to answer questions truthfully.

Rights of informants

The informant's rights and well-being were adequately explained and protected. They had the right to withdraw from the study at any time, without justifying their action, and the right to have all data returned to them. Steps that an informant should take were specified in case s/he decided to withdraw. Participation to the study was entirely voluntary. The confidentiality of company information and the anonymity of the respondents were guaranteed. Measures were taken to limit access to the data, even in coded form, on a need-to-know basis. When necessary, the names and addresses of the informants were destroyed.

Informed consent from respondents

Consent from informants was obtained voluntarily and free from coercion, force,

and requirement. Informants understood the possible risks or outcomes associated with the research.

4.13. Chapter Summary

This chapter highlights the case study research method as it relates to the investigation of the application of EMS in a hotel environment and its impact on hotel employees. It is argued that realism is a more appropriate research paradigm than positivism. The qualitative case study is a particularly suitable method for dealing with critical problems of practice and extending the knowledge base of phenomena such as the real feelings of hotel employees faced the EMS. A case study is believed to be the best methodology for addressing these problems in which understanding is sought in order to improve practice.

Furthermore, the validity and reliability of the research design are addressed. The selection of cases is described. Details of how interviewees were approached and how the interviews were conducted are discussed. Then, the use of case study protocol to control the contextual environment of the case study is presented. Techniques of data analysis to be used in the study are also briefly discussed. Finally, the discussion of the limitation of case study research and ethical considerations in the study such as transparency with interviewees and appropriate treatment of confidential information are also addressed.

Chapter 5

Findings

5.1. Introduction

The research findings are presented in this chapter. The chapter describes the background information about the case and introduces the company's environmental management system (EMS). The findings of this research are presented as follows:

- The motivations behind EMS
- The informants' view on environmental protection
- Building a structured EMS based on six key categories mentioned in chapter 2: (1) policy, (2) planning, (3) procedures and controls, (4) training and education, (5) communication, and (6) review and continual improvement.
- Outcome of EMS
- Employees' perceptions of EMS

5.2. Brief Description of Case

For confidentiality, all company names in this report have been changed, including the names of the case study hotel and its parent company.

In 1971, a deluxe hotel was founded in the city of Singapore, thus beginning the story of HKCom Hotel Group. Today, Hong Kong-based HKCom Hotel Group is the largest Asian-based deluxe hotel group in the region and is regarded as one of the

finest hotel management companies in the world. HKCom Hotel Group is the trade name of a listed company, hereafter referred to as Green Hotel Asia. It is listed on the Hong Kong Stock Exchange. In 1997, ownership change took place; since then, the LLC group has maintained a major equity holding in Green Hotel Asia.

The hotel group has garnered international awards and recognition from prestigious publications and industry partners. The chain owns 49 deluxe hotels and resorts in Asia's key cities and the Middle East and other sought-after leisure destinations. Seven of these are four-star properties established in 1989, to deliver high value, mid-range, and quality accommodation to business travellers. In 1994, the group realised the importance of environmental performance and began to develop group-wide environmental best practices. It is a founding member of the Asia Pacific Hotels Environment Initiative. Having achieved brand market leadership in Asia, the company's strategic plan now incorporates the goal of expanding the hotel brand globally. This includes exploring opportunities to operate hotels in gateway cities and key resorts around the world under management agreements, equity participation or ownership. With over 22,000 hotel employees, the group serves travellers throughout the world. It does so with a service philosophy summarised with the motto: *"HKCom Hotel Hospitality from Caring People"*.

The HKCom Hotel, the flagship of the hotel group, opened in March 1991 in the heart of Hong Kong. Today, with 770 employees, the hotel provides quality-services to its main target market – business travellers. Like other hotels around the world, HKCom Hotel recognises the potential impact that a five-star hotel can have on the environment. In 1993, HKCom Hotel established a green committee to develop environmental best practices. At the beginning, the green committee included the hotel manager, executive chef, training manager/EMS manager, regional director of

engineering, executive assistant manager of F&B, chief steward, communications manager, executive housekeeper, and purchasing manager. In 1995, the hotel started implementing recommendations from the committee, e.g. installing the energy-efficient compact tubes and waterflow restrictors. Along with other environmental measures, the company successfully reduced energy and water consumption by 10.7 percent and 15.2 percent respectively from 1994 to 1996. These programmes were designed to address specific environmental problems or issues, such as recycling composting solid waste, and re-using linen in housekeeping and laundry.

In November 1995, HKCom Hotel joined the first Asian ISO 14000 (EMS) Pilot Programme, organised by the Hong Kong Productivity Council (HKPC). The 15 months' programme offered practical help to firms interested in developing EMS structure, such as guidance and information on implementing basic strategies. In May 1997, HKCom hotel became the first hotel in the Asia Pacific region to be accredited with ISO 14001. Since then, it has received other prestigious awards:

- ✧ One of the Best Hotels in Asia, Asiamoney
- ✧ One of the Best Hotels in Hong Kong, Asiamoney
- ✧ One of the 500 Best Hotels in the World, Travel + Leisure (USA)
- ✧ One of the World's Best Places to Stay – Asia, Australia, and Pacific Nations, Conde Nast Traveler God List (USA)
- ✧ One of the Top 30 Hotels in Asia, Conde Nast Traveler (USA)
- ✧ One of the Favourite Business Hotels in Asia, FinanceAsia
- ✧ One of the Best Hotels in Hong Kong, FinanceAsia
- ✧ One of the Top 20 Hotels in Asia, asia-hotels.com
- ✧ One of the Best Restaurants in the World for Wine Lovers – Wine Spectator (USA)
- ✧ One of the Superior Deluxe Hotels, Official Hotel Guide

- ✧ Five Star Diamond Award, American Academy of Hospitality Sciences (USA)
- ✧ One of two Most Female Friendly Hotels in Hong Kong, Harpers & Queen (UK)
- ✧ Most Favourite Hotel in Hong Kong, Euromoney
- ✧ Five Thumbs-up Award, asia-hotels.com
- ✧ One of the Most Highly Recommended Hotels, asia-hotels.com

5.3. **Motivation Behind EMS**

The HKCom Hotel's environmental vision statement (see table 5.1.) clearly states its objectives to be an environmentally concerned company. This means encouraging its employees to think green and to implement the 3Rs of "reduce, re-use and recycle." As indicated in the statement, the motive to implement EMS is to fulfil its role as a good corporate citizen in the community by embodying the company's "care spirit" whilst maximizing profits for its owners. The challenge for management and employees is to achieve all objectives, while balancing various aims and minimizing conflicts. This fulfils the part of the vision statement about sustaining the company's environmental quality and production potential whilst still offering efficient and quality service. In accordance with the Group's Environmental Policy, all hotels in the group implement green programmes to eradicate practices that might damage the environment, reduce waste and promote environmental awareness.

Table 5.1 HKCom Hotel Environmental Vision Statement

- We encourage our colleagues to look after the environment – Think Green
- We are an environmentally concerned hotel providing accommodation, food and beverage services to a varied clientele in a manner that best conserves valuable resources, whilst continuing to maximize profits for our owners, maintain our standards, and fulfil our role as a good corporate citizen in the community.
- Always conduct your job with concern for the environment and its resources. Where practical and possible, **reduce** use of items, **re-use** whenever possible, and **recycle** those items that can be.

Source: Adapted from the HKCom Hotel's environmental vision statement

The organisational motive to be an environmentally-concerned company and a good corporate citizen was affirmed by most of the executives interviewed. When explaining why the company needed this new environmental initiative, most informants from the executive level indicated that environmental protection had become a public issue. The Regional Director of Engineering emphasized that cost saving was not the main concern, though savings could be achieved through environmental programmes. He said:

“Doing something good for the community and looking at the future environment are the motives. Yes, savings would be significant if you have not done anything before to control the annual consumption of resources. But, the return will not be so significant if your company has already been implementing some measures for a while...”

Another senior executive indicated that implementing an EMS that embraced all the requirements of ISO 14001 would overcome the limitations of the existing “best practice” operation, lower costs by optimizing overall operations and enhance

control by documenting procedures. There was also the benefit of being the first hotel in the Asian market to be certified which enhanced the hotel's image and reputation.

At the supervisory level, enhanced reputation, responding to environmental trends to attract green travellers were most frequently mentioned by informants. For instance, a Duty Engineer stated:

"The name, that is, the reputation is better. You can naturally attract customers! For hotel, reputation is more important! Er...It is because everyone knows that environmental protection is a trend! That is, environmental protection is a must! And if you have the ISO 14000, you are perceived as a really environmentally-friendly firm. The guests...will...will come to stay at your environmentally-friendly hotel more..."

In general, they believe EMS helped to boost earnings by gaining and maintaining corporate customers who demand a certain level of environmental management

The Sous Chef echoed that:

"I think this can let people know the hotel is environmentally-friendly. That is, the hotel can let other hotels...or...er...the tourists know that the firm has such an award. In fact, the world is looking at environmental protection more seriously now. So, I feel that there is no harm for the hotel to get one more award like this."

Among the general staff, many members interviewed believed that saving on costs and resources as well as better publicity were the main motivations for the hotel to

implement environmental programmes. Several general staff members cited protecting the environment as the main motive.

In summary, the HKCom Hotel's top management adopted and implemented formal ISO EMS out of a genuine intention to do good for the environment; and as a response to market demands. With adoption of the formal system, the company wanted to better structure and systematize already-practiced environmental activities. While financial savings might motivate hoteliers to adopt the system, it was not the key motivational factor for HKCom Hotel.

The company's motivation to adopt and implement the formal EMS was, however, not clearly communicated to its employees who mostly perceived that cost saving and reputation were the main motives. They equated environmental management with cost savings and getting the ISO 14001 certificate as a new strategy to enhance the company's image and brand name.

5.4. Informants' View of Environmental Protection

During the data collection process, nearly all informants agreed that it was important to protect the environment. Although none of the informants were members of green groups, many informants indicated that they practiced environmental protection at home. For instance, the 2nd Chopper of Chinese Restaurant stated:

"I try not to use the air-conditioner. Instead, I open more windows at home to improve ventilation. This is mainly what I am doing....."

A Laundry Operator indicated:

“..... I try not to use plastic bags when going shopping. I will bring my own environmental bag with me. I will do a little bit extra to try...to recycle the paper such as the packaging paper at work. I ..., even some may not care about the issue, will try to handle the rubbish and throw them away separately.”

The company's Front Office Manager said he supported Green Peace by donating money regularly, as he agreed with its beliefs and actions.

In general, the attitude of most of employees interviewed towards environmental management was very positive, as nearly all of them agreed that there were significant environmental threats to the future of humanity. In Hong Kong, air pollution is perceived as the most serious environmental problem by the informants, followed by water pollution. Nearly all of them agreed that protecting the environment was essential, and many were actually following some best practices at home to contribute to environmental protection.

5.5. Building A Structured EMS

Based on the EMS framework described in chapter 2, the following sections will present how HKCom Hotel integrated EMS in its overall management system. The findings help identify critical elements and processes in relation to the development of EMS for the hotel.

5.5.1. Policy

Purpose

Company documents indicated that HKCom Hotel first developed an environmental culture in 1993 when the group joined the Asia Pacific Hotels Environmental Initiative as a founder member. The company continued to look at ways to actively improve environmental commitment by conducting its business in a manner that best conserves natural resources and respects the local communities in which the group operates. One of the main aims of adopting ISO EMS was to develop a new environmental culture at the corporate and property levels. The new ISO EMS emphasized the effects of the company's products, services, and processes on the environment.

When explaining how the formal EMS was initiated, some executives interviewed referred back to the early 1990s and indicated that a similar green programme with a less sophisticated format was first implemented in the company. As indicated in company documents, the HKCom Hotel's environmental initiative first took shape in 1993 when its first Green Committee was established. Each department came up with its own solution on how to reduce, reuse and recycle resources. At that time, key areas of concern included energy usage, water consumption, and solid waste production and disposal. However, these best practices focused on single departments only and lacked overall coordination. Furthermore, the practices were not documented, and there was no operational institution to audit execution. The situation changed in 1995 when the company decided to develop a more structured and formal EMS. In June 1995, HKCom Hotel started implementing recommendations from the committee when it installed energy-efficient compact tubes and water flow restrictions, grease traps to prevent water pollution, biodegradable chemicals for laundry and cleaning, along with a host of other solutions. Because of these efforts, HKCom Hotel achieved a very clear vision as an environmentally-concerned company. Its management eventually decided to

follow the internationally-recognised ISO standards to develop a more structured EMS. The company thought that a formal EMS was essential to its ability to anticipate and meet growing environmental performance expectations. Informants, mainly at the executive level, believed that by implementing the ISO EMS, HKCom Hotel could overcome the limitations of previous approaches to managing environmental measures. For instance, because of the requirement of the ISO standards, managers could better monitor the hotel's environmental performance. For instance, the Area Director of Human Resources said:

"The company management eventually felt that the company lacked a structure to implement environmental measures and started looking for a system in order to guide the hotel, even though we had the improvement team. Because of this, the hotel eventually followed the ISO 14001 standards to implement the environmental management system. There were many discussions at that time. We of course considered whether the hotel image would be affected or not...or whether the cost could be saved or not etc...In fact, many things were considered before we started the improvement programme."

The company believed that the ISO 14001 standard was the highest international honour that could demonstrate a company's excellence in environmental protection.

Commitment

HKCom Hotel made an on going commitment towards environmental improvement. The following three elements provided the basis for HKCom Hotel's EMS and demonstrated how the hotel developed and implemented its system:

- Compliance with applicable legal requirements and with other requirements to which the hotel subscribes
- Prevention of pollution
- Continual improvement

For instance, to comply with legal requirements, the company identified and compiled a list of all the legal environmental requirements – the ‘Register of Legal and Other Requirements.’ The list included relevant pollution control legislation and corporate practices related to the environment. A system was introduced for updating the register on a regular basis. The company also developed procedures for monitoring performance against possible future legislative requirements.

To demonstrate commitment and ensure full coverage of environmental issues, senior management introduced changes to its management structure. Although no additional manpower was hired, changes were made relating to those with responsibility for communications and training. For instance, the company assigned two EMS managers and restructured the green committee as the ISO 14001 green committee in order to develop, implement and monitor the system on an on-going basis. This will be further discussed in the “structure and responsibility” section.

In terms of resources allocation, nearly all informants replied that the company was very supportive. The Front Office Manager commented: *“I believe the company definitely can give the resources if they must do it. It is because this is HKCom Hotel...ha. I strongly believe that the company will invest substantial resources if she really wants to do something.”* The company was also described by some informants as quite democratic, as top managers were open to new ideas.

Financial support was not an obstacle at HKCom Hotel. To obtain the necessary

financial resources, the HKCom Hotel's green team was required to submit formal proposals to the hotel executive committee for approval. In fact, the initial funding of the EMS project was not significant. The Regional Director of Engineering, also currently the Chairman of ISO Green Committee, explained:

"....the initial funding was not too big. It is mainly for the review of operations and replacement of energy-saving light bulbs which was very easy task to do. Then we gradually asked for more funding to improve the system. And we had the mechanism to implement this. As long as the budget and the Profit & Loss were met, the funding for the programme was OK".

In addition, HKCom Hotel gave preference to environmentally-friendly suppliers, even at a slightly higher cost.

Policy statement

HKCom Hotel developed a formal, written environmental policy. The management revised its original environmental policy statement to ensure its compliance with the requirement of ISO 14001. This guiding policy was referred to by the company as their framework document. The key requirement was to ensure the policy met the previously-mentioned commitments:

- Compliance with applicable legal requirements and with other requirements to which the hotel subscribes.
- Prevention of pollution
- Continual improvement

As shown in table 5.2, the revamped policy included meeting environmental legislation, minimizing environmental impacts, commitment to continual improvement and green-purchasing policy, and working with external stakeholders

such as suppliers and environmental groups. This policy established the intention and commitment of HKCom Hotel management with respect to its operations, activities and overall environmental performance.

The company also produced an environmental policy card which was distributed to all the employees through the human resources department. The Front Office Manager remembered that *“they distributed...distributed an environmental card when they started the programme”* in order to communicate the environmental policy to employees. The card, referred to the green card by informants, listed the company’s environmental policy produced in both English and Chinese. All employees were given a copy of the environmental policy. In addition, the policy was displayed in the back of the house areas and the hotel guest room directory. Copies of the policy were given and explained to company contractors. The environmental policy would be reviewed by the company’s senior management as part of the management review process. In terms of the effectiveness of the green card, informants stated that they found it useful but the majority admitted that they did not refer to it except before inspection by ISO external auditors.

Table 5.2 HKCom Hotel’s Environmental Policy

HKCom Hotel Environmental Policy
The HKCom Hotel is an environmentally concerned hotel providing accommodation, food and beverage services to a varied clientele in a manner that best conserves resources, whilst maintaining its high standards of customer service and fulfilling its role as a good corporate citizen.
The following is the environmental policy statement for the HKCom Hotel, which serves as the basis for its Environmental Management System in accordance with the ISO 14001 Standard. ● The hotel is committed to compliance with appropriate environmental legislation as a minimum performance standard whilst seeking to make environmental improvements through ideas and suggestions of staff, guests and suppliers. ● The management and staff of the hotel are committed to continual improvement of

environmental performance by seeking to reduce or eliminate pollution from recognised polluting activities and considering more effective use of resources.

- The hotel will actively seek to reduce waste arising by the development of a waste management and reduction strategy. Wherever possible and practicable, the hotel will reduce, reuse or recycle waste at source.
- The hotel will continue to identify and implement practical measures to reduce energy and water usage while maintaining the high standards within the hotel.
- All management and staff are familiar with the environmental policy and encouraged to identify potential environmental improvement initiatives, which will be evaluate by the ISO 14000 Green Committee and, where appropriate, included in the environmental management programme.
- The hotel will continue to identify and purchase products which cause as little environmental harm as possible during production, use and disposal, where such alternatives are economically feasible. The environmental performance of suppliers will be taken into account as a purchasing policy and the hotel will seek to develop specific environmental performance criteria for products and suppliers.
- The hotel and its staff will continue to participate in environmental activities, assisting environmental groups in Hong Kong to improve the quality of the local environment.

Source: Adapted from company documents.

5.5.2. Planning

Analysis

To know more about a structured EMS, HKCom Hotel joined the first Asian ISO 14000 pilot programme developed by the Hong Kong Productivity Council (HKPC) in 1995. At that time, thirteen companies attended the programme, including HKCom Hotel, the only hotel company in the group. The main aim of the programme was to provide firms in different fields with practical advice to develop an EMS structure.

Most informants at the executive level stated that the involvement of an external consultant, HKPC, was vital in designing and implementing the system in HKCom Hotel, as the company did not have sufficient knowledge and competence. As

mentioned by the Director of Housekeeping *"Of course, our company was new to the system at that moment. We did not know about that. So we made use of the ISO knowledge of Hong Kong Productivity Council (HKPC) in order to train our employees here. We set our own target after the training..."* Through the programme, HKCom Hotel gained valuable experience and gradually drew a basic framework for a structured EMS.

After the pilot programme, HKCom Hotel decided to try to obtain ISO certification and in July 1996 hired the HKPC as a consultant to undertake a "gap analysis" of the company, to effectively identify the gaps between the elements required by ISO 14001 standard and the company's current system. HKPC was already familiar with the hotel's operations and activities due to its participation in the Pilot Programme. The review aimed to identify activities which had the potential to cause impact on the environment; to look for gaps in the existing systems and practices; to identify environmental aspects, objectives and targets; and to prepare a series of documents which embody these goals on an ongoing basis. Company documents showed some of the key issues being considered by management. These included review of legislation and levels of compliance, and procedures for measuring the environmental condition of both the company and its management. For instance, a review of legislative procedures showed a register of regulations was kept. After the review, some required elements of ISO 14001 were found to have already been addressed by the HKCom Hotel. They were:

- Identification of legal requirements and corporate obligations
- Environmental goals for improved environmental performance as established and implemented by the HKCom Hotel Green Committee
- Identification of environmental roles and responsibilities
- Provision of environmental training to both existing and new staff through Best Practices, a Green Tour and a video presentation

- Some areas of operational control including monitoring and maintenance of engineering system boilers
- Six monthly audits of environmental Best Practices

The results of the gap analysis were quite positive in the sense that – thanks to the already existing “best practice” operation in each department – the required amendments were quite minor. This was indicated during the interview by the Regional Director of Engineering:

“...later on, when the ISO 14001 was seen in the market, our hotel started evaluating the differences between the environmental practices we were implementing and the ISO’s requirement and eventually found that the difference was not very big. Then, we planned to get the certificate accredited.”

Upon completion of the gap analysis in September 1996, HKCom Hotel requested assistance from HKPC in the full development and implementation of an EMS to meet the ISO 14001 standard, after a cost-benefit analysis. Continuous communication took place between the company’s ISO green team and the HKPC’s representatives during the design and implementation process. By identifying potential improvement areas, the company outlined a plan and procedures to address the gaps within the system. The company then developed an EMS in 1997 and started implementing the system.

As required by ISO, Lloyds Register Quality Assurance, an international company who has responsibility for over 1,000 ISO 14001 approvals through their offices in over 45 countries, was appointed as the certification organisation to undertake the third party audit of EMS. HKCom Hotel also appointed two EMS managers for

advanced auditor training to qualify as internal auditors for ISO 14001 in September 1996. *“The main role of EMS managers is to lead the auditors and the green committee. Well... to a large extent...the control is mainly supported by the EMS managers here.”* This was according to the Director of Housekeeping.

The following table 5.3 shows the history of HKCom Hotel's EMS development in brief:

Table 5.3 History of HKCom Hotel EMS Development

1994	The HKCom Hotel Group became a founder member of the Asia Pacific Hotels Environment Initiatives (APHEI), and began to develop company-wide environmental best practices.
1995	HKCom Hotel, the environmental flagship of the Group, joined the first Asian ISO 14000 (EMS) Pilot Programme. This Programme, developed by the Hong Kong Productivity Council (HKPC), ran for 15 months and provided the hotel with practical help in developing their EMS structure.
1996	HKCom Hotel appointed the HKPC to undertake an Initial Environmental Review of the hotel. This enabled identification of those ISO14001 elements already in places within the hotel and effectively identify the gaps in the current system. The review of gap analysis took the company 3 months to finish. HKCom Hotel appointed EMS managers to be responsible for implementing the EMS and controlling documentation. A 5-day Auditor Training for EMS managers was conducted by consultant. Two manuals of EMS were established consisting of: - environmental policy - significant environmental aspects - operational controls - objectives and targets - environmental manager programme - structure and responsibility - training awareness and competence - communications - documentation requirements
1997	In January: Lloyds Register Quality Assurance was appointed as the certification organisation to undertake the third party audit to start the certification process.

	In February, the consultant conducted EMS trainings for all department heads. The HKCom Hotel conducted environmental awareness training for all employees from February to December. Stage one assessment was conducted by Lloyds Register Quality Assurance in February. The assessment lasted for 2 days. Stage two assessment was conducted by Lloyds Register Quality Assurance in April. The assessment lasted for 6 days. In May: HKCom Hotel became the first hotel in Asia to achieve the ISO 14001 Certification.

Source: Adapted from interviews and company documents.

During document analysis, it was found that the company's planning mainly included the following issues: (1) environmental aspects determination, (2) legal and other requirements, (3) objectives and targets, and (4) the structure of the environmental management programme.

Environmental Aspect

A review of HKCom Hotel's documents shows that the company has its own definition of environmental aspect. The company defines environmental aspect as *"elements of an organisation's activities or products or services that can interact with the environment"*. The identification of environmental aspects relating to its operations and activities and the subsequent categorisation of significant environmental aspects was undertaken during the gap analysis in July 1996. The identified aspects can mainly be categorised into the following areas: 1. energy usage, 2. water usage, 3. solid waste production and storage, 4. wastewater, 5. air emissions, 6. materials handling and storage, 7. materials usage, 8. solid waste transport and disposal and 9. supplier / contractor services. These would be regularly reviewed and recorded in case of any changes.

Legal and Other Requirements

Recognising and adhering to legal requirements is a fundamental component of the company’s EMS. In addition to implementing an internal environmental policy, HKCom Hotel needs to comply with statutory requirements on environmental protection for the hotel industry set by the Government in order to fulfil the ISO 14001 requirements. There are several areas that different Ordinances cover such as Water Pollution Control, Water Disposal, Air Pollution, Dangerous Good and Radiation. Table 5.4 shows some actions taken by HKCom Hotel to fulfil the legal requirements.

Table 5.4. HKCom Hotel’s Actions to Legal Requirements

Legal Requirement	HKCom Hotel’s Actions
Water Pollution Control Ordinance	The company has made an application to the Environmental Protection Department in Hong Kong for effluent discharge to foul sewer in Victoria Harbour.
Waste Disposal Ordinance	The company employs a waste collection company to collect solid waste and dispose of this in a licensed disposal site. Under normal operating condition of HKCom Hotel there is no chemical waste produced. A procedure for disposal in the case of diesel fuel spillage is covered in the company’s operation procedures – Handling of diesel fuel.
Dangerous Goods Ordinance	A license for storage of diesel fuel is held by the company.
Radiation Regulations	HKCom Hotel uses radioactive substances in the smoke detection system. A Radioactive Substances Licence is held by the company.
Air Pollution Control Regulations	This applies to the boilers at HKCom Hotel and approval has been obtained under these regulations.

Sources: Adapted from the company documents.

Based on company documents, it is evident that HKCom Hotel also developed procedures for monitoring performance against possible future legislative requirements. An example of this was the revision to the monitoring of wastewater discharges in the light of recent legislation applicable to Hong Kong’s Victoria Harbour.

Objectives and Targets

Objectives and targets were developed after the identification of significant environmental aspects and the review of legal and other related requirements. The

company's EMS manager(s) is responsible for establishing the objectives and targets through discussion with the ISO 14001 Green Committee. In brief, the objectives and targets were identified through the following steps:

- identify significant environment aspects,
- review changes in legal and other requirements related to environmental aspect,
- review the operational procedures and other operational controls and determine whether the significant aspect is effectively controlled,
- establish appropriate objectives and targets to achieve control if no controls are in place,
- amend the relevant controls or create new operational procedures if controls are in place but not satisfactory.

The objectives and targets were documented and the company monitored whether the established objectives and targets were achieved every three months, via meetings by the green committee.

Implementation Plan/ Environmental Management Programmes

The implementation plan is the formal agenda for action in EMS. It includes the objectives and targets, actions required to achieve those targets, a schedule for performing the actions, etc. The main purpose of the plan is to direct the environmental effort and provide a yardstick for measuring progress.

HKCom Hotel had detailed environmental management programmes to map out the objectives and targets, setting out how and when they would be achieved and who would be responsible for the activities. The main purpose of the environmental management programme was to assist the company in achieving their environmental objectives and targets on time. It was stated in company documents

that the progress of the environmental management programmes was monitored every three months through green committee meetings. The monitoring works included the complying and revision of EMS manuals, procedures and instructions, as well as the methods of evaluating contractors' performance. The EMS and the accompanied procedures were practised in the hotel.

5.5.3. Procedures and Controls

Structure & Responsibility

Organisational structure is an important control element in EMS. This includes the assignment of responsibility and granting of authority for environmental practices. In order to accelerate the process of becoming ISO 14001-certified, an ISO 14001 Green Committee was created in 1996 to replace the former green committee established in 1993. The new committee consisted of several members from different functional areas. According to the Regional Director of Engineering:

"...our former hotel manager was the one to start the green committee. He was also the chairman. We had regular meetings every month.... There were about 10 members in the committee who were mainly the department heads of the hotel. They were from all operation departments and non-operation departments such as the finance and purchasing departments etc. Because of the ISO application, the committee had more guidelines and requirements to run the environmental programme..."

According to company documents, the new committee members included Hotel Manager, Regional Director of Engineering, Executive Assistant Manager (Food & Beverage), Executive Housekeeper, Executive Chef, Purchasing Manager, Chief Steward, Training Manager, Assistant Communications Manager, and Secretary to Regional Director of Engineering. Table 5.5 gives the job titles of the members and

their roles.

Table 5.5 The ISO 14000 Green Committee and Their Roles

Position	Role
Hotel Manager (Chairman of Green Committee)	- to understand and carry out the management review - to be responsible for approval of environmental audit plan - to ensure implementation of the offices best practices - to approve the list of approved suppliers and contractors
Regional Director of Engineering	- to implement relevant procedures and requirement - to keep records regarding engineering matters - to ensure the implementation of monitoring activities - to implement relevant operational procedures and provide adequate training to relevant staff
EMS Manager(s)	- to ensure display and updating of the environmental policy and removal and disposal of all obsolete copies - to source relevant legal and other requirements - to ensure the implementation of environmental management programme - to ensure corrective actions are carried out and maintain records of non-conformances - to keep relevant EMS records - to brief senior management with regard to the control of management review - to implement and maintain the relevant system procedures - to schedule monitoring programme with the agreement of the Regional Director of Engineering - to develop the annual EMS audit plan - to implement relevant operational procedures and provide training for office staff in the use of the reference list - to assist the purchasing manager in implementation of relevant operational procedures.
Training Manager	- to implement relevant system procedures and provide necessary training programmes and keep corresponding records
Executive Housekeeper	- to implement relevant operational procedures and provide training for their staff in the use of Housekeeping Environmental Best Practices Reference List
Executive Chef / Sous Chef	- to implement relevant operational procedures and provide training for their staff in the use of the Kitchen Environmental Best Practices List
F & B Manager	- to implement relevant operational procedures and provide training for their staff in the use of the Food & Beverage Best Practices Reference List
Purchasing Manager	- to implement relevant operational procedures and ensure implementation of best Practices by providing training for their staff
All Committee Members	- to develop environmental initiatives

Source: Adapted from interviews and company documents.

The ISO green committee members were required to hold a monthly meeting to develop new environmental initiatives and monitor the overall progress of the environmental management programmes in order to assist the company in achieving their objectives and targets on time.

At the time of the data collection, a number of senior managers who worked on EMS had left the company. Because of the departure of the Hotel Manager, the

former chairman of ISO green committee, the chairmanship is currently replaced by the Regional Director of Engineering.

Although the responsibilities of the green committee were clearly stated, a few of the informants, particularly at general staff level, expressed concerns about the exact role of ISO committee within the company. Several were not sure if it existed. For instance, the Public Area Cleaner stated:

"I have no idea about the green committee...I think we should have....I really do not have so much information on this."

The Sous Chef of the company's fine dining western restaurant also stated:

"I think there should be one (i.e. the green committee). But I am not sure who they are, as the one who is responsible for ISO 14001's application has already left the hotel. Then, I am really not sure who is responsible for this now! there should be one or two persons responsible for this".

As a matter of fact, the departure of some executives and EMS managers between 1999 and 2006 had an adverse impact on the implementation of EMS. During this time, there were structural changes going on within the company. According to the Area Director of Human Resources, 1999, the Hotel Manager, who was also the former Chairman of ISO green committee, left. In 2000, the General Manager who initiated ISO EMS was promoted to VP of the company; a new G.M. was appointed externally. After one and half year, another new G.M. was appointed. In 2003, the Executive Assistant Manager – Food & Beverage left the company. In addition to these changes and new appointments at the executive level, other changes also took place at managerial level. For instance, because of the newly-introduced EMS,

two EMS managers were appointed internally in September 1996 for advanced auditor training to qualify as internal auditors for ISO 14001. The training manager who was one of the EMS managers was promoted in 2004. It seems that his movement had indirectly affected the environmental training programme and staff awareness of the green committee among staff. The Laundry Operator said:

"I don't know now. There should be one (i.e. green committee) when Mr. Kwan (i.e. the former training & EMS manager) was here before. I only knew Mr. Kwan. and Mr. Kwan is no longer here. Therefore, we do not know whether it still exists or not. May be it is here, as I know that there are some other people doing this together with him."

In 2005, another newly-appointed EMS manager who was assistant housekeeper of the company left the company. This resulted in only one EMS manager remaining in the company during the process of data collection.

From our interviews, it emerged that there were variations in different departments in terms of their involvement in environmental programmes. For instance, informants from Engineering department felt that their department was heavily involved in the programme while the informants from the back office such as communication office indicated that there was less involvement. The General Mechanic of Engineering said: *"...but, frankly speaking, our workload has been increased because of the implementation of this measure. The workload has been increased quite a lot...about 20 percent. But when we know this is because of environmental protection, we do not mind, we have to do it!"* However, the company's communication co-coordinator stated: *"...This is something extra...to be added into the process of daily routine job. Even though it is increased, I think the increase is minimal. This is what I think! It will not affect me too much."*

Performance Measurement

To measure performance and to ensure achievement of its environmental objectives and targets, the company developed a monitoring system. Company documents showed that the monitoring system was categorized into four areas:

1. wastewater discharges
2. performance against objectives and targets
3. compliance with legislative requirements
4. key characteristics required to control significant environmental aspects

EMS managers and regional director of engineering were responsible for overall monitoring while other department heads monitored measurements and analyses related to the objectives and targets under their responsibility. To monitor progress against objectives and targets, the company ISO Green Committee held meetings quarterly to assess the performance of individual departments.

By carrying quarterly internal audits, HKCom Hotel checked whether regulatory and legislative requirements were fulfilled and identified wastages such as papers, plastic, cans, and energy. These were targeted as the main areas for improvement from the environmental perspective. Some employees interviewed mentioned that a check list was employed to ensure operational compliance with the company design plan. Documents showed that an Audit Checklist was used to facilitate each quarterly audit. The list ensured that all key activities were examined. During the audit, activities were audited against EMS. Special attention was given to activities which were previously found to be deficient. Employees were questioned as part of the audit to ensure that written instructions were being carried out and appropriate training given. In case of non-compliance, the relevant department head were informed and required to carry out corrective and preventive actions.

Internal EMS audits were conducted on an annual basis by teams with one person acting as lead auditor and in accordance with a plan developed by EMS managers. The audit plan, which is reviewed annually, details the schedule for audits, the members of the audit team and the scope of the audits. In other words, the audit of a department would be conducted by different personnel from year to year, with the EMS managers as Lead Auditors.

On the other hand, the required external audit would be conducted according to ISO requirements. To demonstrate compliance, environmental records would be maintained. This was necessary to maintain and improve the effectiveness of EMS.

When commenting on the controlling process, the Director of Housekeeping stated:

“In fact, we have a very clear control system here. For instance, we have EMS manager, EMS ambassador, and the green committee and the green ambassador in my own department etc.”

The Regional Director of Engineering also said:

“The approved strategies / practices are then listed on the departmental monthly check-list. Each department has its own green ambassador who is responsible for carrying out the check...”

“...Each department has its own one. For instance, kitchen has its own green ambassador; housekeeping has its own green ambassador; engineering has one and office has one as well etc. They inspect...”

Document / Information Control

In order to provide direction to EMS and to facilitate audits, documentation was produced. They were (1) The Environmental Manual, (2) System Procedures (SPs), (3) Operational Procedures (OPs), and (4) Environmental Records. The Environmental Manual was produced to provide a comprehensive guide to all elements of EMS. System procedures (SPs) detailed those for effective implementation of EMS. It referred to environmental objectives and targets that were identified under normal operations, abnormal operations, and emergency situations. The procedures included: SP1 Environmental Aspects, SP2 Environmental Training, SP3 Communications, SP4 EMS Document Control, SP5 Monitoring and Measurement, and SP6 Environmental System Auditing. Table 5.6 shows the company's EMS system procedures in detail:

Table 5.6. HKCom Hotel System Procedures

System Procedures (SPs)	
SP1 Environmental Aspects	➤ compile a list of all legal environmental requirements to which the hotel must conform. ➤ include relevant pollution control legislation and corporate practices which relate to the environment. ➤ document and update the register of legal and other requirements on a regular basis.
SP2 Environmental Training	➤ provide strategic awareness and implementation training for senior management. ➤ provide specific technical training for heads of department. ➤ provide general awareness training for all staff.
SP3 Communications	➤ assign EMS managers to the role of ensuring implementation of the system and its on-going maintenance. ➤ rename the existing Green Committee as the ISO 14001 Green Committee with the role of identifying and implementing innovative environmental ideas.
SP4 EMS Document Control	➤ document all procedures to ensure adequate checking of environmental controls, and mechanisms to respond to pollution incidents should they occur.
SP5 Monitoring and Measurement	➤ continually check the system, both technically and at a managerial level through internal auditing. ➤ monitor performance against possible future legislative requirement. ➤ take corrective and preventive action should non-conformance occur.
SP6 Environmental System Auditing	➤ develop annual EMS Audit Plan, and monitor corrective and preventive action on the non-conformance items stated in the Environmental Audit Report. ➤ co-ordinate in training up of internal auditors ➤ form environmental audit teams by appointing a Department Head or his delegate on auditing other departments.

