Investigating the Process of Valuing Investments in Intangibles: A Case Study in Safety and Security in the Multinational Hotel Industry

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Abstract

Safety and security have emerged as a major force driving change in the multinational hotel industry. As a problem area not well-developed in the literature but considered a crucial force influencing hotel firms' value by the multinational hotel community, safety and security provide an excellent opportunity for industry professionals and academic researchers to improve the value creation of multinational hotel firms. A research need is more urgent in the upscale sector of the industry, and thus, an upscale brand of multinational hotel firm was selected for this study.

This case study investigated how a multinational hotel firm developed a process of valuing its investments in safety and security for its properties under an upscale brand. This European hotel firm operates in twenty countries with a variety of business climates. The differences in the remote environments, namely the political, economic, socio-cultural, technological, and ecological environments, presented a great opportunity to gather different views regarding safety and security investments from hotel managers.

The dimensions of hotel safety and security were identified by management teams running the firm's hotels to provide scope for decision-making. With this scope, the management teams continued to develop a framework for assessing the value generated from investments in safety and security by identifying the components of an investment decision-making model. A framework as a result of this exploratory study is suggested for future research where causality can be specified and a descriptive decision-making model can be built.

Dedication

Dedicated to my parents and first teachers
Narong and Raungtong Punpugdee;
to my only brother and first friend Nuttavuth Punpugdee;
and my greatest mentor Dr. Michael D. Olsen.
Without your love and support, I would not have succeeded in completing my studies at Virginia Polytechnic Institute and State University.
May Buddha and God protect you always.

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Chapter 1

Introduction

Introduction

This case study investigates how a multinational hotel firm develops a process of valuing its investments in safety and security. A European multinational hotel firm was chosen as a case-study company. This hotel firm operates in 25 European countries with a variety of business climates. The differences in the remote environments, namely the political, economic, socio-cultural, technological, and ecological, presented a great opportunity to gather different views from hotel managers.

The process began by defining the scope of the investment decision. The dimensions of hotel safety and security were identified by management teams running the firm's hotels to provide a scope for the decision-making problem. With this scope, the management teams continued to develop a framework for assessing the value generated from the investments by identifying the components of an investment decision-making model. A framework as a result of this exploratory study is suggested for future research where causality can be specified and a descriptive decision-making model can be built.

Problem Statement

The multinational hotel industry has been affected by numerous forces in its environment. It is necessary for the industry to identify major forces that are most likely to impact its value creation process. Olsen and Cassee (1995) identify major forces driving change in the multinational hotel industry, including capacity control, assets and capital, technology, new management, and safety and security (see Figure 1-1). Safety and security has been cited as one of the major forces affecting the value of hotels. However, the current literature on hotel safety and security is not well developed which indicates the need for investigating the issue.

Due to the highly intangible nature of safety and security, there is no common body of terms or agreement on how and in what aspects safety and security is addressed. The extent of subjectivity in the issue needs to be reduced. Leaving the issue improperly defined was out of the question since investing to address the challenge is the critical

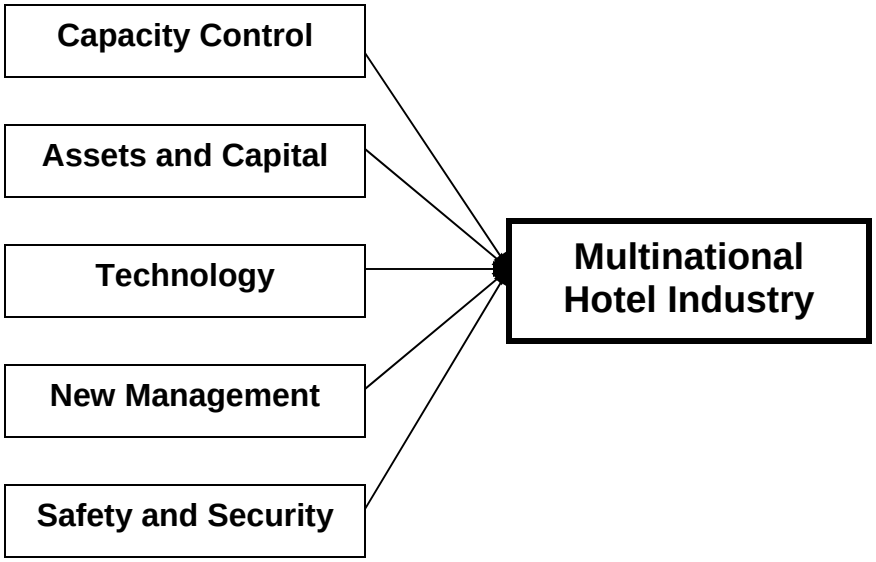

Figure 1-1
Forces Driving Change in the Multinational Hotel Industry
Source: Olsen and Cassee, 1995

issue facing hotel firms due to guests' growing safety and security concerns. Thus a lack of conceptualization of hotel safety and security needs to be addressed.

At present, intangible assets are one of the important factors leading to incorrect valuation of a firm (Lev, 2002). Scholars are working toward more appropriate approaches and techniques for measuring the value of intangibles more correctly. The process utilized in making investments in hotel safety and security involves a great deal of valuing of intangible assets. The investigation of the process needs to be based on well-developed theories of capital investment, a form of strategic financial investment. Decision-making tools like discounted cash flow methods have been successfully used in manufacturing companies in capital investment projects with highly tangible contents, but have had limited successful application in the service industry with highly intangible assets.

Inaccurate measurements are a problem which arises when these decision-making tools are used in projects dominated by intangibles. However, many researchers in the information technology field, which is an area similar to safety and security in terms of the intangible nature of the issue, attempt to cope with the problem. Since there is little available literature on safety and security investments, the investigation of the process utilized in valuing hotel safety and security was carried on by using approaches adopted in appraising investments in information technology.

Problem Context

Today's travelers are increasingly met with threats to their personal safety and security, both from a macro and micro perspective. Micro forces originate from the level of society to that of the firm and individual, while macro forces are the common threats

shared by various countries across continents. Terrorism has remained a major macro force for decades. As a business unit in the society, hotel firms are affected by both macro and micro safety and security threats. Among hotel sectors, upscale hotels seem to be impacted the most by safety and security issues, and, therefore, the investment in this sector must meet that need.

The multinational hotel industry is vulnerable in terms of safety and security forces. These forces are frequently in the forms of crime, terrorism, natural disasters, health, and man-made hazards (Olsen & Pizam, 1998, 1999). Hotel properties generally present greater vulnerabilities with respect to safety and security threats principally because the guests spend more time in the hotel than they do in other hospitality venues. A big part of a guests' stay on the premises is when the guests are not on alert with regards to safety and security threats. For example, the guests are less capable of defending themselves and protecting their personal property while sleeping.

Additionally, the high concentration of people generates safety and security concerns for the hotel. According to government reports, some hotels are a soft target for terrorist bombings. As an example, the MGM Grand Hotel and Casino in Las Vegas could have been a target according to a U.S. attorney in Detroit (Fields & Bravin, 2002). In conclusion, due to the nature of hotels being a soft target with a high concentration of people, safety and security issues will remain a challenge for hotel firms for some period of time.

Theoretical Underpinning:
An Application of the Co-Alignment Model in the Hotel Firm

Amid today's highly competitive environment, a business must continuously scan the environment in which it operates. Strategic management is a vital business discipline that refers to the ability of a firm's management to appropriately align itself with the forces driving change in the environment in which it competes (Olsen, West, and Tse, 1998). If a hospitality firm is able to identify opportunities and threats that exist within those forces, invest in appropriate competitive methods that take advantage of those opportunities, and reduce threats, it can then allocate scarce resources towards competitive methods which add the greatest value to the firm, and the Co-Alignment Model will have been successfully utilized (Figure 1-2). This study is based on this Co-Alignment Model.

In the first step of the Co-Alignment Model, a firm must identify major forces driving change that impact the value of the firm the most. The process of doing this is referred to as environmental scanning. Aguilar (1967) defines environmental scanning as the process which seeks information about events and relationships in a company's external environment. This knowledge can assist top management in its charting the firm's future course of action. Thompson (1967) refers to it as a process by which executives assess the trends and events outside the organization, while Ghoshal (1988) defines it as the activity by which organizations collect information about their environments. Dill (1958) divides the environment into general and task environments. Olsen et al. (1998) refer to the general environment as the remote environment, which comprises forces originating outside the firm which cannot be altered or controlled by the firm and is a beginning point of the scanning endeavor. Generally, the remote

environment consists of five broad groups: Socio-cultural, technological, political, ecological, and economic.

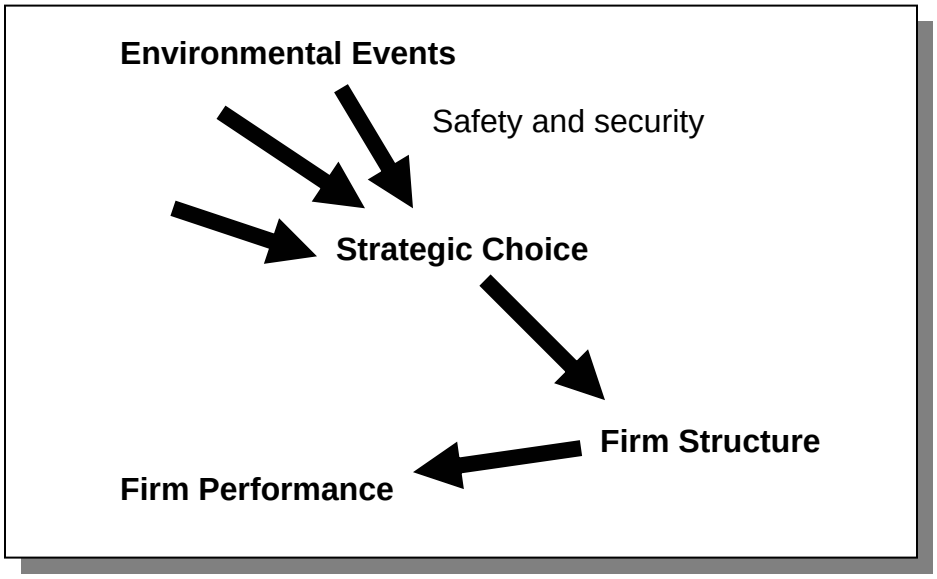

Figure 1-2
The Co-Alignment Model
Source: Olsen, Tse, & West, 1998

Technology itself has emerged as one of five major forces driving change in the hotel industry, along with safety and security, new management, capacity control, and assets and capital (Figure 1-1). Porter (1985) suggests that technology is among the most prominent factors driving competition, since it affects five competitive forces in any industry in a way favorable to the firm. Technology can impact: rivalry among existing firms, bargaining power of buyers, bargaining power of suppliers, threat of new entrants, and a threat of substitute products or services. These five competitive forces, also called the task environment (Dill, 1958; Olsen et al., 1998), come from a firm's stakeholders including customers, competitors, and suppliers. Technology impacts the task environment by creating economies of scale, barriers to entry, switching costs, and links to customers and suppliers.

The socio-cultural dimension of the remote environment includes factors like demographics, culture, language, psychographics, social change, public opinion, education, and nationalism, while the economical dimension consists of variables like gross national products, income distribution, monetary/fiscal policies, financial markets, taxation and tariffs, trade policies, and labor markets. Governments, laws, regulations, and juridical systems fit well under the political dimension, while the ecological dimension contains variables like natural resources, water supply and quality, air quality, environmental maintenance, and conservation.

These five dimensions of the remote environment affect the decision-making which leads to investments in hotel safety and security. Multinational hotel firms that invest in many countries face different settings of the remote environment and may find these relationships more complex. The complexity of the environment itself makes the

appraisal process of safety and security investment projects more complicated. Dimensions of the remote environment interact with each other in various ways. For example, different socio-cultural factors in North America and the Caribbean result in different levels of investments in safety and security measures. The growing gap between "haves" and "have-nots" in the developing nations is a factor driving crime committed by the "have-nots" (Olsen, 2002). In the ecological dimension, factors like water quality and supply in two countries with unequal basic infrastructures differently affect the decision to invest in technology targeted at supplying the hotel property with clean water.

The other type of environment that directly affects the hotel firm is referred to as the task environment (Dill, 1958; Bourgeois, 1980; Olsen, 1980) and is normally identified as customers, suppliers, competitors, and regulatory groups. The remote environment impacts the company through this task environment. Normally, the firms that operate in the same industry are believed to be under the same task environmental setting. Porter (1980) refers to task environment as five forces driving industry competition, even though these forces do not include that of regulatory agencies. A firm must scan remote and task environments frequently and react to them by determining the appropriate competitive strategy.

The competitive strategy is defined as a consistent pattern of resource allocation directed at competitive methods which add significant value to the firm (Olsen et al, 1998). Thus the firm must scan its remote and task environments to identify forces driving change or major factors that will shape the industry. The forces are then treated as inputs of the strategy formulation process in order to design competitive methods. These competitive methods are combinations of products and services knitted together in such a unique way that is difficult to be imitated by competitors (this is called strategic choice in the Co-Alignment Model). The firm must allocate its resources to build or strengthen the competencies of its human resources as well as to provide them with physical resources, knowledge and other supporting resources in order to deliver the competitive methods to its customers. This resource allocation process can be viewed as the firm's structure. If a bundle of products and services offered by the firm, which is called competitive methods in the Co-Alignment Model, fits customers' needs, value is created in the form of financial and non-financial performance. The whole process is called the Co-Alignment Model, since all four constructs in the Model (Figure 1-2) should be aligned or fitted to create value for the firm. In other words, a fit among environment, structure, and strategy is perhaps the most important reason for superior performance of a firm (Alexander & Randolph, 1985; Van de Ven & Drazin, 1985; Venkatraman & Henderson, 1991; Venkatraman & Prescott, 1990).

In conclusion, the Co-Alignment Model is a suitable theoretical underpinning for any strategic financial investment project in a hotel firm. It suggests that the ultimate goal of any hotel firm is superior performance. This can be viewed as a return on invested capital (Copeland, Koller, & Murrin, 2000) that is higher than those of competitors or sometimes firms in other industries that compete for capital from the same group of investors. The tremendous competition for available capital for investments due to the global shift to market economies has resulted in the flow of funds to the investments that provide the highest level of return for the funds invested. Thus the hotel firm is required to produce a greater or equal rate of return on invested capital at the same level of risk,

regardless of the industry sector, in order to secure funding from investors (Olsen & Cassee, 1995). Being considered by investors as an industry producing insufficient returns on capital, any hotel firm is faced with the difficulty of inventing new value-adding strategies (i.e. competitive methods) that will be sustainable over time.

Given that fact, a hotel firm must invest in a set of competitive methods reacting to forces driving change. In other words, it must effectively determine what competitive methods are and how resources and capabilities are structured in order to gain competitive advantage from the investment. As safety and security has been identified as a major force driving change in the hotel industry, particularly in the upscale sector, investments in competitive methods addressing the safety and security issue are expected.

Research Purpose

As discussed earlier, the contemporary literature on hotel safety and security is still limited, although the issue has been identified as a major force driving change in the hotel industry. Moreover, safety and security particularly impacts the value creation process of the multinational hotel in the upscale sector. A multinational hotel firm needs to have well-described definitions of dimensions of safety and security that reflect changes in its remote and task environment.

At the hotel level, management does not only need to define the dimensions of safety and security that concern the hotel or are likely to affect the hotel, it also assesses a priority for each of the dimensions. Without priorities, the hotel cannot allocate its scarce resources to the problem areas most deserving of attention from the management. At the hotel firm level, a general policy on investment in safety and security can be set once the hotels it manages have reached an agreement on the scope of the safety and security problem and the priority of each event.

Once well-defined dimensions of safety and security are achieved and prioritized, an investment to address safety and security events which have a high priority, which is regarded as strategic choice in the Co-Alignment Model, must be proposed by the hotel. The investment is subjected to an appraisal process. This study seeks an understanding of what comprises a decision-making model for investments in safety and security. In other words, based upon prioritized dimensions of safety and security, the investment decision options and factors influencing the net present value of the investment can be identified as the components of a decision-making model.

In sum, the principle goals of this research are:

1) To define the key dimensions of hotel safety and security with assessed priorities

2) To identify the main components of a decision-making model for investments in safety and security

Research Questions

The main research questions under this study deal with identifying the scope of hotel safety and security investment needs and the components of a decision-making model for investment. Detailed research questions are listed below:

1) What are the key dimensions of safety and security that affect the multinational hotel firm and in what order do they deserve attention from the firm?

2) Understanding the key dimensions of hotel safety and security, what process is used in making a decision to invest in hotel safety and security? Specifically, how are:

2.1) Annual cash flows from the investment estimated?

- Yearly revenues as a result of the investment estimated?
  - Key value drivers used to estimate the revenues as a result of an investment decision?
  - Key value drivers for annual cost savings as a result of the investment defined?
- Annual costs incurred by the investment estimated?
  - Key value drivers for the annual costs defined?
- Life of cash flow stream determined?

2.2) Cost of capital for the investment project determined?

- Method of estimating cost of capital chosen?
- Value drivers that affect the cost of capital identified?

2.3) Risk of the investment estimated at the time of making an investment decision?

2.4) Value of initial investment estimated?

Plan of the Research

This research was conducted using the single case study method with multiple internal units of hotel properties. This multinational hotel firm has vigorously practiced a responsible business program since 2001, and has added safety and security as one focus of the program in 2003. In addition, its hotel locations in 25 European countries enabled the researcher to explore how geographical, political, and economical differences in countries affected the way the hotels perceived their environment.

This case study approach was appropriate when no experimental control was used in the data collection process (Yin, 2003; Benbasat, Goldstein, & Mead, 1987). Actually, it is a preferred research strategy in social science when the researchers seek an answer to "what", "why", and "how" questions (Yin, 2003). In particular, it had been a common research strategy in business (Ghauri & Grønhaug, 2002). Since research questions in this study centered on the "what" and "how" questions, the case study technique was appropriate. The unit of analysis for this study was the process utilized in valuing investments in hotel safety and security.

Triangulation as a rationale for using multiple sources of evidence was recommended for conducting a case study (Yin, 2003). The researcher triangulated the array of sources of data. Under this triangulation approach, data were collected by conducting semi-structured interviews with the firm's executives at the Corporate Security Office and the Corporate Finance Office of the hotel firm as well as the management teams of selected hotels, in addition to two Delphi surveys and the secondary data from company documents.

The director of corporate security gave an overview of hotel safety and security investment needs, while the chief financial officer and the director of corporate finance provided corporate policies on valuing investments. To help the researcher delve into

details on the nature of the problem, the management teams at five selected hotels in Europe were interviewed. The five hotels were chosen to help the researcher understand, as much as possible, given a limited data collection budget and time, how different geographical locations as well as economical and political conditions affected the perceptions of the management team of safety and security issues. Company documents, along with trade literature and academic periodicals, as well as other documents published by the United States government and World Bank, were analyzed as secondary data. Developed based on the interviews with corporate executives and the hotel management teams, two rounds of general surveys using a Delphi technique (to be discussed in Chapter Three) were conducted with the management teams at all of the firm's hotel properties in Europe. Group opinion was refined through iteration of the Delphi surveys. In other words, differences in individual opinions were lessened through the process of Delphi surveys.

These three sources of data, including interviews, surveys, and secondary data, allowed the researcher to use a "triangulation" approach to increase the construct validity of the study. As problems arose when the researcher dealt with a large amount of qualitative data, the four concurrent flows of activity suggested by Miles and Huberman (1994) as a method of analysis of the collected data were adopted. These concurrent flows of activity include data reduction, data display, and conclusion drawing/verification.

Contribution of the Research to the Literature

The researcher expected four outcomes from this study:

1) A better understanding of the dimensions of hotel safety and security issues would be reached.

2) A frame of reference for development of a descriptive causal decision-making model for investments in hotel safety and security would be developed.

3) Recommendations for future studies in the area of a decision-making model for investments with high intangible contents would be presented. These could then be used as guidelines for subsequent research in different types of hospitality firms with different units of analysis, such as the process utilized in valuing investments in a hotel's brand.

4) Propositions for subsequent research would be suggested, providing an opportunity for other researchers to test the theory suggested from this research through quantitative empirical studies.

This research would not only contribute to the body of knowledge in the area of hotel safety and security, as well as investments in intangibles, but would also make other contributions to the case-study firm. The executives at the corporate and the property levels would be provided with results from this study. The dimensions of safety and security affecting the value creation process of the hotels, as well as the components of the decision-making model for investments, would be shared across the firm. In addition, the problem areas would be reported with recommendations.

Limitations of the Research

Yin (2003) describes four drawbacks of using a case study method, including perceived lack of rigor, subjectivity, little basis for scientific generalizibility, and time-consuming effort. Among these shortcomings, the generalizibility issue was the greatest concern because a good theory should be generalizable. Nevertheless, one should keep in mind that this exploratory case study sought a better understanding of the strategic financial investment process to address hotel safety and security measures being utilized at the particular hotel firm, rather than that of other hotel firms within the upscale hotel segment or the firm in other hotel segments. In other words, this research sought understanding on which future theory could be developed, but did not intend to build a theory. It was expected that the conclusions of this research would lead to a number of propositions regarding hotel safety and security investment needs.

In future research, hypotheses can be derived from these propositions and tested for generalizibility of the proposed relationships. This could be done across hotel firms and hotel industry segments. The results could be used to support the propositions of this study and would lead to theory building.

Summary

This chapter discusses the importance of safety and security in the upscale hotel sector of the multinational hotel industry. Safety and security has been a major force driving change in the upscale hotel sector for a decade, but there is little understanding in the literature about its definition and dimensions. It was the aim of this study to seek a better understanding of hotel safety and security in terms of its dimensions and their strategic importance as well as the components of a decision-making model for investments to address these dimensions.

Since safety and security is one of major forces driving change in the industry, failure to address its importance by properly investing in products and services probably results in a negative impact on a firm's value. In addition, investing properly in a preemptive fashion leads to a positive impact on a firm's value. However, the dimensions of hotel safety and security that were most relevant to a firm's value creation needed to be identified before the components of a decision-making model for investment in safety and security could be defined.

The Co-Alignment Model as an underpinning model of this study was discussed. The main argument of this theory is that the firm must invest in competitive methods reflecting forces driving change in its industry sector. This can be done by first scanning the remote and task environment. As safety and security has emerged as a main force driving change in the hotel industry, particularly in the upscale sector, the firm must invest to address the issue. First, it must define the dimensions of safety and security in its business domain. Then, it must assess the importance and likelihood of each dimension. Based on that assessment, it must develop competitive methods to address the dimensions of safety and security which are most important and most likely to impact the firm.

Again, a competitive method must contain products and services knitted together in such a unique way that is difficult to imitate by competitors. To realize a superior

performance in the form of return on invested capital from investment in these competitive methods, a firm must build its core competencies, including assets, knowledge, and capabilities used in successfully carrying out the competitive methods.

This study centered on identifying the dimensions of safety and security that were relevant to the firm, and the components of a decision-making model for investment in hotel safety and security. This activity directly involved the first two constructs of the Co-Alignment Model: environmental events (identifying forces driving change and their dimensions) and strategic choice (making a decision on investment in competitive methods to respond to environmental events). It did not delve into details about how the firm allocates its resources to make its strategy work effectively, or the impact of the first three constructs of the Co-Alignment Model on firm performance, which was the fourth construct in the model. However, one must keep in mind that well-designed strategies are likely to fail if the firm currently has no core competencies required to carry out the chosen strategy, or has no capabilities to acquire them during strategy implementation.

After the problem statement, context of the problem, and the Co-Alignment Model as an underpinning theory of this study were discussed, the purposes and methodological aspects of this study were reviewed. Two main purposes of research, 1) to identify the dimensions of hotel safety and security, and 2) to identify the components of a decision-making model for investments in hotel safety and security, were discussed in the chapter. The proposed research questions stemming from these two purposes were stated. Then the last part of this chapter gave an overview on how this research was conducted, as well as the contribution and limitations of this research.

Chapter 2

Review of the Literature

Introduction

As stated in Chapter One, the purpose of this study was to seek understandings of a hotel company's view of the safety and security issue in its business domain and the process of valuing investment projects to improve hotel safety and security. This chapter reviews the current literature in three areas: the Co-Alignment Model as an underpinning theory of the research, as well as the issue of hotel safety and security, and the issue of investments in hotel safety and security.

This chapter first discusses the Co-Alignment Model, which is the underpinning theory of this study. In other words, the literature on the Co-Alignment Model is discussed to provide a sufficient sense of the paradigm adopted by the researcher. The constructs of the Co-Alignment Model are discussed as the framework for addressing strategic capital investment issues. The environmental event construct of the model provides a rationale for identifying the dimensions of hotel safety and security as they affect the multinational hotel industry, while the strategic choice construct of the model provides a rationale for identifying the components of a decision-making model for investments in safety and security.

These first two constructs will first be discussed in general way, not specific to the context of hotel safety and security, just to give a sense of how the Co-Alignment Model works in hospitality firms. It is important to note that the last two constructs are not in the scope of this study. In other words, the two main research questions of this study mainly deal with the first two constructs. However, the last two constructs of the Model are also discussed in order to present the entire process of value creation in the hospitality firm.

The latter two areas of literature reviewed in this chapter are directly related to the two main research questions of this study. Once the underpinning theory has been sufficiently discussed, the current literature on the dimensions of hotel safety and security is presented. The dimensions of safety and security studied in the travel and tourism fields are also presented, since they are highly connected to applications to the hotel industry. This section is crucial for the design of this research since it is used to develop operationalized research questions and variables used to guide data collection.

The last section of the chapter serves as a foundation for a research design for the second research question. First, the strategic capital investment decision is discussed. Second, available strategic choices for hotel safety and security, in forms of technology and knowledge, are reviewed. Since these investment choices are considered highly intangible, the literature on intangibles and appraising investments in intangibles is discussed. Literature in the information technology context is reviewed analogously due to the lack of literature on hotel safety and security. Last, a model for investment in hotel safety and security, which is developed based on the literature previously discussed, is proposed.

The Co-Alignment Model

Olsen et al. (1998) proposed a model called the Co-Alignment Model in the applied context of a hospitality firm. The central theme of the model is that of fit (Alexander & Randolph, 1985; Van de Ven & Drazin, 1985; Venkatraman & Henderson, 1991; Venkatraman & Prescott, 1990) or alignment among the constructs of the model in order for a firm to achieve superior performance. In other words, for a firm to realize superior performance from strategic capital investment, there must be a fit among its environment, strategy, and structure. Performance can be viewed as a dependent construct in this model and is theoretically explained by fits (interaction effects) between environment and strategy, environment and structure, and strategy and structure.

A hotel firm that adopts the Co-Alignment Model must analyze opportunities and threats derived from forces driving change in the environment. In this study, safety and security, which is one of the major forces driving change in the hotel industry, presents some forms of opportunities and threats to the upscale hotel firm. A set of competitive methods or a combination of products and services bundled in such a unique way that it is difficult to imitate by competitors is designed to reflect opportunities and threats introduced by forces driving change. This is an outside-in approach for strategy-making.

Then the firm must also take an inside-out approach (Hoskisson, Hitt, Wan, & Yiu, 1999) and assess whether it has sufficient internal resources and capabilities to carry out the strategic choice or a set of competitive methods. Once the strategic choice or strategic capital investment is made based on the perceived environment, the firm needs to make an appropriate and consistent allocation of resources to build the competencies required to make competitive methods work effectively. This should not be confused with the practice that a firm's structure (internal resources and capabilities) should be incorporated into the process of making strategic choice. Although a firm will act upon its structure after the strategic choice is made, the assessment of its current structure should be included in the strategic planning phase. It is true that some types of resources and capabilities (core competencies) can be acquired through traditional procurement (through outside suppliers) or a merger and acquisition of firms who own the resources and capabilities, but not all types of core competencies can be obtained in a short period of time. For this reason, a firm has a great risk of failure if it does not include an assessment of its structure in the process of making a strategic choice.

While some other dominant strategic management theories take either an outside-in or an inside-out approach, the Co-Alignment Model suggests that the two approaches must be adopted when the hotel firm thinks strategically. In other words, Co-Alignment

researchers are required to have a sufficient understanding of the two perspectives of strategic management: the industrial organization (IO) perspective, and the resource-based view (RBV) perspective. While the IO perspective views strategy-making from outside-in, the RBV perspective observes it from the inside-out approach.

Although the resource-based view has become a popular research stream (Hoskisson et al., 1999, Mintzberg, Ahlstrand, & Lampel, 1998), its roots date back to the early 1960s when strategic management research centered on the internal capabilities of a firm. During the time when strategic management was known as business policy, there were seminal works that served as a strong background for the field, including those of Selznick and Penrose. Selznick (1957) argues that a firm's distinctive competence is in the forms of managerial capabilities and internal strengths.