Operational procedures (Ops) were developed to provide detailed guidance to work activities. The implementation of environmental requirements ensured that all

significant environmental aspects were controlled. The OPs, shown in table 5.7., derived from environmental audits, provided conservation techniques for each department in the company. The OPs were mainly categorized in seven main areas: OP1 Housekeeping Best Practices, OP2 Laundry Best Practices, OP3 Kitchen Best Practices, OP4 Office Best Practices, OP5 Restaurant Best Practices, OP6 Environmental Purchasing Policy, OP7 Stewarding Best Practices. It is worth noting that recycling activities and reduce-reuse programmes were the frequently-mentioned practices.

Table 5.7 HKCom Hotel Operational Procedures

Operational Procedures (OPs)	
OP1 Housekeeping Best Practices	➤ install master switch to control lighting and power for electrical appliances in guest rooms. ➤ use energy efficient compact tubes. ➤ install water flow restrictors in water taps and showers. ➤ recycle all paper products including newspapers, prints and magazines. ➤ place towel reuse cards in all guest rooms. ➤ collect unfinished toilet paper rolls/facial tissue for use in staff facilities. ➤ store used soap in pantry for collection on a monthly basis to be recycled for other products. ➤ switch off all lights when guest room is vacant. ➤ turn down air-conditioning to middle setting when guest room is vacant. ➤ turn down refrigerators in vacant rooms to low temperature setting.
OP2 Laundry Best Practices	➤ maximise loads for washing and dry cleaning. ➤ use rattan baskets for return laundry to the guests. ➤ only wrap dry cleaning in plastic if specifically requested by guests. ➤ separate old/condemned towels for cleaning by Housekeeping Department. ➤ use condemned bed linen items for recycling by Housekeeping Department. ➤ recycle old tablecloths as napkins, when possible. ➤ minimise the use of detergents, softeners and cleaning chemicals. ➤ use only biodegradable detergents. ➤ recycle detergent containers.
OP3 Kitchen Best Practices	➤ install water flow restrictor in faucets. ➤ turn off equipment to save energy until it is needed. ➤ clean grills after use to maximise heat transfer. ➤ do not leave running taps. ➤ cover pots and pans while cooking. ➤ turn off light and equipment when not in use. ➤ preheat ovens only as necessary. ➤ store chilled or frozen food promptly. ➤ report any dripping taps or defective sink stoppers to Engineering Department at once.
OP4 Office Best Practices	Paper Usage ➤ use both sides of the paper for printing and photocopying where possible. ➤ place reports and memos on circulation rather than photocopying individual copies wherever applicable. ➤ use verbal communication or cc-mail (internal e-mail) rather than paper copy, wherever appropriate. ➤ collect used paper for recycling. ➤ place recycling bins at appropriate locations in offices. ➤ use old envelopes for internal circulation. Printers and Photocopies

	➤ use environmental laser toner cartridges and recycle old cartridges. ➤ ensure that the photocopier has regular maintenance checks to ensure efficiency and reduce paper waste. ➤ choose models with energy saving features. Office Sundries ➤ encourage staff to use environmentally friendly stationery and office supplies items such as solar calculators and refillable pens, where appropriate. Energy ➤ place the photocopier on energy saving mode after use. ➤ switch off lights in areas which are not permanently used. ➤ close doors to reduce energy usage. Computers ➤ fit screen savers to all computers ➤ switch off computers when not in use and at the end of the day. Miscellaneous ➤ discourage staff from using disposable paper cups
OP5 Restaurants Best Practices	➤ return unused butter to the kitchen as cooking oil. ➤ return unused condiments from tables to be reused. ➤ turn on the air conditioning system in all restaurants only 30 minutes before opening. ➤ minimise lighting system in all outlets during set up period prior to opening. ➤ store excess bread separately for donation to charity. ➤ switch off all electrical appliances when not in use.
OP6 Environmental Purchasing Policy	➤ use suppliers with good environmental standards and products with good environmental performance.
OP7 Stewarding Best Practices	➤ separate glass and plastic bottles, aluminium cans and paper products from kitchens. ➤ store food waste in separate area for disposal. ➤ use only biodegradable washing detergent. ➤ minimise the quantity of washing detergent. ➤ use glassware instead of Styrofoam or paper cups in staff cafeteria.

For instance, among office best practices, HKCom Hotel asked employees to cut daily arrival lists into small squares for use as post-it notes and scratch paper. The company stopped sending Christmas cards and instead put advertisements in newspapers announcing their season’s greetings and its commitment to environmental practices.

The development of SPs and OPs in the company was for effective implementation of EMS and control of significant environmental aspects. The SPs and OPs with other operational control documentation were reviewed by the relevant department heads together with EMS managers.

Apart from the manual, SPs and OPs, environmental records were developed and maintained to demonstrate compliance with the standards and the correct functioning of EMS.

Emergency Response Procedures

Though these procedures were seldom mentioned by the informants, it was found that the company's emergency preparedness and response procedures included those for fire, explosives, natural disaster and environmental problems. The procedures were contained within the corporate crisis management manual. They were reviewed or revised after an accident or an emergency. The company also identified the handling of diesel fuel and chlorination chemicals as potential emergency situations in case of spillage.

5.5.4. Training and Education

Staff Training and Education

In order to communicate and explain the established environmental practices and policy to hotel employees, a series of training programmes was organised in 1997. The training programmes aimed at (1) strategic awareness and implementation for senior management, (2) specific technical training for department heads and (3) a general awareness for all staff. By March 1997, best practices and environmental policy training commenced with department heads, and two months later the first stage of a third-party certification process was undertaken by Lloyds Register Quality Assurance certification. The first part of the training programme explained why the HKCom Hotel was involved in green hotel keeping. The second phase of the training focused on the systems and how they contributed to operational efficiencies via the company's "Hotel Green Power". For new staff, an orientation and induction programme, called a "brain-washing session," gave them an overview of the importance of EMS in the company. Every new HKCom Hotel's employee received a "green tour" which explained the programme. *"We also check if the new employees understand what environmental practices they are required to do. In addition, the departmental training and induction will be given to the new staff*

when they report to their department...” said the Regional Director of Engineering. Communication activities for supervisory and general staff were not primarily concerned with formulating the EMS project. This was because with ISO's guideline, the main framework of EMS already existed within the company. Their focus was more on how EMS could be delivered successfully.

Guest Education

Encouraging hotel guests' participation in EMS could only be done indirectly because the company's priority was to provide a first-class service. An invitation card was designed and placed in every guest room to encourage guests to reuse towels, bed sheets and pillow covers. This was to save water and energy. In addition, the company's environmental policy was displayed in the Guest Room Directory. If requested, guests or visitors would be given a copy.

5.5.5. Communication

Internal Communication

For smooth implementation, operation and maintenance, it is imperative that the programme be communicated throughout the organisation from the beginning. HKCom Hotel appointed representatives to the ISO green committee from various departments to facilitate internal communication and to spread the work and responsibility for environmental initiatives. Its green committee acted as a focus for all internal communication about environmental management; committee meetings would be used as a forum to report on environmental issues; communication from staff, guests and outside parties; cases of non-compliances. They also served as a forum for an exchange of ideas. The committee was chaired by a senior member of management. Top-down communication was the mode in the company. This was channelled through “face-to-face” interactions on a “one-to-one” basis, “word-of-mouth”, and regular discussions or briefings with employees, during the

planning and implementation of EMS and other related programmes. A large majority of the informants, especially from supervisory and general levels, stated that they only listened to instructions from the top to implement the programme. For instance, one of the steward cleaners stated:

“How to start? They just told us! They told us that what should be done to save for environmental protection! And reminded us not to let water run continuously. That is all.”

The Technical Officer also indicated:

“Every department head has the responsibility to convey the message to its subordinates after the discussion at the top. In addition, the hotel will arrange some lessons for every employee to attend in order to discuss the seven main environmental requirements listed on the green card in the training.”

One of the Room Butlers from Housekeeping echoed a similar point:

“I did not involve in the planning stage. I just followed instructions from the top.”

The company used internal newsletters, notice-boards, and electronic mails to update employees of various environmental issues. Employees were encouraged to communicate ideas through the company’s suggestion box, and to share issues and problems relating to the environment to their immediate supervisor or to the EMS managers.

The EMS programme had implications for job roles and job skills within the company. Department heads were responsible for communicating environmental matters to workers in their departments and for passing all necessary environmental information to the EMS managers. For instance, the housekeeping senior staff needed to conduct daily briefing with their subordinates to reinforce environmental best practices. All department heads were responsible for keeping records relating to the implementation of best practices and communicate details of any non-compliance with the relevant environmental legislation. Meanwhile the EMS managers were responsible for collating all other records and overseeing their distribution and amendment.

External Communication

The company has an established policy that only the EMS manager can receive and respond to any environmental external communication and complaints such as noise complaints. It has developed an external communications form to record any communication from outside parties. For instance, the EMS managers or duty managers are required to document the external communication on the company's external environmental communication form in case of any complaints for record purposes.

One of the increasingly important aspects of environmental management and sustainable development was a commitment to stakeholder input. This practice was emphasized at HKCom Hotel. The company actively established and maintained regular two-way communication with its suppliers and contractors in order to improve the stakeholders' understanding of the HKCom Hotel's expectations on environmental management. In addition, HKCom Hotel conducted several environmental tours for delegations from different sectors such as hospitals and universities to share its environmental practices. These regular user-group or

stakeholder meetings appeared to be part of the formal management framework of the hotel operation.

Notwithstanding, because of the low penetration rate of formal EMS in the industry, there was only a minor gain for the hotel. The company gained no privileges or recommendations from the Hong Kong Hotel Association or the Hong Kong Tourism Board in communicating with tourists and the public at large.

5.5.6. Assessment and Continual Improvement

Management Review

The HKCom Hotel's management review was separated into a 2-tier process. Its green committee members would manage the 1st tier management review of EMS while the executive committee would undertake an annual management review of EMS. The audit and review ascertained whether the objectives of the environmental policy were addressed, whether the performance achieved was an improvement on the initial measurement at the site review stage; and whether this met the programme targets. All the reviews were documented with the following inputs:

- follow-up actions from previous management review
- changes in the environmental policy and EMS system
- results of internal audits
- evaluations of compliance with legal requirements and with other requirements
- communications from internal and external parties, including complaints
- evaluate the effectiveness and environmental performance
- determine the cause of non-compliance
- develop and implement a plan of corrective and preventive action to address the cause of non-compliance

- changing circumstances, including developments in legal and other requirements related to environmental aspects
- identify areas of opportunity and make recommendations for improvement of EMS which lead to improved environmental performance
- status of environmental objectives and targets

The company EMS manager was tasked to brief senior management with regard to the control of the management reviews. The manager was also responsible for collating environmental data for the review.

Document analysis revealed that the company's environmental policy was reviewed by senior management as part of the management review process. The EMS manager(s) was responsible for updating the policy to the satisfaction of the executive committee.

Environmental Audits

In order to provide guidelines for maintaining the effectiveness of EMS and to ensure continual improvement and compliance of the system to the ISO 14001 standards, regular EMS audits would be conducted in HKCom Hotel. EMS audits were planned on a yearly cycle detailing when and where to audit and who would be responsible for the audit. As mentioned before, the audits were conducted by teams with one person acting as lead auditor and in accordance with a plan to be developed by the EMS managers on an annual basis. Upon completion of the audit, written reports of the audit findings were compiled by EMS managers and meetings were held with the company's management team. If necessary, recommendations were made or new targets set to continue successful hotel environmental management. The audit reports and findings were kept by the company for three years. This is referred to by the management of HKCom Hotel as the constantly

improving circle.

The above sections presented how the company EMS was initiated, developed and implemented. Like other new entrants to ISO EMS, HKCom Hotel was attracted by potential financial gains. The following sections will discuss the gains as a result of EMS implementation.

5.6. Outcome of EMS

In May 1997, HKCom Hotel became the first hotel in Asia to be recommended for certification to the ISO 14001 standard. The total cost spending in getting the certification was HK\$617,000 (US\$79,103). In addition to the honour of accreditation by an internationally-recognised EMS standard, the company also enjoyed some tangible benefits. For instance, the implementation of a cost control system in the hotel kitchen has led to the reduction in bread production. Further, the company saved HK\$44,000 (US\$5,641) in paper supplies over two years; HK\$83,037 (US\$10,646) a year on laundry since the introduction of in-room signage; HK\$1.3 million (US\$166,667) annually from the installation of water flow restrictors and energy-saving light bulbs; HK\$12,000 (US\$1,538) annually in waste cartage.

What was more encouraging still was the reward from free media exposure. In 1997 when the company became ISO-certified, an advertisement, placed by the hotel in the *South China Morning Post*, one of two local English newspapers, generated huge media coverage from numerous local and overseas TV channels, newspapers, magazines and journals. The financial equivalence of such free media coverage was quite substantial, estimated at HK\$700,000 (US\$89,744) at the time.

Although HKCom Hotel reported significant improvement after implementing the formal EMS, several informants, particularly among the general staff, were sceptical about its effectiveness in terms of environmental protection. They argued that the hotel management had only adopted the ISO standard to enhance its reputation. They had doubts that formal EMS could help the hotel protect the environment.

The ISO 14001 standard requires a commitment to continually improve environmental efforts. In order to comply with this requirement, HKCom Hotel's green committee met on a monthly basis to review existing objectives and targets. The committee was also responsible for establishing new targets without compromising the hotel's standards. This meant the company was required to fine-tune its environmental programmes continually. As mentioned by the Director of Housekeeping:

"...because of the requirement of ISO, we are working on the continual improvement one after another. And now, we will have meeting irregularly in order to find out some improvement."

The above pages have described and explained the motivation behind EMS in HKCom Hotel, how EMS was initiated and implemented and the types of problems encountered. In addition, the outcomes of EMS have also been described. The following pages will present the employee perspectives about EMS based on the framework of the EMS framework described in Chapter 2. Within the framework, identified categories and themes will be presented.

5.7. Employees' Perceptions of EMS

5.7.1 Policy

Strong Management Commitment

With regard to commitment to environmental protection, the author was told that the owner and senior management of the company were very supportive; that the company was willing to invest in environmentally-friendly facilities and products to achieve the desired environmental performances. Almost all informants interviewed indicated that they had enough resources during the implementation process of environmental programmes. For instance, the Regional Director of Engineering stated:

"The owner is very supportive and we have no difficulties in getting the funding to do some energy initiative programmes."

The Service Leader from Housekeeper said:

"...our company has already changed all the light switches so that the master button cannot turn on all the lightings. It is done manually now. ...I feel we have enough resources. The company has already provided us with all we need. They have already provided all the facilities required for the environmental programme."

One of the Steward Cleaners also said:

"...we have an environmentally-friendly washer to wash the stuff! There is no need for us to wash by hand. We just remove all the rubbish, leftover etc and

then place all the plates etc in the machine. Then, the items will be cleaned very thoroughly.... In fact, the company has already provided enough resources!"

The Laundry Operator agreed:

"...the purchase of new washing machines and the use of environmentally-friendly cleaning agents. Basically, these are the resources we have....It is enough in our laundry plant. The machine is quite expensive! I think it is about several hundreds thousand dollars each. And it seems that we have bought two units. In addition, the environmentally-friendly cleaning agents we are using now should be more expensive than the normal ones."

With support from management, the company bought and installed various environmentally-friendly facilities. They included water restrictors used in guestrooms to reduce consumption of water; an environmentally-friendly washing machine used in laundry plant to reuse solvents to minimise water pollution; a machine to compress plastic cans and bottles; environmentally-friendly dishwashers; the use of environmentally-friendly refrigerant and cleaning agents; the change of light switches in all guestrooms.

In addition to investment in hardware to improve environmental performance, HKCom Hotel employed outside contractors to handle sewage to minimise the environmental impact to the harbour and to carry out an overhaul of all hotel restrooms as well as grease traps every 4 to 5 years. The company established a monetary-award system to encourage hotel employees to put forward their environmental ideas. *"The majority of suggestions was accepted."* according to the Director of Housekeeping. This was also confirmed by one of the room butlers:

“... I have not heard about any suggestions not being accepted so far!”

A Technical Officer stated:

“The company will award an employee with a cake coupon if the suggestion is good....Suggestions are well accepted. I am very willing to express suggestions to the management...”

One of the informants from general staff even felt that some managerial decisions were made based on the consideration of environmental protection. For instance, the informant observed that some designs of menu or packaging were selected because less paper was used. This was confirmed by some executives stating that environmental issues were one of their concerns during the decision-making process.

From the interviews, it was recognised that the senior management extended extra and sufficient capital resources to support the system. Nearly all informants from different levels believed that the company would support them if they needed more resources.

Shared Values

Several informants from general level stated that the company's policy to implement environmental programme matched their own values. They were glad to see the company's initiative and happy to participate in the programme. They felt their own values were recognised and reflected by their employer's goals. For instance, the Laundry Operator said:

“...as the company strategy to implement the programme matches with what I usually agree. It seems that my value is recognised.”... “The company is also willing to do this. I therefore feel that there are still so many people who care about environmental protection and I am not stupid at all...to do it by myself. So, I feel happier when I am working in this company that we are sharing a similar direction.”

The Communications Co-ordinator stated: *“I am quite happy to have the chance to participate in the environmental programme coincidentally organised by the company.”*

From the employees' points of view, protecting the environment was different from the company's other strategies, as it was not a profit-making activity. With shared environmental goal, employees felt that their employer was in the same boat with them, doing something meaningful.

Business Nature & Uncooperative Guests

Most of the executives interviewed stated that packaging, good presentation of products and good quality are all very important in the hotel industry, as they can help attract customers and enhance hotel image. In fact, almost all informants implied that the business nature of the hotel industry inevitably affected the effectiveness of a hotel environmental policy. Some informants mentioned that hotel involved around-the-clock operations, making high consumption of water and electricity inevitable. For instance, lightings in the hotel lobby and guest floors, air-conditioning in guestrooms and public areas were left on. Many informants mentioned that food waste was very serious and common in the hotel industry. For instance, leftover food from buffet tables must be thrown away after being displaced for a specified time period. Dessert, cakes and other food items which could not be

collected for reuse were all thrown away. Furthermore, in order to ensure good quality which was important in a hotel business, food was actually wasted during the preparation stage. As the Service Manager of Chinese Restaurant pointed out:

“As a matter of fact, there are many wastes, as hotels mainly need the best. For instance, we just need the best part of vegetables; the rest will be thrown away. As a result of this, the waste generated can be estimated to be at least 20%. It is all thrown away...”

One of Duty Engineers estimated the food waste:

“I think many unconsumed food...may be 80% is thrown away. And I think this is a waste.”

The Duty Engineer's estimate of hotel food waste was not far from the actual figure, as his colleague, the Service Associate – Garde Manger in kitchen observed:

“...there is no other option. I throw the leftover away myself...all the leftover will be thrown away! The leftover is about 70% of the food we prepare.”

In addition to food waste, the informants from different kitchens indicated that high consumption of water and electricity was very common. For instance, running water was used to defrost frozen food. Water used to boil different food items must be discarded after several rounds. High heat was used, especially in Chinese kitchens for efficiency. That is why the kitchen wastes so much energy.

Some informants fell into a dilemma when asked by their company to carry out

environmental practices. For instance:

The Sous Chef of Western Restaurant stated:

“Just like a middleman! You know...we have to make sure the service is good on one hand but we are required to perform the required green practices on the other hand!”

The Service Leader from Housekeeping stated:

“In fact, it is very difficult! It is easy to say but really difficult to act...we are in the service industry finally. For instance, the kitchen wants to minimise food waste by not preparing too much for the buffet, guests will complain if you fail to refill the items on time, however.”

The Service Associate - Garde Manger stated:

“I really want to eat all of them if I could rather than just throwing the food away. 70%...we throw the leftover away everyday.”

The 5th Fryer of Chinese Restaurant stated:

“I feel it is a bit difficult to do, as there is conflict sometimes. For instance, the hygiene and environmental protection, it seems it is difficult to get a balance between these two issues.”

Despite only one negative comment about the influence of hotel guests on the effectiveness of EMS, almost all the informants from supervisory level and half from

general level were of the view that hotel guests greatly determined how successful a hotel carried out its environmental practices. Informants felt that the hotel could not control guests' use of water and electricity in their rooms. Several argued that some requests by hotel guest actually went against the hotel's environmental policy. For instance, guests in the ballroom and function rooms sometimes requested the temperatures to be set at 19-20 °C, different from the hotel's established temperature. Many guests complained about water restrictors. As one of the Duty Engineers said: *"We have to remove the device instantly if guest complains that the water flow and pressure is not strong enough!"* On average, I think we have one room daily. In fact, it is quite frequent." Some hotel guests complained about the strong smell of environmental paint, others complained that towels and bed linens were not replaced though green tent card provided by the hotel, instructing room attendants not to change them, were on display.

Inconsistent Policy

Over half of the informants from supervisory level stated that HKCom Hotel failed to establish a consistent environmental policy. For instance, the practice of sending bread to charitable organisations was not implemented in all F & B outlets. The practice of sending used parts of vegetable to staff canteen was discontinued.

Some informants from general level raised examples about inconsistent environmental policy relating to guest services. They were:

1. TVs in vacant guestrooms are left on
2. supply of ice in guestrooms is replenished twice a day
3. large bottles of distilled water are placed in hotel guestrooms

In addition, many other comments both from supervisory level and general staff were about the inspection process. One of the Room Butlers stated *" In case of*

inspection from outside people, the one from ISO, the company will be tenser. They will remind you in briefing. But in normal time, they will not scold or catch you even though the very common best practices are not performed”.

The inconsistent policies eventually triggered some employees to challenge the real motives behind the adoption of formal EMS. For instance, the Sous Chef of fine dining western restaurant commented:

“I feel it is because of the award...that is the ISO 14001. I feel...the final goal of these hotels is getting the award. In fact, is it a must to show to the public after having got the ISO certificate? I feel this is the main reason behind why a hotel will take environmental initiatives.”

5.7.2. Planning

High Involvement

From the interviews, it appeared that the informants involved in the EMS planning process, mainly from executive level, benefited a lot from the process. For instance, the regional director indicated that his job satisfaction increased, as he was the first leader to drive the system and eventually obtained the ISO certificate. The head of housekeeping also stated:

“Absolutely yes! It has positively changed my job satisfaction here especially when the established objectives and our targets are successfully achieved.”

Because the company was the first hotel in Asia to successfully get the ISO 14001 accredited, hotel executives received invitations from many companies from different fields to give talks and to share their experiences on EMS implementation. This brought recognition to the executives. The feeling of the Executive

Housekeeper clearly reflected this:

"We have some sharing within the hotel industry. And Chinese are relatively humble.....But, personally in my heart, I have great satisfaction inside"

Low Involvement

Notwithstanding, when being asked in the interviews most informants from the supervisory and general levels did not have a very clear picture of how the programme was planned and designed. For many, all they could mention of the programme was the green card distributed to all hotel employees to introduce its environmental policy. They stated that the programme was initiated from the top. They referred to the environmental practices, guidelines and posters when asked. Most of them only indicated that they had some introductory training about the environmental programmes and what they were required to perform. Some of them remembered green activities such as tree-planting and cleaning of beach. At the supervisory level, many informants indicated that the programme was initiated and designed by a group of people from management. Most of them added that the key players of the programme were the Regional Director of Engineering, Human Resources Manager and Housekeeper though they were not quite sure. For instance, the Service Leader from Housekeeping stated:

"I think...someone from the management such as the Chief Engineer and the H.R. manager etc. but I am not quite sure about it."

One of the Duty Engineers indicated:

"As far as I know, it is our HR manager and the Engineering manager who started to prepare. They were the key man as a matter of fact....this is all

what I know!"

Many informants from the supervisory and general levels stated that they just followed instructions from the top to implement the environmental programme. Very few interviewed asked for more involvement in the EMS planning process. However, it is worth noting that the informants working at the hotel engineering department either from supervisory or general level were able to provide more detailed information regarding the planning and implementation of the programme during the data collection process. For instance, one of the Duty Engineers from supervisory level answered:

" Er...to implement the so-called environmental policies! Started from the 3 R, that is, to organise some activities that can apply the 3 R! Er...then...er...started to implement! Then, some people from ISO 14000 came to assess! It can be said that our hotel started in order to get the ISO....it must be initiated by a big guy here...then we can start to proceed."

The Technical Officer from the general level replied:

"...the company formed a group of people to drive the environmental programme. I also remember there were some cards at the very beginning. One was called the guiding principle mainly about the management of the system. The other one was the green card in which there are six or seven statements we need to follow.....I remember that every department head had the responsibility to drive the programme at the beginning. Then, we needed to attend training in which the programme was explained to us. In addition, we also had some spot checks..... It is mainly my boss and other management people like the HR and the Housekeeper."

5.7.3. Procedures and Controls

High Autonomy

Nearly two-third of informants indicated that they had high degree of freedom to carry out environmental practices. Informants from the executive level commented that they normally had high degree of freedom to implement the programme unless it involved special items. The Director of Housekeeper stated that the company empowered its staff quite well. Other executives agreed that the degree of freedom was quite high as long as their actions did not affect company operations and other departments.

At the supervisory and general levels, the majority of informants felt that they clearly understood their environmental responsibilities, and they could do the job freely. The 5 Fryers of Chinese Restaurant, the tailor and the room butler all indicated that they could make decisions if the issue was not too important. The Communication co-ordinator also added that she could apply the hotel's environmental guideline freely. She stated:

"....you can apply the guidelines in many areas. That is, they are not set strictly for one workplace only so that employee can apply and contribute to different areas. It is good in that sense; it is because everybody can interpret the meaning of the guidelines and is able to do more, based on their own interpretation."

Notwithstanding, some informants felt that they had the freedom mainly because of loose control from management. For instance, one of the steward cleaners said:

"Nobody will check me. I can do whatever I like to do! I feel good about it, as

I can just follow my thought to do my job.”

The Service Manager of Chinese Restaurant agreed:

“It is quite free. Basically, nobody will care about you. Nobody will know even you do not implement the practices....”

Inactive Green Committee

Although HKCom Hotel established its ISO Green Committee to lead the environmental programme and develop environmental best practices for employees, many informants responded that they did not know the actual function of the committee. The majority of informants from the supervisory level was aware that the company used to have the committee but was not sure if the unit still existed. One of the informants commented that the main purpose of the committee was just for the annual review while other guessed that the committee might be the mouthpiece of management to pass on messages to department heads. Another informant even did not know the company has an EMS manager. In general level, over half of the informants had no idea or had not heard about the committee before. Only a few informants knew about its existence but were unclear about its functions. Among informants from general level, only two were sure of the existence of green committee and were able to describe some of its functions. They were both from the Engineering Department. For instance, the Technical Officer said:

“Yes, the company has one. My boss is the one who leads the committee. There are some other members. It seems there is one who is responsible for the hygiene. There are some whom I do not know. I think some are from F & B and Housekeeping..... The meeting can increase communication

among the departments through discussion. They will co-ordinate and promote the agreed measures to the employees...”

In one interview, an executive who was not a member of the green committee also felt that its function was mainly for the ISO 14001 audit. He commented:

“I feel the function of this committee is mainly for ...er...for the...the ISO 14001. This is why it was established. Then, I do not see anything from the committee when there is no audit! It seems nothing has happened! And this is my feeling about the committee.”

Insufficient Manpower

Two-third of informants stated that their workloads were increased as a result of EMS implementation. Notwithstanding, over half of them commented that the increase was not significant and was manageable. This was because the added best practices were actually very simple ones. Some mentioned that the increase was about 10%; others said that the increase was about 20%. Nearly everyone said they could manage and did not mind doing more, because environmental protection was a worthy goal. The Director of Housekeeping even mentioned:

“May be the satisfaction and the recognition have offset the feeling of harder work.”

Most people interviewed indicated that it was quite easy for them to adapt to the newly-introduced green practices, except at the very beginning. Many mentioned that it was only a matter of habit, and it became very natural for them once they were used to it. Still, it was observed that environmental duties were sacrificed whenever employees became very busy with routine duties. For instance, a tailor

from the linen room, who was required to cut the linens for reuse, stated:

“...Our workload is relatively increased, as we need to help them to cut. In addition, we do not have time to do the task sometimes as a result of the changed procedures of normal job here and the changed schedule etc.”

Some general staff members from housekeeping felt that they sometimes did not know how to handle their green duties especially when they were extremely busy. A few informants mentioned that they needed more manpower as a result of the added workload. When interviewed, just a few informants from the supervisory and general levels mentioned that additional manpower was needed. They were mainly from Engineering and Housekeeping in which the required environmental best practices were heavier relative to other departments.

On the other hand, senior informants who were heavily involved in the planning process had a different view from their supervisory and general counterparts. Under existing practices, EMS Managers were appointed to lead the environmental programme. But, their responsibilities and position were taken up by some hotel executives. This means the appointed executives would wear two hats. Some informants from the executive level indicated that this practice added to their workload. In addition to implementing the EMS, they had numerous other major duties, roles and responsibilities. The Regional Director of Engineering admitted:

“I think we need more manpower resources. For instance, my main role here is the Regional Director of Engineering. But I also have to wear another hat to oversee the environmental programme. So, there is more burden... .. it is not good. It is very burdensome. Your time is devoted to your main role in this hotel so it may not have enough time for another role. Or if the hotel

operation is very tight such as the coming of WTO conference in Hong Kong, then, should the environmental practices be tightly controlled?"

Other executives also commented that their efficiency could be affected. For instance, The Area Director of Purchasing stated:

"Um...I think if we can have an EMS manager who is mainly responsible for the environmental job but not for other job duties, the efficiency could be better and the follow-up could be done in greater detail."

In addition, the Director of Housekeeping added that the departure of an EMS manager eventually increased significant workload to the other one. The vacancy was not instantly replaced, as an EMS manager must be certified. This means the replacement had to study to be certified before he or she could perform the new duties.

Uncooperative Colleagues

Over one in four informants from general level indicated that 20% to 50% of colleagues were lazy, stubborn and were not committed to their environmental jobs. Some relied on their colleagues to perform the required tasks. For instance, one of the Room Butlers admitted:

"Just like this can be also done by someone else! And then, you can only concentrate on the works needed to be carried out in the guestrooms. But without the help of the Public Area Cleaner, I will do it more actively, as I do not want to be scolded by the cleaner when she comes."

The informant focused on her regular duties first before performing additional

environmental tasks. Another Room Butler commented that some colleagues complained that those who suggested new environmental practices to the management were meddlesome and increased others' workloads. A Laundry Operator estimated that 50% of employees did not want to implement the required practices even though they were forced to do so. Most of them were uncooperative. The operator felt that working as a team was essential, as individual efforts were useless if others were uncooperative and did not participate in the environmental programme.

Loss of Control

The majority of informants told that the environmental performance of the system was not extensively monitored. Nearly all executives, however, said the opposite. For general staff, the majority commented that someone might come to check their environmental performance occasionally and felt that the control was not great. Some informants further added that the management did not care and, in fact, there was no control. One of them said that the company only paid attention in case of inspections from ISO. One of the room butlers felt frustrated: *"The worst is that the management does not know whether they really follow the instruction or not."* Only one stated that the control was very strict and this informant was from Engineering Department. Only two informants felt it was sufficient and good respectively. One of them thought that it was enough for top executives to just talk to them.

At the supervisory level, all informants except one indicated that the control of environmental performance was not tight in HKCom Hotel. Their comments were very similar to those from general staff. They said there was nobody to regularly check except when they were informed in advance of an ISO audit. One informant even commented that *"it seems that it is out of control sometimes."* Another

informant queried that “...*there is a checklist. The checklist will be done every night. But we are not sure if it is checked page by page!*”

Conversely, all informants in the executive level, except one, felt that the monitoring system of EMS was well-established. The Director of Housekeeping stated:

“We have a very clear control system here. For instance, we have EMS manager, EMS ambassador, and the green committee and the green ambassador in my own department etc. the monthly submission system is already there. A check list must be sent as usual..... the non-conformance will be recorded and thereafter put on the table during the green committee meeting.”

The Area Director of Purchasing echoed that control was very strict, with monthly meetings. This was the case with the checklist as well as the audits. The Area Director of Human Resources added that the company had internal audits and external audits, and he felt that the control system was running effectively. Both the Regional Director of Engineering and Director of Housekeeping admitted that the departure of one of the EMS managers earlier had affected the control process to an extent though the hardware had worked very well.

It was clear that the monitoring system in terms of the hardware was thoroughly developed. The check-list system and other related records and reports needed to be completed to ensure the required environmental objectives and targets were achieved and the ISO requirements were fulfilled. But, it seems that individual environmental performance was not seriously evaluated or linked with his/her performance appraisal. The majority of informants from supervisory level echoed that the only action that they could take in case of their subordinates' failure to

implement established best practices was “to remind repeatedly”. Other than constant reminders, supervisors could not punish nor do anything against their subordinates. The informants added that their subordinates generally listened and followed instructions, after being reminded but some general staff felt annoyed by repeated reminders.

5.7.4. Training and Education

Increased Environmental Awareness

Most informants from all levels in HKCom Hotel agreed that their environmental awareness has been enhanced by EMS. Many said they would consider environmental protection in whatever they did. For instance, the Communication Co-ordinator said: “...*You will think...um...if this can contribute to environmental protection when you are making a decision. I will at least personally think about the environmental protection first....*” Some informants took initiatives to save resources which they did not do before. One of the Steward Cleaners commented: “...*So, our mind is full of the environmental stuff...*”.

Increased Environmental Knowledge

Over half of the informants also stated that their environmental knowledge was enriched because of the training programmes provided in EMS. Some of them did not have a chance to learn about environmental protection in their school days. After training, they understood environmental protection and felt they learnt something new. A Service Manager of the hotel’s Chinese Restaurant even commented that: “*I might not have the chance to learn this in other hotels.*” A Service Leader from Housekeeping stated that “*I have learnt the knowledge from my workplace now. I might not care about the issue if I did not work at this environmentally-friendly hotel*”. The Regional Director of Purchasing also stated:

"...the hotel is ISO 14001 certified, we are able to understand what the environmental protection is really about and what are required to do. There are many slogans...many slogans saying that we need to protect the environment. But how to do and how to implement...this is another level of work. It is because we are certified, we are therefore actively involved..."

Most of the informants said environmental knowledge was good and beneficial for our planet and our next generation.

Knowledge Transfer

Many informants said they would apply what they learnt to their personal and daily life. For instance, some no longer threw newspapers into rubbish bins but recycled them along with plastic boxes at home. Some informants further mentioned that they shared their new environmental knowledge with others such as their children, housemaids, and friends. A Steward Cleaner stated:

"For instance, they do not even understand what the environmental programme is. Then I will tell them what we are doing here now! I can share the knowledge I have learnt here with them!"

Others mentioned they shared the knowledge with other companies in which there was no environmental programme, or even with the government. For instance, The Front Office Manager said:

"May be you have the chance to work for another company in which there is no environmental system in future. Then you can bring what you are doing here to the new company."

Because of this knowledge transfer, some informants mentioned that the environmental awareness of their family members was also enhanced.

It is worth mentioning that some informants brought the best practices that they were doing at home to their workplace as well, thereby transferring external knowledge to the workplace.

Increased Marketability

Some informants believed that their knowledge and experience would benefit their future careers. They thought that they could share their environmental experience and knowledge. A Duty Engineer stated:

“Let say you go to work for another hotel, the people there will normally ask you what you are doing here. Then, we are able to say and lead them to listen to, for example, what our engineering department here is doing to improve and save the money!”

The Regional Director of Purchasing further added that the learnt knowledge and experience enhanced the professionalism of employees. As stated by the Regional Director:

“Many people do not know in terms of environmental knowledge, but we know.”

Environmentally-knowledgeable Leaders

Over two-thirds of informants commented that the environmental knowledge of their superiors were sufficient. Some informants indicated that their superiors were able to teach, to demonstrate how to perform the required environmental practices, and

to share their environmental knowledge. Some superiors were considered environmentally-knowledgeable as a result of decisions made that helped save resources. The informants from the engineering departments particularly felt very lucky and proud of their boss who was the driving force behind the ISO EMS. One of the Duty Engineers stated:

“Um...when looking at our department, the engineering department, I am very proud of it, as my boss is the ...the soul of this ISO 14000. He has been involved a lot. Therefore, I feel proud. The engineering department has done a lot!.... Yes, he has ‘raised’ the whole department in which the team spirit is affected and the staffs are proud of what they are doing. It is mainly because our boss is responsible for the programme.

Still, a few informants mentioned the autocratic leadership style of their superiors which they said blocked them from suggesting new initiatives to the company and learning more information about the programme. They further added that some superiors did not mention anything about the system or bothered to manage their environmental performance.