Penrose (1959), in her well-known *The Theory of the Growth of the Firm*, regards the firm as a collection of productive resources. Resources not only give themselves as inputs in the production process, but also render services to the process. She looks at both the tangible and intangible parts of resources (e.g. acquisition and merger as well as diversification). A Penrosian Learning Culture refers to a collective interaction that creates strength from within the firm. In sum, Penrose suggests that a firm gains competitive advantage through its internal strengths. However, although she focuses on the internal capabilities, she regards environment as something that can be manipulated by the firm to serve its own purposes.

During the early development of strategic management, there were three seminal works (Hoskisson et al., 1999). Chandler (1962) provides the notion that structure follows strategy, thus explaining how large firms allocate their resources to build internal strengths to accommodate growth. Ansoff (1965) suggests that synergy is internally generated by a combination of internal capabilities and competencies. Learned, Christensen, Andrews, and Guth (1965) studied the functions and responsibilities of the general managers of selected organizations. They also addressed the concept of strengths and weaknesses of the firm. Ansoff and Learned et al. adopted a normative (prescriptive) and inductive approach through the use of an in-depth case study to extract the best practices from a single firm or industry. These works have provided a strong background for the firm's structure construct in the Co-Alignment Model.

Then the research domain shifted to the other extreme end: external industry structure and competitive position in the industry. This is referred to as the Industrial Organization (IO) view. Mintzberg et al. (1998) call this the positioning school, since the firms are subjected to the same five competitive forces and need to adopt one of the three generic strategies, including cost leadership, differentiation, or focused strategy, otherwise they will end up as "stuck in the middle" (Porter, 1980). Porter's theoretical roots are based on the works of Bain (1956 and 1968) on the "structure-conduct-performance (SCP)" paradigm.

The IO perspective swings away from its original focus on the industry level to a new focus on the firm level. It is still considered to be a group of firms that share many of the characteristics of an external environment point of view. Those firms are believed to be in the same strategic group (Hunt, 1972; Porter 1980; Newman, 1978). Their main claim is that the performance of the firm depends on its membership in the strategic group. The strategic group concept can be used to explain the logic of a critical success factor in the Co-Alignment Model since all firms in the strategic group, or the upscale

hotel sector in this study, are subjected to the same task environment and need to invest in the same set of critical success factors in order to remain competitive in the industry sector.

Since most IO researchers are logical positivists, they who maintain that any statement that cannot be empirically verified is meaningless. Their works are deductive empirical research involving large-scale commercial databases like COMPUSTAT and PIMS (Profit Impact of Market Strategy) (Hoskisson et al., 1999).

Following the period of the IO perspective, the research domain returned back to the internal capabilities of the firm, in the 80s. Seminal works during the early development of the field once again serve as a foundation for resource-based view (RBV) researchers. These include the works of Selznick (1957), Chandler (1962), Ansoff (1965), as well as Learned et al. (1965).

Wernerfelt (1984), an economist with a background in game theory, in his 1994 award-winning *Strategic Management Journal* paper, suggested that strategic researchers should look at another side of the coin—resources—instead of the product-market side. He argued that the traditional concept of strategy (Andrews, 1971) was phrased in terms of resource position or strengths and weaknesses of the firm. His main purpose in his paper was to develop simple economic tools for analyzing a firm's resource position and to take a look at some strategic options suggested by the analysis. In other words, he proposed a relationship between resources and profitability as a form of firm performance. It was Penrose's (1959) seminal work that provides a foundation for his paper. As resources could be tangible and intangible, Wernerfelt gave examples of brand names, in-house knowledge of technology, employment of skilled people, trade contract, capital, etc as a firm's resources.

The main research question in the RBV perspective was "Under what circumstances will a resource lead to high returns over longer periods of time?" Though Wernerfelt believes that Porter's five forces model were originally intended as tools of analysis for products only, he did not discard it in this study. However, he only focuses on three forces; bargaining power of suppliers and bargaining power of buyers in monopolistic markets—developing a machine fully idiosyncratic for one customer—as well as threat of substituted resources.

Rumelt (1984) argues that firms may start as homogenous but with isolating mechanisms, they become differentiated such that their resources cannot be perfectly imitated. Though Barney, Montgomery, and a few others have adopted this framework, most practicing managers as well as scholars were not aware of the concept until 1990. Some firms developed their resources in supplier markets, which can subsequently be leveraged into downstream markets (Wernerfelt, 1995). Hamel and Prahalad (1990) picked up on this Stepping Stone strategy and elaborated in the NEC example. NEC's eventual goal was to become a microcomputer manufacturer. This requires design and mass assembly resources. NEC benefited by first entering supplier markets such as the microchip industry where it could develop these resources. Because many ideas were presented in a compelling style, the RBV received a great deal attention.

Barney (1991) proposed a model of the interrelationship between a firm's resources and its ability to sustain competitive advantage. The model assumes that a firm's resources are heterogeneous and immobile. A firm's resources are the elements that allow it to implement strategies to improve efficiency and effectiveness, including

assets, processes, and attributes. RBV resources must possess four criteria; 1) value (combination of resources must fit with the external environment, so that the firm can exploit opportunities and neutralize threats), 2) rareness, 3) inimitability (caused by information asymmetry), 4) non-substitutability. RBV resources must be valuable, rare, imperfectly imitable, and non-substitutable

Conner (1991) discussed the results of a historical comparison of resource-based theory and five schools of thought within industrial organization economics. She suggests that a resource-based view of strategic management is both similar to and different from the theories of industrial organization (IO) economics. A resource-based approach defines sources of economic rents as costly-to-copy attributes of firms, and it functions as a new theory of the firm. Theories that have been important in the evolution of IO include neoclassical theory and its perfect competition model, Bain-type IO (1956 and 1968), J.A. Schumpeter's theories (1942), the theories of the Chicago school of economics, and transaction cost theory (Williamson, 1975 and 1985). Resource-based theory both utilizes and rejects a minimum of one key element from each of the five theories.

In sum, the RBV theory focuses on the idiosyncratic nature of a firm's resources and capabilities. For this reason, empirical testing of the RBV theory faces great challenges as researchers need to deal with the intangible nature of some resources and capabilities. Some have used proxies as measures of intangible constructs. However, unobservability poses a substantial measurement challenge to RBV researchers since proxies may not be valid measures of the underlying constructs. For the research methodology used in RBV research, rather than adopting large-scale data collection approaches, the inductive case study methodology is appropriate because it provides richer information about the firm's idiosyncrasies (Hoskisson et al. 1999). A focus on idiosyncratic resources makes generalizibility to other firms questionable but the case-study seems to be the appropriate way to investigate and report the best practices of a single firm or industry.

Again, the IO perspective views strategy from the outside-in approach, suggesting that the firm is subject to the external environment and must design a strategy based on the opportunities and threats in the environment. In contrast to the IO focus on the external environment, the RBV perspective emphasizes the firm's internal and idiosyncratic resources and capabilities. Hoskisson et al. (1999) sees the future of strategic management research as a multi-paradigm discipline where strategy problems cannot easily be framed with any single paradigm (either IO or RBV). Instead, strategy researchers need to adopt a wide variety of theoretical perspectives and methodologies in order to help explain firm performance.

The Co-Alignment researchers (Olsen et al. 1998) and those of similar paradigms (Thompson & Strickland, 1996) include both the internal and external environment in their strategy making model. Again, the Co-Alignment Model argues that a firm must identify forces driving change from their routine of environmental scanning, make a strategic choice through a set of competitive methods based on the external environment and its own strengths and weaknesses, then allocate resources and build the core competencies required to deliver competitive methods, in order to achieve superior performance.

The researcher adopted the Co-Alignment Model as the underpinning theory for this study; thus the conceptual framework for appraising investments in hotel safety and security will include both the external environment and internal resources and capabilities. This is discussed in Chapter Three under the Proposed Basic Framework section.

Safety and Security Issues in the Multinational Hotel Industry

This section serves to provide a summary of the literature on the concept of safety and security that has been developed, both in general and in the context of the multinational hotel industry. One of the earliest and best-known theories of individual motivation is Maslow's hierarchy of needs, as shown in Figure 2-1. Maslow hypothesized that there exists a hierarchy of needs within every human being. These needs are physiological, safety, social, esteem, and self-actualization.

Physiological needs are those required to sustain life, such as air, water, food, rest and sleep time. Higher needs are not recognized until one satisfies the needs basic to existence. Once the basic needs are met, at the second level of need in the pyramid, safety needs, the individual strives to find or create an environment safe from external dangers (Stum, 2001) as well as where one can secure his or her personal property. The next three levels of needs do not matter to the individual until the safety needs are satisfied. Those needs include social needs (e.g. friendship, belonging to a group, giving and receiving love), esteem needs (e.g. self-respect, achievement, attention, recognition, reputation), and self-actualization (e.g. truth, justice, wisdom, meaning). Unlike lower needs, self-actualization as the need for knowledge and aesthetics is never fully satisfied.

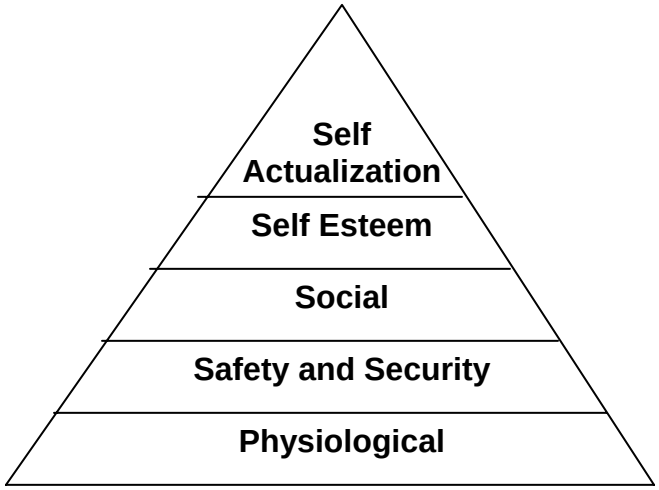

Figure 2-1
Maslow's Hierarchy of Needs
Source: Stum, 2001

In 1969, Clayton Alderfer modified Maslow's hierarchy of needs and classified physiological needs and safety needs together as existence. This is referred to as the ERG (Existence-Relatedness-Growth) Theory (shown in Figure 2-2) which classified

needs into three categories, including existence (physiological needs and safety needs), relatedness (social needs and internal esteem needs), and growth (external esteem needs and self-actualization). Safety has become basic material existence requirements together with physiological needs under this theory. Relatedness refers to the desire we have to maintain interpersonal relationships, while growth refers to an intrinsic desire for personal development. The main difference of this ERG theory from Maslow is its claim that one need may be motivational at the same time, and the lower motivation need not be substantially satisfied before one can move onto higher motivators. Never the less, safety needs are not less important under this theory.

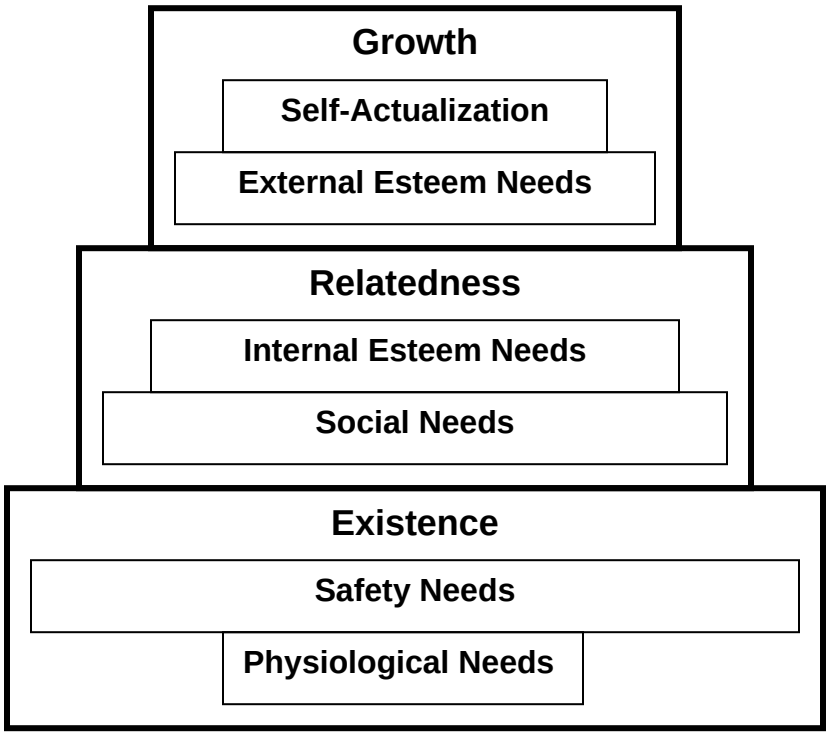

Figure 2-2
The ERG Theory
Source: Stum, 2001

In line with Maslow's hierarchy of needs and in the context of the hospitality industry, safety and security for domestic and international travelers are long-standing global concerns. During the early 1980s, potential travelers perceived personal safety as a major deterrent to international travel to the United States followed by travel costs and availability of information. It was not until the White House Conference on Travel and Tourism in October 1995 that the government and the hospitality and tourism industry integrated fragmented safety and security campaigns into a single national strategy (Smith, 1999). When travelers are not familiar with the destination, they are vulnerable to the safety and security threats at the destination. Thus their safety and security need becomes an important factor in choosing a destination, as well as in selecting the hotel at the destination.

The body of literature reporting the relationship between tourism and events that affect visitors' safety and security perceptions has been recently increasing (Dimanche & Lepetic, 1999). An expected finding has been that safety and security and peace are necessary conditions for tourism (Pizam & Mansfeld, 1996). Although available research on safety and security issues in the hospitality and tourism industry in general has been growing recently, studies on this matter in the hotel industry, in specific, are still limited (Olsen & Pizam, 1998, 1999; Gill, Moon, Seaman, & Turbin 2002). There have been more research efforts contributing to the literature following the tragic events on September 11, 2001 (Enz & Masako, 2002; Cohen, 2002; Stafford, Yu, & Armoo, 2002). These works have been conducted mostly in the tourism context and not in the area of strategic management.

At the international level, the hospitality and tourism industry also realized the importance of the safety and security issue when people travel. The concept of the Co-Alignment Model (Olsen et al. 1998) suggests that the firm must align itself with the forces driving change in the environment in which it operates and competes. The hospitality industry, in general, has faced five major forces driving change as identified in the International Hotel and Restaurant Association's publication "*Into the new millennium, a white paper on the global hospitality industry."* Representatives from the private sector, government agencies, and educational institutions saw technology, capacity, new management, assets and capital, and safety and security as major forces (Olsen & Cassee, 1995). Along with assets and capital, new management, marketing and capacity control, technology, and social responsibilities, safety and health have also been identified as forces driving change in the global hotel industry in continuing industry research (Olsen, Zhao, Sharma, & Choi, 2001).

Although safety and security has emerged as one of major forces driving change in the hotel industry, there is no uniform understanding on a definition of safety and security in the upscale hotel sector. Our current understanding on the issue in the upscale hotel sector is not satisfactory, and certainly not sufficient to be used as an input in the investment valuation process regarding a safety and security competitive method. We need a method to classify the dimension of safety and security in the upscale hotel sector.

Safety and Security Typologies

Typology offers a better way to understand overall multidimensional constructs and help theorists achieve parsimony (Law, Wong, & Mobley, 1998; Doty & Glick, 1994). Without a specification of the relationship between an overall construct and its dimensions, the overall construct cannot be derived from its dimensions, and research at the dimensional level cannot be conducted properly (Law et al., 1998). While the words "safety" and "security" are usually used interchangeably, the two concepts differ in their focus. A typology concept, with a specific application to the hotel industry, could be employed in this case.

Enz and Masako (2002) suggest that safety involves protecting employees and customers within the hotel property from potential injury or death, while hotel security deals with preserving guests' possessions and the hotel property. In other words, safety relates to human life while security deals with guests' and hotel's assets. Effects of accidents, hazardous materials, and fire, for example, are fitted within the safety

dimension, while security issues involve such matters as theft and violent crime. Indeed, some experts treat safety as a particular form of security that focuses on the protection of guests and employees from injuries, whether from accidents or criminal activity.

Classifying a particular event as either a safety or a security event is too coarse for continuing research. There are typologies in the hospitality literature addressing the issue in a multi-dimensional fashion. Safety and security can also be viewed in a strategic and/or non-strategic nature. The following sections provide detailed discussion on this issue.

Dimensions of Safety and Security

Since the first research question in this study addresses the dimensions of the safety and security issue within the multinational hotel industry, it is important to review the body of literature with respect to this issue. Table 2-1 summarizes safety and security events in the multinational hotel industry as well as those in the tourism industry that affect a hotel's guests.

Table 2-1
Hotel Safety and Security Events

Event	Source
Perimeter security	Ellis & Stipanuk (1999) Burstein (1985) Shortt & Ruys (1994)
Safety in parking area	Ellis & Stipanuk (1999)
Car theft	Kohr (1991)
Lighting	Ellis & Stipanuk (1999) Shortt & Ruys (1994) Kohr (1991)
Locks	Ellis & Stipanuk (1999) Shortt & Ruys (1994) Rushmore & Malone (1998)
In-room personal property security	Burstein (1985) Buzby II & Paine (1976)
Glass	Ellis & Stipanuk (1999)
Employee theft	Ellis & Stipanuk (1999)
Violence in the workplace	Ellis & Stipanuk (1999) Hobson (1996)
Employee alcohol and drug use and abuse	Ellis & Stipanuk (1999)

Table 2-1
Hotel Safety and Security Events

(continued)

Event	Source
Drug dealers	Ellis & Stipanuk (1999) Gill, Moon, Seaman, & Turbin (2002)
Prostitution	Gill, Moon, Seaman, & Turbin (2002) Burstein (1985) Buzby II & Paine (1976)
Intoxicated persons	Buzby II & Paine (1976)
Visiting offender	Gill, Moon, Seaman, & Turbin (2002)
Swimming pools	Ellis & Stipanuk (1999)
Health clubs	Ellis & Stipanuk (1999)
Jogging trails	Ellis & Stipanuk (1999)
Children play areas	Burstein (1985)
Tennis courts	Burstein (1985)
Food Spoilage	Ellis & Stipanuk (1999) Adams and Morrell (1999)
Casino and gaming security	Ellis & Stipanuk (1999)
Bombs and bomb threats	Ellis & Stipanuk (1999), Olsen & Pizam (1998 and 1999) Burstein (1985)
Fire (Accident)	Ellis & Stipanuk (1999) Olsen & Pizam (1998 and 1999) Sonmez, Apostolopoulos, & Tarlow (1999) Graham & Roberts (2000) Roberts & Chan (2000)
Fire (Arson)	Rushmore & Malone (1998)
Smoke	Ellis & Stipanuk (1999)
Hurricanes	Ellis & Stipanuk (1999) Olsen & Pizam (1998 and 1999) Sonmez, Apostolopoulos, & Tarlow (1999)
Volcanic eruption	Sonmez, Apostolopoulos, & Tarlow (1999)
Tornadoes	Ellis & Stipanuk (1999) Olsen & Pizam (1998 and 1999)
Torrential rains	Sonmez, Apostolopoulos, & Tarlow (1999)

Table 2-1
Hotel Safety and Security Events

(continued)

Event	Source
Floods	Ellis & Stipanuk (1999) Olsen & Pizam (1998 and 1999)
Earthquakes	Ellis & Stipanuk (1999) Olsen & Pizam (1998 and 1999)
Blackouts	Ellis & Stipanuk (1999) Olsen & Pizam (1998 and 1999)
Thieves (walk-in thief and “bag thief”) in the lobby	Gill, Moon, Seaman, & Turbin (2002)
Collusion thieves (to guest rooms)	Buzby II & Paine (1976)
Sneak thieves (to guest rooms)	Buzby II & Paine (1976)
Robberies and burglaries	Ellis & Stipanuk (1999) Olsen & Pizam (1998 and 1999) Shortt & Ruys (1994) Dimanche & Lepetic 1999
Assault	Pizam (1999)
Shooting	Pizam (1999)
Sexual assault (rape)	Rushmore & Malone (1998)
Murder	Pizam (1999)
Crime (murder and rape) motivated by personal reasons	Pizam (1999)
Kidnapping	Strizzi & Meis (2001)
Youth gangs/street children	Olsen & Pizam (1999) Strizzi & Meis (2001)
Vandalism	Pizam (1999)
Terrorism	Ellis & Stipanuk (1999) Olsen & Pizam (1998 and 1999) Sonmez, Apostolopoulos, & Tarlow (1999) Leslie (1999).
Bio-terrorism	Olsen & Pizam (1999)
Radiation	Olsen & Pizam (1998 and 1999)
Guerrilla forces	Strizzi & Meis (2001)
War	Manfeld (1999) Butler & Baum 1999
Riot, uprising, insurgency, and political upheaval	Pizam (1999) Sonmez, Apostolopoulos, & Tarlow (1999) Richter (1999) Burstein (1985)

Table 2-1
Hotel Safety and Security Events

(continued)

Event	Source
Strike and demonstration	Buzby II & Paine (1976)
Public order issues (crime problem related to guests' use of hotel as a host venue—conference, football game)	Gill, Moon, Seaman, & Turbin (2002)
Hate crime	Hobson (1996)
Food safety (food-borne diseases)	Olsen & Pizam (1998 and 1999) Kohr (1991) Ritchie, Dorrell, Miller, & Miller (2003)
Food poisoning	MacLaurin (2001 and 2003)
Migration of infectious diseases through air (air-borne diseases)	Olsen & Pizam (1999) Strizzi & Meis (2001)
Mass food and water contamination	Olsen & Pizam (1999)
Political conflicts	Olsen & Pizam (1999)
Medical and dental emergencies	Ellis & Stipanuk (1999)
In-room injury (bathroom)	Kohr (1991)
Injury on premises (slips, trips, falls) (polished stone in the lobby)	Kohr (1991)
Injury on premises (guests stuck by objects/bump in the night)	Kohr (1991)
Credit card fraud	Ellis & Stipanuk (1999)
Internet fraud	Olsen & Pizam (1999)
Money laundering	Olsen & Pizam (1999)
Consumer privacy	Olsen & Pizam (1999)
Events threatening people with disabilities	Ellis & Stipanuk (1999)
Events threatening VIP guests	Ellis & Stipanuk (1999)
Events threatening youth groups	Ellis & Stipanuk (1999)
Events threatening attendants of meetings, incentives, conventions, and exhibitions (MICE)	Ellis & Stipanuk (1999) Burstein (1985)
Events threatening mature age market	Olsen & Pizam (1998) Shortt & Ruys (1994)
Events threatening football fan (UK)	Gill, Moon, Seaman, & Turbin (2002)

Shortt and Ruys (1994) identify dimensions of hotel safety and security for the mature guest market as safety in public-access areas or in the guest room and on-premise

crime. The International Hotel and Restaurant Association (Olsen & Cassee,1995), through a series of its "Visioning the Future" workshops in locations around the world, classified safety and security issues in the hotel industry into broad categories of macro forces and micro forces, as illustrated by Figure 2-3.

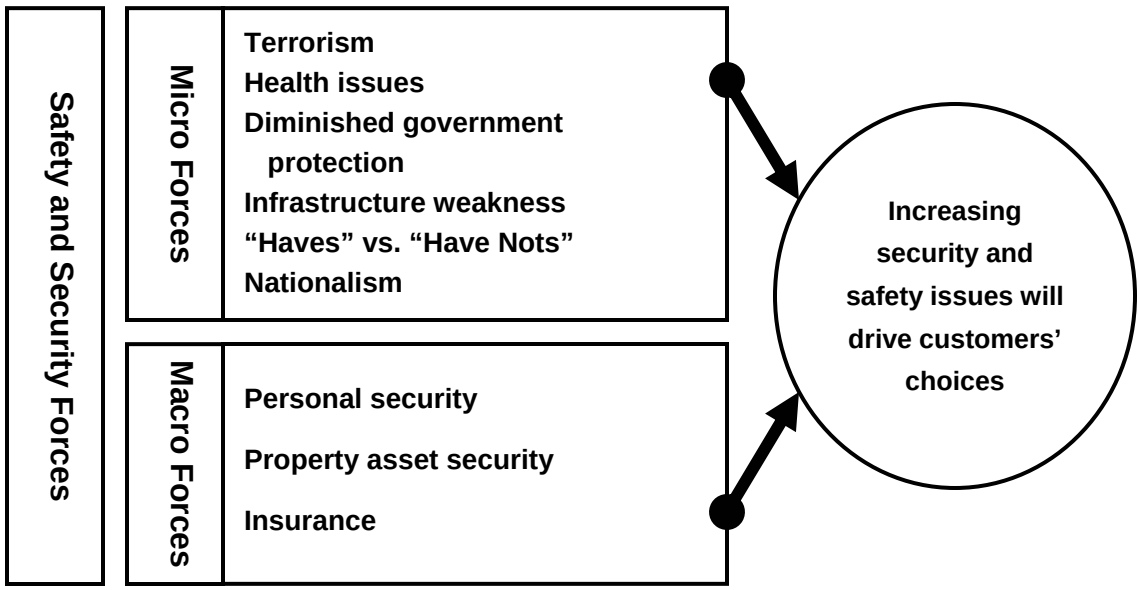

Figure 2-3
Safety and Security Forces in the Multinational Hotel Industry
Source: Olsen & Cassee (1995)

At the macro level, the most significant force driving safety and security concerns is the impact of terrorism on travel. It is rooted in the growing global disparity between the "haves" and "have nots". Until the wealth gap narrows, the fundamentalist religious groups will seek to make their statement through these random acts of violence. Beside terrorism, health issues are also important forces at the macro level. With the spread of AIDS and Hepatitis B, as well as contemporary diseases like SARS (severe acute respiratory syndrome) and the avian flu (the bird flu), today's guest takes these factors into consideration when making their decisions on the destination and the hotel at that given destination. These terrorism and health matters are transnational issues, but they are important factors in the travel decisions of business and leisure travelers as travelers treat these issues in a personal way, in which case they become micro forces. A safe and secure hotel room and public access areas in these aspects are growing challenges for the hotel firm.

Stemming from the "Visioning the Future" workshops, two think-tanks in hotel safety and security were held in Orlando, Florida, and Stockholm, Sweden, in 1998 and 1999 respectively, to seek further understanding of hotel safety and security issues. Based on the question of what are the major safety and security challenges that will dominate the industry in the next 5 to 10 years, the hotel community gathering at the think-tanks suggested that crime, terrorism, health, natural disasters, and man-made

hazards are major challenges. However, they all agreed that the body of knowledge in the area is undeveloped and that information becomes the key to address this problem industry-wide.

Therefore, the necessary first step in building a body of knowledge is to commence baseline data gathering activities on an industry basis. This requires a better understanding of hotel safety and security dimensions at a more detailed level (Olsen & Pizam, 1998, 1999).

Ellis and Stipanuk (1999) view guests' safety and security based on the areas where the events occur; guest rooms, public areas, as well as hotel perimeter, garage, and parking lot. This resembles the work of Shortt and Ruys (1994). However, they introduce information security, workplace violence, and drugs as an emerging dimension concerning both the hotel and its guests.

Other researchers (Adams and Morrell, 1999; Burstein, 1985; Butler & Baum 1999; Buzby II and Paine, 1976; Dimanche & Lepetic 1999; Gil, Moon, Seaman, and Turbin, 2002; Graham & Roberts 2000; Hobson, 1996; Kohr, 1991; Leslie, 1999; MacLaurin (2001 and 2003); Manfeld, 1999; Richter, Dorrell, Miller, and Miller (2003); Roberts & Chan 2000; Rushmore and Malone, 1998; Sonmez, Apostolopoulos, and Tarlow, 1999) delve into specific events fitted under one or two dimensions of safety and security and produced detailed results applied to specific tourist destinations. However, each of the safety and security events from this research can be fitted under the dimensions of hotel safety and security offered by Olsen and Pizam (1998, 1998), as described in Figure 2-4.

Figure 2-4
Dimensions of Hotel Safety and Security Guided by the Literature
Source: Olsen & Pizam (1998, 1999)

This research was designed based on the five dimensions of safety and security (as shown in Figure 2-4) which are suggested by Olsen and Pizam (1998, 1999). Since this study deals with the safety and security issue from the view of the hotel firm, the results of the studies of Olsen and Pizam, which are based on the inputs from hotel executives who participated in the think-tanks, seem appropriate. These include crime, terrorism, health, natural disasters, and man-made hazards, which emerged as primary concerns with respect to hotel safety and security. It is important to note that information and computer security are not included in these dimensions.

Pizam (1999) defined crime as an act committed in violation of a law forbidding or commanding it, and violence as an unjust or unwarranted exercise of force, usually with the accomplishment of violence, outrage, or fury. A high crime image of the city can be harmful to the destination and its lodging businesses, even though that perception can be offset by other attractive features (Dimanche & Lepetic, 1999). Crime can be also committed by hospitality employees. For example, in January 1994, an employee of Taco Bell shot four other employees in an after-hours robbery in Clarksville, Tennessee (Hobson, 1996). This may happen in the hotel and involve guests' lives and property.