Lack of Continuous and In-depth Training

There were a number of criticisms of the training programmes. More than one in two general staff and nearly half of the informants from supervisory level indicated that there had been no subsequent training about environmental protection. Most of them stated that they had to learn environmental knowledge from external sources such as TV, radio, newspapers or other channels. Some informants added that they learned from their immediate superiors through daily briefings. For those informants who had attended environmentally-related training before, they remembered that there were only one or two sessions, conducted a long time ago

when the company was planning to get the ISO 14000 certificate. A Steward Cleaner said:

"It was a long time ago. I cannot remember it. The training is not held frequently."

The Service Leader from Housekeeping stated:

"...it could be better if the company can remind our colleagues once in a while. You should have kept doing this. And it would be better if some lessons can be arranged for newcomers. You know, I am not sure whether the newcomers have the environmentally-related training or not. But I feel that they did not have...as they do not have very strong environmental awareness when compared to us."

Many informants, from the supervisory and general levels, wanted to know the rationale behind the best practices; the most-updated environmental knowledge; information about the sources of pollution; the resources left on earth, the outcome of these environmental problems and more importantly, what they contributed to the hotel and the planet.

A Technical Officer stated:

"That is, how the society and the earth have improved since so many people have supported environmental protection. That is the result. We have done a lot in this aspect. So what is the outcome? For instance, what is happening to the ozone now? Cause we have done a lot here."

At the executive level, some informants indicated that they attended formal ISO training and other related training when they became either the EMS manager or a member of the green committee. The trainings not just for management staff, as the company initially selected individual administrators to attend the course. Other than the ISO formal training, the informants also attended courses or seminars to update their environmental-knowledge. Like their counterparts at supervisory and general levels, the executives mainly learned from external sources such as books, magazines, TV and radio.

The Area Director of Human Resources who did not go through the formal ISO training said:

“When I think more in-depth, I feel it would be a good idea to have the training to introduce the ISO 14000 system for the whole management team.”

However, he thought that the training was sufficient for the system in place. The director expressed the hope that all his staff would have the opportunity to attend training designed for auditors so that his staff could give more support to the green committee and conduct more training for all employees. Some executives also wanted to learn more about the programme.

Perhaps the most important issue remaining to be addressed was the need to communicate with hotel guests about the company's environmental programme. It was clear that the managers and employees had not been clearly briefed or prepared to explain the implications of the new EMS to their guests and to handle customer complaints. Each person appeared to have a different interpretation. The Service Leader of Western Restaurant stated:

“Er...the most updated environmental knowledge. That is, the recyclable products may be brought to our guests. I can explain to the guests and let them know what the recyclable products are and how they are used. It is because we have frequent contact with guests. And serving our guests is our priority as mentioned to you earlier, we will not implement it if the practice will affect our guests no matter how environmentally-friendly it is! So, if I know more updated information, I will manage to explain in case our guests ask us about it. At least, I’d know the reason behind why we use this type of paper...for it is recyclable paper? Your know...the guest may ask the reasons for changes related to the services such as the change of sugar pad. So, I can explain the reason.”

5.7.5. Communication

Some informants from supervisory and general levels felt that the communication process is quite good and they have the opportunity to review the environmental information annually and to know the development of hotel environmental policies. Most of the informants interviewed agreed that they had the opportunity to forward their ideas to senior management through the suggestion system. The acceptance of employees’ suggestions likely increased individual’s recognition. The technical officer from engineering interviewed proudly told the author:

“....the green card is useful. In fact, the idea of giving this green card to employees is suggested by me. I was also awarded with a certificate because of this suggestion.”

However, nearly all informants from supervisory and general levels did not have any intention to express their ideas to senior management. The reasons provided

by the informants included: no creative ideas; too busy to think of new ideas; worries about increased workload; the management style of section heads.

Insufficient Interdepartmental and External Communication

Although the majority of informants indicated they were clear about their environmental responsibilities, many did not know what other departments or sections were doing. Because of this, some informants had reservations about the outcome of best practices. The Sous Chef said:

"We normally collect the bread not being sent to the outlet and thereafter return to the bakery section. Then, it is all up to the bakery to handle it! In fact, I do not know how the bakery section will handle it. We are only responsible for sending the unconsumed bread to them!"

The Laundry Operator stated:

"Well...every department has different things to be concerned about. For instance, our laundry plant needs to use the environmentally-friendly products but other departments will not know about it."

The 5th Fryer of Chinese Restaurant added:

"We just follow, put all the stuff outside such as the rubbish, papers etc. Then, somebody will come to handle the items placed there. And we are not sure about the procedures to handle the items thereafter."

At the executive level, most informants expressed serious concerns about their lack of knowledge about what other hotels were doing on the environmental front. They

wanted more sharing with the other companies' environmentally-friendly practices so that they could further improve themselves.

Lack of External Supports

The majority of informants from the executive level complained that the support from external stakeholders was not sufficient when the hotel was implementing environmental management system. External stakeholders included the government, the hotel association as well as suppliers.

The Hong Kong government was seen as doing little to minimise environmental damages. The Director of Housekeeping said *"I think the government should do something to make industries reduce waste especially those that produced large amounts."*

The Regional Director commented that the government treated environmental activities on a commercial basis and that interested operators were required to use their own resources to carry them through. The Area Director of Purchasing said: *"Although the government has established some regulations, the regulations are not strictly implemented. Hong Kong is a commercial society in which the interests of businessmen are relatively well-protected."*

Support from the hotel association was minimal. The author was told that the association used to contact some suppliers to collect empty bottles from hotels in Hong Kong regularly, and worked with Hong Kong Productive Council (HKPC) to design compressors to reduce the volume of plastic bottles in order to reduce collection cost for hotels but the plan was suspended by the association after a year. A supplier involved operated solely by itself now without any support from the association.

A supervisor suggested that “the Hong Kong Tourism Board should push the hotels here to implement the ISO 14000 standard.” His colleagues at supervisory and general levels did not mention anything about this issue.

Meanwhile, support from the hotel's suppliers had been very weak. Because of ISO regulations, certified companies such as HKCom Hotel needed to convey its environmental message and requirements to their business partners. To fulfil these requirements, HKCom Hotel informed its contractors and suppliers of its ISO 14001 EMS standards and requested them to take account of environmental implications when supplying products to the company.

Company documents showed that HKCom Hotel sent letters to contractors requesting them to comply with relevant environmental legislation and use resources such as electricity and water in the company with care in order to help the company achieve its environmental goals. The company ensured that all new or renewed contracts with suppliers and contractors included environmental requirements where it was financially and technologically appropriate. Nonetheless, the Area Director of Purchasing indicated that many companies had less than 5% of their suppliers committed to environmental activities and it was very difficult to require suppliers in Hong Kong to implement environmental works. He stated:

“The problem is...it is difficult to require your suppliers to implement environmental works, as there is no such legislation in Hong Kong. It is also difficult...for the suppliers. It is because this will affect their costs which they cannot transfer to us.”

5.7.6. Review and Continual Improvement

Systematic reviews contribute to continual improvement that was essential to the success of an effective EMS. Upon reviewing the results from environmental audits, managers might change policy, objectives and targets, and other elements of EMS to improve performance. Company documents indicated that HKCom Hotel regularly reviewed its environmental policies, objectives and targets and its system and operations procedures. This was done by EMS managers and the ISO green committee.

Lack of New Ideas

Because of the requirement of ISO regulations, the management of HKCom Hotel needed to continually improve environmental performance. But almost all executive informants indicated that it was very difficult to find something new to fulfil the requirement of “continual improvement”. The reason was that most initiatives had already been implemented after the system had been in place for a couple of years. The Director of Housekeeping said “...*the only problem is the members are more and more dry now.*” The Regional Director of Engineering said:

“...it is less imaginative. The monthly green meeting in the past was adjusted to quarterly now. ...but there are no grand new ideas in general.”

Some informants from the supervisory level also noticed the problem. This is reflected in the following comments:

“The 3...3R! This is what is always repeated. That is, frankly speaking, this 3 R is all what we can do. Er...there is nothing creative that can be done.”

“Frankly speaking, they do not have any new environmental methods! In

recent years, we only know that our company is still the environmentally-friendly hotel. But I am not quite sure if the company will go on with its environmental policy.”

5.7.7. Outcome of EMS

As mentioned in chapter two, previous studies mentioned a number of possible outcomes from a formal EMS. These included cost-saving, a better structure to implement environmental programmes, and enhanced company image. All these were from a company perspective. The following considers what a successful EMS can bring to employees from their own perspectives.

Better, Safer and Healthier Working Conditions

After implementation of the environmental programme, a third of informants commented that the working environment was better than before. They stated that the workplace was cleaner and more comfortable. Some informants even stated that their health condition had improved. Some general staff stated that their workplace became tidier and more “systematic”, as most items were neatly separated for recycling. One of the Steward Cleaners stated “...*It is quite good as the items will not be a mess now.*” The Service Leader from Japanese Restaurant added: “...*You will feel uncomfortable if the cooking equipment is left on though you are not cooking anything. You feel much more comfortable if the equipment is turned off. In addition, you will feel very annoyed if the water tap is left on continually though it is not needed mainly because of the water sound. You feel more relaxed if it is turned off.*” The Technical Officer from Engineering said: “*The working environment is cleaner such as the kitchens etc. It seems they are tidier. The lighting is also improved. The lighting level is better now despite the savings from electricity bills. It was very dark though many lamps were used in the past. Just like going to a picnic, everybody likes the destination they visit, then everybody*

feels happy.”

Because of the hotel's environmental policy, some informants indicated that their workload was reduced. For instance, one of the Room Butlers noted:

“We are happy when we see the tent card indicating that there is no need for us to change the bed sheet in the room. Instead of changing the linen, we just tidy up the bed a little bit. There are many sometimes. Also in the bathroom, some guests do not request us to change the towels for several days.”.

Only one supervisory informant and another general member stated that some environmental practices adversely affected their work environment. Because of the lighting and air-conditioner policy, the Service Leader of western restaurant located on the top floor of HKCom Hotel complained that the temperature was too high, making the air very stuffy. The 2nd Chopper from Chinese restaurant echoed that the light level was too dim for him to prepare food sometimes while he was working alone in his kitchen. This was due to a regulation that prevented people from turning on all the lightings in a kitchen where he or she was working alone.

Contribution to Society

Over two-third of informants indicated that they contributed to the planet through the company's environmental programme and felt good about it. The programme was meaningful and not commercial. According to an example given by the Director of Housekeeping, the HKCom Hotel sent used furniture to a hotel in a developing country during renovation about two years ago. The Area Director of Human Resources said: *“I feel that I have made contributions. I also feel that the company has contributed.”* Nearly all informants from the supervisory and general levels

felt they did something good for society, although someone from the general level felt they had done not enough. The Laundry Operator proudly stated that:

“I feel honour. The main goal of many companies is profit-making. It is really rare that we can have a company that is willing to implement the environmental activities. It’s great! It is because I truly agree and support the environmental protection.”

The environmental programme was considered meaningful, by employees because environmental protection was not for profit. A Room Butler said:

“It is different. The meaning is different.”

One Public Area Cleaner and 2nd Chopper of Chinese Restaurant respectively indicated that their job satisfaction has increased after having been involved in environmental best practices.

Recognition

Nearly all executive informants felt great satisfaction as a result of the company’s ISO 14001 award since many people approached them for information and advice. They felt good about it. The Regional Director of Engineering who was a key member to lead the programme said:

“My job satisfaction is also enhanced as I am the first leader who drove this system and eventually got the ISO certificate. Many friends, colleagues and other counterparts will also come to you to collect some information about the system. You can help them.”

The Area Director of Human Resources stated *"You will feel good about it, or you are also part of the team; part of the mission for the achievement. I think achievement is the greatest benefit to everybody..."* *"...being certified for ISO 14001 makes us feel great in the company's efforts on environmentally-friendly measures especially when it is a group-wide effort."*

Many executives found satisfaction in recognition and gaining new environmental knowledge which they shared with others. This more than offset frustration felt at the beginning of the programme.

Over one in two informants who were either supervisory or general staff shared the same feelings. They were proud for their company's achievement and also felt superior before friends because of these achievements. The 2nd Chopper of Chinese Restaurant stated:

"And I can provide more environmental information in front of my friends.

And that's why I feel proud of it..."

Another Steward Cleaner said:

"...I may feel proud if I mention something here that they do not have! For instance, they do not have an environmental programme implemented in their companies, or they do not even understand what an environmental programme is. Then, I will tell them what we are doing here now! I can share the knowledge I have learnt here with them!"

Some informants such as the Service Leader of Japanese Restaurant said he felt proud in front of his friends because of his company's better working environment

such as having a tidy kitchen as a result of environmental requirements. A Room Butler also commented:

“Getting the award make me really happy. That is, when I mention this to my friends, I feel happy, as I have contributed something.”

Perceived Benefits

Despite extra work duties, HKCom Hotel did not provide additional financial benefits or compensation to company employees directly. Senior informants confirmed that no overtime allowances, bonuses or other incentives relating to the programme were given. Surprisingly, some general staff expected the following benefits though senior management had never suggested them:

1. Incremental salary increases
2. More Bonuses
3. More Stable Job

The Service Associate from Housekeeping stated:

“It is worthwhile, as I think money can be saved. Once the money is saved, our annual bonus will be more. Ha... I think there is a relationship there.”

This was echoed by the 5th Fryer of Chinese Restaurant who urged that *“more bonuses to us if the company can earn more! That is so simple. It is to the company’s profit if the programme can save money! And making more profit pays more bonuses. This is what I thought!”*

A General Mechanic from Engineering said:

“Well...the main thing is to reduce the cost and increase profit. That is...personally, I feel that it can protect our job here if the hotel is performing well.”

The above perceived benefits were expected by the informants because they expected that money and resources could be saved after the implementation of the system.

Uncertainty of Outcomes

Some supervisory and general informants were concerned whether other colleagues actually followed management's instructions to implement environmental practices that would eventually determine the programme's effectiveness. The Laundry Operator said: *“I will feel more excited and do my job more actively if everybody is seen doing the practices well. But when I see someone keep wasting, I feel that I myself cannot contribute too much.”* They were also concerned about their contributions to society. The informants were unclear about the actual outcome to their company and its impact on society from implementing the programme. A Duty Engineer commented: *“...it seems that we only act....”*

5.8. Summary Of Key Findings

This chapter has presented the research findings about the formation and implementation of EMS in HKCom Hotel and its impacts on the hotel employees. A number of key findings that have emerged from this chapter are listed as follows:

- The hotel's main motivation to EMS was a genuine desire to achieve

environmental protection though the company enjoyed cost-saving and marketing advantages from the system as well. However, this organisational motivation was not fully understood by the hotel employees at rank & file and supervisory levels.

- With the piloting activities, advice and assistance from an external consultant (Hong Kong Productive Council) and strong commitment from corporate office, the formal ISO EMS was fully adopted by HKCom Hotel, the first hotel in Asia to do so. The company's EMS was implemented through preparation; evaluating existing environmental practices; providing necessary resources; using different modes of communication; undertaking training programmes for EMS administrators and general staff; and controlling the environmental system through internal and external audits in addition to the monthly check-list submission system.
- The environmental commitment of the company was significant as demonstrated by allocated resources such as money and time allocated to ensure the effectiveness of the system, but there was limited participation from general and even supervisory staff in designing the system. The key players in the planning stage were mainly executives while the Regional Director of Engineering played a leading role. It was clear that the EMS was introduced as a top-down initiative while an ISO green committee was formed to initiate and implement the system.
- Through the experience gained from EMS implementation and training, the hotel employees from all levels indicated that their environmental awareness and environmental knowledge were enriched; some of them transferred the knowledge to their friends and relatives, and believed that their EMS

experience and knowledge enhanced their marketability in the job market.

- Nearly all hotel employees felt good about the hotel's EMS because the programme was meaningful rather than commercial. They felt the employer was in the same boat with them, as their company shared their values to protect the environment. Some general staff felt proud and superior in front of their friends because of the achievements of their company. Benefits such as recognition and satisfaction offset any feelings of frustration and the additional workload required by EMS. General staff perceived that their salaries, bonus and job security would be increased because of cost-savings from the programme though their company never indicated such a relationship.
- Hotel employees experienced some negative impact from the environmental programme. The actual reasons for these problems appeared to have originated from: the nature of the hotel business and its guests; insufficient continuous and in-depth environmental training; an inactive green committee; insufficient interdepartmental communication; and loose control of the system. Some employees even challenged the company's real motive behind the adoption of EMS because of the inconsistencies in environmental policies as a result of the consideration of service quality.
- At the senior level, executive and supervisory level staff faced a difficulties caused by the lack of new ideas to fulfil the "continual improvement" required by ISO standards and weak supports from external stakeholders.

The next chapter will discuss and evaluate the overall empirical research findings of this research in light of previous investigation into the formation and implementation of EMS at HKCom Hotel and its impacts on the employees.

Chapter 6

Discussion

6.1. Introduction

The following discussions are based on key categories and themes that have emerged from the data presented in Chapter 5. The first part of this chapter evaluates the research findings about the hotel organisational motivation to adopt EMS and its differences from other industries. The second part discusses how an EMS was developed and implemented and how emerging problems were handled in a hotel context as well as the outcome obtained from EMS. Examples from HKCom Hotel's actions and relevant documents are described to indicate how EMS concepts and practices were integrated into its management structure. In order to identify how hotel employees perceived the impact of EMS on their work, the third part of this chapter highlights the key issues that have emerged from the in-depth interviews in this study. Their impact on the hotel employees in different levels of jobs from executive and supervisory levels to general staff is investigated and discussed. A synthesis of the research findings is presented and ten suggestions are developed to clarify EMS adoption and implementation characteristics of hotel firms while elucidating its positive and negative impact on employees. This will offer additional insight to hotel practitioners who want to gain full support from employees during the implementation of EMS.

6.2. Organisational Motivations behind installing EMS in a Hotel

Context

The literature review demonstrates that businesses go “green” in their practices typically for consumer pressures, cost reductions, legislation, reduction of insurance premiums, corporate image and community standing (Chan and Wong, 2006; Bohdanowicz, 2006; Roy et al., 2001; Pouliot, 1996; Bansal and Hunter, 2003; Gilley et al., 2000; Fryxell and Szeto, 2002; Umweltbundesamt, 2000). Many of these findings have been reinforced by previous studies in the hotel industry (Kirk, 1998; Forbes, 2001) and in this study. Notwithstanding, this case study has demonstrated that there are additional important motivators that have not been well documented. These are demonstrated in table 6.1.

Table 6.1 Differences In Motivations Behind EMS/Environmental Initiatives Between Previous Studies And This Hotel Case Study

Findings from previous literature	Findings from this study
● to respond to pressure from society or to legislative change (Kirk, 1998)	● being a good corporate citizen to help protect environment
● aiming at reducing the consumption of energy, water, and materials, thus reducing operating costs (Forbes, 2001)	● to be an environmentally-concerned company
● to enhance customer loyalty and the company’s public image (IHA, IHEI, & UNEP, 1995).	● saving cost is not the main concern

As shown in the table, being a good corporate citizen to protect the environment is the main motive for adopting EMS at HKCom Hotel. Documentary analysis verified several claims by the hotel’s former general manager indicating that commitment to the environmental protection was the main driving force for the hotel to enhance environmental awareness and pursue ISO 14001 certification. This solid commitment to environmental protection is a very important driver as a hotel may not be able to consistently and continually implement the established environmental policies and achieve their objectives over a long period of time if

cost-saving is the main motive. According to the Regional Director of Engineering, the amount of saving will not be so significant after a company has implemented environmental practices for a while. This implied that a company may stop improving an existing environmental programme or even stop maintaining a relatively complicated formal EMS if cost saving is not achieved. The targets an organisation sets for itself through EMS may represent “environmental tokenism” rather than a solid commitment to decreasing the impact on the environment (Shayler et al., 1994). Therefore, a solid commitment to environmental protection is essential. People need to understand that environmental protection is not the same as money-saving.

The findings in this case study revealed that the initiation from HKCom Hotel’s head office was the internal force behind its adoption of EMS. The office started developing environmental culture in 1993 when the company joined the Asia Pacific Hotels Environmental Initiative as a founder member. The research findings showed that the hotel owner was very supportive and the employees had no difficulties in getting the funding for energy initiative programmes. It is clear that the corporate office’s commitment in adopting the ISO EMS standard was crucial although the top management played a significant role in the successful implementation and maintenance of EMS (Nattrass and Altmore, 1999; Wagner, 2001).

In the hotel industry, even if senior management is committed to a systematic EMS, it still needs to persuade their owner or corporate office to invest significant amounts of money to install energy-efficient equipment, and so forth (Chan and Wong, 2006). Therefore, the leadership and support of the owner / corporate office is important to encourage hotels to implement a systematic EMS. This implies that a top-down approach is more effective when a hotel is considering adopting a

formal EMS. The findings further confirm that corporate governance is one of the top salient factors that determine whether a hotel would adopt ISO EMS (Chan and Wong, 2006).

The findings from the case in HKCom Hotel is different from previous studies such as Chin and Pun (1999) which states that industries are driven mainly by external pressure – improving company image, demands from customers and regulatory agencies, and environmental laws and regulations. The impact of customers and legislations on the hotel industry are not as important as other industries such as manufacturing. Although having an “environmentally-friendly” image in the eyes of public is definitely a plus, not all hotel guests appreciate environmental best practices implemented by a hotel, as some may place their needs and expectations above those of environmental concern. From the findings, it is clear that hotel employees’ environmental performance was influenced because of hotel guest demands for service quality impeding the hotel’s ability to achieve its environmental ambitions.

Other studies (Handfield et al., 1997) stated that the primary motivation in services firms to adopt an EMS appears to be environmental regulation. However, none of the informants in this study mentioned environmental legislation as the salient factor in considering the adoption of EMS. This may be because the hotel industry in Hong Kong is relatively less threatened with strict legislation or heavy penalties when compared with manufacturing, chemical, and farming industries, as the Hong Kong government relies on self-regulation instead of legislation. In fact, the hospitality industry is not one which causes gross environmental pollution nor does it consume vast amounts of non-renewable resources (Kirk, 1995).

From the case in HKCom Hotel, corporate governance and the company’s

commitment to environmental protection, both internal motivations, are the underlying motives behind adopting EMS. This conclusion is derived from interviews with executives, which is supported by the company's written environmental policy. This leads us to suggestion one:

Suggestion 1:

Hotels are more likely to be influenced by internal forces especially from corporate office with ingrained commitment to environmental protection rather than external forces to adopt a formal EMS.

6.3. The Integration of EMS in Hotel

In the field of environmental management, there are different views on how EMS is developed and implemented (Lozano and Valles, 2007; Herremans, et al., 2005; Pun et al, 2001; Viebahn, 2002; Dowie, et al., 1998). The empirical findings of this research provide further insight into how EMS is integrated in a hotel context and its various processes.

6.3.1. The Formation Activities

The research findings indicate that HKCom Hotel joined the first Asian ISO 14000 (EMS) Pilot Programme organised by the HKPC and spent 15 months in the programme to learn how to develop an ISO EMS structure. This early preparation was not mentioned or emphasized in previous EMS literature on the formation and implementation of EMS, including those by Lozano and Valles (2007), Herremans, et al. (2005), Pun et al. (2001), Viebahn (2002), & Dowie, et al. (1998). Notwithstanding, this study's findings indicate that the piloting activities played an important role in developing EMS in terms of building a sound infrastructure and

learning from the process.

In addition to the piloting activities, the findings imply that HKCom Hotel benchmarked its existing environmental practices with the requirements of the formal ISO EMS and evaluated how large the gaps were before making a decision to adopt the internationally-recognised standard. These analytical activities were important in marking a formal starting point of the EMS project. It is clear that the hotel formal EMS emerged from previous practices, consistent with Mintzberg's research findings (1978), that is, there was an incubation period before the final decision to get ISO accredited in which many discussions took place across the senior management committee of the hotel.

This important initial internal assessment, carried out together with HKPC, helped the management identify potential enhancement areas within the organisation by recognising gaps in process effectiveness. According to the Regional Director of Engineering, the gap identified in the analysis was not too wide. It was evident that an environmental programme in HKCom Hotel had already existed in a more simplistic form (i.e. the already-implemented "best practice" operation in each department) and the only task was to consider how the programme could be enhanced with the help of a structured and systematic EMS system. This eventually facilitated the management decision to adopt a formal ISO EMS. With this important gap analysis, in which a plan and procedures were outlined to address the gaps before the formal external audit, it only took the hotel ten months to achieve the ISO certification.

The employment of an external advisor was vital in HKCom Hotel's EMS formation. With assistance from an external consultant (HKPC), HKCom Hotel successfully established the EMS manual to improve the environmental performance of the

hotel, successfully complete the auditing process and receive ISO 14001 certification. The research findings suggest that the external consultancy was important in EMS formation. This is because the hotel did not have the required skills, knowledge and competency in the formation and implementation of a formal EMS, particularly in the development of standards to conform to the ISO standards. Traditionally, the main concerns of hoteliers are the quality of service to guests and better profits; environmental management normally is not the top priority. Hotel managers lacked the knowledge of a formalised EMS while no examples could be obtained for them to benchmark their own operations in terms of EMS standards. Therefore, the external consultancy was a crucial part of the design stage of the company's EMS. The comments from the Director of Housekeeping reflected its importance. He stated, *"Of course, our company was new to the system at that moment. We did not know about that. So we made use of the ISO knowledge of Hong Kong Productivity Council (HKPC)...."*. It was noticed that the relationship between the HKCom Hotel and HKPC continued from the initial to later stages when the company was successfully ISO-certified.

The hotel, used for pilot test of this study's interview schedule, consulted an external partner which was the building faculty of one of the universities in Hong Kong to develop the company's EMS. The research findings indicate that external consultancy companies played an important role in EMS deployment. Without the support and know-how from an external consultancy company, HKCom Hotel would not have been able to implement the formal EMS and receive ISO certification within a short period of time.

Although the importance of external consultancy was not mentioned in previous literature on the planning of EMS (Aboulnaga, 1998; Lawrence et al., 2002; Ammenberg and Sundin, 2005; Chan and Wong, 2006), partnering with external

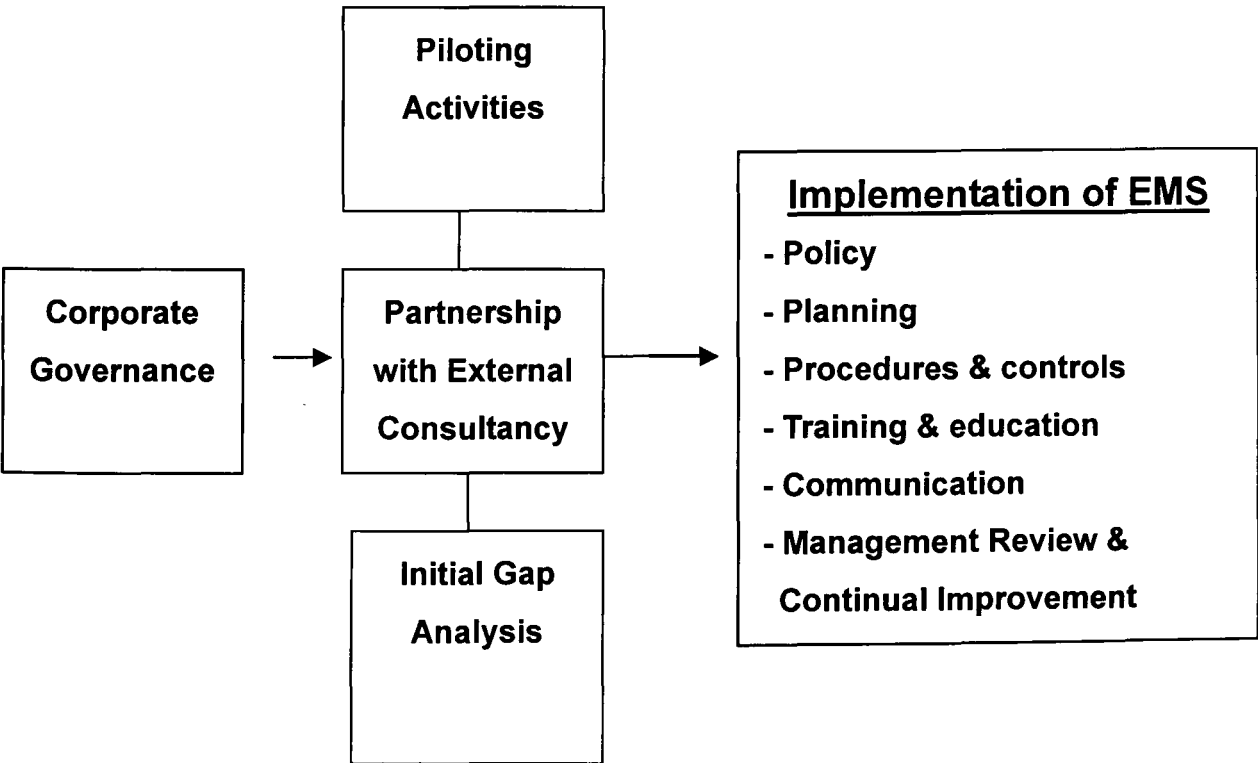
consultancies and piloting activities are likely important components in the EMS formation process, especially in a hotel context. Based on the above discussion, the second suggestion is developed:

Suggestion 2:

The level of entrepreneurial orientation towards formal EMS will very much depend on how large the gap is between a hotel's existing environmental practices and the formal EMS standards. Piloting activities and partnership with external advisor(s) are important, especially during the formation process because of the lack of environmental expertise in the industry.

Based on suggestions 1 and 2, a proposed framework of successful EMS formation strategies for hotels is further developed. As Figure 6.1 shows, the framework contains corporate governance, piloting activities, initial gap analysis of environmental practices, and partnership with external consultancy.

Figure 6.1 Framework of Successful EMS Formation Strategies for Hotels



The framework should be regarded as a continuous dynamic process rather than a determined structure because every organisation has different characteristics and all components are interrelated. It should be used as an explanatory guide for a hotel's EMS formation, not as a definite tactics. This framework can help hoteliers understand the relationship between EMS implementation and formation. It can help hotels, interested in adopting or enhancing EMS, consider corporate governance, conducting piloting activities, an initial gap analysis or hiring an external advisor.

The above pages have discussed the research findings concerning the formation stage of EMS in a hotel context and identified the important variables namely (1) corporate governance, (2) piloting activities, (3) partnership with external consultancy, and (4) initial gap analysis. The following pages will discuss the research findings relating to the EMS implementation at the HKCom Hotel.

6.3.2. The Implementation Activities

Several areas in relation to environmental policy, management commitment, staffing resource allocation, training, internal and external communication, documentation, procedures, and monitoring components of EMS, included in the six key EMS elements: (1) policy, (2) planning, (3) procedures & controls, (4) training & education, (5) communication, and (6) review & continual improvement identified in previous literature will be addressed in the following sections:

6.3.2.1. Policy

From the findings, it is clear that one of the first elements addressed during the development and implementation of the HKCom Hotel's full EMS was to revise the company's existing environmental policy statement to ensure its compliance with ISO 14001 standard. From the HKCom Hotel's documents, three main elements

were identified: (1) compliance with legal and other requirements, (2) prevention of pollution and (3) continual improvement in the company's policy statement providing the basis for HKCom Hotel's EMS. Although legislation was not mentioned as a factor to motivate the hotel to adopt a formal EMS during the interviews, meeting government standards and complying with regulations were explicitly stated in the statement. In addition, continual improvement was repeatedly emphasized probably because of the ISO 14001 requirement. In fact, the hotel highlighted in the statement that its environmental policy served as the basis for its EMS in accordance with the ISO 14001 standard. The three elements, used as a means to demonstrate how the hotel developed and implemented its system, clearly helped define the organisation's goals towards environmental protection (Pringle et al., 1998).

It is worth pointing out that one aspect of an effective policy statement is its achievability (Webster, 2000, pp.206). From HKCom Hotel's policy statement, many actions mentioned were subsequently achieved. This implied that the commitment of HKCom Hotel to environmental protection was unquestionable. Yet, a challenge for management and employees of HKCom Hotel was to ensure that all objectives were achieved with as few conflicts as possible. This fulfilled that part of the policy statement which identified and implemented practical measures to reduce energy and water usage, whilst still offering quality service in the hotel.

6.3.2.2. Planning

HKCom Hotel's planning elements mainly included four issues: (1) determination of environmental aspects, (2) legal and other requirements, (3) objectives and targets, and (4) the structure of the environmental management programme. These four issues were similar to what Aboulnaga (1998) advocated to be included in an EMS's Planning

Firstly, identifying environmental aspects is an important step to start the environmental programme. It helped the hotel establish and maintain procedures to identify controllable activities, products or services that could potentially have significant impact on the environment. This process clearly informed the hotel how to avoid potentially embarrassing incidents, lawsuits or fines from violating regulations that might tarnish its reputation. With the information, the hotel's environmental objectives and targets were then established to ensure that significant factors were subject to suitable monitoring and control.

Secondly, whilst constantly reviewing and checking environmental regulations to fulfil the government's requirements, HKCom Hotel focused on pollution prevention such as installing energy saving lighting system; installing master switches to control lighting and power for electrical appliances in guest rooms; setting appropriate times to turn on/off the air-conditionings; better chemical handling; employing environmentally-friendly products and recycling of paper, cardboard, batteries, and used oil and installing water flow restrictors in water taps and showers. The details of the environmental practices are shown in table 5.3 in chapter 5. It was noticed that HKCom Hotel conducted pollution prevention by eliminating as much solid wastes as possible through reusing and recycling materials and by reducing energy and water consumption. Because of the emphasis placed in these activities, the 3 Rs policy was well recognised by hotel employees and was frequently mentioned by informants in interviews.

Thirdly, establishing objectives and targets enabled HKCom Hotel to have documented environmental goals at each relevant function as it related to environmental performance. The finalised objectives and targets were to be achieved by individual departments and/or the organisation as a whole. To assist

the hotel to achieve its established environmental objectives and targets on time, HKCom Hotel developed its environmental management programmes.

HKCom Hotel addressed this requirement through a series of environmental management plans for those significant environment aspects where objectives and targets were identified and additional control was required. For each objective and target, an environmental management plan was written, detailing the method of achievement and necessary action. The responsibilities for implementation and time scale over which the targets or objectives were to be achieved were included on each environmental management plan.

From the above discussion, it is clear that HKCom Hotel systematically developed its environmental management programmes by firstly defining and identifying environmental aspects and impact. This was followed by a review of changes in legal and other requirements related to the establishment of different environmental objectives and targets. With clear objectives and targets, the hotel's management and its employees would not lose direction easily during the implementation of EMS and could work together towards the environmental goals through different environmental management programmes. They knew what they were expected to do to attain them.

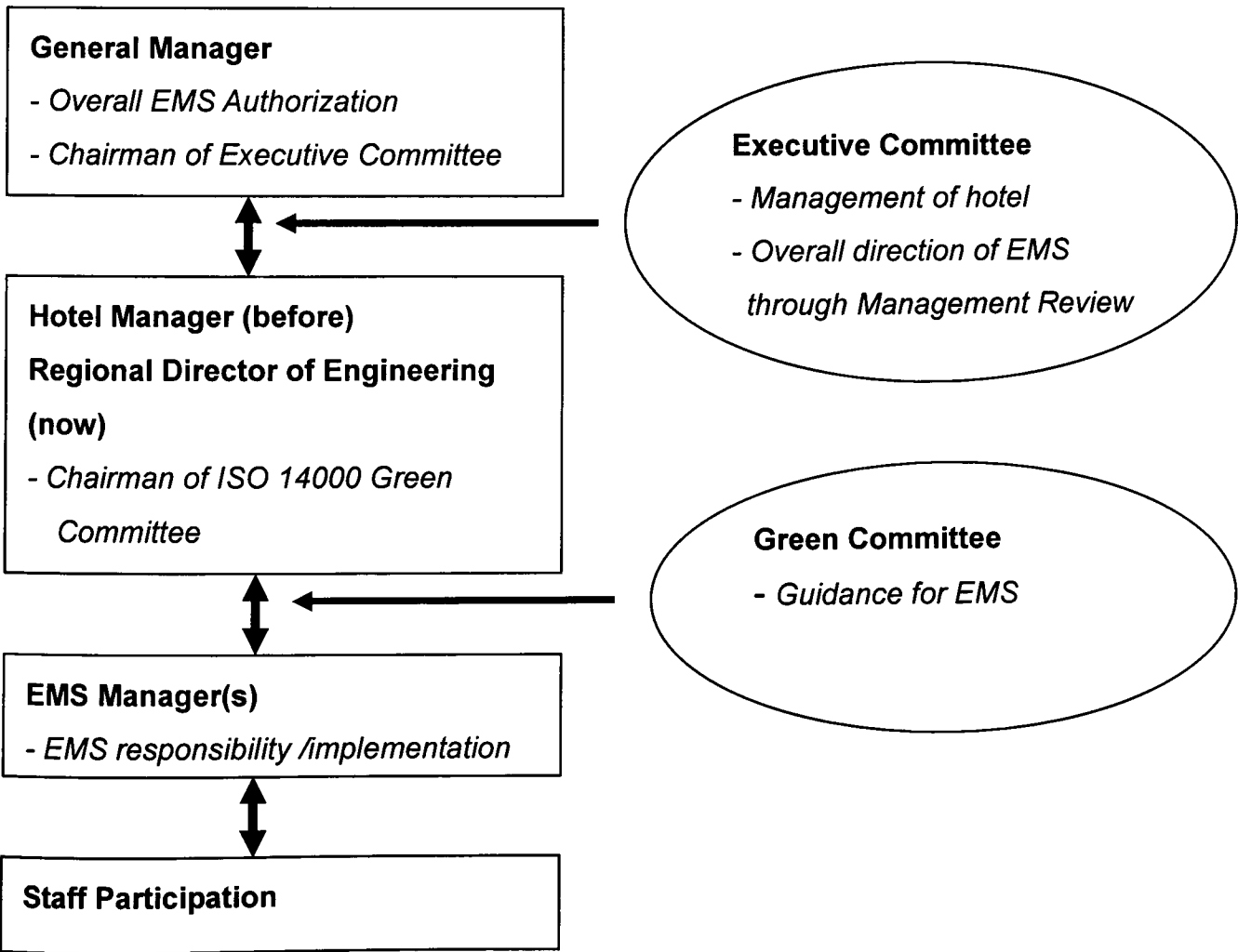
6.3.2.3. Procedures and Controls

To lead the development and implementation of EMS, HKCom Hotel's existing green committee was restructured and renamed as the ISO 14001 Green Committee which was made up of the hotel's executives and department heads, either from operational or the finance and purchasing departments. This was understandable as the integrative nature of EMS meant that environmental responsibility needed to be spread throughout all levels and all functions across an

organisation. This case study revealed that the ISO green committee was given the autonomy to manage the EMS operations. The committee members were responsible for the management of the entire ISO 14001 EMS. They had to adopt new roles and responsibilities, including activities such as performing internal audit; managing environmental improvement programmes; contributing to management review; analysing and implementing non-conformance reports; managing and monitoring environmental aspects; monitoring legal compliance; managing paperwork; and managing and monitoring emergency preparedness, etc. At the same time, the committee had to improve the environmental performance based on feedback from external auditor, management review and new legislation. The importance of the committee in achieving ISO 14001 was highly significant.

The following EMS Organisational Chart is based on information from executives interviewed and an analysis of company documents.

Figure 6.2 Environmental Management System Organisational Chart



As shown in figure 6.2., the General Manager was responsible for the overall EMS authorization; the former Hotel Manager was the first chairman of green committee. The Regional Director of Engineering became chairman after the departure of the hotel manager. EMS managers were responsible for implementing environmental protection policies and disseminating relevant information throughout the organisation. The hotel executive committee provided overall direction of EMS through management review.

The level and the position of the person with the greatest environmental responsibility within the HKCom Hotel's organisational hierarchy clearly reflected the company's commitment to environmental management. Company documents indicated that the General Manager was the most senior person responsible for environmental management in the organisation, though he fully empowered the company's green committee to implement and monitor the system. This was an encouraging sign of a company or industry's commitment to environmental protection.

During EMS implementation, keeping a complete and up-to-date documentation system covering all operations and procedures is a major challenge. The findings from this study indicated that, for an effective EMS implementation, HKCom Hotel divided environmental procedures into two main sections: System Procedures (SPs) and Operational Procedures (OPs). They are shown in table 5.1 and 5.2 in chapter 5. The comprehensiveness of these operational procedures helped the company define detailed steps in the operation. HKCom Hotel also reviewed and updated the documentation periodically, irrespective of whether or not there were changes within the existing processes and procedures. The development of SPs and OPs in HKCom Hotel is a very important step in the implementation stage as the

procedures clearly described the core elements of EMS and their interaction, in addition to providing direction to reported materials. These documentation and procedures provided a clear direction and helped the company prevent negative environmental impact. The SPs and OPs identified in this study are likely good examples for other companies especially when documentation is often reported as a barrier or weakness (Balzarova & Castka, in press).

ISO 14001 standard requires organisations to maintain up-to-date documentation with appropriate labelling and numbering and a master copy of obsolete documents for reference purposes. Yet, this is a time-consuming task which is often overlooked in small organisations since it generates large amounts of documents. Dewhurst and Thomas (2003) indicated that the environmental actions taken by smaller firms tended to be ad hoc, rather than within a coherent environmental management strategy. They normally did not have a formal environmental policy in place. But HKCom Hotel did very well in this aspect.

To ensure the achievement of established environmental objectives and targets, HKCom Hotel developed a system to continually monitor progress throughout the implementation stage. In the hotel's monitoring system, regular internal audits were conducted in addition to the ISO required external audits to maintain ISO status.

The impact of external audit at the HKCom Hotel was significant, as the informants observed that third-party audits helped keep people more honest. The findings from this study also revealed that the external audits had a dominant impact on the direction and scope of EMS improvement, as most of the activities related to the hotel's EMS maintenance were shaped around external auditor's visits and previous audit reports.

Interviews in this study revealed that the quarterly-held internal audits were the most common method employed by the hotel for identifying the status of their environmental issues and conceivable improvement areas. When internal EMS audits were conducted at HKCom Hotel, the results were first recorded by the hotel's EMS manager who then reported to the ISO green committee. The ISO green committee held regular meetings to review the practices and followed up and discussed any new items relating to environmental issues and ordinances and the internal audit's results. They reviewed objectives and targets on a monthly basis and set new targets where targets had been met or where new areas for improvement were identified. It was clear that regular internal audits was an important activity, as they provided the hotel the opportunity to learn from their previous mistakes and to correct them before they became too large or serious or picked up during external audits.

Audits, when conducted regularly and with clear objectives, offered a number of advantages. In this study, the internal and external audits assisted HKCom Hotel in complying with the various guidelines and regulations. For instance, by carrying out regular internal audits, the company identified wastage of papers, plastic, packaging, energy and water as the main areas for improvement. The periodical reviews ascertained the effectiveness and adequacy of EMS. In fact, this was referred to by the management of HKCom Hotel as the constantly improving circle. This systematic process of reviews contributed to continual improvement, essential to maintaining an effective EMS (Johnson, 1997). Upon reviewing the results from environmental audits, managers might change the policy, objectives and targets, or other elements of the EMS to continually improve EMS and its environmental performance (Woodside et al., 1998).

6.3.2.4. Training and Education

From the findings, it is noted that the training strategies of HKCom Hotel were very systematic at the beginning. Most of the training in the initial stage focused on the needs of key personnel involved in the planning stage to adopt the ISO EMS. This approach was in line with the advocacy by Hilson & Nayee (2002) suggesting that full training programme to all levels of staff should be implemented only after the EMS was fully evaluated for weaknesses so that significant time and money could be saved. After confirmation to pursue the ISO standards, a series of training programmes at HKCom Hotel were organised targeting three levels: (1) strategic awareness and implementation training for senior management, (2) specific technical training and environmental policy training for heads of department, and (3) a general awareness package for all hotel employees.

Apart from training for the company's existing employees, newcomers were given induction session to introduce them to EMS in the company. This was an important and necessary step to build up an environmental culture at HKCom Hotel, though the hotel did not appear to have a recruitment policy that gave priority to "environmentally-friendly" applicants. Yet, though HKCom Hotel had a very good start in terms of its training strategies, it did not do well in terms of continual environmental training to update employees on environmental performance or to provide them with more in-depth environmental knowledge, as the findings indicated that many informants at supervisory and general levels forgot what they had learnt previously.

The persistence to provide continual and more advanced environmental trainings is essential to maintaining an environmental culture in the company. This issue will be elaborated when the author discusses the employees' perceptions on environmental training in a later section.

Apart from internal staff training, HKCom Hotel tried to educate guests by placing tent cards in hotel guestrooms to reinforce environmental messages and appealed to their involvement in the company's environmental programmes. Though hotel guest's behaviour can hardly be controlled, the author thinks that the reminder in rooms can help convey environmental messages and raise awareness. Despite no validation from hotel guests, their support not to change bed linen in guestrooms daily was quite encouraging according to the informants.

6.3.2.5. Communication

Among trainings, meetings, briefings, posters, guidelines to implement best practices and environmental card (i.e. the green card), the use of small green card explaining the hotel's environmental policy was very effective, as the majority of informants carried the card in their pockets in case of audits. The design of this small green card certainly helped hotel employees remember the general principles of the environmental programme.

The hotel communicated its environmental performance and new best practices to its employees at annual staff meetings. This was usually done with top-down approach. For instance, the significance of EMS and other new procedures in environmental programmes were communicated throughout the company by managers and supervisors. The top-down communication strategy, especially in the EMS planning stage, was found effective in HKCom Hotel where most employees are Chinese people who normally preferred following instructions from superiors rather than reflecting their ideas to the top because of high "power distance" (Hofstede, 1980). This appears to be a cultural issue.

Externally, the hotel actively informed its business partners such as suppliers and

contractors about its EMS and advised them to follow the company's required environmental policies during the implementation stage. The co-operation between suppliers and contractors and HKCom Hotel was important to EMS implementation. This is because changes needed to be introduced from the raw material stages, the supply chain being a part of it in some cases. For instance, the company's purchasing department sent a formal letter to a contractor for the company's room renovation project requesting the contractor to use wood products made from managed forests, benzene free thinner and recycled packaging. It is evident that communication with both internal and external organisational stakeholders is a prerequisite for the successful introduction, implementation, and maintenance of EMS.

6.3.2.6. *Assessment and continual improvement*

Senior management in HKCom Hotel regularly reviewed the progress of the company's EMS. The management reviews were based on audit reports submitted by EMS managers. Though not much information could be seen about the annual management review, some company documents showed that the main purposes of the review were to update the environmental policy, objectives and targets and other elements of the company's EMS to achieve the ISO-required continual improvement.

Continual improvement is one of the requirements in a formal ISO EMS. It was found that some energy-saving and recycling programmes, that had started before HKCom Hotel introduced EMS, were incorporated into EMS implementation. Some of these programmes were expanded as a part of continual improvement. This issue was addressed by setting of targets and objectives and by identifying staff members to achieve them. It was relatively easy for the hotel to achieve this requirement at the beginning. But the findings indicate that this element eventually

became the main challenge to the hotel especially when the system had been implemented for over ten years.

From the above discussion about the implementation of EMS at HKCom Hotel, it is clear that many EMS concepts and practices were already integrated into the management structures of the hotel. The core elements of a formal ISO EMS proved to be a feasible strategy for a hotel in managing its environmental practices, though the standards could not be applied mechanically to guarantee success in any particular industry or organisation. Table 6.2 describes how HKCom Hotel applied an EMS's core elements based on the information obtained from company documents and interviews.

Table 6.2 HKCom Hotel's EMS Implementation Activities

EMS Core Element	HKCom Hotel's Actions	Brief Commentary	HKCom Hotel's Documents	Informants' Comments
<u>Policy</u> - Purpose - Commitment - Policy statement	- Set broad goals for HKCom Hotel's environmental management. - Showed senior management support and communicate it to staff. - Revised environmental policy	- The hotel has shown strong commitment to EMS by adjusting its existing environmental policy statement to demonstrate its commitment to compliance with legal requirements, prevention of pollution, and continual improvement. - Has real commitment to environmental protection. - Support from management is significant in terms of financial resources.	- Environmental policy statement - The HKCom Hotel Group became a founder member of the Asia Pacific Hotels Environment Initiatives.	- Environmental protection is main-stream. - Saving money is not the main concern. - The support from management is sufficient. - Allocation of financial resources to EMS is more than required.
<u>Planning</u> - Analysis - Objectives & targets - Implementation plan	- Involved external experts in planning - Analysed HKCom Hotel's environmental aspects and impacts and its regulatory requirements. - Set measurable objectives and targets - Determined EMS scope - Developed a schedule	- The involvement of external consultant (HKPC) is critical to the success of the hotel ISO EMS, as the company executives had no ISO knowledge before. - The hotel has systematically developed its environmental management programmes by firstly defining and identifying the environmental aspects and impacts followed by the review of changes in legal and other requirements, and the establishment of objectives and targets. Finally, environmental management programmes were set to achieve the environmental goals.	- Regulations review form - Documented objectives and targets through SPs and OPs - Plan document	- External consultant (HKPC) was appointed to carry out gap analysis and train all executive involved in the ISO programme
<u>Procedures and Control</u> - Structure & responsibility - Performance management - Information management - Document control - Emergency response procedures	- Established ISO green committee - Appointed 2 EMS managers - Developed internal audits regularly as well as the required ISO's external audits - Developed environmental manuals and other environmentally related documents - Developed a strategy and document it	- The establishment of ISO green committee is important to lead and develop the programme. - The development of System procedures and operational procedures as well as the environmental operations manuals is a very important step during the implementation, as they can clearly describe the core elements of EMS and their interaction and provide employees direction to achieve established environmental goals.	- Revised job descriptions - Record of internal audits and external audits - Environmental operations manuals - System procedures and operational procedures - Conformance form - Emergency response manual.	- Revised structure of green committee and appointed EMS managers - EMS managers lead a team to audit. - Control is not tight.
<u>Training and Education</u> - Staff training & education - Guest education	- Developed a training strategy using in-house and external resources. - Arranged green tour for employees - Incorporated green topics in	- Systematic training was conducted for all levels of staff including the newcomers at the beginning to ensure they have the required environmental knowledge and skills to accomplish the objectives and targets but the training to update the employees about	- Training courses / records for different levels of employees - Tent card in guest rooms to reinforce environmental message.	- Hotel executives have received training from HKPC to learn ISO knowledge. - Environmental training has not been arranged for quite a long time.

	Induction / orientation for newcomers. - Arranged auditor training for EMS managers. - Educated guests about HKCom Hotel's environmental issues.	company environmental performance and in-depth environmental knowledge was not enough. - Limited channels to educate hotel guests (e.g. tent card in room).		- Want more in-depth environmental training.
<u>Communication</u> - Internal communication - external communication	- Organised annual staff meeting for exchange of environmental information. - Regularly communicated via departmental daily briefing. - Scheduled regular reporting to senior management. - Capitalized employees' environmental ideas. - Initiated communication with external stakeholders such as contractors about the company's objectives and achievements.	- Top down communication strategy seems to be effective especially during the planning stage. - The hotel has tried to influence their suppliers by setting regulations for them to follow.	- Newsletter. - E-mails. - Poster. - Suggestion box. - Green committee's reports. - Letter to suppliers / outside contractors.	- Mainly learnt from the superior's instruction. - Rarely use the suggestion box
<u>Review & continual improvement</u> - Management review - Environmental audit	- Conducted independent audits. - Hired external auditor (Lloyds Register Quality Assurance) to carry out external audit every 6 months. - Reviewed EMS to ensure that all components are working as intended. - Identified areas for improvement. - Assigned responsibility for making improvements.	- The main purposes of the review were to change the environmental policy, objectives and targets and other elements of the company's EMS to achieve the ISO- required continual improvement. But executives and green committee members are lack of new ideas to improve after the system has been run for years.	- Independent audit report. - Internal management review report by green committee. - Schedule for improvement through EMS managers and ISO green committee.	- Executives feel a bit "dry" to generate new ideas to ensure continual improvement.

The above pages discussed the research findings about how EMS concepts were integrated into the management structures of HKCom Hotel. Different types of activities which were undertaken to implement EMS were also presented. The following pages will discuss research findings relating to the difficulties encountered during the EMS implementation.

6.3.3. Difficulties Encountered During Implementation

Although the core elements of a formal EMS proved to be a feasible strategy for a hotel, some problems emerged during EMS implementation at HKCom Hotel. One serious problem often mentioned by the informants, especially from the executive level, was the lack of new environmental ideas to fulfil the continual improvement required by ISO standard. The problem was particularly obvious after the company had been operating the system for over ten years. This finding was in line with the study by Boiral et al. (1998) suggesting that as a firm drew closer to the goal of zero waste, improvements were harder to achieve, and greater efforts led to hard-to-measure, more minute results.

Another problem identified from the research findings is that HKCom Hotel did not release any public reporting about the company's environmental performance. In fact, some previous studies such as Morrison et al. (2000) and Gleckman and Krut (1997) referred this as the common criticism of the ISO 14001 standard. The researchers stated that the ISO EMS system lacked a requirement for public reporting. Environmental information gathered for the purposes of tracking and managing EMS was viewed as company-confidential under the standard. Companies had no obligation to provide information about the system to external audiences. Therefore, external stakeholders could not interpret EMS performance.

In the case of HKCom Hotel, the control system of EMS was inconsistent and loose

which resulted in complaints from the staff at supervisory and general levels. This problem was closely linked with the turnover of EMS managers and senior executives during the life cycle of the EMS at the HKCom Hotel. However, most executives interviewed perceived no immediate need for changes or new initiatives of the EMS control system. Their belief likely made them subsequently become victims of the success of EMS, as this contradicted to the views of informants at supervisory and general levels, urging the hotel to closely monitor EMS progress and solicit feedback about it. They further indicated that continual and in-depth training programmes should be arranged while relevant positions, such as EMS manager, should be recruited to overcome the problems during the implementation stage.

6.4. Outcome of EMS

The research findings show that an ISO EMS is a good vehicle to promote and implement environmental actions in hotels. A formal EMS can provide a systematic structure and close any gaps by identifying missing initiatives. The findings indicate that although the effort required in establishing the formal EMS was quite significant, HKCom Hotel was able to take environmental actions in a more systematic manner. The hotel was able to enjoy financial benefits by conserving water and energy and through other environmental practices.

The economic benefits from the ISO EMS implemented at HKCom Hotel confirm the claim by Bohdanowicz (2006) that adopting environmental programmes can achieve cost-savings. The findings in this study show that an effective EMS and cost saving are benefits that may motivate hoteliers to implement the ISO EMS (Chan and Wong, 2006) though this was not the main motive of HKCom Hotel. A

systematic approach to managing environmental issues can help a hotel identify opportunities to conserve material and energy inputs, to reduce waste, to improve process efficiency, and reduce liability. Cost saving is also important, given that the hotel industry has become increasingly competitive.

HKCom Hotel has enjoyed marketing advantages and publicity as a result of its ISO 14001 accreditation. This confirms the studies by Umweltbundesamt (2000); Fryxell and Szeto (2002); and Bansal and Hunter (2003) stating that adopting ISO 14001 can help enhance a company's image and reputation. Among informants, only a few had reservations that the adoption of ISO EMS improved the environmental performance of the company. Most informants generally endorsed the view that EMS implementation had a positive effect. The findings about the tangible outcome obtained by HKCom Hotel after the EMS implementation further confirmed the claimed benefits such as the decrease in materials and energy & water use; economic benefits and marketing advantages mentioned in previous EMS literature (Hamschmidt, 2000; Bansal and Hunter, 2003; Lozano and Valles, 2007).

The above discussion suggests that the implementation of a formal EMS generally led to better environmental performance, in line with studies about the relationships between EMS & environmental performance (Hamschmidt, 2000; Florida and Davidson, 2001; Anton et al., 2002).

The following pages will discuss research findings relating to the impact of EMS on hotel employees which have rarely been examined in previous environmental management literature. It is important to explore this niche area, as the introduction of an EMS in a hotel context affects many aspects of employees' jobs and work nature. EMS requires new environmental policies, new organisational structures,

new operations processes, and new ways of evaluating performance outputs; all these changes affect employees' daily work and their job satisfaction. While employees are encouraged to take the responsibility for environmental protection, it is not possible to expect desired environmental performances as well as quality service if the work becomes unsatisfying.

6.5. Impact of EMS on Hotel Employees

The research findings indicate that a formal EMS has both positive and negative impact on hotel employees. The empirical findings provide insight into this niche area. It appears that a positive impact in one area tends to expand to other areas; it is the same with a negative impact. Based on these findings, several important suggestions have been formulated to develop a body of knowledge in business research related to EMS.

6.5.1. Organisational Motivations to EMS

6.5.1.1. Shared Values

The findings from this study indicate that employees with higher environmental awareness felt that their belief in environmental protection was recognised and shared by their employer with a formal EMS. Such observations were manifested in one of the laundry operator's statement:

"As the company strategy to implement the programme matches with what I usually agree. It seems that my value is recognised the company is also willing to do this. I therefore feel that there are still so many people who care about environmental protection and I am not stupid at all....So, I feel happier when I am

working in this company that we are sharing a similar direction...”

Workers are more satisfied and committed when their values are congruent with the values of their supervisors (Spinale, 1980; Mullins, 1985; Meglino et al., 1989). This study further confirms this point in the case of EMS. Some informants even stated that they were happy to have the chance to participate in the environmental programme. This motivated the employees to work harder towards the common goal of protecting environment. This was also in line with Ramus, (2001) stating that an employee might have intrinsic motivation (like placing great personal value on a pristine environment), which pushed him or her to take actions to protect the natural environment. Their loyalty to the company was likely increased as a result of sharing meaningful values.

In this respect, it is clear that implementing EMS can be a bridge to link the values of a company with those of its employees. It can be a good strategy to enhance the cohesiveness of employees and employer. Staff morale and team spirit can be enhanced if such a programme is effectively implemented. In this case study, a duty engineer indicated that about 60% to 70% of his colleagues in the engineering department developed stronger team spirit as a result of their intensive involvement with his boss and the team in EMS. It was clear that, due to the meaningfulness of EMS, achieving full participation and consensus appeared to be a realistic dream.

Yet, the desired environmental performances would be affected if the real motives behind the adoption of EMS were suspected. When company image, cost-saving and attracting green travellers were considered more important than protecting the environment, employees were less likely to accept changes easily as they thought it was another way for the company to increase business and profit. For instance, a room butler felt that the company did not deserve to receive an environmental

award because its EMS “*was just a show for the public*”. This perception led to the informant’s more cynical attitude towards the company’s EMS. Therefore, hotel managers should be careful in communicating the motives of adoption of EMS. From the discussion about the organisational motivation to EMS, suggestion three is developed accordingly:

Suggestion 3:

Correct organisational motivation to EMS helps increase the cohesiveness and teamwork of employees because of their shared meaningful values.

6.5.2. Integration of EMS

6.5.2.1. Policy

Strong Management Commitment

It was evident that the support from the senior management was substantial during the implementation of EMS at HKCom Hotel. To show management commitment, the hotel delegated a senior executive to chair the green committee and lead the programme and invested substantially to improve existing facilities to achieve better environmental performance. In addition, the management provided different types of training to all levels of employees and increased communication throughout the organisation. These activities helped build up the organisational culture to protect environment and increased the chances of success of EMS. The findings illustrated that top management played a significant role in the successful implementation and maintenance of EMS by providing both tangible (dollars, restructure) and intangible (support, commitment of time, encouragement of employees) resources. The support was important for overcoming scepticism about the new initiatives and building trust in an organisational culture. Because of the series of action taken by the HKCom Hotel’s management, the majority of hotel employees perceived total commitment from the top and began to trust the

management. They were more accepting of the new processes and changes and became committed towards them. Therefore, it was very important for management to support real changes and build trust in order to achieve continual improvement through EMS implementation. Otherwise, the company might lose momentum leading to organisational scepticism about environmental initiatives. The findings in this study confirmed the previous claims (Chan and Wong, 2006; Johnson, 1997; Haklik, 1997) that strong and continual management commitment was a critical success factor to EMS which drove organisational cultural change and continual environmental improvement. A lack of on-going commitment from top management after initial encouragement would end up leaving the job to middle managers or supervisors. This may be one of the obstacles to the success of EMS.

Uncooperative Guests and Business Nature

Despite senior management's commitment, HKCom Hotel's employees' environmental performance was affected by hotel guests and the business nature of the hotel industry that put them in a dilemma sometimes. This is different from the previous studies pointing out that increasing consumer sensitivity to environmental issues encouraged service firms to consider environmentally-friendly products and services from a marketing and sales perspective (Ottman, 1995; Wu and Dunn, 1995) and many multinational companies to adopt EMS (Clark, 1999; Morrison et al., 2000; Pouliot, 1996; Stenzal, 2000). On the contrary, this study found that hotel guests can be a barrier to the EMS. According to informants from Housekeeping and Engineering at HKCom Hotel, many complaints were received related to environmental practices or policies of the hotel, such as slow water flow and low water pressure from water restrictors. Some guests asked housekeeping to turn up air-conditionings. Similar comments were made by staff from food and beverages division in which a number of hotel chefs worried about service quality being affected if they strictly controlled

the quantity of foods in buffet tables to minimise food waste.

Hotel customers require constant attention. This is not necessary for a factory. A hotel guest who is paying a lot of money for a vacation, including hotel costs, may not enjoy having air-conditioning or heating being turned off at certain times. Some guests are especially touchy about water pressure and do not want hotels to use water-saving showerheads. Duty engineers interviewed in this study stated that guests sometimes requested water restrictors to be disabled. The findings are similar to the study of Gustin and Weaver (1996) indicating that frequent travellers were happy with actions aimed at energy conservation and recycling, but not with those diminishing their level of comfort such as longer periods for the change of towels or the installation of automatic faucets and low-flow showers. Customers play a substantial role in motivating organisations to increase their efforts towards achieving environmental goals. They may place their needs and expectations above those of environmental concerns. This may lead the companies to inconsistent policy.

It is interesting to note that, according to informants, hotel guests from Asian countries raised relatively more complaints when compared with their western counterparts. This seems logical, as environmental protection is more common in the West. In western countries, people often start learning about environmental knowledge at a young age. In general, their environmental awareness is higher when compared to people in the Asian region. The findings suggest that hotels, in which Asian travellers are the main target market, are likely to find it more difficult to implement environmental programmes.

Shaw (2003) stated that it is vital to win over guests whatever energy-management strategies and solutions were adopted. Moreno et al. (2004) indicated that

customers were necessarily present, and thus bore a direct influence on the service. They further suggested that the customers' involvement in the implementation of environmental management measures was one of the aspects that affected a hotel's environmental management. Yet, the willingness and attitude of the guests were difficult to measure and control. It was evident in this study that hotel guests affected the effectiveness of hotel environmental measures and indirectly triggered hotel employees to fall into a dilemma. Hotel guests were aware of some environmental actions. However, their desires for better service might, in fact, counter certain best environmental actions. Some studies indicated that travellers were generally not willing to pay extra to fund environmental policies of hotels (Watkins, 1994). It is believed that carrying out environmental tactics as well as satisfying guests' needs is not an easy task. This may need more in-depth research to explore appropriate strategies.

Inconsistent Policy

Because of the business nature of the hotel industry, it was clear that HKCom Hotel wanted to strike a balance between service quality and protecting the environment. This was in line with the suggestions by Rushmore (1994) and Shaw (2003) stating that guest satisfaction should be one of the important factors to be considered when going green. But this also triggered the negative perceptions of some informants from supervisory and general levels feeling that the company was not implementing the system earnestly (e.g. TVs left on in vacant guestrooms). The above discussion about the policy component of EMS leads to suggestion four:

Suggestion 4:

Inconsistent environmental policies, originated by the nature of hotel business and hotel guests, especially from Asian countries, affect front-line employees' environmental performance.

6.5.2.2. Planning

High / Low involvement

It is evident that the design and planning of HKCom Hotel's EMS was centralized in a group of people: the ISO green committee composed of several senior executives and other hotel department heads. A top-down approach was employed. From the findings, job satisfaction of the hotel executives significantly involved in the EMS planning process was enhanced. Their ability to share the EMS experience with other companies symbolized status and privilege, as such inducing a sense of prestige. What the executives got from involvement in the EMS planning process were the strong determinants of job satisfaction. *Achievement, recognition, work itself, responsibility, and advancements* are "motivators" named by Herzberg (Herzberg et al., 1959).

Obviously, the full participation from lower/general staff, who usually followed instructions from the top, was not realized during the EMS planning stage. However, it seemed that the low involvement in the planning process by employees at lower level did not affect the employees' commitment to the system very much, though high level of employee involvement in decision making was always advocated to be associated with employee satisfaction (Spinelli and Canavos, 2000). It is thought that the idea of involvement is not universally embraced, especially in Chinese management culture. This passive attitude of employees towards management is very likely related to Chinese cultural characteristics. In Chinese culture, talking up to one's bosses is considered as a challenge and being impolite. From a cultural perspective, Chinese people tend to be more group-oriented, more collectivist, more accommodating, more status-conscious, and less socially interactive (Bond and Hwang, 1986; Chiu and Kosinski, 1994; Hofstede, 1991; Hui and Triandis, 1986). They usually talk less and interact less with superiors. In terms of planning, Chinese people tend to be more passive and consider their superior's instructions

as “orders”. They feel that fulfilling a superior’s instructions is their duty. Hong Kong Chinese people still prefer to follow the Confucian ethics which requires people to focus on their jobs and to play a set of roles according to a hierarchical structure (Bond and Hwang, 1986). “Paternalism” leadership style is commonly accepted in Asian cities, especially in China (Gamble, 2006; Child and Markoczy, 1993). The low involvement of supervisory and general staff in the EMS planning stage at HKCom Hotel was unlikely to have caused them to be less committed to EMS. Most informants indicated in the interviews that they supported the company’s environmental programmes. In this respect, it seems that top-down approach is the preferred strategy to develop EMS for hotels with many Chinese employees. It is also obvious that having the support of key executives was sufficient to initiate the EMS project.

Despite this, the study demonstrated that the implementation of EMS helped promote a bottom-up approach to change even within a predominantly top-down culture. The findings in this study indicated that the ultimate decisions in the EMS planning process were mainly made by top management. Relatively, employees had more involvement during the implementation than the planning stages. This can be attributed to the common organisational practice, where an employee’s role is primarily to implement strategies and make changes in the system than to participate in the decision making process.

Still, supervisory and general level staff at HKCom Hotel were involved in decision-making process sometimes through making suggestions. In the implementation stage, the hotel provided a channel (i.e. the suggestion box) for employees to reflect their environmental ideas to the top. Employees contributed by giving their suggestions during the EMS implementation. For instance, the commonly-used small green card was in fact suggested by one of the engineering

staff. This demonstrated that EMS implementation helped promote bottom-up approach to change even within a predominantly top-down culture. However, the findings also suggested that some informants among general staff lacked new environmental ideas as well as the skills (e.g. writing skill) to express their ideas. Others perceived that all possible best practices had already been implemented by the senior management so that they did not forward their ideas to the top. Some employees stopped giving suggestions when they did not get any feedback from management after submission. For instance, a supervisor said: *"You normally will not have a very solid feedback indicating the idea is good or bad!"*

Notwithstanding, in HKCom Hotel, the problem was mainly influenced by the culture of Chinese people who were normally "disciplined" not to offer new ideas as it might be equivalent to a "challenge" or causing "chaos" in a work environment. This was very obvious especially when most of the informants from general level mentioned that they just followed instructions from their superiors while a few of them forwarded their ideas to the hotel's suggestion box. Larson and Kleiner (1992) stated that many Asian employees were reluctant to take independent action and management rarely received positive or constructive opinions whenever a company tried to ask employees for suggestions.

Despite the problems caused by cultural issue, findings from this study strongly suggested that EMS was best implemented with substantial worker participation. For instance, all hotel employees were required to attend environmentally-related training to learn about the hotel's environmental best practices and to enhance environmental awareness. The majority of the green committee members from different departments set up an environmental policy, environmental aspects, impacts, objectives, targets, and procedures. By doing so, committee members experienced organisational learning. Through the EMS green committee's

cross-departmental meeting, they learned about the different departments' viewpoints through team work. Other employees were also given the opportunity to offer their feedback and new environmental ideas to the management through the suggestion box system.

Therefore, it is important to develop active communication between management and hotel employees that engaged the supervisory staff or even general staff in decision-making process. Other studies emphasized the importance of employee involvement (Kitazawa and Sarkis, 2000; Sun, 1999; Pun and Chin, 1998, Maxwell et al., 1997; Heller, 1998; McDermot and Boyer, 1999). Hotel general staff such as room butlers, steward cleaners and choppers worked on the frontline. They normally had a better understanding of real work situations and procedures. More importantly, they were the ones to actually perform the established best practices. It would be wise for the management to capitalize on frontline employees' environmental ideas when planning an organisation's environmental programmes. The above discussion leads to the formation of the fifth suggestion:

Suggestion 5:

For a hotel with mainly Chinese employees, a top-down approach appears to be a more realistic strategy in EMS planning stage but the adoption can help promote a bottom-up approach during implementation stage.

6.5.2.3. Procedures & Controls

High Autonomy

According to Kitazawa and Sarkis (2000), cultural change is necessary to support the implementation of environmental source reduction. Top management within an environmentally conscious organisation should strive for a strong culture that allows its employees the freedom to make environmental improvements. The

findings of this study showed that nearly two-third of informants at HKCom Hotel indicated that they had high autonomy to carry out the required environmental practices and procedures. Autonomy is the degree to which employees experience freedom, independence, and discretionary decision-making in terms of scheduling work, selecting equipment, and deciding on procedures (Sims et al., 1979). When employees report a high level of autonomy, they believe they are able to act independently and control their own work. This is a good management tool in motivating employees, and can result in better job satisfaction.

The degree of employee autonomy impacts on the level of their trust in management and perceptions of how quickly an organisation can adapt to change. During the implementation stage at HKCom Hotel, open and participative management and staff empowerment were seen; hotel employees were allowed inputs for improvement. Executives were able to make any changes to existing hotel policies as long as it did not affect the hotel operations. This helped enhance their commitment to EMS. The findings were in line with Argyris (1998) stating that empowered employees were more motivated and committed to participate and engage in good environmental practices. Employees who were not empowered had less commitment for improvement than empowered employees.

Though empowerment was encouraged, control of performance could not be neglected, as employees might perceive that nobody cared about the outcome of their jobs if too much freedom was given. The Chinese Restaurant's service manager said: *"It is quite free. Basically, nobody will care about you. Nobody will know even you do not implement the practices...."* In view of this, it seems that stricter control or more frequent checks were essential for employees to feel that the company cared about their environmental performance.

Increased Workload

Although company managers said that every staff member had environmental responsibilities, these could vary substantially. From interviews, it is found that employees in Engineering and Housekeeping departments had relatively heavier workload when compared with other sections in the hotel. This led to the issue of fairness as some employees might feel under-rewarded when own reward / own performance was lower than the ratio of others' reward / others' performance according to Equity Theory (Adams, 1965). Some employees in these departments may felt "unequal" when comparing their workload with other departments in the hotel. In fact, the findings indicated that a few supervisory and general staff from the Engineering and Housekeeping departments raised concerns that additional manpower in their departments was needed. Some informants from the general level also stated that some of their colleagues were lazy, stubborn, and were not performing their environmental duties while others relied on colleagues to complete required tasks. One of the Room Butlers reflected the problem:

"Just like this can be also done by someone else! Then, you can only concentrate on the works needed to be carried out in the guestrooms....."

Despite this, the majority of informants indicated that they were able to handle the added workload and did not mind doing more because of meaningfulness of the environmental programme. Despite the 10% - 20% additional workload, nearly all informants indicated that they could manage and did not mind doing more. The findings were surprising since one would expect an organisation's employees to complain about additional workload.

According to Job Characteristic Theory (Hackman and Oldman, 1976, 1980), task significance (i.e. the impact a job has on other people) is one of the job attributes

employees attend. Job meaningfulness together with responsibility and the knowledge of results are expected to drive employee motivation and satisfaction especially for those employees with high growth need strength (Spector, 1997). The task significance of implementing EMS is obvious according to the feedback of most informants from different levels in this study.

For those executives who were heavily involved in the programme, extra workload from the planning of the system affected their work. As mentioned before, some of them needed to wear two hats to take up the position of EMS manager. The “two hats” issue might indirectly affect the monitoring process of the hotel EMS. Yet, owing to the involvement in the planning process and the achievement and recognition from ISO 14001 certification, most of the executives felt that their job satisfaction was enhanced. Such belief was captured in the utterances of the head of housekeeping:

“Absolutely yes! It has positively changed my job satisfaction here especially when the established objectives and our targets are successfully achieved.” ... “We have some sharing within the hotel industry. And Chinese is relatively humble... but, personally in my heart, I have a great satisfaction inside...”

Of course, increased workload may lead to the need for additional manpower. Adding manpower because of EMS is a big challenge to the hotel industry, as the business is labour-intensive (Fitzsimmons and Fitzsimmons, 1998, p.32). This is evident in the hotel industry in which labour costs range from 35% to 50% depending on the class of hotel. Luckily, despite additional workload, few informants from the general and supervisory levels in this case complained of insufficient manpower. The benefits gained from the EMS implementation were likely contributing factors.

The findings indicated that owing to environmental knowledge and experience gained from the system, the majority of informants believed that their marketability was enhanced because of the trend to implement EMS or other environmental programmes in the market. Front Office Manager conveyed this belief:

“May be you have the chance to work for another company in which there is no environmental system in future. Then you can bring what you are doing to the new company! ...”