Persistent terrorism can harm a destination's image of safety and jeopardize its entire tourism and hospitality industry (Sonmez et al., 1999). The tourism industry in Northern Ireland (Leslie, 1999), Israel (Manfeld, 1999), Afghanistan, and the Balkan States (Butler & Baum, 1999) still suffers from the effects of continual wars and terrorism on their image of safety. Olsen and Pizam (1998) have defined Terrorism as random acts of violence. Participants to the International Hotel and Restaurant Association's Think-Tank on Safety and Security in 1998 in Orlando, Florida, believed that these random acts of violence are on the rise, with some targeting the hospitality industry (Olsen & Pizam, 1998).

The terrorist attack at the World Trade Center in New York City on September 11, 2001 strengthens that belief. In that tragic event, The Millenium Hotel, only a block from the collapsed World Trade Center, was struck by falling debris, though there were no casualties on the site of the hotel (Mason, 2004). Hotels still remain a soft and vulnerable target for terrorist activity due to the fact that they represent gathering places for the "haves", and because of their openness to the public. A special report issue of *U.S. News & World Report* (March 31, 2003) claims that suspected terrorists had a video image of the MGM Grand Hotel in Las Vegas, since they regard the city as America's playground. In addition, a series of hotel bombs in Spain and ones in other various regions of the world make hotels ideal as soft targets for terrorist attacks (Mason, 2004). Table 2-2 lists the hotel bombings and shootings from 1975 to early 2004.

Table 2-2

Major Hotel Bombings and Shootings, 1975-2004

Date	Country	Location	Number of Casualties	Number of Injured Victims	Details
September 5, 1975	United Kingdom	Hilton Hotel, London	2	63	A bomb was planted in the hotel lobby. The Irish Republican Army (IRA) claimed responsibility.
February 13, 1978	Australia	Hilton Hotel, Sydney	3	7	A bomb placed in a rubbish bin outside the hotel. The hotel was the venue for Commonwealth Heads of Government Regional Meeting. The organization had areas of focus include combating organized crime, transnational crime, money laundering, major fraud, illicit and drug trafficking[2]
December 31, 1980	Kenya	Norfolk Hotel, Nairobi	16	80	A bomb which is believed to have been planted by the Pro-Palestinian Arab Group exploded in a ballroom in the Norfolk Hotel, owned by a Jewish family[3]
October 12, 1984	United Kingdom	Brighton, Grand Hotel	5	34	A 20-lb gelignite bomb planted by the IRA exploded during the Conservative Party Conference
October 13, 1987	Philippines	Manila Garden Hotel, Makati City	7	n/a	An explosive device concealed in a flower box exploded in the driveway
January 18, 1996	Ethiopia	Ghion Hotel, Addis Ababa[4]	4[4]	20[4]	The Ethiopian government believed that al-Ittihaad al-Islami (The Islamic Union), an ethnic Somali group, was responsible for this devastation[4].
August 5, 1996	Ethiopia	Edom Hotel in Jijiga	2	17	The Ethiopian government blamed the Ogaden National Liberation Front (ONLF) for this attack.
March 27, 2002	Israel	Park Hotel in Netanya	29	73	A suicide bomber walked into a dining room of the hotel and detonated the explosive device[5].

Table 2-2

Major Hotel Bombings and Shootings, 1975-2004

(continued)

Date	Country	Location	Number of Casualties	Number of Injured Victims	Details
May 8, 2002	Pakistan	Sheraton Hotel in Karachi	14	18	A suicide bomber stopped his sedan car next to a Pakistan Navy bus that was about to move from the hotel driveway and blew up
November 29, 2002	Kenya	Paradise Hotel in Kikambala near Mombasa	15	80	Three suicide bombers blew up a car outside this Israeli-owned 350-room hotel which is popular with Israeli tourists.
May 16, 2003	Morocco	Farah Maghreb Hotel in Casablanca	8	n/a	A first suicide bomber wearing an explosive device was stopped by a security guard. He stabbed the security guard to death and then proceeded into the hotel but later on was killed. A second suicide bomber's device did not detonate and the man was captured by Moroccan security forces. However, eight people were killed during the fight. The hotel and the other four sites including an Italian restaurant as well as a Spanish social club and restaurant simultaneously were attacked by suicide bombers that night. Forty-one people were killed and more than a hundred were injured while ten suicide bombers were killed and one was in custody. There was a high likelihood of its being a direct al-Qaeda operation or one executed by a local affiliate[6].
July 22, 2003	Spain	Residencia Bahia Hotel in Alicante and Nadal Hotel in Benidorm	None	8 in Alicante and 5 in Benidorm	The Euzkadi Ta Askatasuna (ETA) group, whose name means Basque Fatherland and Freedom, was blamed by the Spanish government for both incidents.

Table 2-2

Major Hotel Bombings and Shootings, 1975-2004

(continued)

Date	Country	Location	Number of Casualties	Number of Injured Victims	Details
August 5, 2003	Indonesia	JW Marriott in Jakarta	14	150	A car bomb went of in the driveway of this 33-story hotel. Jemaah Islamiah, the group that carried out the October 2002 bombing of the discotheque in Bali, was blamed for this attack.
December 9, 2003	Russia	Royal Meridien National Hotel in Moscow[7]	5[7]	14[7]	A female suicide bomber detonated the device in front of the hotel. The Chechen rebels group was blamed[7]
December 24, 2003	China	Tianhu Hotel in Chenzhou, Yunnan Province[7]	2[7]	1[7]	An explosion occurred in the parking lot of the hotel[7]. The attacker was unknown[7].
March 27, 2004	Thailand	Marina Hotel in Sungai Kolok[7]	None[7]	29[7]	A motorcycle bomb exploded in the parking lot of the hotel. No group claimed responsibility[7].
October 8, 2004	Egypt	Hilton Hotel in Taba[7]	40[7]	160[7]	The blast at this hotel in Sinai on the Israeli border was caused by truck bomb with a suicide bomber who detonated near the hotel swimming pool[7].

Sources: Emergency and Disaster Management Inc. for all information in this table unless denoted by numbers [2] to [7], Australia Federal Police[2], The Christian Science Monitor Newspaper[3], Federation of American Scientists[4], Israel Ministry of Foreign Affairs[5], IntelCenter/Tempest Publishing, LLC[6], Marcy Mason (2004) [7].

Besides crime and terrorism, natural disasters and man-made hazards emerge as harmful issues in the hotel industry (Olsen & Pizam 1998). Hotel fires have been frequently reported. Serious fires involving fatalities as well as injuries often arise in buildings with a high concentration of people, such as Tae Yon Kak Hotel in Seoul, Korea in 1971 with 163 fatalities (Roberts & Chan 2000), the MGM Grand Hotel in Las Vegas in 1980 (Graham & Roberts 2000) claiming 85 lives, and 1997 hotel fires in Pattaya, Thailand where 74 people lost their lives (Roberts & Chan 2000). Although fire remains as the issue most studied under the man-made hazard dimension of hotel safety and security, other issues as traffic accidents and equipment malfunctions also fit under this dimension. Natural disasters include hurricanes, tornadoes, floods, and earthquakes, as well as natural-disaster-induced incidents like blackouts (Ellis and Stipanuk, 1999).

The central-business-district hotels in Auckland, New Zealand faced severe blackouts for almost 2 months in late February 1998 (Symonds, 1998). Office and residential towers in the country's largest financial center were affected since lighting, security systems, and refrigeration failed. The downtown hotels had to rely on portable generators. On February 20th, the four main cables supplying the city with electricity at first faltered, and then failed (Anonymous, The Economist, March 7, 1998). Although the causes of the damaged cables remained unclear, the management of Mercury Power, a semi-privatized company, suggested El Nino weather patterns and underground land conditions factors damaged its power cables (Symonds, 1998).

The last dimension of hotel safety and security, the health concern, has become the rising issue for the management of lodging firms lately. This dimension includes food-borne and air-borne diseases, as well as bio-terrorism, which can also be viewed as a sub-dimension of terrorism. The health advice and information associated with a tourist destination has an effect on travel agents' suggestions to travelers (Lawton and Page, 1997). Food poisoning had been rising during the years 1987 to 1997 (Adams and Morrell, 1999). Based on that study, the hospitality industry is responsible for 44 percent of reported outbreaks. *Travel Weekly* (Anonymous, 1998b) reported that 63 percent of respondents from a survey of 1,000 adult travelers had experienced illness while on vacation. Thirty-five percent of those reporting an illness classified their symptoms as food poisoning or gastrointestinal related. There have been big outbreaks of new deadly diseases including SARS (severe acute respiratory syndrome), which is an air-borne fatal disease claiming 775 deaths in 29 countries, mainly in East Asia and some limited area of Southeast Asia and North America in early 2003, and the outbreak of the Asian avian influenza (bird flu) which is a food-borne deadly disease claiming 7 deaths in Thailand and 15 in Vietnam in early 2004, with confirmed human cases in South Korea, Japan, Cambodia, China, and Indonesia (World Health Organization, 2004).

Investments in Hotel Safety and Security

As safety and security remains one of five major forces driving change in the multinational hotel industry and the hospitality industry as a whole, the hotel firm must address this problem by investing in critical success factors and competitive methods designed to cope with safety and security events that are very likely to affect the hotel. Normally, most hotels competing in the same industry segment are forced from task environmental groups, mainly customers, competitors, regulators, and insurance

companies, to invest in programs that address traditional safety and security events that have been around for some period of time. The hotel firm does not really have a choice about these investment programs. It is instead able to select which programs to invest in when safety and security events are imminent and emerging in nature. The investments in the latter case are considered as competitive methods which are unique to the firm and believed to be primary tools that explain the superior performance of the firm.

At the minimum engagement in safety and security issues, the hotel must invest in all critical success factors that are results of environmental scanning in the areas of safety and security forces. Once all critical success factors relating to safety and security are in place, an opportunity to create superior performance is then considered. It is the job of the management of the hotel firm to see if value-adding opportunities exist based on the safety and security events perceived to be very likely to affect the hotel. A set of carefully formulated competitive methods is proposed, and a few competitive methods are selected.

This section starts with reviewing the concept of strategic capital investment decisions and describing decision options in related technology as a surrogate for the lack of this knowledge in the literature on safety and security. Then the concept of intangible assets in strategic capital investment decision-making is discussed, since technology and knowledge decision options are highly intangible. Last, the appraisal techniques for strategic capital investments are reviewed, with a particular focus on their applications in intangible-intensive investment projects.

Strategic Capital Investment Decisions

Under the Co-Alignment Model, a firm must invest in critical success factors to sustain its performance and then go on to make strategic choices through selecting competitive methods addressing crucial safety and security dimensions, in order to create superior performance. An investment decision must be made based on the knowledge of the external environment regarding the relevant safety and security forces and the assessment of internal resources and capabilities of the firm to carry out the investment. These assessments are performed based on a goal to generate superior performance in the form of return on invested capital to the firm's shareholders.

Investment decision-making is a process whereby resources are allocated in organizations in anticipation of future gain (Butler, Davies, Pike, and Sharp, 1993). It is important to understand the process by which such decisions are made. Interest in studying the processes of organizational decision-making can be seen to have originated from the book by Chester Bernard, *The Functions of Executive* (1938). He argues that organizations function through the communication of a common purpose between a number of people, and it is the responsibility of the executive to make a decision to achieve that common purpose.

Simon (1947) in his book, *Administrative Behavior*, offers a more explicit theory of organizational decision-making. In his theory, decision-making about complex issues is seen to be far removed from economic theories of utility maximization because of the scarcity of information and lack of abilities to determine all possible outcomes. Simple rules of thumb or other heuristic devices are normally used when making a decision in this condition.

A decision is defined as the selection of a proposed course of action (Butler et al., 1993). This definition implies a number of possible problems in decision-making; uncertainty, intention not realized during the decision's implementation, and discordant actors (decision-makers).

Uncertainty is a pre-condition of decision-making. If there was no uncertainty as to the course of action to take, there would be no decision to make. Thompson (1967) proposed two dimensions of uncertainty: ends-uncertainty and means-uncertainty. The ends-uncertainty is uncertainty about preferred outcomes. The probable cause of deviation in outcomes may be different interests becoming involved in the decision and can be labeled as politicality (Hickson, Butler, Cray, Mallory, & Wilson, 1986). Means-uncertainty is the uncertainty caused by solutions used to achieve the desired ends. It is a technical problem that is caused by incomplete knowledge of new technology, dynamism of objects in the investment project, and unpredictability of the behaviors of outside groups such as customers, rivals, suppliers, and regulators (Thompson, 1967)

In this section, two model approaches that have been developed for the study of strategic decision-making are examined. They are the rationale model of decision-making, and the Co-Alignment Model. Since the Co-Alignment Model has been thoroughly discussed in Chapter One and at the beginning of this chapter only, the rational model of decision-making is discussed here.

The rational model, as illustrated in Figure 2-5, requires decision-makers to search for all possible options, to compare and evaluate them, and then choose the optimal option. The theory of capital investment appraisal seems to be fitted to this model. Mintzberg, Raisinghani, and Theoret (1976) summarized a number of distinct stages of decision-making as follows:

- **Recognition** The environment is constantly surveyed for new opportunities using many different kinds of information: financial, industry reports and the like, or informal information. The essential idea is of decision-makers who are constantly alert to opportunities.
- **Diagnosis** The problem is defined in terms of the decision-maker's objectives.
- **Search** Information is sought concerning possible solutions.
- **Design** Possible solutions are created to solve the problem.
- **Evaluation** Each solution is thoroughly assessed.
- **Choice** The optimal solution is selected according to objectives.
- **Authorization** In an organization the choice usually needs to be authorized at a higher level to ensure co-ordination with the overall organizational objectives
- **Implementation** Since the optimal choice has been selected, implementation will follow.