Participating in EMS development and implementation was a channel for employees to develop themselves. Some informants said they shared their knowledge and experience with their children, housemaids and friends. All these benefits likely compensated for the increased workload. Accordingly, this leads to the formation of the sixth suggestion:

Suggestion 6:

Despite additional workload as a result of EMS implementation, employees are normally willing to participate because of the meaningfulness of the programme, recognition and enhanced marketability.

Loose Control

HKCom Hotel had internal audits by EMS managers, monthly check-list submission system as well as surveillance audits conducted by a third party auditor every year. However, the majority of informants from supervisory and general levels felt that the monitoring system was very loose. There were several reasons for these, summarized as follows:

- Turnover of EMS Managers – Because of turnovers, the company needed to appoint new EMS managers and spent time to train them to be certified as internal auditors. These put extra pressure on members of the ISO green committee and directly affected the control process.
- Turnover of Department Heads – The role of department heads was very important to ensure the effectiveness of EMS during its implementation. They were responsible for implementing relevant operational procedures, ensuring the required best practices were carried out, and providing training to staff. Therefore, the effectiveness of the system was directly affected as a result of the departures of several department heads.
- No Employee Appraisal System – HKCom Hotel did not implement any appraisal system for EMS, as the company wanted employees to carry out the best practices voluntarily. In other words, each employee did not have his/her environmental performance measured against pre-set and agreed objectives.
- The Control Tool – The green committee looked at a check list to see if the required best practices in different departments were carried out. Heads from different departments completed and submitted the list to the committee. Notwithstanding, the record might not truly reflect the department's actual environmental performance. A Front Office Manager said: *"Of course, everybody will say the department has done! Ha...! But you do not know whether the required practices were really performed or not."*

All these problems eventually influenced employees' perceptions of the EMS control system. More importantly, some informants challenged the company's commitment to environmental protection as a result of ineffectiveness of its internal control. Because of the loose control, some supervisors stopped caring about the

environmental performance of their subordinates to maintain “harmony” with them, as some general staff felt annoyed at repeated reminders.

Despite these problems, nearly all informants from executive level believed that the control system of EMS was well established and strict enough. One executive expressed a typical sentiment:

“We have a very clear control system here. For instance, we have EMS manager, EMS ambassador, and the green committee and the green ambassador in my own department etc... the monthly submission system is already there. A check list must be sent as usual...any non-compliance will be recorded and thereafter put on the table during the green committee meeting.”

It was clear that there were different perceptions between senior and general staff on the control issue. Informants from executive level seemed to be more positive whereas employees from lower levels were more critical about how environmental performance was monitored. The findings indicated that such differences were caused by insufficient physical checks by management, except for external ISO audits. People do not like to be controlled tightly and prefer freedom to carry out their jobs. However, most informants from supervisory and general levels were not satisfied with the EMS control system at HKCom Hotel. Some employees felt it was unfair when they saw others not doing their jobs but with no negative consequences. Notwithstanding, a punishment system could hardly be established in EMS according to the interviewed executives, as the best practices required extra work to each individual's workload. This gap must be reduced through tighter control or the effectiveness of EMS would be compromised. To achieve tighter control, the establishment of standards of assessment of results for employees that encourage environmental activities at work (Handfield et al., 2001) and more

follow-up from third parties such as EMS managers rather than immediate superiors might be more effective.

In addition to more regular checks to show management's continual commitment to the system, HKCom Hotel should consider developing more positive reinforcements such as developing incentive rewards to recognise individual employees and teams. Although HKCom Hotel did not stipulate that a direct relationship between EMS and monetary rewards to employees existed, some informants, especially from the general level, perceived that savings from the hotel's EMS would eventually affect their salary, year-end bonus and even job security. For instance, the service associate from housekeeping and the 5th fryer of Chinese restaurant both thought that their annual bonuses would be increased as a result of the cost-saving from environmental programme. It is evident that hotel employees linked EMS with cost savings though this was not the main motive of HKCom Hotel. Regardless, employees expected some forms of reward as a result of the perceived savings, as they were the ones who contributed to the savings. The trust between management and staff might be damaged if this expectation was not met. Therefore, having incentive programmes to recognise an employee's outstanding environmental performance might be an effective tool. This is echoed by Epstein and Roy (1997) suggesting that companies that value environmental performance need to incorporate it into the performance evaluation system. Rewarding employees for desired behaviour is especially important both in implementation and for checking and corrective actions, especially when a punishment system can hardly be established in EMS.

Presently, HKCom Hotel only rewarded employees whose suggested environmental ideas were adopted by the hotel. This was a relatively passive method to reward employees. More active positive reinforcements should be

considered, mentioned by some informants in this study, to ensure better environmental performance. The programme was not necessarily for individuals, as Chinese employees are usually group oriented and concerned about the welfare of the group (Alder, 1991). The above discussion about the control component of EMS leads to suggestion 7:

Suggestion 7:

Positive reinforcement is more effective in EMS control process but tight control appears to be important to reflect management commitment to environmental protection.

The loose control issue leads to a question whether or not the establishment of an independent EMS unit in a hotel is essential despite the existence of ISO / green committee.

Inactive Green Committee

The important role of a green committee or environmental committee is unquestioned (Beard and Rees, 2000). However, interviews revealed that many informants did not know who the green committee members were or its actual function. Some even were not aware of its existence.

The lack of promotion and insufficient communication between the committee and hotel employees was likely due to the “two hats” issue mentioned before. Fully-dedicated persons should be appointed to avoid the two hats issue so that the hotel’s green committee could be effectively executed and clearly promoted to hotel employees. It is believed that a formal environmental department in the hotel, with expertise in technical and leadership skills, should be presented to lead and motivate employees. Therefore, setting up an independent EMS unit should be

seriously considered. In fact, the creation of a management department with environmental responsibilities is an idea increasingly implemented by many other companies (Fernández, et al., 2003). But, whether Hong Kong hotels have the budget and professionals to execute this plan is a challenge.

6.5.2.4. Training and Education

Increased Environmental Awareness

Based on interviews and company documents, the training, provided by HKCom Hotel during the initial stages of EMS adoption, increased employees' environmental knowledge as well as their understanding of the changes required for EMS to be implemented. As a result of implementation of EMS and its training programmes, the environmental awareness of most of the informants was enhanced. This was reflected in the comments by the communication co-ordinator and a steward cleaner stating that most hotel employees took initiatives to save the resources now. The steward cleaner further commented that “... *So, our mind is full of the environmental stuff now...*” This finding confirms the study by Rondinelli and Vastag (2000) investigating the value of ISO 14001 EMS in an aluminium production plant, that improved environmental awareness was the single most significant impact of the ISO EMS on all employees.

Increased Environmental Knowledge and Its Transfer

Through training and workplace instructions, over half the informants mentioned that their environmental awareness and knowledge were enriched. Their environmental knowledge were transferred to friends, family members and other companies. Environmentally-friendly practices were also implemented at home. This “intangible” or “psychological” reward and personal feelings, such as sense of achievement, recognition, and the opportunity for challenge, learning and

self-actualization, were the intrinsic motivation to employees (Herzberg et al., 1959; Maslow, 1970; Kovach, 1987). The environmental work itself was significant to employees, when it reconfirmed their own values in protecting the environment.

Enhanced Marketability

The environmental knowledge and experience gained enabled some hotel employees to think their marketability and employability was enhanced. It was viewed as an additional asset on their resumes. The company's Regional Director of Purchasing said:

"...many people do not know in terms of environmental knowledge, but the employees at HKCom Hotel know..."

Today, more and more companies are considering the adoption of a formal EMS though the real motives need to be investigated (Chan and Wong, 2006). Environmental training and education help motivate employees, especially to participate in proactive environmental management and enhance their marketability. This is essential for Hong Kong hotel employees, as they rank opportunities for career advancement / development as the most important elements in motivation (Wong et al., 1999).

Environmentally-knowledgeable Leaders

The quality of leaders plays an important role in the success of EMS. According to classic Herzberg's two factors theory, high-quality supervision, one of the hygiene factors described by the scholar, helps to decrease dissatisfaction to employees (Herzberg, 1966). According to this finding, the majority of staff at HKCom Hotel believed that their superiors had the required environmental knowledge to implement EMS. The engineering department, especially, played an important role,

with its head in the lead. One of the Duty Engineers reflected on the importance of good leadership:

“When looking at our department, the engineering department, I am very proud of it, as my boss is the soul of this ISO 14001. He has involved a lot. Therefore, I feel proud. The engineering department has done a lot! Yes, he has raised the whole department in which the team spirit is affected and his subordinates are proud of what they are doing...”

The quality and leadership of the head clearly enhanced team spirit in the engineering department during the implementation of EMS. In the engineering department, all employees were Chinese who often expect their superiors to act like “fathers” to lead them, protect them and care about their needs. “Paternalism” is a typical leadership style commonly accepted in corporate Asia (Gamble, 2006). This type of leadership style combines discipline and authority with fatherly concern and benevolence which is different from autocratic leadership (Ronen, 1986).

In interviews, some informants indicated that their superiors were able to teach and demonstrate how to perform the required environmental practices, to share their environmental knowledge and to care about their performances. All these reflected the role of a “father” desired by Chinese employees. The leadership style and communication skill of superiors affect the ability and willingness of employees to learn new information and suggest ideas to their bosses. This was evident when one of the informants from the kitchen mentioned that he would never speak out against leadership style of his head. The findings in this study indicated that superiors played a salient role in cultivating Chinese employees’ organisational commitment to EMS and this was in line with the study by Wong (2000) concluding that Chinese employees established commitment to their supervisors before

developing commitment to the organisation. Therefore, leadership training about the organisational EMS culture and the importance of treating subordinates fairly to cultivate employees' organisational commitment, and the involvement of department heads in the EMS planning process, cannot be neglected.

Insufficient Continual & In-depth Training

As mentioned in previous chapter, HKCom Hotel divided its training programme in all three staff levels. Awareness training covered the introduction of ISO EMS, chemical handling procedures, best practices to save energy and water etc. Notwithstanding, the training was not sustained. Older staff had no opportunity to update their training, while some new ones did not receive any environmental training.

In terms of the content of training, most hotel employees interviewed preferred more in-depth environmental knowledge rather than just simple, repetitive, know-how from a list of best practices. The author thinks that providing continual and in-depth training to employees is important, as the findings indicate that learning opportunities in environmental knowledge was considered a job benefit. Employees not only understood the impact of what they were doing on the environment, but also transferred new knowledge to their families and friends, about which they feel good and superior. In fact, this "knowledge transfer" was desired by many informants. The utterances of the 2nd Chopper of HKCom Hotel's Chinese Restaurant can exemplify this: *"I can be able to provide more environmental information in front of my friends. And that why I feel proud of it"* This type of recognition drove them to demand more from the company's training.

Similarly, in depth training for senior and supervisory level staff was extremely important, as employees liked environmentally-knowledgeable leaders who could

lead them and teach them and eventually “raise” the whole unit / department to a higher level in terms of team spirit. The engineering department of HKCom Hotel was a good example in which informants from the department found their team spirit was largely enhanced because of the leadership of its head.

In addition, the green committee played an important role in pointing to the future of the system. The committee members had to be up-to-date, constantly researching technological trends, economic development and the ever-changing realities of the business environment. Therefore, continual in-depth training was particularly essential to them. They could be sent to green hotels overseas or other organisations in different fields with well-established EMS to learn and share their experiences. The above discussion about the training and education component of EMS leads to the suggestion eight (a-b):

Suggestion 8:

(a) The leadership style and environmental knowledge of department heads will affect an individual’s environmental learning attitude and the team spirit of the department to go “green”.

(b): Continual in-depth environmental training and external sharing appear to be essential to build employees’ continual commitment and improvement to EMS.

6.5.2.5. Communication

Insufficient Interdepartmental and External Communication

It was evident that communication among various departments / sections at the supervisory level and general level at HKCom Hotel appeared insufficient; informants indicated that they usually did not know the environmental practices of others. Despite the positive feeling about the EMS outcome, some informants from

supervisory and general levels stated that they did not know the actual outcome of their efforts. They had reservations about the effectiveness of EMS because of the lack of understanding of environmental operations in other sections or departments. They wanted more feedback on the results of their performance.

Indeed, the constant flow of information between departments cannot be neglected, as inter-departmental teamwork can achieve the following benefits: collective knowledge to develop comprehensive solutions, avoiding duplication of efforts, accomplishing many tasks simultaneously, and empowering employees (Cai et al., 1999; Leitch et al., 1995). In addition to the ISO green committee, the formation of cross-functional teams consisting of supervisory and general level staff from different sections in the company is particularly helpful in achieving environmental improvement across departments. This is especially important when employees felt uncertain about what their colleagues in other departments were doing. For instance, eliminating pollution from the source requires changes and improvements from the manufacturing, planning, and purchasing areas (Kitazawa and Sarkis, 2000; Lent and Wells, 1994). Cross-functional teams help achieve this need by co-ordinating across departments. Still, the communication among different departments and hotel employees is a big challenge because it requires a lot of time investment.

Some informants indicated that they did not know what environmental practices other hotels or industries were practising. Sharing with external business partners would be useful for continual improvement, especially after the hotel had been practising the system for over 10 years. This could be achieved by partnering with external consultants and inviting academics to share the know-how with employees so that new ideas might be generated.

Lack of External Support

It was common for organisations to put pressure and request their suppliers to implement environmental measures so as to conform to the organisation's environmental policy and EMS requirement. HKCom Hotel did likewise. It encouraged its suppliers to switch to environmentally-friendly or recyclable packaging. The findings, however, showed that it was quite difficult to gain co-operation from suppliers to meet ISO standards. It was difficult for the hotel to pass on EMS information to them. Suppliers lacked environmental knowledge and interest in EMS.

In addition to the supplier support, greater government support would have enabled some environmental programmes to run more effectively. As mentioned by the Regional Director of Engineering, many hotels in Hong Kong stopped using plastic bottle compressors to reduce the volume of stored plastic bottles because of the large investment required and the lack of financial support from government or hotel associations. From the example, it is evident that support from external stakeholders influences, or even determines, the existence of some environmental programmes. The above discussion about the EMS communication component leads to suggestion 9:

Suggestion 9:

Horizontal communication within a hotel and partnership with external stakeholders are important to the success of EMS.

6.5.2.6. Review and Continual Improvement

Lack of New Ideas

ISO EMS requires new ideas, new targets and objectives to improve as part of "continual improvement". The regular reviews of the environmental policy,

environmental objectives and targets and other elements of the EMS led to continual improvement and determined the effectiveness of EMS at HKCom Hotel. Notwithstanding, HKCom Hotel's executives and supervisory staff said they ran out of ideas after 10 years of having implemented the system. Searching for new environmental initiatives was a headache for them.

Continual improvement is difficult to fulfil. To tackle this problem, more sharing with other environmentally-friendly hotels and more in-depth environmental training to update concerned staff with new environmental knowledge and technology and more involvement of external advisors may help. The executives interviewed also indicated the necessity of these learning activities. For instance, the Regional Director of Purchasing urged the need of experience-sharing with other hotels and organisations in other fields to widen horizons. This further supports suggestion 8b indicating that continual in-depth environmental training and external sharing are essential to build employees' continual commitment and improvement to EMS.

6.5.3. Outcome of EMS

Contributions to Society

All informants felt that it is worth-while for HKCom Hotel to implement the programme despite the increased workload. They believed they were contributing towards a worthy goal. Such belief was captured in one technical officer's utterances:

"At least, I know what I am doing is meaningful. It is not the stuff done with no meaning."

When compared with other strategies, EMS is different and unique. EMS can be a bridge to good teamwork. Taking the company's engineering department as an

example, tighter cohesiveness was built up when the team was striving hard towards such a meaningful goal. Because of this, the author believes that companies need to carefully communicate their motives when implementing EMS. Saving money and enhancing reputation should not be advocated as the main motive because it may trigger negative feelings in employees. As discussed before, a correct organisational motivation is important to the success of EMS. Environmental protection is not exactly equal to cost saving and brand building!

Recognition

The HKCom Hotel's achievement to be the first hotel in Asian and Pacific Region to achieve ISO 14001 made employees feel honoured as well as its reputation enhanced. Miles and Covin (2000) defined organisational reputation as a "set of perceptions held by people inside and outside of company" and is a function of four parts: credibility, trustworthiness, reliability and responsibility.

At HKCom Hotel, the employees felt recognised because of the environmentally-friendly image of the company which they thought was different from other commercial awards. This environmental award was more meaningful to the company and the employees, as it was not about profit-making, normally the ultimate goal of most commercial firms. They took pride in their company's achievement.

According to our study, employees who were the most satisfied with their jobs exhibited the most pride in their organisation. This is in line with Arnett et al. (2002) finding that there is a positive relationship between pride in the organisation and job satisfaction. Therefore, ISO 14001 environmental award could be considered as an internal marketing tool to enhance hotel employee job satisfaction. This also explained why previous EMS literature stated that implementing formal EMS

enhanced employee job satisfaction (Withiam, 1997; Kirk, 1998; Holt, 1998; Poksinska, 2003).

Better, Safer and Healthier Working Conditions

Our findings show that improved physical working environment as a result of the EMS implementation made some informants feel more healthy and comfortable in their workplace. One third of informants commented that hotel operations and working environment became more systematic and comfortable. For instance, the company's air quality and temperature improved after the EMS implementation.

Working conditions is one of the hygiene factors mentioned in Herzberg's study that could generate dissatisfaction (Herzberg, 1982). Therefore, improved working conditions as a result of the implementation of EMS can likely reduce the dissatisfaction of hotel employees against their workplace. In addition, some staff mentioned that better working conditions in terms of quality of air and cleaner environment helped improve their health and safety. Therefore, the integration of health and safety issues in EMS helped hotel employees get more actively involved in EMS. The integration of environmental, health and safety promoted employee participation as part of occupational health and safety management.

Other Perceived Benefits

Many informants felt proud because of the hotel's achievement in ISO 14001 certification. The award reflected the value of employees who agreed that environmental protection was worth practicing. Implementing an environmental programme without environmentally-related awards did not mean it was wrong. Having an award, however, made employees feel good in the eyes of the public in addition to other marketing advantages. This feeling led to employees' increased job satisfaction according to Arnett et al. (2002) stating a positive relationship

between pride in organisation and job satisfaction.

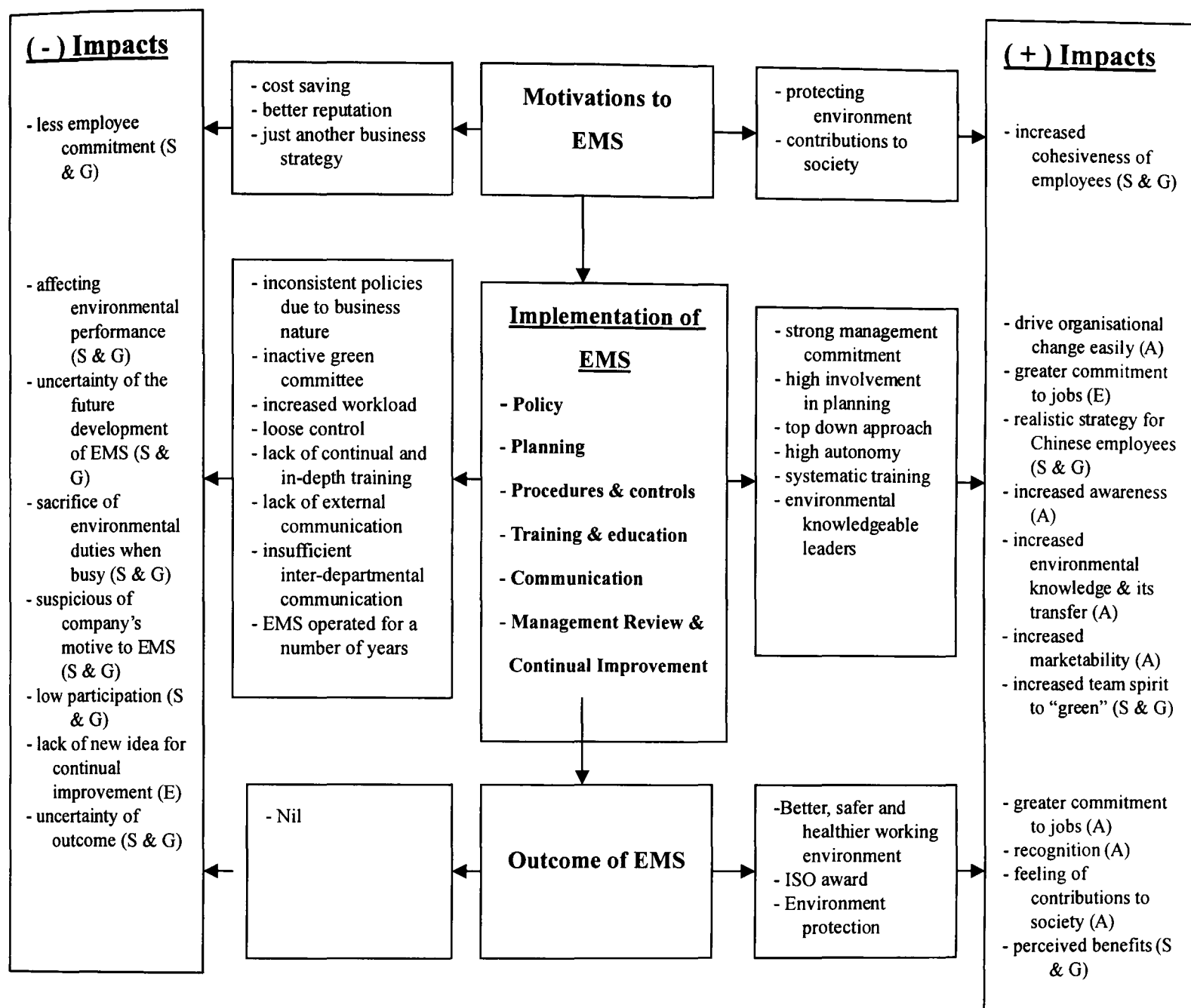
A well-recognised EMS can help a company build a better-structured environmental system and describe the responsibilities of employees more clearly to minimise staff confusion. Sooner or later, ISO certification may be one of the required “licenses” to operate businesses globally, or trade barriers may go up. Although the trade barriers issue is not obvious in the hotel industry today, the unregulated environment may change rapidly in view of severe environmental problems in the world. It is evident that the staff at HKCom Hotel had the sense of recognition because of the better working environment relating to ISO certification. It raised their status in society, with some staff receiving invitations from many other companies for advice and information, for sharing on the hotel’s environmental model and management system. The better working conditions, recognition and prestige earned were described as “satisfiers” in Huyton and Sutton’s study (1996). The above discussion about the outcome of EMS leads to the suggestion 10:

Suggestion 10:

Getting international environmentally-related accreditation, such as ISO 14001, is a unique achievement for employees when compared with other business awards.

Although few studies have been done on the impact of a formal EMS on hotel employees, evidence was gathered to support HKCom Hotel informants’ conclusion that ISO 14001 yielded improvement even in hotels that already had good environmental practices or programmes. In addition, as shown in the Figure 6.3., positive and negative impact on employees as a result of EMS implementation was identified.

Figure 6.3. Positive & Negative Impact of EMS on Hotel Employees



A – all staff E – executive level S – supervisory level G – general level

It is found that nearly all informants were willing to do something good for society through the hotel's EMS.

Strong management commitment to support the system helped change the employees' attitude to accept the environmental programme more readily. Job satisfaction of the company's executives was enhanced through the high involvement in the EMS planning process. Through the environmental training and practices, employees' environmental awareness and knowledge were enhanced

which consequently increased their marketability. The team spirit of individual departments improved when department heads, responsible for the environmental performance of individual departments, were environmentally-knowledgeable. The outcomes of EMS increased employees' job satisfaction by giving them recognition, feeling of contributions to society as a result of ISO 14001 certification; and the meaningfulness of the programme to protect our planet; and the better, safer and healthier working environment.

Negatively, as mentioned before, employees' commitment to EMS was influenced if the motives of company to adopt the system were to save costs, improve company image and attract green customers. Employees' environmental performances were affected by inconsistent policies due to the hotel's business nature and guest complaints. An inactive green committee, leading to insufficient communication and loose control, triggered employees' suspicion of the company's real motives to EMS, their uncertainty of future development of the company's EMS and their low participation in the programme. In addition, environmental duties were sacrificed when employees were busy with their normal duties despite their willingness to do extra to protect the environment. In terms of training and education, because of the lack of continual and in-depth training, and external communication, employees often lacked knowledge for new environmental initiatives. This was particularly obvious for employees at executive levels who needed to review targets and objectives regularly to ensure the continual improvement required by ISO standards. The longer EMS has been implemented, the more serious the problem is.

It is worth noting that a top-down approach to plan and develop a formal EMS is more suitable for a hotel in which there are many Chinese workers because of cultural issue. The low involvement of employees from supervisory and general

levels in the planning stage seems not to affect their commitment to EMS as long as the correct organisational motivation to EMS is communicated to them by senior management.

This chapter notes that some factors are unique during the formation and implementation of EMS; some have been identified in previous studies in environmental management such as strong management support, high autonomy, recognition, increased workload, and lack of external support etc. Some of these new factors will cause positive impact to hotel employees while some will have negative impact. They are listed as follows:

Causing Positive Impact to Employees:

- right organisational motivation to EMS(A)
- environmentally-knowledgeable leaders (A)
- better, safer and healthier working conditions through EMS (A)

Causing Negative Impact to Employees:

- incorrect organisational motivation to EMS (S& G)
- nature of hotel business and hotel guests (S & G)
- inconsistent policy (S & G)
- insufficient continual & in-depth training (A)
- inactive green committee (A)
- loose control (A)
- insufficient interdepartmental & external communication (A)

A = all staff E = executive level S = supervisory level G = general level

In addition to the above, the research findings in this study reveal that achieving a consensus in developing and implementing an EMS strategy appeared to be a feasible task in the hotel environment. Although achieving full-participation and consensus appeared to be an unrealistic dream in many other projects, the EMS

strategy may improve the situation as a result of a common meaningful goal between management and employees – that is, protecting the environment.

During the life cycle of EMS in HKCom Hotel, there was turnover in senior management such as the general manager, resident manager and some department heads. The existing literature in environmental management and environmental management system does not provide much evidence on how change in senior management positions can influence the ongoing implementation of EMS. However, in this study, the turnover of department heads and EMS manager resulted in loose control. This was mainly because the position of EMS manager could not be replaced immediately, as the appointed personnel was first required to attend advanced training to be certified as an internal auditor.

It is evident that there was a lack of trust among functional areas during the implementation of EMS. It is similar to the findings from Pugh's (1993) stating that each project created an opportunity for conflict and lack of trust. For instance, the front office manager wondered if the sorted papers in his department were collected by the cleaners for recycling purpose. He suspected that the papers were simply thrown away. In addition, informants from all job levels had conflicting views about how EMS was being implemented, controlled and what was achieved. For instance, informants from the executive level were more positive about the hotel's achievement whereas some informants from supervisory and general levels had doubts about its implementation motives. Informants from the executive level seemed to be satisfied with the current monitoring system but their supervisory and general counterparts mostly thought that there was no control at all.

6.6. Concluding Remarks

Previous literature in environmental management placed emphasis on evaluating formal EMS; discussing critical success factors and barriers to EMS; identifying the driving forces; and its benefits. The studies were mainly conducted in manufacturing industries, such as construction industry, farming, chemical and aluminium plants. This chapter, however, suggests the formation of EMS in a hotel context in which four important variables were identified: (1) *corporate governance*; (2) *piloting activities*; (3) *initial gap analysis*; and (4) *partnership with external consultancy*. In terms of EMS implementation, it is evident that most of the EMS elements or components are being used in hotel environment. The generation of written evidence for all six core elements of the EMS provides a hotel firm with a baseline to improve its environmental performance and to assess its environmental management: (1) Policy, (2) Planning, (3) Procedures and Control, (4) Training and Education, (5) Communication, and (6) Review and Continual Improvement. To enhance the understanding of how a hotel can effectively implement a formal EMS, this chapter describes examples of actions taken by HKCom hotel in the six core elements to implement EMS and examples of documents commonly used in the system.

More importantly, this chapter identifies how EMS affects employees, both positively and negatively, from their perspective. This case study found positive impacts on employees. The findings indicate that the main reason for the impact were from the significance of EMS., learning process during the formation and implementation that eventually increased recognition, job satisfaction, enhanced environmental awareness; environmental knowledge and marketability of employees. In addition, the better, safer and healthier working condition as a result of the implementation of EMS made employees more satisfied with their workplace

while an environmentally-knowledgeable leader was essential to building team spirit. Employees also felt proud of their company and perceived better pay and a more job stability because of the internationally-recognised EMS and its economic benefits.

Negative impacts were also identified. The impacts were mainly caused by the nature of hotel business; incorrect organisational motivation behind EMS, the lack of continual and in-depth training, and the lack of an independent environmental department for training and control.

Contrary to many previous studies, particularly those on studying the driving forces to EMS, the research findings in this study indicated that customers and legislations were not the main drivers for a hotel to adopt formal EMS. This is likely because of the business nature of hotels where service quality is the top priority and operations do not create serious damage to the environment. Instead, internal forces such as corporate governance play a more important role to motivate a hotel to adopt a formal EMS.

Based on the above discussion, the following chapter provides the conclusions of this research study and a number of recommendations in theory, practice and future research.

Chapter 7

Conclusions & Recommendations

7.1. Introduction

Around the world, more hotels have adopted formal, informal EMS, or other environmental programmes. For instance, Bass Hotel & Resorts (BHR), with more than 3,000 hotels around the globe, has an environmental programme “Conserving for Tomorrow” developed exclusively for BHR (Bass Hotel and Resorts, 2001); Hilton International has established an environmental culture within its chain of hotels (Green Hotelier, 1998). Notwithstanding, EMS implementation in the services industry such as hotels is often referred to as uncharted territory in the academic world. This is mainly because of limited knowledge about which activities should be undertaken and which factors play an important role in determining its processes and outcomes. More importantly, the perceptions of hotel employees - the key internal stakeholders whose involvement will determine the success of an EMS - have not been studied in the past. Recognising this, this study seeks to investigate what motivates a hotel to adopt a formal EMS; analyse how a hotel formulates and implements EMS and investigate the impact of EMS on employees from their perspective. In this concluding chapter, we will review the research objectives of this study; provide key findings and discuss its contribution to knowledge, and make recommendations for hotel practitioners and future research.

7.2. Review of Research Objectives

A company's organisational motivation to EMS is recognised as one of the decisive factors for EMS adoption. However, there have been few studies on the motivation to adopt a formal EMS such as ISO 14001, and many hotels are still undecided. This study investigates a famous environmentally-friendly hotel - the first hotel in Hong Kong and Asia-Pacific to achieve the internationally-recognised ISO 14001. In evaluating the hotel's motives to adopt a formal EMS, this study found that the main motivation was the company's desire to contribute to environmental protection, though, incidentally, cost-savings and marketing advantages were achieved.

This research aims to analyse the formation and implementation of EMS strategies in a hotel context. In the formation stage, this study found that "corporate governance", "piloting activities", "initial gap analysis", and "partnership with external consultancy", played important roles in triggering a hotel's intention to adopt a formal EMS such as ISO 14001. The key players in this formation stage were hotel executives; there was limited staff participation from the general and supervisory levels. During the implementation stage, it was found that the hotel's EMS was effectively implemented through a series of preparation activities. These include evaluating existing environmental practices, providing the necessary resources, using different modes of communication, undertaking training programmes for EMS administrators and general staff, and controlling the system through internal and external audits. This study also found that EMS was mainly introduced as a top-down initiative. An ISO green committee was established to initiate and implement the systems. However, structural changes during the implementation process (e.g. the departure of EMS manager) made it harder for the existing members to monitor environmental training activities and performances.

An important research objective in this study is to examine the impact of EMS on hotel employees. In identifying and evaluating which aspects of EMS have positive or negative influences on hotel employees, the findings reveal that through EMS implementation and training, the working environment was greatly improved and the environmental awareness and knowledge of the hotel employees from all levels were enriched. Some further transferred the learned knowledge to their families, friends, and other hoteliers. Some felt that their marketability was enhanced. The study also finds that nearly all hotel employees felt that EMS was worthwhile and that they were happy that the company shared their values in protecting the environment. They felt proud and recognised because of their company's ISO certification and their capability to share their knowledge and experience with others. Employees from general level also perceived that the money saved might increase their remunerations.

Negatively, the study found that both executive and supervisory staff had difficulties fulfilling the "continual improvement" requirement in EMS because of the lack of new ideas and support from external stakeholders. Hotel employees from supervisory and general levels were found to be uncertain of the outcomes of their environmental efforts.

Supervisors found it difficult to make lower-level staff follow new environmental standards while general workers found some colleagues uncooperative and/or lazy when it came to fulfilling their duties.

It was found that the above problems were mainly triggered by the hotel business nature and guests, insufficient in-depth environmental training, inactive green committee, and loose control of the system.

7.3. Contributions to Knowledge

7.3.1. *Hotel Motivation to adopt EMS*

The driving forces for EMS in the hotel industry are different from those in manufacturing such as construction, farming, electronics and chemicals. Pressure from customers and legislation - the most common reasons for EMS adoption in these industries – are largely absent for hotels. Instead, motivational factors that may prompt a hotel to adopt EMS are mainly internal. These include the top management; maximizing profits for owners; cost- savings; being a good corporate citizen and its own commitment to environmental protection. This result is not surprising as the hotel industry is generally not perceived as a “destroyer” of the environment when compared with manufacturing industries.

7.3.2. *Important Factors in the Formation Process*

The empirical findings of this study indicate that the factors identified through the literature review play important roles in designing and implementing EMS in a hotel context. Nevertheless, four key influential factors in the formation process have been identified from this research. They are:

- Corporate governance
- Piloting activities
- Initial gap analysis
- Partnership with external consultancy.

“*Corporate Governance*” plays an important role in influencing a hotel’s intention to adopt a formal EMS or to obtain ISO 14001 certification. Although a hotel’s corporate office may adopt EMS for various reasons, it has a role in pushing its

hotel properties to adopt EMS and its certification. Even if the hotel management is committed to adopting EMS, they still need to persuade their corporate office to invest as this is the centre of power to allocate needed resources. *“Piloting activities”* help a hotel learn EMS’s formation and implementation process, from which a hotel can build a sound infrastructure. The role of *“Piloting activities”* is particularly significant during the development stage of a hotel’s EMS because hotel executives usually have limited related knowledge and skills. *“Initial Gap Analysis”* is an important method for a hotel to identify environmental issues and areas for improvement. Its findings are important for decision-making to determine whether or not an organisation’s operating procedures need to be modified and in what ways. The findings can be used to compare oneself with formal EMS standards and help management determine whether to go ahead with EMS accreditation. Forming a partnership with an *“External Consultancy”* is essential, especially in the EMS development process. Hotel executives are usually not equipped with the necessary environmental knowledge. Contributions made by the external consultancy to HKCom Hotel’s EMS were substantial. Without the HKPC’s involvement, HKCom Hotel could not have established its systematic EMS according to the internationally-recognised ISO 14001 standards in such a short time.

The study of HKCom Hotel offers additional evidence about the potential advantages of EMS for hotels. Its conclusions are reinforced by a few other studies that have examined the impact of EMS. The primary benefits for HKCom Hotel were: reinforcing and strengthening good environmental management practices; reviewing and improving management procedures; improving operational efficiency and effectiveness; cost-savings; and enhancing employee awareness and knowledge of environmental protection; and enhancing its corporate image.

7.3.3. The Application of EMS in Hotel

By looking at EMS adoption from multiple perspectives, this research contributes to the existing knowledge in one particularly important area. Most previous research in environmental management focuses more on why organisations adopt EMS and seek ISO certification or other common management standards. They examine the impact of an environmental management strategy on the company's business strategy. Yet, in none of these studies was an attempt made to investigate how EMS is applied in a hotel environment and the impact of EMS on hotel employees - the most important asset in the labour-intensive industry.

This study contributes to identifying the elements and processes of EMS implementation, and elaborates on the development of an environmentally-friendly approach to managing hotel operations based on the experiences of HKCom Hotel. An examination of HKCom Hotel's EMS reveals the strengths of a formalised EMS when applied to a hotel. Most EMS components are applicable in a hotel environment.

There are six core components: (1) policy, (2) planning, (3) procedures and control, (4) training and education, (5) communication, and (6) review and continual improvement. Together, they provide a hotel with a baseline to improve its environmental performance and to assess its environmental management. It can be seen that the current management structure fits in with ISO 14001 system. Most of these components or elements are run formally in HKCom Hotel. Most of its management systems relating to operations are written down, for instance in relation to procedures. This provides clear directions to company employees about environmental targets and objectives and how to achieve them.