The rationale model of decision-making has many more constructs than the Co-Alignment Model and may be useful when researchers need to study the organization in a very detailed manner. In the strategic management field, however, it is a widely-accepted practice to focus on four main constructs, which are environment, strategy, structure, and performance. It is clear that the Co-Alignment Model provides a concise model for investigating the value-creation phenomenon in the hospitality organization. It contains

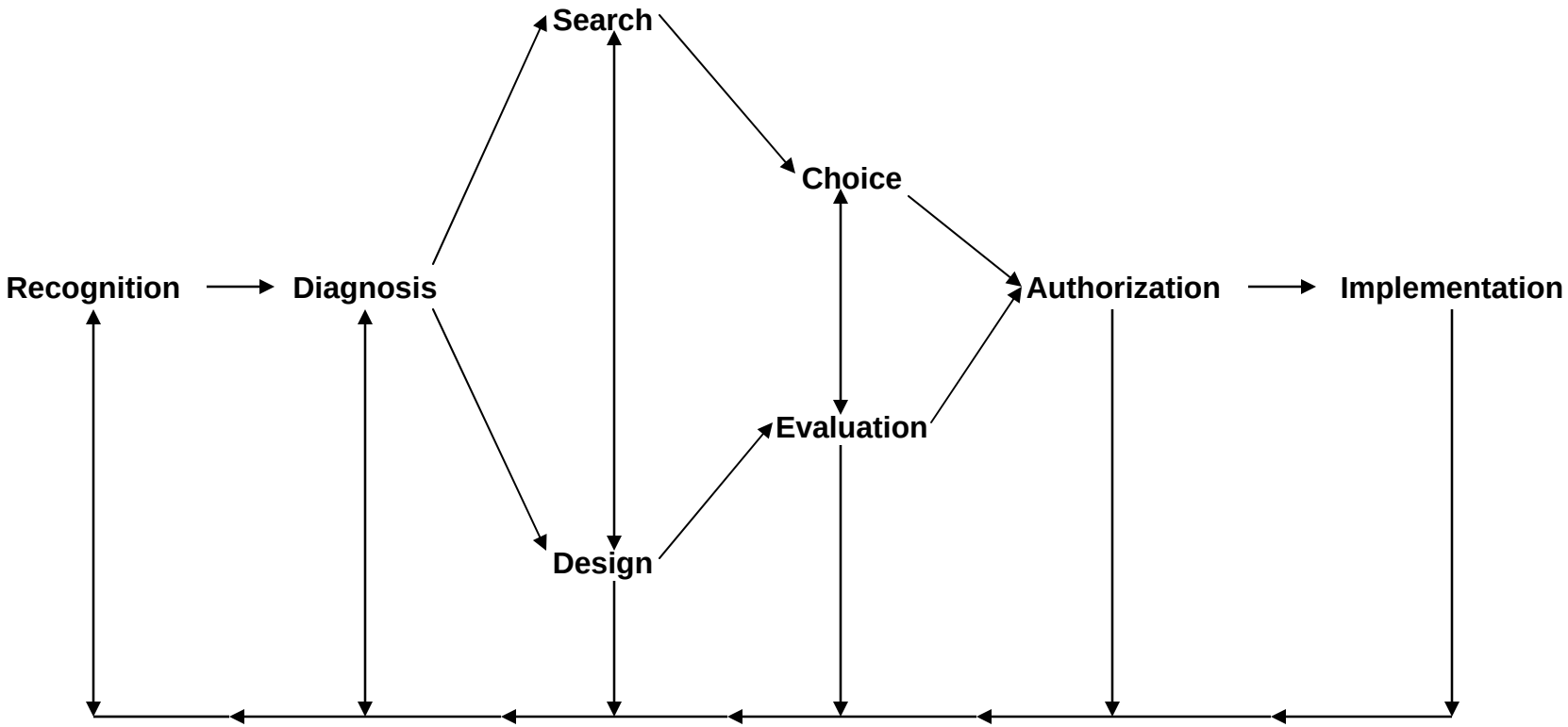

Figure 2-5
Rationale Model of Decision-Making
Source: Mintzberg, Raisinghani, and Theoret (1976)

only four constructs: environmental events, strategic choice, firm's structure, and firm performance, but these are a complete set of constructs included in other dominant strategic management paradigms, including the industrial organization (IO) perspective and the resource-based view (RBV) of the firm.

Strategic Choices for Safety and Security

Once dimensions of safety and security in the multinational hotel context are determined, the firm can formulate a set of critical success factors and competitive methods. Investment in critical success factors relating to safety and security is required by the business domain in which the hotel firm operates. The task environment (Dill, 1958; Olsen et al., 1998) is the force behind the investment. Customers demand that certain safety and security features must be present in a hotel, otherwise they will stay at another hotel. Government enacts more and more requirements and regulations regarding hotel safety and security. Hotels have been required to improve or renovate their facilities to accommodate guests with disabilities. Insurance firms as service suppliers to a hotel firms also mandate that certain investments in safety and security must be made before the property is insured. Big tour operators hire an engineering consulting firm to evaluate safety conditions of the hotel before the contract is signed. The expanding requirements from these groups of stakeholders necessitate intensive and ongoing investment in new areas of safety and security across the industry sector.

Once most of the hotel firms in the sector invest to improve certain safety and security dimensions, these investments become merely critical success factors with which the hotel firms that do not have these investments in place have no choice but to comply with the minimum requirements set by the industry sector. In this case, hotel firms that have already invested in safety and security dimensions are at the very least likely to have realized some competitive advantage from the investment; thus the nature of investment in this type of safety and security is non-strategic. In other words, it does not give competitive advantage to the firm. However, failure to do so will make the firm unable to secure its current strategic position and its current value. That may threaten its ability to survive.

When the hotel firm invests in a combination of products and services knitted together in such a unique way that it is difficult to imitate by competitors, it is investing in a competitive method (Olsen et al., 1998). In this case, the investment is strategic in nature. It does not only secure the firm's current position and value, but it also provides the firm with a competitive edge that leads to superior performance, which is the goal of the hotel firms which pursue the Co-Alignment Model. To be considered a competitive method, it must give the first-mover advantage to the firm and may be sustainable.

Lieberman and Montgomery (1988) define first-mover advantages in terms of the ability of a pioneering firm to earn positive economic profits (i.e. profits in excess of the cost of capital). They suggest that pioneers are judged based on market entry rather than initiation of R&D and the like. First-mover opportunity will be a function of technology leadership, preemption of scarce assets (later called scarce resources in their 1998 work), and ability to create switching costs.

No matter whether the investment is a critical success factor or a competitive method, it must go through the evaluation process where benefits and costs of the

investment are compared and decisions as to whether to invest or not are made based on the result of the comparison. This process resides in the second construct of the Co-Alignment Model—strategic choice. Alignment or fit of strategic choice and the other two constructs, which are environmental events and firm's structure, is needed if superior firm performance is to be realized. We know for a fact that a firm is simply not able to directly control the environment, but it can manage its strategy and structure.

Since safety and security is a force driving change in the environment, the firm cannot ignore this force and must respond to safety and security issues in its strategy and make changes in its structure to carry out the strategy. However, it is crucial that the firm identifies dimensions of safety and security that truly reflect the needs and behaviors of its task environmental groups. Once the firm views the safety and security forces correctly and assesses its internal resources and capabilities accurately, it can begin execution of the strategy.

Technology and Knowledge for Hotel Safety and Security

Technology in the hotel industry comes in various forms for numerous purposes. Wolff and Zickefosse (2001) classified technology vendors for the hotel industry at the Hospitality Industry Technology Exposition and Conference (HITEC) 2001 in Orlando, Florida, in 12 categories. Safety and security was one of them. As one of the five components of the remote environment, which originates externally to the firm and cannot be altered or controlled by any action of the hospitality firm, technology interacts with other categories, including socio-cultural, political, ecological, and economic factors (Olsen et al., 1998). That means that technology investment in safety and security matters is very likely to have a relationship with the other four remote environmental factors.

The Hotel Technology Handbook 2001 (Wolff & Zickefosse) lists safety and security technology along with web-enabled software, internet technology, business-to-business purchasing, central reservation systems, energy management, guestroom entertainment and services, revenue management, point-of-sale, property management systems, telecommunications, and employee training. Safety and security technology was listed in the handbook in eighteen categories, as shown in Table 2-3. The listing is based on the information provided by leading safety and security suppliers. Although technology in hotel safety and security was expected to evolve at a rapid rate, there were only two groups of safety and security technologies that were added to the 1996 list: ADA compliance, and energy management interface. Moreover, based on the five dimensions of safety and security suggested by Olsen & Pizam (1998 & 1999), the hotel safety and security vendors simply ignore the health dimension of the issue and only address the dimensions of natural disasters and terrorism to a limited extent.

Knowledge is an important aspect of a firm's resources and capabilities. The knowledge-based view (KBV) of the firm is an extension of the RBV research stream by conceptualizing firms as heterogeneous, knowledge-bearing entities. Polanyi (1966) classified knowledge into two categories: explicit knowledge, which refers to knowledge that is transmittable in formal, systematic language; and the tacit knowledge, which has a personal quality, and thus is difficult to formalize and communicate. Kogut and Zander (1992) posit that by its tacitness and social complexity, a firm's knowledge base is an

important determinant of its competitive advantage. The KBV is a behavioral approach that predicts the superiority of firms over markets (Kogut and Zander, 1996; Conner and Prahalad, 1996; Nonaka, 1991).

Table 2-3
Hotel Safety and Security Technology

Locking system (magnetic stripe reader)
Locking system (optical)
Locking system (smart card)
Encoder
Infrared activation
Interrogator
Guestroom security panels
ADA compliance*
Smoke, fire, and heat detectors
Energy management interface*
Keyless system
Front desk controller
Wireless card access
Guestroom safes
CCTV surveillance
Provisions for handicapped alarm/evacuation
Remote trouble/alarm stations
Others

Source: Wolff & Zickefosse (2001).
* indicates items that did not appear in the Hotel Technology Handbook 1996.

Over the past decade, the KBV has emerged as a new perspective in understanding the value creation of the firm through the use of knowledge (Grant, 1996). The firm must integrate the knowledge of different individuals in the production process of goods and services (Ghosal and Moran, 1996; Grant, 1996). KBV is often process-oriented (Hoskisson et al., 1999). For instance, Cohen and Levinthal (1990) introduced the term "absorptive capacity" that refers to the ability of the firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends. Nonaka (1994) proposed the knowledge creation process, claiming that by the interactive amplification of tacit and explicit knowledge through socialization, combination,

externalization, and internalization, knowledge held by employees and organizations can be enlarged and enriched simultaneously. Such knowledge capabilities of the firm are hard to duplicate.

A critical success factor or a competitive method addressing one or more dimensions of safety and security in the hotel firm may not fully meet the needs of guests if the new safety and security technology is not accompanied by the knowledge of skilled employees who operate it. Sometimes having new safety and security equipment in place does not totally reduce guests' level of concern for their safety and security. Investments in new equipment are frequently accompanied by the knowledge and skill of hotel employees on safety and security issues. Hotel guests not only need to trust the technology a hotel provides to guarantee their safety and security during a stay but also need to see hotel employees that they can trust—ones able to carry out the technology and act as a supplement to the technology in the areas that technology cannot perform as well as human intuition.

In the case of safety and security, the knowledge and skills of employees are even more important as a competitive method, as they are more unique in their nature than a critical success factor which employs physical nature only. As knowledge and skill is intangible, a competitive method is even more unique, making it hard for competitors to copy. Again as Nonaka (1996) suggests, the knowledge creation process based upon tacit and explicit knowledge through unique socialization provides capabilities of the firm that are hard to duplicate.

A Concept of Intangible Assets in Investment

The pattern of allocating resources within the firm has changed during the last couple of decades. The volume of investment has shifted from investments in machinery and buildings – the type of investments suggested by the methods and processes described by Dean (1951) and Bower (1970)–towards investments in markets and marketing, research and development, training, and the development of new business concepts (Segelod, 2002). Firms do not invest less, but concentrate more on intangible types of investments.

The concept of investment in intangible resources appears frequently in the resource-based view (RBV) literature. Barney (1991) assumes that RBV resources and capabilities are heterogeneous and immobile since RBV resources must be valuable, rare, imperfectly inimitable (caused by information asymmetry), and non-substitutable. Given the nature of the RBV resources, there is no doubt that most RBV resources are in the form of intangibles, mostly technology and knowledge. The examples are patents, brand value, synergy among people, and tacit knowledge (Kogut & Zander, 1992).

The relationship between combinations of firm resources and capabilities and firm performance under the RBV perspective is believed to be somewhat ambiguous. Though this provides a shield for the firm from its strategy being imitated by competitors, it raises a question of whether the firm's superior performance comes from combinations of those resources and capabilities, or if it occurs by chance. There is agreement among RBV researchers today that RBV resources and capabilities is the factor leading to superior performance; however, the causal relationship among the two constructs remains unclear.

Villalonga's (2004) conception is that the resource-based view (RBV) of the firm implies that the greater the intangibility of a firm's resources, the greater the sustainability of its competitive advantage. His empirical study based on a large sample of firms using a dynamic panel data regression model confirms this belief and concludes that intangible assets play an important role in sustaining a firm's competitive advantage as predicted by the resource-based view of the firm. However, he also suggested that intangible assets play nearly as important a role in sustaining a firm's competitive disadvantage due to imperfect knowledge of the people in the firm about the new technology (Lieberman & Montgomery, 1998).

Lev (2002) includes value creation by scalability, and often returns to scales as attributes of intangibles. Wal-Mart's incredible competitiveness derives from unique organizational processes, such as that of shifting inventory management to suppliers, than from brick and mortar warehouses. The values of pharmaceutical companies comes from their discovery activities (drug development, patents, trademarks), and from an unusually effective sales force (human capital, training), and not from its lab equipment or pill production facilities. Physical assets (facilities, equipment, and inventory) are by and large commodities to which competitors have equal access. Consequently, such assets yield, at best, the cost of capital (zero value added, or residual earnings). Intangibles, by definition, are unique factors of production that cannot be quickly imitated by competitors. This fits the characteristics of the RBV assets proposed by Barney (1991) which are: valuable, rare, imperfectly imitable, and non-substitutable.

Surprisingly Lev (2002) does not believe that managerial capabilities (Selznick, 1957) are true value-adding intangibles. The firm's value is instead driven by intangibles such as valuable patents, brands, R&D laboratories, trained employees, and unique information systems. Although, intangibles provide the firm with the ability to generate income at a rate greater than its cost of capital, they are indeed fragile (Lev, 2002). He argues that along with the ability of intangible assets to create value and growth comes vulnerability, which originates from the unique attributes of these factors of production:

- *Partial excludability* (i.e. spillover): Inability of the firm to prevent other firms from enjoying the benefits of the assets. Patents can be invented but ultimately expire. Trained employees often move to competitors. Unique organizational structures (e.g. just-in-time production) are eventually imitated by competitors. This is a case of imperfect RBV assets.
- *Inherently high risk:* Certain intangible investments (e.g., basic research, development of new products) are riskier than most physical and financial assets.
- *Nonmarketability:* Markets for intangibles are in their infancy, and lack transparency, making the valuation of intangible-intensive enterprises very difficult and their management challenging.