The communication and training provided by the organisation increase employees'

knowledge and understanding of the EMS process itself and the changes required for EMS to be implemented. They reduce employees' resistance against EMS and related changes. They enhance adaptability to change and promote more proactive attitudes.

Externally, the role of suppliers and contractors should not be underestimated during the introduction of changes in the environmental operations of an organisation, as their involvement can improve the supply chain. A hotel needs to build trust and long-term relationships with their suppliers and contractors to obtain full benefits from their involvement during the implementation process.

Customers, especially in the hotel industry, can greatly influence the decision-making of hotels, by "pressuring" its management to provide the desired quality service. Therefore, customers plays a substantial role in motivating a hotel to adapt its efforts towards achieving environmental goals as they may place their needs and expectations above those of environmental concerns.

The environmental audit and management review is a necessary process in a large organisation to maintain formal EMS status, but more emphasis should be placed on internal reviews to ensure that employees at a hotel feel that the work is carried out for the benefit of the environment.

Examination of HKCom Hotel's EMS indicates a serious problem caused by the ISO's required "continuous improvement". It is clear that hotel executives have difficulties generating new ideas on improving its environmental performance, especially after implementing the system for ten years. It is harder for the hotel's executives to achieve improvement and this issue has eventually become a "headache". On the other hand, a company's environmental performance can

hardly be guaranteed despite the adoption of EMS, as there is no requirement for public environmental reporting in the system. Because of this, a company's environmental performance may be misinterpreted.

7.3.4. The Impacts on Hotel Employees

EMS often fails because it over emphasises the “hardware” of environmental management and neglects the soft side – the people. Its success depends on broad-based employee commitment and involvement. In the hotel and services industry, employees play a significant role in the successful adoption of EMS. This is especially the case during the implementation stages, as they are the ones to actually perform the environmental tasks. All hotel employees contribute to environmental performance through EMS, and all the people in a hotel need to be motivated towards this common meaningful goal. Therefore, necessary links must be built on people; companies need to realize that a good way to move towards environmental excellence is through a concerted effort to improve not only the environmental performance but also the quality of the working life of their employees whose jobs may become more demanding as a result of EMS. They must make sure staff are equipped to handle their new responsibilities through proper training.

Previous research studies go no further than mentioning how the implementation of EMS improves the morale and satisfaction of employees. They fail to provide a clear explanation about how and when employees are affected. This study provides a deeper understanding of how employees perceive EMS. Through in-depth interviews with hotel employees, the positive and negative impact of EMS on hotel employees are identified.

Positive impacts:

- Increased cohesiveness of employees (S & G)
- Enhanced environmental awareness (A)
- Enhanced environmental knowledge and its transfer (A)
- Enhanced marketability (A)
- Increased team spirit towards being green (S & G)
- Contributions to society (A)
- Recognition (A)
- Perceived economic benefits and job security (G)
- Greater commitment to jobs (A)

Negative impacts:

- Reduced staff commitment in case of incorrect organisational motivation (S & G)
- Sacrifice of environmental duties if busily engaged with normal duties (S & G)
- Lack of new ideas for continual improvement (E & S)
- Uncertainty of outcome of their efforts (S & G)

A = all staff E = executive level S = supervisory level G = general level

The above indicates that both positive and negative influences of EMS on the internal stakeholders - employees - are triggered by human resources factors. These human resources factors include strong management support, more active green committee, continual and in-depth environmental training, environmentally-knowledgeable leaders and tight control system and incentives. These should be addressed, otherwise, EMS may be less than completely successful. Strong commitment and support from management and the incorporation of environmental issues in its decision-making process help cultivate an environmental culture within the company. This is important especially for EMS

in which improvement programmes must be ingrained in a company's culture at all levels. EMS requires a cultural transformation for successful implementation.

Although HKCom Hotel's EMS is recognised as a successful one, not all employees were interested in becoming involved in the EMS. This raised a number of concerns: (1) whether the new organisational culture was successfully cultivated in the employees' mindset, and (2) whether their environmental performance was tightly controlled. To tackle these problems, the role of the company's green committee was important. The inactive green committee in HKCom Hotel was triggered by the problems of insufficient environmental training and loose control that consequently made some employees feel uncertain about the future development of the EMS in the company.

Continual and in-depth environmental training for employees is essential as it is one of the ways for companies to work through a cultural transformation. In addition, it enhances employees' environmental awareness, knowledge and marketability and ensures continual improvement. The ability to execute the core elements of a formal EMS necessitate interface with the human factors mentioned. Therefore, environmentally knowledgeable leaders are required. The knowledge of such leaders among hotel department heads directly affects employee involvement in EMS and their team spirit. Ultimately, it determines the environmental performance of the departments. In terms of the monitoring system, in addition to incentive programmes to ensure good environmental performance, hotel managers should evaluate employee performance tightly to make sure they realize that the company has made a real commitment to environmental protection.

Besides the human resources factors, the organisational motivations to adopt EMS and its outcome, EMS has positive and negative impact on hotel employees.

Meaningful and shared organisational goals result in a more harmonious working environment and positively affect worker involvement. The cohesiveness of employees is enhanced. Reduced employee commitment can be expected if EMS is promoted as just another business strategy to save money and improve a company's reputation.

A better, safer and healthier working environment after EMS implementation and the achievement of ISO 14001 accreditation make hotel employees more committed to their jobs.

Cultural biases of employees affect management style. During the planning process of EMS, a top down approach proved to be a more appropriate and effective strategy for HKCom Hotel because of the cultural preferences of its Chinese employees. They appeared to prefer following instructions to actively initiating their own ideas. However, a bottom-up approach can be promoted during later stages.

7.3.5. Ten Suggestions for Success

Having analysed the organisational motivation behind EMS and its implementation and outcome, ten suggestions have been identified.

S.1: Hotels are more influenced by internal forces, especially from corporate office with an ingrained commitment to environmental protection, rather than external forces to adopt a formal and systematic EMS.

S.2: The level of entrepreneurial orientation towards a formal EMS will very much depend on how large the gap is between a hotel's existing

environmental practices and the formal EMS standards. Piloting activities and partnership with external advisor(s) are important, especially during the formation process because of the lack of environmental expertise in the industry.

S.3: Correct organisational motivation to EMS helps increase the cohesiveness and teamwork of employees because of their shared meaningful values.

S.4: Inconsistent environmental policies, originated by the nature of hotel business and hotel guests, especially those from Asian countries, affect front-line employees' environmental performance.

S.5: For a hotel with mainly Chinese employees, a top-down approach appears to be a more realistic strategy in EMS planning stage but the adoption can help promote a bottom-up approach during implementation stage.

S.6: Despite additional workload as a result of EMS implementation, employees are normally willing to participate because of the meaningfulness of the programme, recognition and enhanced marketability.

S.7: Positive reinforcement is more effective in EMS control process but tight control appears to be important to reflect management commitment to environmental protection.

S.8: (a) The leadership style and environmental knowledge of department heads will affect an individual's environmental learning attitude and the team spirit of the department to go "green".

(b) Continual in-depth environmental training and external sharing appear to be essential to build employees' continual commitment and improvement to EMS.

S.9: Horizontal communication within a hotel and partnership with external stakeholders are important to the success of EMS.

S.10: Getting international environmentally-related accreditation, such as ISO 14001, is a unique achievement for employees when compared with other business awards.

The ten suggestions, developed through this study, form a body of knowledge in environmental management research, especially in studies related to environmental management systems. By identifying the factors and explaining their role and influence in various aspects of EMS, a better understanding of how EMS can be more effectively implemented and can be achieved.

To ensure the commitment of employees to EMS, the hardware of EMS must be accompanied by equal attention to the soft side of the process. When a hotel adopts a formal EMS standard and control tools, it needs to think through the company's human resources policies. The following needs to be examined accordingly: management commitment, the work itself, working conditions, reward systems, the training and development of employees; and the environmental knowledge of leaders. This soft side must reinforce an employee's commitment to environmental management and enhance his or her job satisfaction. The extent to

which this is done may determine the success and future of EMS.

It is expected that this study will first fill the gaps in the environmental management literature in better understanding, the motivation to EMS, the EMS formation and implementation stages and its impact on employees in the hotel context. The findings will give insights to hotel managers and service industry practitioners in identifying, addressing and reducing the challenges that might be encountered during EMS formation and implementation stages. The findings pertaining to the positive and negative impact of EMS on employees will help reduce, if not completely remove, the obstacles encountered by hotels when implementing EMS. This will make the overall implementation faster, smoother and more successful.

Methodologically, this study has employed an exploratory case study to develop better insights into the real life processes of a hotel's EMS and more importantly, its impact on employees. The case study approach has given the author a detailed picture of how an EMS was adopted and implemented in a hotel context. It has also helped the author understand how a formal EMS affects employees in ways that previous EMS research has not provided. This project therefore provides researchers in hospitality management with a good example of the application of a Case Study approach which to date has been little utilised in the field.

7.4. Recommendations for Hotel Practitioners

1. EMS implementation is a learning process in which problems and errors need to be detected and responded to on a continuous basis. Therefore, implementing an EMS decision and achieving positive results do not happen within a short period of time. Designing action plans, carrying out analytical activities, securing

the essential resources, communicating the EMS strategies, arranging training programmes and controlling its progress are all important. However, it should be noted that most of these should be ongoing implementation activities.

2. Hotel managers should be careful in communicating the motives of adoption of EMS. Organisation should not emphasise cost saving and image building as the main reasons for adoption. Otherwise, employees will perceive that the company is not implementing the programme earnestly. Instead, managers should emphasise the contributions to society by protecting the environment, a core common value among employees.
3. Hotel managers should be aware of the importance of the context in which the process of EMS development and implementation takes places. Hotels should change their bureaucratic structures to networks that can minimise conflicts among functional areas. This allows executives to communicate and co-ordinate freely with their supervisory and general counterparts across the organisation when designing and implementing EMS.
4. Executives may be experts in their specific functional areas, but if they are to be successful in designing and implementing EMS they also need to possess the related knowledge and skills. Therefore, hotels should establish an independent EMS unit and select and develop individuals for leadership roles to lead complex and dynamic EMS. An executive wearing “two hats” to take care of his/her own job in addition to EMS duties should be avoided.
5. Continual and in-depth environmental training should be provided at all levels of employees, as the training will not only continually enhance employees’ environmental awareness; knowledge and marketability. These help increase

their commitment to the programme, and ensure the continual improvement required by a formal EMS.

6. Regular inter-departmental environmental experience-sharing sessions within the company should be organised for employees to ensure they understand what other departments are doing and how all these practices can work together to achieve the company's environmental goals. Employees can be certain their efforts are not being wasted. Experience-sharing with other companies from different fields should also be arranged for the executives involved in the programme as well as the green committee to generate new ideas to continually improve the existing system.
7. Rather than negative reinforcement, hotel management should employ positive reinforcement such as incentive programmes, bonus systems, pegged with money saved from EMS, etc., to ensure desired environmental performance as hotel employees expect their employers to share perceived benefits (e.g. saving costs obtained from EMS implementation).
8. When implementing EMS, hotel managers should consider installing or upgrading existing facilities to improve health and safety conditions in the workplace. The integration of health and safety issues in EMS can motivate employees to be actively involved in the programme when they feel good about their working environment.

7.5. Limitations of Research

The overall aim of this research is to examine how EMS impacts hotel employees,

to provide understanding of this under-researched area of environmental management. Like any research projects, this study has several limitations. For instance, the data for this study was collected mainly through in-depth, semi-structured interviews, although documentary evidence was also used as additional data collection methods. The interview data was confined to relevant employees, managers' and executives' past accounts, although they were chosen for their involvement in change and proximity to action. Several key executives and managers could not be interviewed because of their busy schedules. Interviews with them could perhaps have provided additional in-depth data. However, many other informants who were critical about the EMS were interviewed, and their views were incorporated in the research findings.

In addition, findings from this research are based on a selected case in Hong Kong; they, therefore, should not be freely used for generalization. The comparability with other industries is also questionable, as the hotel context has been chosen as the focus of this study. Case study is a distinctive form of empirical inquiry; many researchers disdain this method. Perhaps the greatest concern has been over the lack of rigor of case study research (Yin, 1994), as often, case study investigators have been sloppy and have allowed the biased views to influence findings and conclusions. Another common concern about case studies is that it provides little basis for scientific generalization.

Realizing the concerns regarding the case study research strategy, the author has tried to take special care to avoid these pitfalls when carrying out the current research. For instance, extra efforts were made to report all evidence fairly and to avoid producing unduly long and massive documents. Concerning the criticism that case studies provide little basis for scientific generalization, as mentioned in the methodology chapter, Yin(1994) has argued that case studies, like experiments,

are generalisable to theoretical propositions and not to populations or universe. In this sense, the case study, like the experiment, does not represent a “sample”, and the investigator’s goal is to expand and generalize theories and not to enumerate frequencies.

Galliers (1992) pointed out that the weaknesses of case study include the fact that its application is usually restricted to a single event / organisation and the difficulty in acquiring similar data from a statistically meaningful number of similar organisations and hence the problems associated with making generalizations from individual case studies. This is in fact the limitation of this study using a single case study approach and carrying out in-depth analysis to conduct a deep and detailed investigation into one case. It may be useful to choose a multiple case study to increase the rigour of research and be able to complement the first study by focusing on an area not originally covered. However, an investigation into a leading environmentally-friendly hotel, the first hotel in Hong Kong and Asia Pacific region to obtain ISO 14001 certification, justifies the use of a single case study, as the appropriate number of cases depends upon how much is known in a particular subject area especially there seems to be limited research into the EMS in the hotel industry. Lawler et al. (1985) argued that single case studies are helpful in developing and refining generalisable concepts and frames of reference.

Based on the limitation, experience and findings of this research, the author suggests that further studies be conducted in the directions recommended in the following.

7.6. Recommendations for Future Research

Since the case in this study is a deluxe class hotel, a similar research study could be undertaken in small to medium-sized hotels or from budget class hotels. Such studies may provide further explanation about the differences and similarities among hotels in various categories.

A longitudinal case study approach can evaluate the implementation process of EMS and its outcomes over a longer period of time. Such a study can utilise multiple data collection methods including interviews, observations, documents and perhaps questionnaires where appropriate. This type of study provides richer and more detailed explanation of the EMS formation and implementation processes. Finally, a cross-cultural study can be considered on a wider population, with multiple hotels in different countries and cultures.

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APPENDICES

Appendix 2.1 Directory of ISO 14001 Certified Companies in Hong Kong

Company Name	Nature of Business	Issue Date of Certification
1. Caltex Oil Hong Kong Limited	Chemicals / Oil	Dec 1997
2. Dunwell Petro-Chemical Co. Limited / Dunwell Environmental Management Co. Limited	Chemicals / Oil	Aug 1999
3. Green Island Cement Co. Ltd	Chemicals / Oil	Feb 2001
4. Shell Hong Kong Limited – Tsing Yi Installation	Chemicals / Oil	Mar 1998
5. Anderson Asphalt Limited	Construction / Construction materials	Oct 1999
6. Aoki Corporation	Construction / Construction materials	Jun 2001
7. China Overseas Building Construction Limited	Construction / Construction materials	Sep 1998
8. China Overseas Civil Engineering Limited	Construction / Construction materials	Aug 1998
9. China Overseas Foundation Engineering Limited	Construction / Construction materials	Jul 1998
10. China State Construction Engineering Corporation	Construction / Construction materials	Oct 1998
11. Dickson Construction Company Limited	Construction / Construction materials	Dec 1999
12. Downer Construction (Hong Kong) Limited	Construction / Construction materials	Jan 2001
13. Dritech Ground Engineering Limited	Construction / Construction materials	May 1999
14. Hip Hing Construction Company Limited	Construction / Construction materials	Oct 1999
15. Hsin Chong Construction Co. Ltd.	Construction / Construction materials	Feb 2001
16. Hsin Chong – Taylor Woodrow Joint Venture No. 1	Construction / Construction materials	Mar 2001
17. Hsin Chong (Foundations) Asia Limited	Construction / Construction materials	Mar 2001
18. Hsin Chong (Foundations) Ltd.	Construction / Construction materials	Mar 2001
19. Hsin Chong Construction (Asia) Limited	Construction / Construction materials	Mar 2001
20. I-P Foundations Limited	Construction / Construction materials	Apr 1999
21. Kin Wing Engineering Company Limited	Construction / Construction materials	Nov 1998
22. Kumagai Gumi Co., Ltd. (HK Branch)	Construction / Construction materials	Jan 2001
23. Leighton Contractors (Asia) Limited	Construction / Construction materials	Apr 1999
24. Maeda Kensetsu Kogyo Kabushiki Kaisha	Construction / Construction materials	Oct 1998
25. Mak Hang Kei (HK) Construction Limited	Construction / Construction materials	Apr 2000
26. Quon Hing Concrete Company Limited	Construction / Construction materials	Jan 2000
27. Shui On Building Contractors Limited	Construction / Construction materials	Dec 1999
28. Shui On Construction Company Limited	Construction / Construction materials	Dec 1999
29. Skanska International Civil Engineering AB, Hong Kong Branch	Construction / Construction materials	Apr 1999
30. Yau Nam Kee Construction Co., Ltd.	Construction / Construction materials	Dec 2000
31. Nixon Cleaning Company Ltd.	Cleaning Services	Mar 2001
32. Pollution & Protection Services Ltd.	Cleaning Services	Mar 2001
33. Wai Hong Cleaning & Pest Control Co. Ltd.	Cleaning Services	Apr 2001

34. Havering Radcliffe Limited	Consultancy Services	Feb 1998
35. Ivanho Architect Limited	Consultancy Services	May 1999
36. K A Kho & Associates Architects & Consultants Limited	Consultancy Services	Jan 1998
37. Materialab Consultants Limited	Consultancy Services	Jan 1999
38. Ove Arup & Partners Hong Kong Limited	Consultancy Services	Feb 2001
39. TQM Consultants Company Limited	Consultancy Services	Oct 1999
40. Carven Circuits Limited	Electrical / Electronic	May 1998
41. Casio Computer (Hong Kong) Limited	Electrical / Electronic	Dec 1999
42. Casio Computer (Hong Kong) Limited	Electrical / Electronic	Dec 1999
43. Elec & Eltek Multilayer PCB Limited	Electrical / Electronic	Mar 1998
44. Fyrnetics (Hong Kong) Limited	Electrical / Electronic	Oct 2000
45. Group Sense (International) Limited	Electrical / Electronic	Aug 1999
46. Hitachi Koki Asia Company Limited	Electrical / Electronic	Jan 2001
47. Hong Yuen Electronics Limited	Electrical / Electronic	Dec 1998
48. Kalex Circuit Board (China) Limited	Electrical / Electronic	Jul 1999
49. Matsushita Electronic Components (HK) Company Limited	Electrical / Electronic	Apr 1999
50. Matsushita Seiko Hong Kong International Manufacturing Company Limited	Electrical / Electronic	Mar 1999
51. Multek Hong Kong Limited	Electrical / Electronic	Dec 1999
52. Philips Electronics Hong Kong Limited – Light Factory	Electrical / Electronic	Aug 1999
53. Philips Electronics Hong Kong Limited – Mobile Display Systems	Electrical / Electronic	Sep 1998
54. Philips Semiconductors – Electronic Devices Limited	Electrical / Electronic	Dec 1997
55. Possehl Besi Electronics Hong Kong Limited	Electrical / Electronic	Mar 2000
56. Sanyo Energy (Hong Kong) Company Limited	Electrical / Electronic	May 1997
57. Standard Success Electrical Company Limited	Electrical / Electronic	Oct 2000
58. Topsearch Printed Circuits (Hong Kong) Limited	Electrical / Electronic	Jan 1999
59. Uniden Hong Kong Limited	Electrical / Electronic	Sep 1997
60. Wongs' Circuits (PTH) Limited	Electrical / Electronic	Jun 2000
61. Young's Engineering Co. Ltd.	Engineering	Mar 2001
62. Cathay Pacific Catering Services (Hong Kong) Limited	Food	Aug 1999
63. Kong Tai Shoes Manufacturing Company Limited	Footwear	Nov 1998
64. Architectural Services Department	Government Departments	Mar 1998
65. Drainage Services Department	Government Departments	Feb 2001
66. EMSD (Airport Sector Division)	Government Departments	Sep 2000
67. EMSD (EPD Corporate Services)	Government Departments	Jul 2000
68. EMSD (General Engineering Services Division, EMA Maintenance Sub-Division)	Government Departments	Sep 2000
69. EMSD (Health Sector Division, Hospital Engineering Services Sub-Divisions)	Government Departments	Sep 2000

70. EMSD (Health Sector Division, Medical Electronics Maintenance Sub-Division)	Government Departments	Sep 2000
71. EMSD (Health Sector Division, Medical Electronics Projects & Procurement Sub-Divisions)	Government Departments	Sep 2000
72. EMSD (Municipal Sector Division)	Government Departments	Sep 2000
73. EMSD (Project Division)	Government Departments	Oct 2000
74. EMSD (Regulatory Services Units)	Government Departments	Mar 2001
75. EMSD (Supplies Sub-Division)	Government Departments	Oct 2000
76. EMSD (Training Sub-Division)	Government Departments	Oct 2000
77. EMSD (Transport, Security & Central Services Division, E M & O Sub-Division)	Government Departments	Sep 2000
78. EMSD (Transport, Security and Central Services Division, EMAM & CS Sub-Division)	Government Departments	Oct 2000
79. EMSD (Vehicle Engineering Division)	Government Departments	Sep 2000
80. EMSD (Engineering Services Division)	Government Departments	May 2001
81. Environmental Protection Department (Waste Facilities Business Unit)	Government Departments	Sep 2000
82. Government Laboratory	Government Departments	Jul 1999
83. Grand Stanford Inter-Continental, Hong Kong	Hotel Services	Aug 2000
84. Hotel Nikko Hong Kong	Hotel Services	Sep 1999
85. Island Shangri-La Hong Kong	Hotel Services	Apr 1997
86. Kowloon Shangir-La	Hotel Services	Jun 1998
87. Materialab Ltd	Laboratories	Nov 2000
88. Ben Fung Machineries & Engineering Ltd.	Lift / Elevator Services	Feb 2001
89. Hitachi Elevator Engineering Company (Hong Kong) Limited	Lift / Elevator Services	Jul 1999
90. Kone Elevator (HK) Ltd.	Lift / Elevator Services	Feb 2001
91. Schindler Lifts (Hong Kong) Limited	Lift / Elevator Services	Nov 2000
92. Kyocera Mita Industrial Company (H.K.) Limited	Manufacturer – Office Equipment's	Nov 2000
93. Kwong Wah Hospital – Facility Management Department	Medical Services	Jul 2000
94. China Aerospace International Holdings Limited	Others	Dec 1998
95. DB Products Limited	Others	May 2000
96. Jetta Company Limited	Others	Nov 2000
97. Kingdom Fine Metal Ltd.	Others	Dec 1998
98. NEC Technologies Hong Kong Limited	Others	Feb 2001
99. Ng Fung Hong Limited – Sheung Shui Slaughterhouse	Others	Jun 2000
100. C & C Joint Printing Company (Hong Kong) Limited	Printing Services	Dec 1999
101. First Pacific Davies Property Management Limited	Property Management	Jan 2000
102. Funing Property Management Ltd.	Property Management	Oct 2000
103. Hang Yick Properties Management Limited	Property Management	Aug 2000
104. Hsin Chong Real Estate Management Limited	Property Management	Nov 1999
105. Jones Lang LaSalle Limited – Property Management Division	Property Management	May 2001

106. Kai Shing Management Services Limited	Property Management	Apr 1998
107. Well Born Real Estate Management Limited	Property Management	Nov 2000
108. Aberdeen Marine Club Limited	Recreational Club	Feb 2000
109. Hong Kong Aircraft Engineering Company Limited – Facilities Department	Repairs Services	Apr 2000
110. Epson Hong Kong Limited	Sales / Trading	Mar 2000
111. Fujidenki (Hong Kong) Company Limited	Sales / Trading	Jan 1999
112. M-B Sales (Asia Pacific) Limited	Sales / Trading	Sep 2000
113. Mitsui High – Tec (Hong Kong) Limited	Sales / Trading	May 2000
114. Noble Jewelry Limited	Sales / Trading	Sep 2000
115. Sony Corporation of Hong Kong Limited	Sales / Trading	Feb 2001
116. Sony International (Hong Kong) Limited	Sales / Trading	Sep 1999
117. The Marketing Store World Wide Asia Limited	Sales / Trading	Aug 1997
118. Tokyo Byokane Company Limited	Sales / Trading	Jan 1999
119. Tmy (Hong Kong) Limited	Toys	Jan 1999
120. Kowloon Canton Railway Corporation – East Rail Division, Feight Department	Transportation	Dec 1999
121. Kowloon Canton Railway Corporation – East Rail Division, Operations Department	Transportation	Dec 1999
122. Kowloon Canton Railway Corporation - East Rail Division, Rolling Stock Department	Transportation	Jan 1999
123. Kowloon Canton Railway Corporation – Infrastructure & Buildings Department	Transportation	Dec 1997
124. Kowloon Canton Railway Corporation – Light Rail Division, Engineering Department	Transportation	Nov 1998
125. Kowloon Canton Railway Corporation – Light Rail Division, Operations Department	Transportation	Nov 1999
126. CLP Power HK Limited – Generation Business Group Black Point & Penny’s Bay Power Stations	Utilities (Electricity)	Feb 2000
127. CLP Power Hong Kong Limited – Generation Business Group Castle Peak Power Station	Utilities (Electricity)	Feb 2000
128. CLP Power Hong Kong Limited – Marketing and Customer Serviced Business Group	Utilities (Electricity)	Nov 2000
129. CLP Power Hong Kong Limited – Power System Business Group	Utilities (Electricity)	Mar 2000
130. CLP Engineering Ltd	Utilities (Electricity)	May 2001
131. The Hong Kong and China Gas Company Limited – Tai Po Gas Production Plant	Utilities (Gas)	Dec 1999
132. Epson Precision (Hong Kong) Limited / Seiko Epson Corporation (Hong Kong Branch)	Watch / Clock	Oct 1999
Source: Environmental Production Department, “Directory of ISO 14001 certified companies in HK”, available for download at http://www.infogov.hk/epd/ea&m/iso14001.html)		

Appendix 3.1 Register of Significant Environment Aspects

(Source: Hong Kong Polytechnic University (PolyU), “Environmental Management Manual for Hotels in Hong Kong” (2000a))

Environmental Aspects	Situation	Impact						Objective & Target Reference	Operational Control Reference
		Air	Water	Land	Noise	Flora & Fauna	Material Resources		
Energy Consumption									
1. Consumption of electricity by chiller plant	N	X					X		OCP-EH
2. Consumption of electricity by air side of HVAC system (Fan Coil Unit), (Air Handling Unit), (Primary Air Unit), fresh air fans and exhaust air fans	N	X					X		OCP-AO OCP-AS OCP-EB OCP-EE OCP-EH OCP-EM OCP-EO OCP-EP OCP-ET OCP-EX OCP-FA OCP-FK OCP-FO OCP-FS OCP-HK OCP-HR OCP-LD OCP-PD OCP-PR OCP-SD OCP-SM
3. Consumption of diesel oil and electricity by boiler plant	N	X					X		OCP-EM
4. Consumption of electricity and emission of heat by interior and exterior lighting	N	X					X		OCP-AO OCP-AS OCP-EB OCP-EE OCP-EH OCP-EM OCP-EO OCP-EP OCP-ET OCP-EX OCP-FA

									OCP-FK OCP-FO OCP-FS OCP-HK OCP-HR OCP-LD OCP-PD OCP-PR OCP-SD OCP-SM
5. Consumption of electricity by vertical transportation system	N	X					X		OCP-SD
6. Consumption of electricity by hot and cold water pumps, flushing system pumps, swimming pool pumps, etc.	N	X					X		OCP-EM OCP--EP
7. Consumption of gas, and emission of heat and fumes by gas stoves/ovens in kitchens	N	X					X		OCP-EM OCP-FK
8. Consumption of electricity by ice-makers, freezers, refrigerators and cold rooms	N	X					X		OCP-AS OCP-FK
9. Consumption of electricity and emission of heat by laundry machinery	N	X					X		OCP-EM OCP-FS OCP-HK OCP-LD
10. Consumption of electricity and emission of steam by dishwashers	N	X					X		OCP-FK OCP-FS
11. Consumption of electricity and emission of heat by office equipment and electrical appliances / equipment	N	X					X		OCP-AO OCP-AS OCP-EB OCP-EE OCP-EH OCP-EM OCP-EO OCP-EP OCP-ET OCP-EX OCP-FA OCP-FK OCP-FO OCP-FS OCP-HK OCP-HR OCP-LD OCP-PD OCP-PR OCP-SD

									OCP-SM
12. Consumption of electricity for Sauna room	N	X					X		OCP-FO
13. Consumption of liquefied gas for portable gas heater in restaurants	N						X		OCP-FS
14. Consumption of sternal / canned heat in restaurants	N						X		OCP-FS
15. Consumption of gasoline by hotel limousine	N	X					X		OCP-FO
Water Consumption and Discharge									
16. Consumption and discharge of water used for food preparation	N		X				X		OCP-FK
17. Consumption and disposal of ice used for food preservation and decoration	N		X				X		OCP-FS
18. Consumption of drinking water	N		X				X		OCP-FS
19. Consumption and discharge of water and chemicals used for washing tableware, utensils, appliances, etc.	N		X				X		OCP-FK OCP-FS
20. Consumption and discharge of water and chemicals used for washing linen	N		X				X		OCP-FS OCP-HK OCP-LD
21. Consumption and discharge of water by dry cleaning machine	N		X				X		OCP-LD
22. Consumption and discharge of water and chemicals used for cleaning floors, wall tiles, vents, etc.	N		X				X		OCP-FS
23. Maintenance of efficiency of grease traps	N		X			X			OCP-EP OCP-FS
24. Consumption and discharge of water used for washing air filters	N		X				X		OCP-EH
25. Contamination and discharge of water in potable water tank	A		X				X		OCP-EP
26. Leakage of water and steam from calorifiers and boiler plant	A		X				X		OCP-EM
27. Leakage of chilled water, hot water and condensing seawater from chiller plant	A		X				X		OCP-EH
28. Leakage of water and seawater from plumbing and drainage system	A		X				X		OCP-EM OCP-EP OCP-FK OCP-FS OCP-HK OCP-HR OCP-LD
29. Consumption and discharge of water in pools	N		X				X		OCP-EM
30. Maintenance of water quality in swimming pool	N		X			X	X		OCP-EM OCP-FO
31. Consumption and discharge of water in guestrooms	N		X				X		OCP-IHK
32. Consumption and discharge of water in public area toilets	N		X				X		OCP-IHK
33. Consumption and discharge of water in staff toilets and changing rooms	N		X				X		OCP-IHK OCP-IHR
Materials									
34. Purchase, use, storage and disposal of chemicals in stewarding sections: - chemicals/detergents used for cleaning tableware, utensils, etc.;	N	X	X	X		X	X		OCP-FS OCP-PD

- rinse additives for dishwashers; - polishing chemicals; - bleaches; - oven/grill cleaners; - caustic soda; - disinfectants; and - All purpose cleaners for floors, walls and general equipment cleaning; etc.									OCP-SD
35. Purchase, use, storage and disposal of chemicals in Housekeeping: - air fresheners; - pesticides for pest control treatment; - chemicals for sterilisation; - chemicals for furniture polishing; - glass cleaners; - scouring creams; - brass polishes; - carpet cleaners; and - all purpose cleaners for general cleaning; etc.	N	X	X	X		X	X		OCP-HK OCP-PD OCP-SD
36. Purchase, use, storage and disposal of chemicals in Laundry: - liquid/powered detergents for linen washing; - dry cleaning chemicals; - spotting agents; - bleaches; - fabric softeners; - rust removal agents; etc.	N	X	X	X		X	X		OCP-LD OCP-PD OCP-SD
37. Purchase, use, storage and disposal of chemicals in Engineering: - lubricant oil for machinery; - refrigerants used by chiller plant, compressors of cold room, refrigerators and ice-makers; - chilled water treatment chemicals; - treatment chemicals for boiler plant; - solvents / detergents for equipment cleaning; - oxidising gas and acetylene for welding and cutting; - paints and varnishes; - polishing chemicals; - chemicals for plastering or finishing off; - sealants for water-proofing; - chemicals use for sterilisation / purification of swimming pool water; etc.	N	X	X	X		X	X	EMP-ED-01 EMP-ED-02	OCP-EB OCP-EE OCP-EH OCP-EM OCP-EP OCP-ET OCP-PD OCP-SD
38. Purchase, use, storage and disposal of dangerous goods: - diesel oil	N	X	X	X		X	X	EMP-ED-01	OCP-EM OCP-ET OCP-PD OCP-SD

39. Purchase, use, storage, and disposal of office paper, newspapers, magazines, paper cards, fax paper, envelopes, business forms, NCR paper, pamphlets, directories and gift paper	N			X			X	EMP-AD-01 EMP-AD-02	OCP-AO OCP-AS OCP-EB OCP-EE OCP-EH OCP-EM OCP-EO OCP-EP OCP-ET OCP-EX OCP-FA OCP-FK OCP-FO OCP-FS OCP-HK OCP-HR OCP-LD OCP-PD OCP-PR OCP-SD OCP-SM
40. Purchase, use, storage and disposal of general office stationery and consumables	N			X			X	EMP-AD-02 EMP-PD-01	OCP-AO OCP-AS OCP-EB OCP-EE OCP-EH OCP-EM OCP-EO OCP-EP OCP-ET OCP-EX OCP-FA OCP-FK OCP-FO OCP-FS OCP-HK OCP-HR OCP-LD OCP-PD OCP-PR OCP-SD OCP-SM
41. Purchase, use, storage and disposal of plastic products	N			X			X		OCP-AO

									OCP-AS OCP-EO OCP-ET OCP-EX OCP-FA OCP-FK OCP-FO OCP-FS OCP-HK OCP-HR OCP-LD OCP-PD OCP-PR OCP-SD OCP-SM
42. Purchase, use, storage and disposal of packaging materials: - paper packaging; - plastic packaging; - metal can; - glass bottle; - styrofoam box; - bamboo basket; - nylon bag; - composite packaging; etc.	N			X			X	EMP-HR-01	OCP-AO OCP-AS OCP-EB OCP-EE OCP-EH OCP-EM OCP-EO OCP-EP OCP-ET OCP-EX OCP-FA OCP-FK OCP-FO OCP-FS OCP-HK OCP-HR OCP-LD OCP-PD OCP-PR OCP-SD OCP-SM
43. Purchase, use, storage and disposal of furniture	N			X			X		OCP-EB OCP-PD
44. Purchase, use, storage and disposal of timber products	N			X			X		OCP-EB OCP-PD
45. Purchase, use, storage and disposal of utensils in kitchens	N			X			X		OCP-FK OCP-PD
46. Purchase, use, storage and disposal of building and decoration materials	N			X			X		OCP-EB

									OCP-ET OCP-PD
47. Purchase, use, storage and disposal of air-conditioning equipment / components	N	X	X	X		X	X		OCP-EH OCP-ET OCP-PD
48. Purchase, use, storage and disposal of mechanical equipment / components	N	X	X	X		X	X		OCP-EM OCP-ET OCP-PD
49. Purchase, use, storage and disposal of electrical equipment / components	N	X	X	X		X	X		OCP-EE OCP-ET OCP-PD
50. Purchase, use, storage and disposal of gas equipment / components	N	X	X	X		X	X		OCP-EM OCP-ET OCP-PD
51. Purchase, use, storage and disposal of fire services equipment / components	N	X	X	X		X	X		OCP-EP OCP-PD
52. Purchase, use, storage and disposal of plumbing components	N		X	X			X		OCP-EP OCP-ET OCP-PD
53. Purchase, use, storage and disposal of food and beverage products	N		X	X			X		OCP-FK OCP-FS OCP-PD
54. Purchase, use, storage and disposal of consumables in kitchens (e.g. cake-boards, doyley paper, baking cups, grease proof paper, wooden frames and skewers, etc.)	N			X			X		OCP-FK OCP-PD
55. Purchase, use, storage and disposal of consumables in food and beverage service outlets (e.g. disposable tableware, doyley paper, table placemats, plastic stirrers and cocktail picks; paper napkin and coasters drinking straws, wooden chopsticks, chopsticks paper pack, matches, toothpicks, etc.)	N			X			X	EMP-FS-01	OCP-FS OCP-PD
56. Purchase, use, storage and disposal of cooking oil	N		X				X		OCP-FK OCP-PD
57. Purchase, use, storage and disposal of tableware	N			X			X		OCP-FS OCP-PD
58. Purchase, use, storage and disposal of linen items	N			X			X		OCP-EB OCP-EE OCP-EH OCP-EM OCP-EP OCP-FK OCP-FS OCP-IHK OCP-IHR

									OCP-LD OCP-PD
59. Purchase, use, storage and disposal of materials used for guest laundry delivery	N			X			X	EMP-LD-01	OCP-LD OCP-PD
60. Purchase, use, storage and disposal of toilet paper and tissue paper	N		X	X			X		OCP-HK OCP-HR OCP-PD
61. Purchase, use, storage and disposal of used soap in guestrooms	N			X			X		OCP-HK OCP-HR OCP-PD
62. Purchase, use, storage and disposal of video tapes for CCTV system	N			X			X		OCP-PD OCP-SD
Emissions									
63. Emission of volatile organic compounds during painting	N	X				X			OCP-EB
64. Emission of heat, dust and ozone during photocopying	N	X				X		EMP-PD-02	OCP-AO OCP-AS OCP-EO OCP-EX OCP-FA OCP-FO OCP-HK OCP-HR OCP-LD OCP-PD OCP-PR OCP-SD OCP-SM
65. Emission of ozone by ozone air purifiers	N	X				X			OCP-HK
66. Emission of heat, PCE vapour and lint particles by laundry dryers	N	X				X		EMP-LD-02	OCP-EH OCP-LD
67. Emission of flue gas from boiler plant system	N	X				X			OCP-EM
68. Emission of exhaust gas from kitchens	N	X				X			OCP-EH
69. Emission of exhaust gas while testing the emergency generator	A	X				X			OCP-EE
70. Emission of combustion exhaust by hotel limousine	N	X				X			OCP-FO
71. Emission of chlorine to sea water and emission of hydrogen gas to the environment by chlorinator for killing bacteria and coral in sea water along the pipeline of seawater-cooled chiller plant	N	X	X			X			OCP-EH
72. Emission of noise by HVAC system	N				X	X			OCP-EH
73. Emission of noise by bars and lounges	N				X	X			OCP-FS
74. Emission of noise by engineering and building maintenance activities	A				X	X			OCP-EB OCP-EE OCP-EH

									OCP-EM OCP-EP
75. Emission of noise by alarm systems	A				X	X			OCP-SD
Emergency Situations									
76. Fire and emission of fumes due to leakage of electricity from electrical installations and equipment	E	X				X	X		OCP-EE OCP-SD
77. Fire and emission of carbon monoxide and fumes due to leakage of gas from kitchen equipment	E	X				X	X		OCP-EM OCP-SD
78. Fire and emission of heat and fumes due to spillage of oil into gas stoves	E	X				X	X		OCP-FK OCP-SD
79. Fire due to backflow of welding gas from containers	E	X				X	X		OCP-EH OCP-EM OCP-EP OCP-SD
80. Contamination caused by spillage / leakage of dangerous goods and chemicals during delivery	E	X	X	X		X	X	EMP-ED-01 EMP-ED-02	OCP-EB OCP-EE OCP-EH OCP-EM OCP-EP OCP-ET OCP-FS OCP-HK OCP-LD OCP-SD
81. Fire and contamination due to improper handling and storage of dangerous goods and chemicals	E	X	X	X		X	X	EMP-ED-01 EMP-ED-02	OCP-EB OCP-EE OCP-EH OCP-EM OCP-EP OCP-ET OCP-FS OCP-HK OCP-LD OCP-SD
82. Fire and contamination due to leakage of dangerous goods and chemicals from equipment and containers	E	X	X	X		X	X	EMP-ED-01 EMP-ED-02	OCP-EB OCP-EE OCP-EH OCP-EM OCP-EP OCP-ET OCP-FS OCP-HK OCP-LD

									OCP-SD
83. Contamination of public land or workplace by overflow of waste water due to blockage of drainage system	E		X	X		X			OCP-EP
84. Emission of carbon dioxide, BCF etc. from fire extinguisher in case of emergency or malfunction	E	X				X			OCP-EP OCP-SD
Contract-out Services									
85. Environmental activities and operations of shops in shopping arcade	N	X	X	X	X	X	X		OCP-AO
86. Environmental activities and operations of hotel clinic	N	X	X	X	X	X	X		OCP-AO
87. Environmental activities and operations of health centre	N	X	X	X	X	X	X		OCP-AO OCP-EM OCP-FO
88. Environmental activities and operations of engineering maintenance contractors	N	X	X	X	X	X	X		OCP-EO
89. Environmental activities and operations of building maintenance contractors	N	X	X	X	X	X	X		OCP-EO
90. Environmental activities and operations of fire services contractors	N	X	X	X	X	X	X		OCP-EO OCP-SD
91. Environmental activities and operations of contractor for pest control treatment	N	X	X	X	X	X	X		OCP-HK
92. Environmental activities and operations of general waste and chemical waste collectors	N	X	X	X	X	X	X		OCP-EO OCP-FS

Remarks

Operational Control Procedure: OCP – yy
yy- Meaningful abbreviations
EH: Engineering Department (HVAC Section)
EE: Engineering Department (Electrical Section)
EM: Engineering Department (Mechanical Section)
EP: Engineering Department (Plumbing, Drainage & Fire Services Section)
EB: Engineering Department (Building and Decoration)
ET: Engineering Department (Technical Store Section)
EO: Engineering Department (Engineering Office Section)
EX: Executive Offices
PR: Public Relations Department
SM: Sales & Marketing Department
FK: F&B Department (Kitchens Section)
FS: F&B Department (Service Section)
FA: F&B Department (Administration Office Section)
FO: Front Office Department
HK: Housekeeping Department
HR: Human Resources Department
LD: Laundry Department
PD: Purchasing Department

SD: Security Department
AO: Accounts Department (Office Section)
AS: Accounts Department (Stores Section)

Appendix 3.2 Various Hotel Operations Affected by Hong Kong Government Legislation

Main Areas	Hotel Operations affected by Hong Kong Government Legislation
<i>Discharges to Local Waters</i>	In Hong Kong, there are two major ordinances related to water pollution control, with impact on hotels: Water Pollution Control Ordinance (CAP.358, 1997) and Sewage Service Ordinance (CAP. 463, 1997) The major sources of aqueous discharge from hotels include wastewater from laundry and toilet facilities, which is expected to have high Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), suspended solids and E-coli content. Wastewater from laundry may contain high concentrations of chemicals if the detergents used are inappropriate. Wastewater from hair salons and swimming pools may contain certain chemicals which must be kept under control. Similarly, wastewater from engineering and building maintenance activities may also be significant sources of discharge. Because of these ordinances, hotels in Hong Kong are required to undertake regular monitoring of discharges and submit analysis of results to EPD for required license.
<i>Emissions to Air</i>	There are three major ordinances, with subsidiary regulations, relating to air pollution control that have relevance to hotel operations, that is, Air Pollution Control Ordinance (CAP. 311, 1997), Ozone Layer Protection Ordinance (CAP.403, 1997a), and Road Traffic Ordinance (CAP.374, 1997). Under Air Pollution Control Ordinance, hotels in Hong Kong must ensure that emissions from boilers, cooking stoves and electrical generators comply with the relevant regulations and emission standards. Other air pollutant emission, such as exhaust gas from kitchens and laundry, should also be minimized. Chan and Lam (2002) examined the pollutants produced by the hotel industry and determined that they were mainly through electricity consumption. The survey of 17 hotels in Hong Kong found that the average electricity consumption was about 342 kW h/m²/year. Based on established pollutant emission factors of coal and natural gas, the amount of sulphur dioxide, nitrogen dioxides, carbon dioxides and particulates created by the hotel industry's electricity usage during a 10-year period from 1988 to 1997 was estimated in the study. The study further predicted an increase in these amounts in 1998-2003, accompanying the rise in the number of hotel properties, and indicated that existing green measures and devices were inadequate to cope with the increase in pollution emission in the near future. For the removal of asbestos-containing materials from hotel buildings or equipment, hotels are required to engage a Registered Asbestos Consultant to conduct an asbestos investigation (CAP 311, 1997a). A Registered Asbestos Contractor under the supervision of the registered consultant should undertake the asbestos abatement work (CAP 311, 1997b). The Ozone Layer Protection Ordinance (CAP 403, 1997) controls the manufacture, import and export of ozone depleting substances through registration and licensing provisions, including unintentionally vented controlled refrigerants (e.g. CFCs) into the atmosphere. Under the ordinance, hotels must take appropriate measures, such as periodic checking and maintenance, to minimize the leakage of refrigerants into the atmosphere. Likewise, periodic checking of all fire extinguishers which contain ozone-depleting substances must be carried out so as to minimize leakage. Road Traffic Ordinance (CAP 374, 1997) and its subsidiary regulation provide for the regulation or road traffic, use of vehicles and roads,

	etc. It also includes provisions to limit pollution from vehicles such as requiring smoky vehicles to be tested at a vehicle emission-testing centre (CAP 374, 1997a). Smoke or visible vapour generated from hotel's service vehicles comes under the control of this ordinance.
Disposal of Waste	Waste Disposal Ordinance (CAP354, 1997) provides the principle statutory framework for the control and regulation of the production, storage, collection and disposal including the treatment, reprocessing and recycling of waste. It prohibits any person from using any land for the disposal of waste unless authorized or licensed by EPD. In a hotel, guestrooms, offices, restaurants, bars and kitchens are major sources of solid waste. (Laundry, clinics and engineering and building maintenance, etc. tend to produce more chemical wastes such as waste lubricating oil, and expired drugs.) General solid waste arising from hotels is classified as commercial waste. Hotels must arrange for proper disposal of waste, such as engaging the services of a private waste collector.
Control of Noise	Noise Control Ordinance (CAP 400, 1997) provides statutory control over environmental noise generated from factories, commercial building, etc. including ventilation noise and domestic noise. Possible sources of noise in hotels are nightclubs and bars, external building services equipment, engineering and building maintenance activities, and alarms. Hotel operators must take appropriate measures to reduce the level of environmental noise.
Health and Safety Legislation	Legislation relating to health and safety include Dangerous Goods Ordinance (CAP 295, 1997), Radiation Ordinance (CAP 303, 1997) and Public Health and Municipal Services Ordinance (CAP 132, 1997) and subsidiary regulations. Dangerous Goods Ordinance and its subsidiary regulations provide for the control of the manufacture, handling, labelling, storage and transportation of dangerous goods. Manufacturing, storing, conveying or using any dangerous goods are prohibited without a valid license. Hence, the storage, handling and disposal of any dangerous goods in hotels, such as fuel oil for the operation of boiler plants and any chemicals used in the chlorinating process for swimming pools, should be handled under control. Radiation Ordinance controls the import, export, possession and use of radioactive substances and irradiating apparatus and the prospecting and mining for radioactive minerals. Radioactive substances are commonly used in fire detection systems; therefore, storage, handling and disposal of such materials must follow guidelines and requirements specified in the legislation. Public Health and Municipal Services Ordinance makes provision for public health and municipal services Operations related to solid waste storage, emission of pollutants to the air, laundry establishment, the handling of wastewater, sanitary conveniences, food and drugs fall under control of the Ordinance. Also, cleanliness of a swimming pool and purity of its water are under control of the Ordinance in respect of public health and environmental impact. In particular, the ordinance provides for control over hotel operations in relation to nuisance caused by overcrowding; and, the accessibility of light and ventilation. The number of cubic metres per hour for each person who may be accommodated in the premises must be greater than 17 for restaurants and dancing establishments. Appendix 3.3 shows a register of legal requirements related to the hotel Industry in Hong Kong.

Appendix 3.3 Register of Legal Requirement Related to the Hong Kong Hotel Industry

Ordinance / Regulation	Requirements	Relevant Reference Publications	Areas of Applicability
Water Pollution Control Ordinance (WPCO)	The WPCO provides for the declaration of Water Control Zone (WCZs) and the establishment of water quality objectives, and requires that effluent discharge in a WCZ must have a license from the Environmental Protection Department (EPD). The licenses are normally valid for five years and have to be renewed. The EPD may require the licensee to undertake regular monitoring of the discharge and submit the analysis results to the EPD. However, the EPD has authority to take independent samples for confirmatory analysis.	A Guide to the Water Pollution Control Ordinance (Aug 97) Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (Feb 91)	The major sources of aqueous discharge includes wastewater from kitchens, which is likely to contain high oil and grease content, and wastewater from laundry and toilet facilities, which is expected to have high Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), suspended solids and E-coli content. The wastewater from a laundry may contain high concentrations of chemicals if the detergents used are inappropriate. Wastewater from engineering and building maintenance activities are also significant sources of discharge. The wastewater from hair salons and swimming pools may contain a certain amount of chemicals that hotel operators should be aware of and keep under control.
Water Pollution Control (General) Regulations	These regulations specify the licence application procedures and licence application fees for licences granted under the WPCO, and other matters related to the WPCO.		The Ordinance / Regulations are relevant to the activities and operations of the following departments: - F&B Department (kitchens) - Housekeeping (including laundry) - Engineering Department
Water Pollution Control (Sewage) Regulation	The regulation requires owners of private premises to collect and convey their effluent discharge to communal sewers, and provides for control over the operation and maintenance of private wastewater treatment facilities.	Connection to Sewers under the Water Pollution Control Ordinance (leaflet) (Oct 94) Grease Traps for Restaurants and Food Processors (Jul 96) Guidelines for the Design of small Sewage Treatment Plants (Mar 90)	
Sewage Services Ordinance (SSO)	The SSO provides for the imposition of sewage charges (SC), trade effluent surcharges (TES) and other related matters. The Drainage Services Department (DSD) is the authority to enforce the Ordinance and its subsidiary regulations.		All hotels are subject to pay SC and TES.
Sewage Services (Sewage Charge) Regulation	The regulation specifies the charging scheme for SC. All wastewater generators including domestic, commercial and industrial generators are required to pay the SC		
Sewage Services (Trade Effluent Surcharge) Regulation	The regulation specifies the charging scheme for TES. 30 types of industrial or commercial operations stated in Schedule 1 of this regulation are required to pay the TES in addition to the SC.		

Air Pollution Control Ordinance (APCO)	The APCO applies to all polluting processes from which air pollutants are emitted. Hong Kong is divided into ten Air Control Zones and level of air pollutants emitted at each Air Control Zone shall not exceed the Air Quality Objectives. The legislative control on asbestos came into operation in June 1997.	A Concise Guide to the Air Pollution Control Ordinance (July 99) Technical Memorandum for Issuing Air Pollution Abatement Notices to Control Air Pollution from Stationary Pollution Processes Environmental Asbestos Control (leaflet)	The operation of emissions from boilers, cooking stoves and electrical generators should comply with the relevant regulations and the emission standards set by legislation. Approval is required for the installation or alteration of any fuel using equipment and chimney. Other air pollutant emission such as exhaust gas from kitchens and laundry should also be minimised. For removal of asbestos containing material in the hotel, the hotel owner or responsible person shall engage a registered asbestos consultant to carry out an asbestos investigation, and the asbestos abatement work shall be carried out by a registered asbestos contractor under the supervision of the registered consultant. The Ordinance / Regulations are relevant to the activities and operations of the following departments: - Housekeeping (laundry) - F & B Department (kitchens) - Engineering Department
Air Pollution Control (Air Control Zones) (Declaration) (Consolidation) Order	The Order provides for consolidated declaration of Air Control Zones		
Air Control Zones (consolidation) Statement of Air Quality Objectives	The objectives stipulate the maximum acceptable concentration of 7 major pollutants (sulphur dioxide, nitrogen dioxide, carbon monoxide, photochemical oxidants, lead, total suspended particulates and respirable suspended particulates)		
Air Pollution Control (Asbestos) (Administration) Regulation	The regulation provides for the registration of asbestos personnel.		
Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations	The regulation prevents air pollution caused by the installation of unsuitably designed furnaces, ovens and chimneys, or alterations to such plants. Prior approval from the EPD shall be obtained before installation or alteration of such system.	A Guide to the Air Pollution Control (Furnaces, Ovens & Chimneys) (Installation and Alteration) Regulations (Aug 99)	
Air Pollution Control (Smoke) Regulations	These regulations control smoke emission from any chimney, oven, engine, furnace or industrial plant.	A Guide to the Air Pollution Control (Smoke) Regulations (Sep 91)	
Air Pollution Control (Fuel Restriction) Regulations	These regulations prohibit the use of fuel with high sulphur content	A Guide to the Air Pollution Control (Fuel Restriction) Regulations (Mar 93) Code of Good Practices for the Operation of Liquid Fuel-Fired Commercial, Industrial and Domestic Appliances (Mar 90)	
Air Pollution Control (Dust and Grit Emission) Regulations	These regulations stipulate the procedures and requirements for assessing emissions to the atmosphere that are controlled under the APCO. The main objective of these regulations is to enable the EPD to have a better control over dust and grit emissions from furnaces, ovens, chimneys, flues or industrial plants.	A Guide to the Air Pollution Control (Dust & Grit emission) Regulation (Jan 89)	
Waste Disposal Ordinance (WDO)	The WDO provides the principal statutory framework for the control and regulation of the production, storage, collection and disposal including the treatment, reprocessing and recycling of waste. It prohibits any person from using any land for the	Recovering and Recycling of Municipal Solid Waste in Hong Kong (Waste Reduction Fact sheet no. 1) (Sep 99) Recovering and Recycling of Paper Waste in	The major sources of solid waste are from guestrooms, offices, restaurants, bars and kitchens whereas the chemical wastes are generally from laundry, clinics and engineering and building maintenance, such

	disposal of wastes unless he has been authorised or he has obtained a licence from the EPD.	Hong Kong (Waste Reduction Fact sheet no.2) (Sep 99) Recovering and Recycling of Plastic Waste in Hong Kong (Waste Reduction Fact sheet no. 3) (Sep 99) Recovering and Recycling of Expanded Polystyrene (EPS) Products in Hong Kong (Waste Reduction Fact sheet no. 4) (Sep 99) Recovering and Recycling of Metal Waste in Hong Kong (Waste Reduction Fact sheet no. 5) (Sep 99) Recovering and Recycling of Waste Glass bottles in Hong Kong (Waste Reduction Fact sheet no. 6) (Sep 99) Waste Reduction and Recycling Hotline 2755 2750 (Waste Reduction Fact sheet no. 7) (Sep 99) Guideline on Plastic Coding System for Resin Identification (Aug 99) Waste Facilities Business Unit (WFBU) (Fact Sheets) (Apr 99) Guideline on the Reduction of Disposable Styrofoam Food / Drink Containers (Jul 99) Waste Reduction Framework Plan 1998-2007 (Nov 98)	as waste lubricating oil, expired drugs, etc. The Ordinance / Regulations are relevant to the activities and operations of all departments.
Waste Disposal (Permits and Licences) (Forms and Fees) Regulation	This regulation prescribes the forms and fees for application for permits or licences for waste import and export, collection and disposal.		
Waste Disposal (Chemical Waste) (General) Regulation	This regulation requires chemical waste producers to be registered with EPD and specifies requirements for the packaging, labelling, storage, collection, transportation and disposal of chemical waste. Registration is an one-off requirement and not subject to renewal	A Guide to the Chemical Waste Control Scheme (Sep 92) A guide to the Registration of Chemical Waste Producers (May 97)	

		Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes (Oct 92)* Code of Practice on the Handling, Transportation and Disposal of Asbestos Waste (Jan 93)* Code of Practice on the Handling, Transportation and Disposal of Polychlorinated Biphenyl Wastes (Dec 92)* Guidance Note for Ozone Depleting Substances (ODS) Destruction at the Chemical Waste Treatment Centre (CWTC) (Jun 98)	
Waste Disposal (Charges for Disposal of Chemical Waste) Regulation (This regulation has not yet been enforced)	This regulation specifies the charge payable to the EPD for the disposal of chemical waste and special chemical waste at the Chemical Waste Treatment Centre (CWTC)		
Waste Disposal (Charges for Disposal of Waste) (Amendment) Regulation	This regulation introduces charges for waste disposal at landfills by private waste collectors. This regulation has not yet been enforced.		
Waste Disposal (Refuse Transfer Station) Regulation	This regulation provides for the introduction of a charging scheme for waste disposal at refuse transfer stations (the Island East Transfer Station, the West Kowloon Transfer Station and the North Lantau Transfer Station) by private waste collectors.		
Noise Control Ordinance (NCO)	The NCO provides the statutory control over environmental noise generated from factories, commercial including ventilation noise and domestic activities.	A Concise Guide to the Noise Control Ordinance (Jun 96) Technical Memorandum, for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (Jun 97) A Practical Guide for the Reduction of Industrial Noise (Oct 89) What to do when you receive a Noise Abatement Notice (May 89)	The possible sources of noise are from night-clubs and bars, HVAC systems, laundry, kitchens, fire alarm systems, engineering and building maintenance activities, and alarms on vehicles. Hotel operations should take appropriate measures to reduce the emanation of environmental noise. To achieve a comfortable environment and good image to customers and neighbours, the control of noise is an important aspect of good hotel management. The Ordinance / Regulations are relevant to the activities and operations of the following departments: - F & B Department

			- Engineering Department - Housekeeping Department (laundry) - Security Department
Dangerous Goods Ordinance (DGO)	The DGO and its subsidiary regulations provide for the control of the manufacture, handling, labelling, storage and transport of dangerous goods. No person shall manufacture, store, convey or use any dangerous goods without a valid licence.	Fire Protection Notice No. 4 – Dangerous Goods General**	The storage, handling and disposal of any dangerous goods, such as the fuel oil for the operation of boiler plant and any chemicals used in the chlorinating process for a swimming pool shall be kept under control.
Dangerous Goods (Application & Exemption) Regulations	These Regulations identified about 450 dangerous substances which are classified into 10 categories.		The Ordinance / Regulations are relevant to the activities and operations of the following department: - Engineering Department
Dangerous Goods (General) Regulations	These regulations specify the requirements for application of a licence, and provide general provisions relating to storage, conveyance and packing of dangerous goods in each category. In addition, a list of prohibited substances is provided in these regulations.		
Radiation Ordinance (RO)	The RO controls the import, export, possession and use of radioactive substances and irradiating apparatus and the prospecting and mining for radioactive minerals for purposes connected thereto.		Radioactive substances are commonly used in fire detection system and therefore storage, handling and disposal of such materials shall follow guidelines and requirements specified in the legislation.
Radiation (Control of Radioactive Substances) Regulations	These Regulations control the handling, storage and disposal of radioactive substances.		The Ordinance / Regulations are relevant to the activities and operations of the following departments: - Security Department - Engineering Department
Public Health and Municipal Services Ordinance (RHMSO)	The RHMSO makes provision for public health and municipal services. It includes control of: a) discharge of solid matter and hazardous materials to sewers or drains b) nuisance caused by emission of dust, fumes or effluvia from any premises, and emission of air either above or below the temperature of the external air; c) nuisance caused by discharge of water from the ventilating system in premises; d) storage of litter or waste in buildings; e) accumulation of water likely to contain larvae or pupae of mosquitoes; f) nuisances from latrines and sanitary conveniences; g) operations relating to laundries and dry cleaning		Operations related to solid waste storage, emission of pollutants to the air, laundry establishments, the handling of wastewater, sanitary conveniences, food and drugs, etc., fall under control of the Ordinance, in respect of public health and environmental impacts. Cleanliness of swimming pool and the purity of its water are under control of the Ordinance, with the object to avoid communicable diseases. The Ordinance also provides for control over hotel operations in relation to overcrowding, ventilation and light intensity. The Ordinance / Regulations are relevant to the activities and operations of all

	establishments; h) cleanliness of swimming pool and the purity of its water; i) food and drug hygiene; j) nuisance caused by overcrowding in tenements, hotels and boarding houses; k) accessibility of light and ventilation to tenements, hotels and boarding houses; l) ventilation rate in Scheduled Premises.		departments.
Notes: Reference publications marked with * and ** are issued by Planning, Environment and Lands Bureau and Fire Services Department respectively. Other reference publications are issued by Environmental Protection Department. A full set of Laws of Hong Kong is available at the homepage: http://www.justice.gov.hk/home.htm .			

Appendix 3.4 Codes and Guidelines for Energy Efficiency Related to the Hong Kong Hotel Industry

Codes and Guidelines	
<i>Overall Thermal Transfer Value (OTTV)</i>	The only current regulation covering building energy efficiency in Hong Kong is the OTTV Regulation (Building Authority 1995), applicable to new building designs, including hotel buildings. The regulation focuses on the overall thermal transfer value (OTTV) and intends to reduce heat gains through the building envelop, even though this accounts for a relatively small part of heat gain in commercial buildings in Hong Kong (Chan 1996).
<i>Energy Efficiency Registration Scheme for Building</i>	The Electrical and Mechanical Service Department (EMSD) of the Hong Kong SAR Government launched the Energy Efficiency Registration Scheme for Buildings in 1998 (EMSD 1998). It is a voluntary adoption of the building energy codes (BECs), and is open to application from all types of new and existing buildings. BECs (See Appendix 3.5) include the following four sets of codes, with accompanying guidelines which can be applied in hotels: ● Code of Practice for Energy Efficiency of Lighting Installation (EMSD 1998a) ● Code of Practice for Energy Efficiency of Air Conditioning Installation (EMSD 1998d) ● Code of Practice for Energy Efficiency of Lifts and Escalator Installation (EMSD 2000a) ● Code of Practice for Energy Efficiency of Electrical Installation (EMSD 1999)
<i>Guidelines on Energy Auditing</i>	EMSD has published guidelines on energy auditing (EMSD 2001), which is a periodic accounting of energy use to establish whether energy is efficiently used in buildings. Application guides to electronic ballasts (EMSD 2001a) and variable speed drives (EMSD 2001b) show how to improve energy efficiency, to generate potential energy savings in hotels.
<i>Demand Side Management Programme (DSM)</i>	The EMSD recently initiated Demand Side Management Programme (DSM) (EMSD 2001d), to influence the level or timing of consumers' electricity demand, to optimize the use of power generation facilities. Under DSM, China Lights Power Hong Kong Ltd (CLP) now offers rebates to participants in the programme for the purchase of compact fluorescent lamps, energy efficient fluorescent tubes or electronic ballasts. (CLP 2000). Consumers such as hotels are encouraged to participate in DSM rebate programmes; whereby for instance, they can purchase and install energy efficient lighting equipment. Hotels are eligible for rebates to subsidise their retrofit programmes.
<i>Voluntary Energy Efficiency Labelling Scheme</i>	The Voluntary Energy Efficiency Labelling Scheme (EMSD 2001c) is another energy conservation initiative adopted by the Hong Kong SAR Government. Under this scheme, various household appliances and office equipment can carry an energy efficiency label to inform customers of the product's energy efficiency rating. Thus, hotels can take this advice into consideration when making purchasing decisions. All information of the guidelines and the scheme are accessed through EMSD website; thus, convenient to users.

Appendix 3.5 The Building Energy Codes (BECs)

Codes of Practices	Aims & Applications
The Code of Practice for Energy Efficiency of Lighting Installation (EMSD 1998b)	● sets out the minimum requirements for achieving energy-efficient lighting ● applies to any indoor space of hotels, offices, shops department stores, schools, car parks, restaurants, places of public entertainment and public assembly ● applies to any indoor space used for commercial purchases ● applies to fixed lighting installations except specialized lighting installation; display lighting for exhibit or monument, and emergency lighting of non-maintained type
The code of practice for Energy Efficiency of Air Conditioning Installation (EMSD 1998d)	● sets out the minimum requirements for achieving energy-efficient design of air conditioning (AC) installations in buildings ● applies to all buildings provided with AC installations for human comfort except: domestic buildings, medical buildings and industrial buildings ● specifies design parameters and control criteria of AC installations and minimum coefficient of performance for AC equipment
The Code of Practice for Energy Efficiency of Lift and Escalator Installation (EMSD 2000a)	● sets out the minimum requirements for achieving energy-efficient lift, escalator and passenger conveyor installations ● applies to passenger lifts, freight lifts, lifts used for vertical transportation of motor vehicles, bed passenger lifts, escalators and passenger conveyors in all buildings ● entail a few aspects: maximum allowable electrical power of lifts, escalators and passenger conveyors; energy management of lifts, escalators and passenger conveyors; handling capacity of lift systems; traffic design of lift system and total harmonic distortion and total power factor
The Code of Practice for Energy Efficiency of Electrical Installations (EMSD 1999a)	● aims to set out the minimum requirements on energy efficiency of electrical installations in buildings without sacrificing the power quality, safety, health, comfort or productivity of occupants or the building function ● classified into four categories: minimizing losses in the power distribution system; reduction of losses and energy wastage in the utilization of electrical power; reduction of losses due to the associated power quality problems an appropriate metering and energy monitoring facilities. ● aims to impress upon both electrical engineers in design and operation of buildings the importance of taking adequate energy conservation measures for compliance with the Code and to guard against unnecessary energy losses in the distribution and utilization of electrical energy.

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FOR THIS MATERIAL

Interview Guide

Introduction:

The objective of my interview is to investigate whether or not hotel employees feel that efforts by their hotel to be more environmentally-friendly have an effect on their jobs in the hotel. It is well known that your hotel has actively implemented environmental practices and these may have directly / indirectly affected your job, you are therefore selected to take part in this study. In this interview, I want to talk to you about your understanding of how hotel staff perceives the environmental practices in your company. I am mostly interested in your perceptions of these issues, regardless of your knowledge about specific environmental programmes implemented in the hotel. I'm going to break this interview into three sections beginning with your jobs here, then we'll talk about the general environmental issues, and finally we'll talk about your perceptions of your hotel's environmental programmes. I would like to emphasize that this is an independent piece of research and my intention is NOT to assess whether the hotel environmental practices have been successfully implemented or not. It is rather to understand how you feel about the activities. I would also like to stress that all information collected will be kept strictly confidential.

SECTION A - RAPPORT

Q.1 Can you tell me more about your background and role in your hotel?

probes:

- Job duties, working experience, length of service, level of education.

(Transition: Now I would like to hear about your view on the environmental issues ...)

Q.2 Many people say that the environmental pollution in Hong Kong is getting more and more serious. What's your view about it?

probes:

- What concerns you the most about the environment in Hong Kong?
- Do you feel your health is endangered by environmental pollutants?
- Are you the member of any green groups?

(Transition: We have been talking about some environmental issues in HK.. Now, I would like you to think about how hotels help protecting the environment ...)

Q.3. It is believed that a hotel will consume more energy and water during its daily operations. What is your view in general?

probes:

- Can you tell me what types of waste will normally be generated?
- Do you feel the hotel industry needs to do something to minimize the waste? Why?
- What do you think the reasons behind for hotels to take environmental initiatives?

(Transition: It's been a long time since I was in hotel industry...)

SECTION B – KEY QUESTIONS

Q.4. Can you share how your hotel environmental programmes was initiated and implemented?

probes:

- How was the programme designed?
- Who were the key players in the planning stage?
- Have you felt to be involved in the planning stage?
- How has the programme been communicated in the hotel?
- What do you feel about the communication process?
- Do you have the EMS / green committee in your hotel? If yes, what's their role?
- What do you feel about the EMS/green committee?

(Transition: Thanks for the information, let's move to something more personal now...)

Q.5. I would like to know more about your job related to the programme. Would you tell me about the kinds of things you do in your work?

probes:

- Could you tell me how you become involved with the programme?
- Do you understand the scope and responsibilities of your job related to environmental programme?
- When you look back on the implementation of environmental practices, are there any other events that stand out in your mind? Could you describe it? How did you respond to the event?
- How long for you to adapt the environmental practices?
- What do you feel now?
- Have you expressed any opinions to the management regarding the environmental practices?
- What happened after you have given the suggestion?

(Transition: We have just been talking about your “green” job here ...)

Q.6. Do you feel you have sufficient knowledge to perform your hotel environmental practices?

- How you learned to handle the required environmental practices?
- Any environmental training provided?
- Who will be involved in providing the environmental training programmes?
- How do you feel about the environmental training programme?
- What do you expect to learn from the environmental training programme?

(Transition: We have been talking about your ‘green’ jobs and the related knowledge required. So ...)

Q.7. Any of the environmental activities you have identified make your job here easier?

probes:

- *What other benefits you have obtained from the change?*
- *Any immediate benefits?*
- *Have these job experience changed your attitude at work?*
- *Do you feel you can get environmental activities done independently?*

(Transition: Thanks, and how about the activities that may make your job here harder...)

Q.8. Any of the environmental activities you have identified make your job here harder?

probes:

- *What problems might you encounter when implementing the environmental programmes? Would you tell me the sources of these problems?*
- *What do you feel about the control of the environmental programme here?*
- *Do you think these activities are worthwhile? Why?*
- *What will you foresee the workload in long run because of the implementation of environmental programme?*
- *Have these environmental job experience changed your attitude at work?*

(Transition: Thanks for the information, let's now discuss something about the support to the environmental programme from the hotel...).

Q.9. What kind of resources do you have to implement the environmental programme?

probes:

- *Do you feel you have the resources that you need to do your environmental practices? Why/why not?*
- *Do you feel that the management has sufficient environmental knowledge to implement the environmental programme? Why?*

(Transition: Thanks for the information. Now when you evaluate the implementation of the programme...)

Q.10. In view of your job related to environmental practices, is that anything you would like to have to make the programme better?

probes:

- *What can actually work better for your green jobs here?*

(Transition: You have been working for this hotel for a while ...)

Q. 11. How do you feel to work for an environmentally-friendly hotel?

probes:

- Do you feel your job experience related to environmental programme has been excellent here in this hotel?
- Are you proud to tell people where you work? Why/why not?

SECTION C – ENDING THE INTERVIEW

- Q.12.** Is there anything you want to add or any aspect your experience about the environmental protection in your hotel that the above questions didn't cover?
- Q.13.** Any key person I should talk to regarding the hotel environmental protection?
- Q.14.** Any document related to your hotel environmental protection I should see?

***** Thank you very much for your kind co-operation *****

In addition to the above interview guide, the following face sheet will be given to the respondents to record the demographic information, contact information, the time of interview etc of the interviewees.

Fact Sheet

Date of Interview: _____:

Started at: _____ Finished at: _____

Place: _____

Name of Respondent: _____ Male/Female

Company: _____

Role in Company: _____

Educational level:

- a. University
- b. Secondary / high school
- c. Less than secondary / high school

Age:

- a. 16 – 24 yrs
- b. 25 – 34 yrs
- c. 35 – 44 yrs
- d. 45 – 59 yrs
- e. 60 + yrs

Contact Telephone: _____ E-mail: _____

Remarks: This interview guide was used in three different employee levels namely executive level, supervisory level and general level.