Although most safety and security technology listed in the Hotel Technology Handbook 2001 (Wolff & Zickefosse) mentioned earlier comes with tangible components, it has intangible components in terms of both inputs and outputs. Inputs can be regarded as an investment in the intangible assets such as the expertise of the supplier who sells the technology to the firm, for example, while an example of outputs is hotel brand awareness created by the firm's commitment to improving the safety and security of the guests through technology as well as the ability of employees to utilize that technology.

Intangibility makes it very difficult to calculate its true value compared to the tangible aspects of technology. In other words, intangibles have remained a major challenge in appraising safety and security investments by the hotel firm. Since there is little written in the hotel safety and security literature about investment appraisal techniques, it is reasonable at this point to learn from the hospitality information technology literature, which is also an area that deals with the problem of investing in intangibles.

Connolly (1999, Connolly & Olsen, 2001) investigated IT investment decision-making in the context of hotel global distribution systems in three case-study firms and found that intrinsic factors make the true value of the investment unknown in all three firms. The executives at all three firms suggested that the value of their information systems was incalculable. Some advised using the investment costs of global distribution systems (GDSs) as the value of the project. However, they realized that this method might underestimate a system's true value in some investment projects, as the present value of future cash flow tends to exceed the cost of the initial investment in the project. However, that is not always the case.

In the general information technology literature, the problem of the limited ability of the firm to value the intangible part of an IT investment project has been frequently reported (Aggarwal, 1991; Farbey, Land, & Targett., 1993; and Lefley & Sarkis, 1997). Many scholars in the IT field have viewed the traditional appraisal techniques employed in IT project appraisal as obsolete and inappropriate (Ballatine & Stray, 1998, 1999; Lefley, 1994). Thus, they discourage long-term strategically important projects that typically offer intangible and non-monetary benefits.

May (1997) claims that "Generally Accepted Accounting Principles (GAAP) measure the wrong stuff (measuring only tangible assets which account for a small portion of the firm's value instead of the intangibles in which a bigger portion of a firm's value exists)." Intangible benefits that can be considered part of a firm's asset base are often overlooked by the GAAP. Many employees from various parts of the organization agree that GAAP does not appropriately measure speed or velocity (e.g. time-to-market, time-to-full-value usage, customer responsiveness). It does not measure smartness (e.g. what the firm knows or who the firm knows or how fast the firm learns), and it does not measure happiness (e.g. employee morale or customer satisfaction). The majority of underserved customers quietly will seek service from somewhere else and will never return if they are not satisfied with the service provided by the firm. Additionally, GAAP is not designed to measure other indices that represent the value of the investment in technology, including the critical dimension of connectedness (e.g. level of convenience that customers receive from doing business with the firm or level of properness of channels of distribution or quality of relationship between the firm and its customers).

The failure of conventional capital budgeting techniques is not due to the techniques themselves, but is also due to the measurement issue. Brynjolffson's study in 1993 suggests that undervaluing outputs and inputs with a high intangible content is among the reasons a rate of return or other capital budgeting indices like net present value or internal rate of return are lower than the level that they are supposed to be. The under-measurement problem supports the "productivity paradox" (Roach, 1991) which claims that investment in IT will only negatively affect the profitability of the firm. Although the attempt to improve the measurement of intangibles is still in its developing

stages, there are some conceptual works that aim to deal with the issue to ease the problem, if not to completely solve the problem.

To offer a way to help firms deal with this valuation problem, Gunasekaran, Love, Rahimi, and Miele (2001) propose a conceptual model for evaluation of IT projects, since existing techniques for justifying investment in IT projects are considered to be inadequate based on reasons that include lack of strategic integration and ignoring the intangibles and non-financial performance measures. This conceptual model that places emphasis on evaluating the benefits of strategic, tactical, operational, financial and intangible investment appraisal techniques is presented in Figure 2-6. Aspects of human factors such as job enrichment, enhanced confidence, and improved teamwork are included in the valuation process, while competitiveness aspects of the firm such as an overall construct of competitive advantage, good image, service to society, securing future business, and opportunity cost (or risk of not investing in IT) are added to the factors that need to be considered in appraising an IT investment project as well.

Despite the fact that there is an attempt among scholars to propose new appraisal techniques designed especially for investments with highly intangible content, a large number of companies find the evaluation process proposed so far confusing. Without agreement on proper evaluation techniques, they abandon the investment appraisal technique. This study aims to investigate the appraisal techniques and concepts that are currently being used by a case study firm when it evaluates investment in safety and security.

Appraising an Intangible-Intensive Investment Project

As the firm's growth is no longer primarily by investments in physical assets, but instead by intangibles, the firm's management needs to calculate the true value of future cash flow generated by the intangible assets. The challenge in this attempt is due to the fact that intangibles are harder to measure, harder to quantify, and often more difficult to manage, evaluate, and account for than tangible assets. That is why the multinational hotel needs dimensions of safety and security for its investment decision. For the most part, they do not appear on the balance sheets of corporations (Blair & Wallman, 2001). Parr (1991) believes that "the future is intangible." The business will be dealing with material that "does not age."

Hotel safety and security investment projects may involve tangible assets such as close-circuit video cameras, hand rails in guest bathrooms, and sprinklers. However, the largest portion of investment is likely to be in intangible forms. These include consulting services, software licenses, and the like. These do not seem to be conventional strategic capital investment projects. However, they are considered as strategic capital investments as they involve transforming financial resources into other forms of assets (physical assets, technology, and knowledge) over a long period of time. The life of a capital investment project is more than one year by definition, and may range from 5 to 10 years in practice.

Intangibles have been a major challenge for valuing investment projects in hotel firms for some period of time. There is no research into the appraisal of investments in hotel safety and security; therefore, the literature on similar investments in information technology has been reviewed. As suggested in the discussion of the general and hotel-

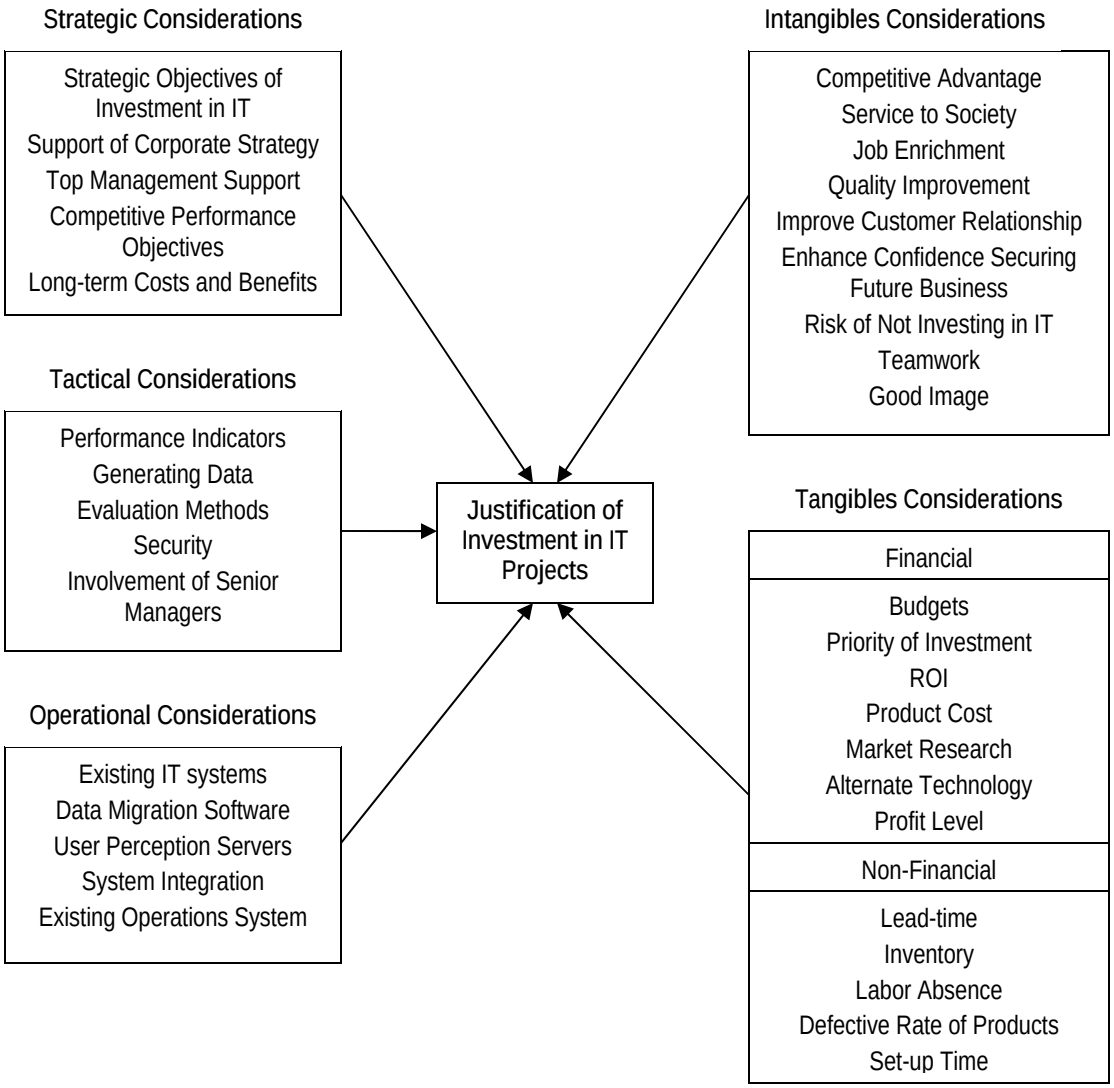

Figure 2-6
A Model for Investment Justification in IT Projects
Source: Gunasekaran, Love, Rahimi, & Miele (2001)

industry-specific information technology literature in the previous section, the traditional appraisal techniques employed in IT project appraisal have become obsolete and inappropriate and have discouraged long-term strategically important projects that typically offer intangible and non-monetary benefits. Consequently, a large number of companies find the evaluation process confusing, and, without agreement on proper evaluation techniques, they abandon the investment appraisal technique.

Although it is difficult to correctly quantify the revenues and costs associated with investments in the case of intangible-intensive projects such as the ones in safety and security, the safety and security investment project is still subjected to financial project appraisal techniques. Butler et al. (1993) in their *Strategic Investment Decisions* book define strategic capital investment decisions as the decisions to commit the firm's

resources, whether they are in tangibles (land, buildings, and so on) or intangibles (financial resources, people, patent, brand, know-how, and so on) to particular projects with the intention of achieving greater financial outcomes and other benefits in future years. They realize the growing importance of intangible assets which sometimes account for more than half of a firm's market capitalization value. They acknowledge that the capital investment decision can be viewed from either a financial or management science perspective. The financial perspective adopts capital budgeting techniques in appraising alternatives, while the management science approach utilizes techniques such as mathematical programming, computer simulation, decision theory, and critical path analysis.

They argue that based on the results of a trend analysis performed on 100 large firms in the United Kingdom (Pike, 1988), as shown in Table 2-4, financial appraisal techniques are still more popular than management science techniques. Beside the naïve (Klammer, 1972; & Pike, 1983) financial appraisal techniques (payback period and average accounting rate of return) that ignore the time value of money, discounted cash flow (DCF) techniques still gain highest popularity.

Table 2-4
Capital Investment Evaluation Methods:
Trend Analysis of Usage in 100 Large UK Firms

	1975 (%)	1981 (%)	1986 (%)
Firms using:			
Financial appraisal techniques			
Payback	73	81	92
Average accounting rate of return	51	49	56-
DCF methods (IRR or NPV)	58	68	84
Internal rate of return (IRR)	44	57	75+
Net present value (NPV)	32	39	68+
Management science techniques			
Mathematical programming	11	17	21+
Computer simulation	12	21	40+
Decision theory	3	3	34+
Critical path analysis	23	31	49

Note:
+ indicates a significant association (at a 5 percent level).
- indicates a significant negative association with the frequency of use of computer applications in capital budgeting using the Spearman Rank correlation and *t*-tests concluded on 1986 data only.

Source: Pike (1988)

Since most strategic capital investment projects in the hotel context are long-term in nature, with a useful life of more than 5 years, the issue of the time value of money cannot be ignored from the appraisal process. This requires all future cash flow streams to be discounted back to the first day of the investment project. These discounted cash

flows are known as the present value. Summarizing all discounted cash flows, both in- and out-flows; the firm gets the net present value (NPV). The decision-making rule is that the NPV must equal zero or more. If we have more than one project, it is obvious that the one with the higher positive NPV is more preferred (Copeland et al., 2000). Although risk is incorporated into the NPV model via the discount factor, we can also measure risk by looking at the standard deviation of returns since the returns comply with the normal distribution which can be specified with only two parameters (mean and standard deviation) (Sabal, 2002).

The normal framework for valuation of an investment project through the use of the discounted cash flow (DCF) model is based on 4 elements: cash flow, cost of capital, risk, and initial investment. The DCF model can either be in the form of a net present value (NPV) as previously discussed, or an internal rate of return (IRR). Since it is a personal preference of the researcher, the NPV has been chosen as a method of analysis. The net present value of an investment project is calculated based on the 4 elements discussed.

The firm estimates the annual cash flow from annual revenues generated and annual costs incurred by the investment. Key value drivers of revenues and costs need to be identified and linked to the calculation of the cash flow. The firm also needs to estimate the life of a project which is how long the project continues to generate value for the firm. The cost of capital is the element in the NPV that is somewhat difficult to estimate correctly due to the difficulty in estimating the cost of equity.

The cost of equity is the rate of return investors would require for other investments of equivalent risk (Copeland et al., 2000). Thus, risk premium also needs to be estimated. Normally, evaluators define the cost of capital as weighted average cost of capital (WACC). WACC is the sum of the cost of debt, the cost of preferred stock, and the cost of equity, all weighted by their proportion in the capital structure based on their market values. Since the cost of debt and the cost of preferred stock are fixed rates, the calculation is straight-forward. The problem occurs when the firm estimates the cost of equity.

One method of estimating the cost of equity is through the Capital Asset Pricing Model (CAPM) which is based on three determinants: 1) a risk-free rate (rate of return from a risk-free investment which is usually the rate of a 10-year Treasury-bond, (Copeland et al., 2000), 2) the market risk premium, which is the rate of return on the market portfolio, and 3) systematic risk (beta). The major criticism of using systematic risk (beta) came when Fama and French (1992) proposed that equity returns are inversely related to the size of a company when measured by the value of its equity capitalization. Another alternative in calculating cost of equity is using the Arbitrage Pricing Model (APM). Instead of having one systematic risk (beta) in the model, the APM includes many. Each beta measures the sensitivity of a company's stock return to a separate underlying factor in the economy. After the annual cash flow, life of a project, and cost of capital are estimated, the firm can reach the discounted cash flow stream over the life of a project. This discounted value will be compared to the value of the initial investment which is not subjected to be discount since it is already the present value. The present value of the cash flow stream in excess of the value of the initial investment is called net present value and should be a high positive amount.