Appendix 4.3 Entries of Each Coding Group (Pilot Test – IGSCoM Hotel)

Informant	Sample entries	Comments from author
Increased Workloads		
SF	Yes, it will increase our workloads. For instances, we have to attend four training sessions each month.	Increased workloads
SF	When being asked to carry out the newly-introduced practices, some colleagues and newcomers felt very annoying.	Increased workloads
Strict Control from Management		
SF	Obedience in this hotel is very important. Warning will be given if employees do not follow the instruction from their superior. We will be fired after three warnings given.	Strict control from management
HL	That's why we need to monitor their performance daily by regular audit. For instance, we will ask the staff what they throw away in the rubbish bin during the inspection.	Strict control from management
Immediate Benefits		
HL	But in my F & B area, the contribution is not very significant when compared with Engineering department. But I don't agree that the practices shouldn't be continued despite the relative little contribution. Everyone should have responsibility to protect the environment. As staff may not see the immediate outcome / benefits from the environmental practices, we need to monitor their performance daily to ensure they perform the required practices.	Immediate outcome needed to motivate staff.
SF	Some colleagues got cash incentives after they had correctly answered the questions raised by the inspector from Labour Department checking the environmental and safety standard of the hotel. It's really good to have the money which is about HK\$1,000!	Cash incentives
Internal Communication		
SF	We just follow the company instruction. I think they have the reasons behind to implement this.	Internal communication
GC	You should ask the director of F & B, as his subordinates are relatively heavily involved in the programme. For me, being the quality system manager, I'm mainly responsible for the auditing process. I don't meet the front line staff frequently. It is the responsibility of the supervisory level staff to monitor the environmental performance of their subordinates	Internal communication
HL	Some can be done better. Unfortunately, may be no one want to make the decision. And it is difficult to ask other departments to do something extra which may be good for environmental protection. We always experienced this type of difficulty.	Internal communication
Content of Training Programmes		
SF	We have too many training sessions. Some training is just like an examination. You know, we are not very well-educated. Our jobs here is just cleaning and washing the kitchen equipment.	Content of training sessions / Workloads
BL	The environmental refreshment course organized by the HR is not efficient enough. It is boring and not attractive enough! No new knowledge was provided. The course should be more creative.	Content of training sessions
Opportunity to get involved in planning stage		
BL	No feeling! They just follow the instruction from their supervisors. There is no need for them to get involved in the planning stage. But the supervisory level staff are the one who suffer. They are the middle man – in between the senior management and their subordinates.	Low involvement of rank & file staff /
SF	We just follow the company instruction. I think the management has their reason behind to implement the programme.	Low involvement of rank & file staff
Environmental Knowledge of the Management		
MC	I can't see the actual outcome from the programme. For instance, the IAQ (Indoor Air Quality) in this hotel wasn't improved. The unpleasant smell nearby the stock room is still here. This, in fact, could be improved by the senior management. They should try to learn more new things and technology that can help improve the environment from some professional bodies. Senior Management needs more improvement.	Lack of knowledge / External partners / Actual improvement

	They should learn more new technology and techniques from outside to improve the current practices.	
Financial Resources		
BL	Some employee suggestions are in fact already in place. Some were not adopted mainly because of huge investment required	Financial Resource
DC	Resource is an issue. For instance, the change of old equipment to a new or an environmentally-friendly one. It takes time to change.	Financial Resource
Leadership / Quality of EMS Committee		
HL	Some discussion in the meeting was meaningless. No one in the committee could make the decision especially when it involved money. I think our EMS committee is not strong enough. The committee wants to hear the opinions from others but actual actions taken by them are very minimal.	Quality of EMS Committee
BL	No follow up for some suggestions given to the EMS committee. This has discouraged us to further suggest new measures and practices.	Quality of EMS Committee
Management Support		
HL	The management is very clear about what they want to achieve from the environmental programme but their support may not be sufficient enough. What the individual departments in this hotel need to do will all depend on what the departments have worked out themselves eventually.	Management Support
Job Satisfaction		
HL	I got the satisfaction. I initiated the discussion session for the OCP (Operation Control Procedure) among all different sections when we started. And it is a good start. My subordinates rely on my knowledge very much. I am very familiar with the system..	Satisfaction though achievement
Trust from the Management		
HL	The chef left the company because of the required measurement and check of the food waste in his kitchen. He felt insulted.	Trust
Physical Facilities		
HL	The physical layout of the hotel is an important issue. For instance, we may not have the sufficient place to store the rubbish bin for food waste.	Physical Facilities
HL	New/old hotel, the size of the hotel will also affect the efficiencies and effectiveness of the programme.	Physical Facilities
Working Habit		
DC	At the beginning, I couldn't get used with the required change. But there is no problem now. It is the matter of habit. If the required changes have once become part of the individual working habit, then it's OK.	Working habit
Increased Environmental Awareness		
SF	Personally, I will bring the concepts to home as well.	Knowledge transfer

Appendix 4.4 Coding Schema

<u>Motivations to EMS</u>
● Aims of the EMS project ● The driving forces to implementing the EMS ● The consistency with the company's overall strategy
<u>Environmental Context</u>
● The market trends ● The changes and developments in external environments and their implications on the adoption of EMS ● The influence of environment on implementing the EMS
<u>Organisational Context</u>
● The company's overall structure and its implications on the EMS process ● Use of green committee in designing and implementing EMS ● Change in duties, roles and reporting relationships as a result of the implementation of EMS ● Characteristics of the company's culture and subcultures and their possible impacts on the implementation of EMS ● The implications of EMS on the company's culture and subcultures ● Efforts to change the company's overall culture and subcultures to the adoption and implementation of EMS
<u>Formation & Implementation of EMS</u>
● The initiation of the formal ISO EMS ● The time plan to achieve the ISO certificate ● External advice ● The implementation process and the documentation required ● Level of participation from different departments / levels
<u>Outcomes of EMS</u>
● Saving of operating costs ● Marketing advantages ● Acceptance by staff
<u>Perceptions of Employee</u>
Recognition ● The value of the ISO 14001 ● The recognition that employees get for their efforts in environmental protection ● Environmentally-friendly hotel ● Pride
Advancement and personal growth ● Environmental awareness and knowledge ● Application of environmental knowledge learnt

Good pay and benefit ● Better pay as a result of the EMS implementation ● The immediate benefit obtained from the EMS
Workgroup and working condition ● Relationship with co-workers during the implementation of EMS and its implications ● Friendliness and support of co-workers ● Cleanliness, safety and ventilation of the workplace after the implementation of EMS
Participation ● Level of participation of staff in planning and implementing EMS and its implications
Work itself ● Significance and importance of the environmental jobs ● Implication of additional workload during the implementation of EMS ● Problems and difficulties related to the implementation of EMS
Job security ● Stable job
Quality of leader ● The leadership of managers and their environmental knowledge ● The capabilities of immediate superior and its implications
Support from Top Management ● Top management attitude towards environmental protection ● Provision of incentives to motivate people to implement EMS ● Additional resource to install the required green facilities and implement the EMS ● Recruitment of relevant people to develop and implement formal EMS ● The procedures to allocate the company resources
Communication ● Types of communication methods when introducing the EMS to staff and its implications ● Effectiveness of communication.
Training ● Types of training during the formation and implementation of EMS (external & internal) ● Amount of training given to employees and its implications on environmental performance
Control ● Types of monitoring activities during the implementation of EMS (external & internal) ● The effectiveness of the monitoring system

Appendix 4.5 An Example of Entries to Each Coding Group

<u>MANAGEMENT COMMITMENT</u>	<u>COMMENT FROM THE AUTHOR</u>	<u>REF</u>
I remember that my former boss is a quite environmentally-friendly person. He was one of very good supporters, as he joined nearly all the environmentally-related activities to show support.	Support from top / high commitment	DOH
Yes, we have. For instance, the recycling boxes; the environmentally-friendly cleaning agents and the compressor etc..	Resources needed for EMS implementation	DOH
The owner was very supportive and we had no difficulties in getting the funding to do some energy initiative programmes.	Commitment from Owner	RDOE
Our former hotel manager was the one to start the green committee. He was also the chairman of the committee. We had regular meeting every month. The vice president and general manager were also very supportive. They supported and fully delegated the manager to implement the programme.	Strong support from top	RDOE
We use diesel oil. By law, we must use low content, point 5 percent content and we did. In fact, we have already changed to even below point 5 percent, the one the vehicles use in Hong Kong since last 2 or 3 years. That means our hotel is doing something not only to comply with the standard and requirement but also much lower than the requirement.	Resources / Higher than the standards.	RDOE
I believe the hotel definitely can give the resources if you must do it. It is because this hotel is HKCom Hotel...ha...ha. I strongly believe that the hotel will invest many resources if she really wants to do something.	Unquestionable sufficient resources / High commitment from top	FDM
The management is very positive. They will say that it is good, go ahead to do that...something like that. In fact the programme has already been implementing for a no. of years the hotel has already had many good suggestions. Some can be implemented while some cannot be. Oh! Some suggestions are very good but they may not be achieved. Of course, for those suggestions that can be implemented technically, the company will think that it is a new idea and a new support to the environmental protection. It can be said like that.	Management's positive attitude	RDOP
Yes, I have the resource. First, there is no limitation. The meaning of limitation is...that is there is no regulation saying you cannot do this or do that. That is the support. Um...the second is ...that is whatever training your need, it is given anytime. The company will pay to support you to participate in some talks externally to gain more information.	Financial resources from top / training from external / Freedom to implement	RDOP
If you are talking about the increase of manpower, we do not have. Um...but I think that the company will support whatever it can be implemented. For instance, the IT support mentioned before...it is productivity because of the "do more with less" though it is also environmental protection. The company is willing to invest in the environmental protection to ...um...to support the environmental works. So, you can say that the manpower to achieve a better environmental protection is not sufficient enough, but the hardware support such as the IT one is enough.	Sufficient support in terms of hardware. No additional manpower	RDOP
It really depends on the support of management and the general manager. I am very happy that the management is normally very supportive. For instance, the paperless filing in the administration side, our manager is very supportive, as we don't print out so many papers. For instance, the setting of common drive, the intranet and the e-link systems that is our news centre etc., our boss is very supportive on all these because of the environmental protection. Also, we all believe that the efficiency can be improved by implementing the practices....through the technology.	Strong support from top towards environmental protection	ADHR
I feel it is enough to running the existing system now. Taking my office as an example, I believe that other engineering companies can give me more to be able to drive some more environmental measures. But for our office, it is enough. Well...can it be further improved? I think it can....	Enough resources to run current EMS in hotel. / Still have rooms for improvement	ADHR
We have enough resources. For example, the hotel has changed all	Resources to buy green	SC1

cleaning agents to the environmentally-friendly ones for the stewards to use. In addition, the company has employed an outside contractor to handle the sewage in order to minimize the environmental impact to the harbour when discharged. So, I think the company has given enough resources in this aspect.	products / Employ outside contractor	
Talking, that is to give suggestions. The management will...will support us by giving us the chance to give suggestions. But, whether the suggestions will be accepted or not, the management will consider that.	Management accepts suggestions	DE1
I can notice that this company has done very well in the environmental aspect, as the company I worked for before doesn't concern about the environmental protection. But about the improvement here...I remember....shredding the plastic bottles to be recycled. This company is willing to continually improve.	Top management attitude / continually look for improvement	DE2
Er...such as the recycling boxes; the plastic bottles, the machine that what I mentioned earlier. That is, the company is willing to invest money in this aspect.	Financial resources	DE2
As a matter of fact, our hotel has already changed all the light switches so that the master button can not turn on all the lighting. It is done manually now.	Support in terms of hardware	SLH
I feel we have enough resources. The hotel has already provided us all what we need. They have already provided all the facilities required for the environmental programme.	Enough resources / enough facilities to implement.	SLH
That is enough. We have the containers. It is very enough. You can have whatever you want!	Enough facilities to implement / strong support from top	SLW
I know. That is why our department has designed many environmental practices. For instance, our consumption of electricity, we can have an option to select low level of consumption of electricity by pressing a button when going out. We also installed a large quantity of water restrictors in all major water consumption areas such as shower heads, sink etc. Because of the high consumption rate of water, our hotel also added many water meters to monitor the usage of water. That is, for every kitchen and every guest floor, all has its own water meter to check the water consumption.	Strong support from top / new advices to achieve environmental performance	GM
In our department....that is some equipment, some equipment is improved. For instance, the blockage in drainage system was cleared manually in the past, but it is done by machine now that can save our workload. Other than this, the overhaul of the restrooms, the staff restrooms and the public restrooms and also the grease traps etc... the overhauls are done every 3 to 4 years. That is , we feel this is quite good.	Improved facilities	GM
And I know that our laundry department has already changed a machine in order to reuse the solvent so that the water pollution can be minimized.	Resources to buy new green device	CC
We have implemented a practice to issue some press releases via e-mail. So first of all, a small amount of money can be saved from the practice. Some minimal tasks which are required if sent by post such as putting letter in envelop can also be skipped. We can just click a button to send out the press. So, this is the main advantage...and we also use a website to help us. In fact, it is used by the whole corporate office, so we can send some marketing materials through this web in which a very well-designed e-mail can be made....a very beautiful jpg image...can be sent to replace the mailing of post card which is done before.	Support from corporate office	CC
Er...you can see from their decision sometimes. You will see it. They may not explicitly say this is done because of environmental protection, but, it is....is. For instance, the menus...or the packaging etc... all these always require us to think about the design. During the decision making process to consider which product is finally selected....It may be because of the appearance or other reasons. I can observe that the decision is made...may be....I think ...because of less paper required to be used. I think this is at least part of the reasons.	Positive management attitude towards environmental protection	CC
The company gives us resources to implement. They would not save any resources in this aspect. I do not feel we are lacking of any resources to implement what I have to do. We voiced out when we had difficulties before. They sometimes would listen to our difficulties.	Enough resources / Positive management's attitude toward environmental protection	PA

Er...that is, for instance, all the cleaning agents we are using are the environmentally-friendly one. The old ones were all replaced. And many recycling boxes are given to us for sorting. Yes, it is enough in fact. We have the required resources to implement the required environmental practices.	New green products to support / Enough resources.	RB
I have recently heard about a machine to...to compress the plastic cans or bottles. I think it is quite good, as the items will not occupy more spaces now.	New device to achieve better environmental performance	SC2
The company will award the employees with a cake coupon if the suggestion is good.	Incentive for suggestions	TO
I will not have insufficient resources to do what I need to do. My boss is very supportive when we raise the need.	Sufficient support from top	TO
The purchase of new washing machines and the use of environmentally-friendly cleaning agents. Basically, these are the resources we have. It is enough in our laundry plant. The machine is quite expensive! I think it is about several hundreds thousand dollars. And it seems that we have bought two units. In addition, the environmentally-friendly cleaning agents should be more expensive than the normal ones.	Willingness to buy more expensive green facilities	LO
For the washing or plated, forks etc. used in the restaurant, you don not know this...we have an environmentally-friendly washer to wash the stuff! There is no need for us to wash by hand. We just remove all the rubbish, leftover etc and then place all the plates etc. in the machine. Then, the items will be cleaned very thoroughly. In fact, the company has already provided enough resources! Sometimes, they bought something back in order to facilitate the procedures or your jobs. This is already the resources! For instance, the environmentally-friendly washer I mentioned before. The company will spend money on this.	Willingness to buy green facilities	SC3
I feel this company is better than the one I worked for before, as the company here always purchases new environmentally-friendly products! My previous hotel did not!	Willingness to buy green facilities / Positive management's attitude towards environmental protection	SC3

Appendix A.1 A Letter from HKCom Hotel
Confirming to Participate in the Project



15 October 2005

Eric Chan
Lecturer
School of Hotel & Tourism Management
Hong Kong Polytechnic University

Dear Eric

Re : EMS Research Project

Further to your letter dated 25 August 2005 and our subsequent discussions regarding your research study on 'The Impact of Environmental Systems on Hotel Employees', we would like to confirm that our hotel is happy to participate in this project.

We understand that you will need to interview a group of staff members from various levels including Division / Department Heads who are randomly selected from our staff list. We have checked with our Information Technology Department and we are able to generate such a list from our database. Please let us know when will be an appropriate time for you to come over to our office so that we can finalize the list of interviewees.

Also, as discussed, we will work out a time schedule for you with 3 to 4 interviews per day. Once we have confirmed the name list, we will send it to you for your perusal.

We hope the above arrangements are acceptable to you. Please let us know should you have any questions or if you need any further information.

We thank you for inviting us for this project and we wish you every success in your studies.

Yours sincerely

A handwritten signature in dark ink, appearing to be 'Eric Chan', written over the 'Yours sincerely' text.

Area Director of Human Resources

Dir Tel: [Redacted]
Dir Fax: [Redacted]
E-mail: [Redacted]

[Redacted]
[Redacted]

Remarks: For confidentiality purposes, name of the hotel and hotel executive are disguised.

Participant Information Sheet

OXFORD
BROOKES
UNIVERSITY

Study title: Hotel Employee Perceptions of Environmental Management Systems (EMS)

I am a researcher from the Business School of Oxford Brookes University, working on a research project on hotel employee perceptions of its environmental practices. You are being invited to take part in this research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

What is the purpose of the study:

The main aims of the study are:

- to analyse the core components of environmental management systems (EMS) and their application in Hong Kong hotel industry
- to investigate the perceptions hotel employees have of the impact that environmental practices have on their jobs
- to understand whether environmental practices has largely positive, largely negative or no real impact on the jobs of hotel employees.

This study is important because more hotels have become interested in implementing environmental activities, but research about the influence of the activities on hotel employees has not been studied. In order to understand the hotel employee perceptions on the impact that the environmental activities has on their jobs, in-depth interview with hotel employee in Hong Kong will be conducted. The duration of data collection will properly last for 5 months.

Why have I been chosen:

Your hotel has actively implemented environmental practices and has also got the ISO 14001 certified. This environmental programme and practices may have directly / indirectly affected your job. The researcher was also told that you are currently involved in the programme, you are therefore invited to share how you feel about the programme. To represent the various areas of employment and management structures within the hotel, about 30 participants will be involved in this study.

What will happen to me if I take part:

If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. The researcher will thereafter contact you for an interview which will normally take place in your hotel office or other venue appropriate to you. You will be mainly asked to share your views about the implementation of environmental activities in your hotel. The interview will be regarded by the employer as part of your working day. Please note that if you decide to take part you are still free to withdraw at any time and without giving a reason.

What are the possible disadvantages and risks of taking part:

The duration of the discussion is about one hour or a bit longer. You may be contacted by the researcher again to clarify the information provided after the interview.

What are the possible benefits of taking part:

Your contributions to the study will help hotel operators understand more about how hotel environmental practices will affect their employees either positively or negatively. Based on the findings from the study, better strategies can be established that may eventually enhance the employee satisfaction.

I would like to stress that all information collected will be kept strictly confidential. The findings will be presented in an anonymous way and the data will be retained in accordance with the University's policy on Academic Integrity. The results of the research will be used in the researcher's PhD thesis. Please also note that the research has been approved by the University Research Ethics Committee. Should you require further details about the project, please do not hesitate to contact me at the address given below. If you have any concerns about the way in which the study has been conducted, you can contact the Chair of the University Research Ethics Committee on ethics@brookes.ac.uk.

Eric Chan
Postgraduate Researcher
Department of Hospitality, Leisure and Tourism Management
Business School
Oxford Brookes University
Gipsy Lane Campus Headington
Oxford, OX3 0BP UK

Correspondence Address:
School of Hotel and Tourism Management
The Hong Kong Polytechnic University
Hung Hom
Kowloon, Hong Kong SAR
Tel: (852) 2766 6540
E-mail: hmeric@polyu.edu.hk

Thank for taking time to read the information sheet!

Yours sincerely
Eric Chan (DD/MM/YY)



CONSENT FORM

Title of Project: Hotel Employee Perceptions of Environmental Management Systems (EMS)

Name, position and contact address of Researcher:
Eric CHAN
PhD Student
Department of Hospitality, Leisure and Tourism Management
Business School
Oxford Brookes University
Gipsy Lane
Headington
OXFORD
OX3 0BP

Please Initial Box

1.	I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.	☐
2.	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.	☐
3.	I agree to take part in the above study.	☐
4.	I agree to the interview / consultation being audio recorded	☐

_____ Name of Participant	_____ Date	_____ Signature
_____ Name of Researcher	_____ Date	_____ Signature

Appendix A.4 HKCom Hotel's EMS Environmental Manual's Content

EM-7

TITLE: Environmental Manual	DIVISION:
CHAPTER NO: 0.1b	PAGE NO: 1 of 1
APPROVED BY: VPO/General Manager	
DATE: June 13, 1995	LAST UPDATE: April 1, 1997
DISTRIBUTED TO: refer to Chapter 0.3	

**Environmental Management System
Environmental Manual
Volume 2 of 2**

SECTION 1 SYSTEM PROCEDURES

- SP1 Environmental Aspects
- SP2 Environmental Training
- SP3 Communication
- SP4 EMS Document Control
- SP5 Monitoring and Measurement
- SP6 Environmental System Auditing

SECTION 2 OPERATIONAL PROCEDURES

- OP1 Housekeeping Best Practices
- OP2 Laundry Best Practices
- OP3 Kitchen Best Practices
- OP4 Office Best Practices
- OP5 Food and Beverage Best Practices
- OP6 Environmental Purchasing Policy
- OP7 Stewarding Best Practice
- OP8 Wastewater Monitoring
- OP9 Handling of Diesel Fuel
- OP10 Handling of Chlorination Chemicals
- OP11 Handling of Kitchen Oil
- OP12 New Projects Best Practices
- OP13 Storage, Handling & Disposal of CFC

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Environmental Manual
2005/06/15

Appendix A.5 HKCom Hotel's Letter to Hospital Authority re. EMS Manual

[REDACTED]
[REDACTED]
HONG KONG

CC: [REDACTED]

December 17, 1998

Dr. Wing Man Ko
Deputy Director of Operations
Hospital Authority
5/F Hospital Authority Building
117 B, Argyle Street
Kowloon, Hong Kong

Dear Dr. Ko,

Seasons Greetings from the [REDACTED]

The [REDACTED] is the first hotel in Asia Pacific Region to achieve the ISO 14001 certificate in recognition of its environmental policies and procedures established within the hotel operation. Further to our environmental awareness promotion, we received several inquiries from the local hospitals.

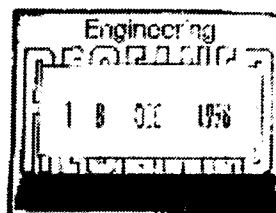
Within the past 6 months, our Hotel has conducted several environmental tours to the different hospital delegations. We have a set of *Environmental Management System Manuals* (2 volumes) which complied all the policies and procedures pertaining to the ISO 14001 certification. Despite the requests from individual hospitals to purchase these manuals, we viewed that the implementation of this process will only be effective through the Hospital Authority's support and execution.

We would like to make a special introductory offer to the Hospital Authority for the price of US\$10,000, we will provide a total of 20 sets of the *Environmental Management System Manuals* which you can, in turn, distribute to the local hospitals.

Should you wish to discuss the above in further detail, please do not hesitate to contact me or [REDACTED] directly at tel. [REDACTED]. We look forward to your favourable reply and we wish you all the best in the year ahead.

Sincerely yours,

[REDACTED]
Hotel Manager



HONG KONG

MEMORANDUM

To : Green Committee Members
cc : All Department Heads - LSW
From : [redacted]
Date : 21 September 1996
Subject : ISO 14000 Green Committee
Pages : (Inclusive)

Since the establishment of the first [redacted] Green Committee in 1994, the Hotel has achieved tremendous results from the contributions of each Green Committee member hence. It is through the efforts of this committee that we have arrived at the state in which the Hotel can actually compare its environmental policies on an international standard to some of the largest corporations in the world.

In order to accelerate the process of becoming ISO 14000 certified, it is necessary to create a new ISO 14000 Green Committee that will replace the existing Green Committee. This new committee will be composed of the following persons:

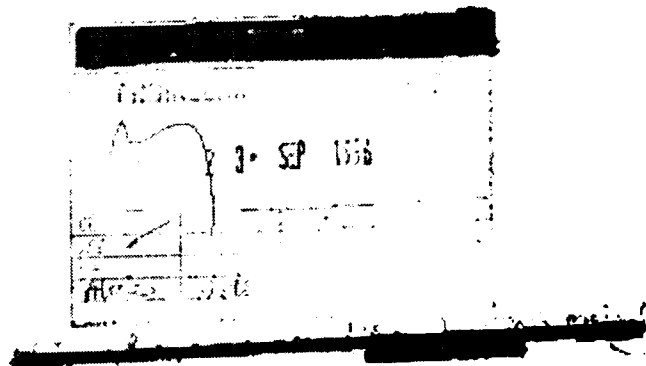
- [redacted] Hotel Manager
- [redacted] Regional Director of Engineering
- [redacted] Executive Assistant Manager (E&B)
- [redacted] Executive Housekeeper
- [redacted] Executive Chef
- [redacted] Purchasing Manager
- [redacted] Chief Steward
- [redacted] Training Manager
- [redacted] Assistant Communications Manager (Facilitator)
- [redacted] Secretary to Regional Director of Engineering [redacted]

I would like to express my appreciation and sincere thanks to the 1995/96 Green Committee members for their outstanding contributions to our present achievements.

With the expertise acquired by the Green Committee over the past year the newly formed ISO 14000 Green Committee will consult with the former committee on a regular basis. I will require the full support of each department to assist the new committee.

Thank you for your usual cooperation.

[redacted signature]



Appendix A.7 HKCom Hotel's Minutes of ISO 14000
Green Committee Meeting

[REDACTED]
ISO 14001 Green Committee Meeting

Minutes of ISO 14000 Green Committee Meeting held on November 3, 2000 (Friday) at 11:00am in L3 Training Room. (Meeting No. 25)

Present : [REDACTED] – Chairman [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Secretary : [REDACTED]

Excused : [REDACTED] [REDACTED]

c.c. [REDACTED] Excom Readers' File

ACTION

Due to the changing of management, EB to be our new chairman. Since he was currently in a meeting, we all welcome him in the coming meetings.

[REDACTED] and [REDACTED] have been appointed as our certified EMS internal auditors.

Because of high occupancy and a series of MPF seminars, 3rd meeting and quarter III internal audit were postponed.

A. Purpose of the Meeting

To update the progress of our 2000 Objective & Target and share the Achievement, to review the internal audit result and discuss 2001 Objective & Target. All

B. Review Objectives, Targets and Environmental Management Plans (EMP)

1. Energy Usage

Electricity:

- WW showed the consumption figure in the meeting. Up-to-date figures showed that there was an improvement compared with 1999 and 2000 target.

- Benchmarks for 1999/2000 are as below:

	1999 (Actual)	2000 (Actual)	2000 (Target)
Guestroom	18.89 Kwh/Room Nite	16.63 Kwh/Room Nite	18.89 Kwh/Room Nite
Laundry	0.09 Kwh/Poundage	0.089 Kwh/Poundage	0.089 Kwh/Poundage
Kitchen	2.50 Kwh/Food Cover	2.36 Kwh/Food Cover	2.50 Kwh/Food Cover

ACTION

Water:

- WW showed the consumption figure in the meeting. All in line with the target.

- Benchmarks for 1999/2000 are as below:

	1999 (Actual)	2000 (Actual)	2000 (Target)
Guestroom	0.26 m ³ /Room Nite	0.23 m ³ /Room Nite	0.26 m ³ /Room Nite
Laundry	0.18 m ³ /Poundage	0.02 m ³ /Poundage	0.02 m ³ /Poundage
Kitchen	0.14 m ³ /Food Cover	0.14 m ³ /Food Cover	0.14 m ³ /Food Cover

- With the inclusive of [REDACTED] kitchen water consumption analysis, it showed a relatively higher cu. meter/food cover compared with the target and the western kitchens. Unlike the operation of western kitchens, Chinese Kitchen has to put all the working procedures in one. Suggested to work out an action plan on Stewarding side and cooking method/procedures for improvement. EMS Managers to assist. WW/TK/
AR/RT/

Achievement:

- Have conducted a research with HK University on two proposals: WW
a) Convert solar energy into electricity using photovoltaic panels
- Too costly, declined.
b) Produce methane gas from the hotel's daily organic waste (anaerobic biodigestion system)
- Turned down, efficiency is only applicable to those large establishment
- Download from Internet to obtain information on "Demand Side Management". Power Company will offer cash rebate to customers applying for their purchase and use of energy efficient lamp bulbs effective from Jul 1, 2000 to Jun 30, 2003. WW
- Cash rebate of using energy efficient light bulbs for [REDACTED] will be applied in 2001.

3. Kitchen Waste

- Target to reduce kitchen waste by 3% by Dec 2000. AR/RT/
AC

Achievement:

- Room occupancy is higher this year, while the progress of reducing kitchen waste is better. Up to Sep, 2000, there was 5% kitchen waste reduced when compare with last year.
- Portion control spot check and back-of-house monthly check-up were undergoing regularly. All in line with the targets.
- Have updated the kitchen on total buffet dinner reservation to minimize wastage.

ACTION

3. Kitchen Waste (Cont'd)

- Have monitored the food consumption of breakfast/lunch/dinner buffets for likes and dislikes of our customers, in order to produce the exact amount of food needed.
- Transfer lunch/dinner buffet food to our Staff Restaurant.

4. Training

- Objective to reinforce the employees' awareness of the existing Environmental Policy and Best Practices. TK
- Target to complete a refresher training for all employees including Environmental Policy and Best Practices by mid Apr, 2000.

Achievement:

- Have developed a refresher training kit in Apr for all departments to conduct for their staff and prepare an attendance record together with the kit. Refresher training for all staff had been completed in Apr.
- Through the 6-monthly surveillance visit, departments were visited and checked the training records and attendance.

5. Consumable Items

- Objective to reduce paper consumption by implementing paperless food PO through fax server and implementing new PR/PO forms. AL
- Target to save paper consumption on 80% A4 paper for food PO and 50% NCR A4 size for PR/PO by Dec, 2000.

Achievement:

- Have developed a list of major market food vendors in Mar via fax server.
- Have implemented 3-ply to replace 6-ply of PR/PO in Apr.
- Have secured saving of A4 size paper of 40,213 pcs for Apr to Sep.

B. Quarter III & IV Internal Audit

- Conducted on Oct 27, 2000 by the current EMS Managers and two newly appointed certified EMS internal auditors [REDACTED] and [REDACTED] Note
- Objectives, targets and management programs were reviewed and updated. WW/TK

	<u>ACTION</u>
B. Quarter III & IV Internal Audit (Cont'd)	
- Auditing areas included Purchasing, Concierge, Stewarding and Kitchen: a) Suggestion was proposed to Concierge to provide explanations • on those hotel cars exceeding the benchmark. b) Recommended [REDACTED] barbecue section to gather dripping oil from roasted pork for proper disposal. c) Monthly Best Practice record for Stewarding in Aug and Sep were found incomplete. Non-conformance report was raised to Chief Steward and follow up action completed on Oct, 31.	WW/TK/ PKN/FZ GD
C. Lloyds Surveillance Visit 2000	
- To be conducted on Nov 7, 2000 (whole day). Identified areas still not yet confirmed by Lloyds. TK to inform all once he received the confirmation.	TK
D. Management Review (MR)	
- Management Review would be conducted in Jan, 01 during the Excom Meeting.	WW
E. Review Environmental Initiative	
- Points to note: • Recycle Laser Jet Cartridge – On going. Quality was not bad. Please give comments to TK if found unacceptable. • Bread Collector - No collectors. All to source other alternatives to avoid wastage. • Reuse of Flowers left from Private Functions – Selected flowers and flower stands were re-used. • Guestroom Linen – Disposed pillows were sent to KSL and Crossroads International for charity. • King Size Bed – Purchased around 52 nos. king size beds to replace the old one in mid Dec. WL sourced Crossroads International for donation but rejected. WL was trying to deal with a furniture company. All were welcome to assist in this matter.	TK All WL/All
F. Other Business	
1. KS presented the press coverage in [REDACTED] magazine, Green Hotelier, etc. in the meeting. And [REDACTED] has won the Green Award organised by Canadian Chamber of Commerce.	

ACTION

2. Eco-Business Award – 3 topics in this award were not appropriate to [REDACTED] Declined to participate.
3. HKPC Green Management Club – Rejected by [REDACTED] former GM), WW to re-raise to new Chairman in order to share information from club members. WW
4. Mai Po Charity Walk – Would held on Dec 3, 2000, participants limit to 25 persons. Company would sponsor each participant \$250. Still have vacancies. Deadline for register was Nov 11. All
5. WW introduced a web site “e-cycle.org” for reference to gain more creative ideas. All
6. Green Committee Members – all agreed to invite new members from different departments to gain new ideas. All to submit name list to EMS Managers by Nov 10. All
7. All to submit Objective and Targets for 2001 by Dec 2. All

There being no further business, the meeting was adjourned at 12:20pm.

WW/TK/an

*Encl. Water & Electricity Consumption Reports 2000
Quarter III & IV Internal Audit Report*

2000	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	TARGET	VARIANCE
	ACTUAL	ACTUAL	ACTUAL	ACTUAL	ACTUAL	ACTUAL	ACTUAL	ACTUAL	ACTUAL	ACTUAL	F'CAST	F'CAST	ACTUAL		
ROOM NITE	13298	11963	15859	13837	15182	14261	14052	13829	14422	15571	15208	13568	171050		
GUEST ROOMS	237280	210240	239840	248800	220640	235200	263840	234720	244160	258880	287279	256300	2937179		
ROOM OCUPANCY	76%	76%	91%	82%	87%	84%	80%	79%	85%	89%	90%	77%			
KWH/ROOM NITE	17.8435	17.5742	15.1288	17.9808	14.5380	16.4925	16.7760	16.9730	16.9207	16.6258	18.6904	18.8900	17.1746	18.8873	-9%
LAUNDRY POUNDAGE	136218	120801	154228	128485	141472	133740	143903	133612	136723	149402	153752	139750	1672086		
LAUNDRY	12040	11000	12560	12520	11680	12160	13120	12120	12360	13120	13683.93	12437.75	148801.7		
KWH/POUNDAGE	0.08889	0.09106	0.08444	0.09744	0.08255	0.09092	0.09117	0.09074	0.09048	0.08782	0.08900	0.08900	0.08889	0.0889	0.10%
FOOD COVER	68509	59660	73471	63855	71762	68005	66966	64857	68992	70878	82216	82984	842155		
KITCHEN	160802	144191	156833	163457	156918	160225	168836	155708	160060	167053	205540	207460	2007083		
KWH/FOOD COVER	2.472	2.4169	2.4186	2.5598	2.1866	2.3561	2.5212	2.4008	2.5200	2.3569	2.5000	2.5000	2.3883	2.4985	-4.61%
TOTAL CONSUMPTION	1134640	1037540	1168100	1103330	1172340	1125380	1158820	1153710	1134950	1201320					
TARGET-Guest Room	18.8873	18.8873	18.8873	18.8873	18.8873	18.8873	18.8873	18.8873	18.8873	18.8873	18.8873	18.8873			
TARGET-Laundry	0.0889	0.0889	0.0889	0.0889	0.0889	0.0889	0.0889	0.0889	0.0889	0.0889	0.0889	0.0889			
TARGET-Kitchen	2.4985	2.4985	2.4985	2.4985	2.4985	2.4985	2.4985	2.4985	2.4985	2.4985	2.4985	2.4985			

Appendix A.8 HKCom Hotel's Memo re. Environmental Policy Card

HONG KONG

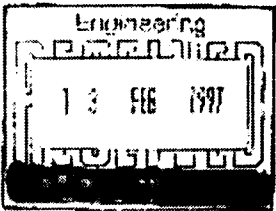
MEMORANDUM

To: All Division/Department Heads
cc: [redacted]
From: [redacted]
Date: 13 February 1997
Subject: ISO 14000 - Environmental Policy Card
Pages: 1 (Inclusive)

The Environmental Policy establishes the intention and commitment of [redacted] Management with respect to the organization's operations, activities and overall environmental performance.

We have produced an Environmental Policy Card in both English and Chinese for you to distribute to each of your staff. Please collect the card in Human Resources Department according to the numbers of staff in your department, by February 14. You are also required to brief your staff on the Environmental Policy by February 22 in order to ensure their awareness of it.

Thank you for your attention and support in this matter.



PC/15

- Distribution :
- Accounts
 - Catering
 - Communications
 - Rooms
 - Engineering
 - F&B
 - Housekeeping
 - Human Resources
 - Kitchen
 - Purchasing
 - Reservations
 - S&M
 - Security

[redacted]

P.F.O

Appendix A.9 HKCom Hotel's Memo re. EMS Training

MEMORANDUM

HONG KONG

Date	January 22, 1997	Ref.	TK0027/97
To	See Distribution	From	[REDACTED]

Subject: ISO 14000 - Environmental Management System Training

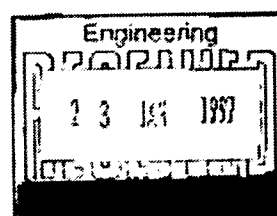
Our hotel has established and operated an EMS in accordance with the requirement of ISO 14000. The purpose of this training is to provide all department heads and ISO 14000 committee members with a sound understanding of the concept, principles and elements of ISO 14001. Details are as follows:

Date	February 10 & 11, 1997
Time	9:00 a.m. - 1:00 p.m.
Venue	[REDACTED] (L5)
Instructor	Consultants from Hong Kong Productivity Council
Medium	English
Content	1. Introduction to Environmental Management Systems - The concept, benefits and elements 2. Brief overview of the EMS standards - BS7750, EMAS, ISO 14001 3. Introduction to ISO 14001 and 14004 - The five elements and requirements - Roles of relevant personnel - Implications of ISO 14001 to [REDACTED]

In order to provide some information of ISO 14000 before the workshop, please find attached a brief introduction to ISO 14000. This program can only be implemented with your support and participation. Please schedule yourself to attend this crucial workshop.

Thank you.


cc: [REDACTED]



Distribution List
All Department Heads
ISO 14000 Committee Members

Appendix A. 10 HKCom Hotel's Fax re. Maintenance Agreement

F A C S I M I L E

HONG KONG

RECEIVED
DATE: 01/05/99

Number of Pages (including this one) : One

Date : January 5, 1999

Attention: Mr. Johnny Chong/Frankie Wei/Carlton Lam

Company: TAI / TPE / AMC

Fax No:

Re: **Maintenance Agreement - Environmental Awareness**

Trans:

Fax Reply No:

As we are the first Hotel group in Asia Pacific Region in gaining the certification of ISO 14001 and to show our continual environmental initiatives, a new item in all your maintenance agreement with outside contractors is essential. Please find below our existing for your reference:

Environmental Awareness

[REDACTED] are certified to ISO 14001 Environmental Management System Standard. As part of this we are required to ensure that our suppliers and contractors are aware of our environmental requirements and meet such requirements themselves. As a minimum performance standard you are required to comply with relevant environmental legislation. In addition to this, we request that you take account of the environmental implications when using any products within the hotel. Resources such as electricity and water should be used with care. The aim of our Hotel is to continually improve our environmental performance and this can only be achieved with your help.

Should you require further information, please feel free to contact me.

May I take this opportunity to wish you all have a prosperous 1999.

Regards,



Regional Director of Engineering

WW/an