Up to this point, the literature on the issue of appraising an investment project with highly intangible contents merely suggests a coarse framework for the process of making a strategic choice, which is the second construct in the Co-Alignment Model. There is a scant body of knowledge in the hotel industry about the appraisal of intangible-intensive investment projects. Although a limited number of works in the area of information technology investment in hotel firms can suggest some practices for a similar investment in safety and security, they do not apply to the whole issue of safety and security investment due to the idiosyncrasies of the problems.

Since hotel safety and security investment involves many intangibles assets, like technology and tacit knowledge, which possess characteristics of RBV resources and capabilities, the idiosyncrasies of the firms also limit the ability to apply a practice from one hotel firm to another. For this reason, it is quite common for the intangibles researcher to begin his or her study of the valuation of investments in intangibles in a firm without prior strong literature or models to be applied to the case-study firm. Since this study involves intangibilities as one of the RBV research streams, the inductive approach is appropriate because it provides richer information on the idiosyncrasies of the firm (Hoskisson et al., 1999). Idiosyncrasies are not a drawback of the study since future research on valuing investments in intangibles, especially in the case of hotel safety and security, can be conducted at other case-study firms. Conclusions and propositions can be drawn from this case study. Hypotheses derived from the propositions can be tested in future empirical research conducted at other multinational hotel firms as an attempt to generalize the findings from the firm level to the industry level.

A Model for Investing in Hotel Safety and Security

Based on the Co-Alignment Model (Figure 1-2) proposed by Olsen et al. (1998), a model for investments in hotel safety and security is proposed. Figure 2-7 depicts the model. The environmental scanning activities suggest the firm must respond to the safety and security issue as a major force driving change in the industry (Olsen and Cassee, 1995). The proposed model suggests that the multinational hotel firm starts the strategic capital investment process by identifying the dimensions of safety and security that are most likely to affect its value creation process, and invests in tangible and intangible assets to address these threats.

At the first stage, the firm must develop a comprehensive list of possible safety and security events regarding the multinational hotel industry and, based on that list, identify dimensions of safety and security that are most likely to affect the hotel. Each dimension comprises safety and security events with common characteristics. The current literature has developed broad dimensions of safety and security in the multinational hotel industry, including crime, terrorism, health, man-made hazards, and natural disasters (Olsen & Pizam, 1998, 1999). These dimensions served as the main input for the development of the Delphi surveys (discussed in Chapter Three) for this study. The dimensions of safety and security identified by the study were compared to these dimensions in the current literature. The list of updated dimensions of hotel safety and security is suggested in Chapter Five.

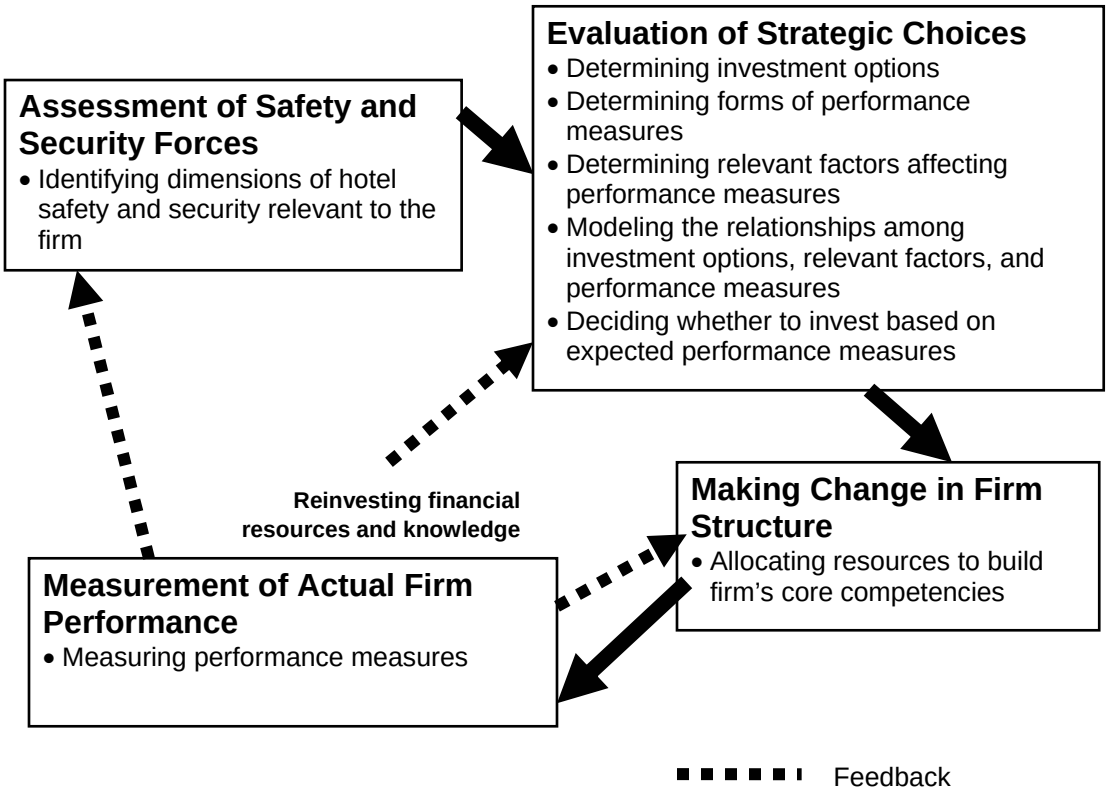

Figure 2-7
A Model for Investments in Hotel Safety and Security
Source: Olsen et al. (1998)

Based on the assessment of the dimensions of safety and security, an investment project to address these dimensions must be developed. At minimum, investments must be made in critical success factors relating to safety and security. These critical success factors are safety and security measures in place at the competitors' properties, and so a firm must provide these features to its guests. Again, critical success factors are products and services existing in response to forces driving change, including safety and security, at most firms operating in the same industry segment. For this reason, investing in these critical success factors merely defends a firm's survival status.

It is competitive methods that make a firm distinct from competitors. Competitive methods lead to superior firm performance. For this reason, the hotel firm must also sufficiently invest in competitive methods to address the dimensions of safety and security that are perceived by the hotel's management to be most relevant to its value creation process.

Since strategy is a way of perceiving the future (Olsen et al., 1998), hotel firms within the same industry segment may view the dimensions of safety and security differently. Based on different assessments of the environmental forces regarding safety and security, each hotel firm may see opportunities in competitive methods differently. With limited resources, a firm may see opportunities presented by other forces driving change. Thus, it is important to keep in mind that the value of a firm is also explained by

competitive methods regarding other forces driving change, including new management, technology, capacity control, and assets and capital, as identified by the International Hotel and Restaurant Association (Olsen & Cassee, 1995). For example, some firms may invest heavily in technological competitive methods if they deem that technology will lead to superior performance of the hotel.

No matter which products and services investments in are viewed as either critical success factors or competitive methods, they are included in the same investment project. The hotel firm must carefully evaluate the costs and benefits of each investment. Certainly, the firm must not invest in a project in which costs exceed the benefits. There are numerous approaches to this evaluation. However, the financial approach, especially in the forms of the discounted cash flow (DCF) methods, is the most popular in the strategic management field. The DCF methods are certainly the most preferred tool under the Co-Alignment Model, as discussed earlier.

A financial decision-making model for strategic investments to address forces driving change (safety and security forces in this study), is comprised of three main components: decision options, performance measures, and factors affecting performance measures. Based on the dimensions of safety and security identified by the firm, decision options can be set. They are also regarded as decision variables. The hotel management must decide which options are to be included in the investment and in what quantity (e.g. number of security cameras to be purchased).

Since the Co-Alignment Model views investment as financial in nature, financial performance measures are preferred for the decision-making model. As the DCF methods are preferred, the net present value (NPV) or the internal rate of return (IRR) may be used as the performance measure in the decision-making model. The last components of the decision-making model are factors affecting performance measures. Alternatively, they can be called value drivers. Unlike the decision options upon which the hotel management bases its decisions, these factors can only be measured, estimated, or forecasted. However, they do affect the value of performance measures.

Once all these three components are specified, a descriptive decision-making model for investment in hotel safety and security can be developed. Causal relationships among components are specified during this stage. Then, the prescriptive model can be built based on the descriptive model. The performance measures of this prescriptive model can then be optimized. Various tools in the management science field, including simulation, can be used to perform the optimization. It is important to note again that research questions in this study do not go beyond identifying the components of the decision-making model for investments in hotel safety and security. However, it is necessary to explain the entire Co-Alignment Model in this chapter to present the logic of the model.

Once a firm properly assesses the environment and decides to invest in products and services to address the forces in the environment, it then needs to allocate resources to ensure that the strategy is implemented as intended. This is labeled as Making Change in the Firm's Structure in the framework. Internal resources and capabilities must be utilized at their highest capacity. Again, a fit and an alignment between safety and security forces, strategic choice, and a firm's structure is a key for superior performance. The last step is measuring and comparing an actual performance with a performance estimated at the time the decision is made. Drucker (1967) regards this process as testing

the validity and effectiveness of the decision against the actual course of events. It is a test of how well the strategy is implemented, and also a test of whether the components of the decision-making model are appropriate and not obsolete.

If a firm assumes that a decision-making model is valid, then differences in performance should be traced to the implementation of strategy. In other words, if this value-creation process goes as planned, superior firm performance follows. This performance is the result of a competitive advantage or first-mover advantage. These forms of firm performance can either be monetary or non-monetary. Monetary performance measures like cost saving due to fewer accidents in the workplace or less compensation paid to guests for injuries on the premises, can be viewed as more tangible, while knowledge gained from investment in safety and security programs or customer loyalty initiated because of the program are intangible in their nature. These performances, no matter how tangible or intangible, can then be reinvested in other safety and security projects.

Summary

This chapter summarized the current literature on the Co-Alignment Model as well as the safety and security issue and investments to address the issues in the multinational hotel industry. The literature suggests that the multinational hotel firm must identify and invest in competitive methods to address safety and security as one of the major forces driving change in the multinational hotel industry. Furthermore, it must appropriately allocate its resources and capabilities to create a firm's structure that is capable of executing the chosen competitive methods in order to realize superior firm performance.

Safety and security has emerged as one of the major forces driving change in the multinational hotel industry, particularly in the upscale sector. However, this sector has not reached agreement on the dimensions of safety and security. There is an obvious need for the upscale hotel firm in the multinational hotel industry to invest in critical success factors and competitive methods, which are both called decision options, to address the strategic importance of safety and security forces. However, these investment alternatives or options cannot be identified, appraised, selected, and implemented until the dimensions of safety and security are properly defined and prioritized.

Once the dimensions of hotel safety and security are obtained, a firm can apply capital investment appraisal techniques to assess the capabilities of each competitive method which addresses one or more safety and security dimensions in creating value to the firm. The literature suggests that intangibles such as decision options in safety and security, mostly in a form of technology and tacit knowledge, make investment in this area so unique that is difficult to imitate by competitors. However, at the same time, they are not easy to measure and appraise. A model was derived based on the literature on the Co-Alignment Model, safety and security in the upscale hotel industry, and strategic capital investments.

Chapter 3

Methodology

Introduction

While Chapter One presents an overview of the study, including research purpose, underpinning theory, and body of literature, and the relevant literature was reviewed in Chapter Two, this chapter begins with presenting a case study research methodology as a chosen method for this research, then describes the elements of research design that are suitable for the case study research methodology. Overall, it presents a methodological plan to answer the two research questions in this study. These questions ask: 1) What are the key dimensions of safety and security that affect the multinational hotel firm and in what priority should they be addressed?, and 2) Understanding the key dimensions of hotel safety and security, by what process are decisions to invest in hotel safety and security made?

A firm's value is no longer created solely by investments in physical assets. Firm's management now needs to calculate the true value of future cash flows generated by both tangible and intangible assets. Because intangibles are more difficult to measure, more difficult to quantify, and often more difficult to manage, evaluate, and account for than tangible assets, this creates a challenge for a firm. Although safety and security investments embody this type of challenge, the decision to invest in this type of intangible assets deserves attention from the multinational hotel's management.

Based on the dimensions identified from the study, components of a decision-making model in hotel safety and security investments can then be defined. Dimensions were grouped together from safety and security events that share common characteristics and then ranked in terms of their importance on the case study firm. Based on the key dimensions of safety and security, an investment project addressing key dimensions of safety and security were developed. Elements of a decision-making model for the project were then identified based on their relevancy to the investment needs. These dimensions as well as the elements of a decision-making model will then be utilized to develop a frame of reference for valuing safety and security investments in a multinational hotel firm.

Case Study Research Methodology

A case study is a "methodology based on interviews, which are used to investigate technical aspects of a contemporary phenomenon within its real life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (Yin, 1984, p. 3). It is appropriate when no experimental control can be used in the data collection process (Yin, 2003; Benbasat et al., 1987). A case study approach is appropriate when a researcher seeks an answer for "what", "how", and "why" questions (Yin, 2003). Since this study deals with answering many "what" and some "how" questions, the case study research methodology is the most appropriate approach to this research. Table 3-1 provides an overview of the case study technique used in this study.

Table 3-1
Key Characteristics of Case Study

1. Phenomenon is examined in a natural setting.
2. Data are collected by multiple means.
3. One or few entities (person, group, or organization) are examined.
4. The complexity of the unit is studied intensively.
5. Case studies are more suitable for the exploration, classification and hypothesis-development stages of the knowledge building process; the investigator should have a receptive attitude towards exploration.
6. No experimental controls or manipulation are involved.
7. The investigator may not specify the set of independent and dependent variables in advance.
8. The results derived depend heavily on the integrative powers of the investigator.
9. Changes in site selection and data collection methods could take place as the investigator develops new hypotheses.
10. Case research is useful in the study of "why" and "how" questions because these deal with operational links to be traced over time rather than with frequency or incidence.
11. The focus is on contemporary events.

Source: Benbasat, Goldstein, & Mead. (1987, p. 371)

The nature of this study had characteristics of a case study suggested by Benbasat et al. (1987). It was focused on a phenomenon, which was a process that a multinational hotel firm used in valuing its investment in safety and security, and data was collected through multiple means including interviews with corporate executives and hotel

management teams, two rounds of Delphi surveys answered by hotel management teams, as well as corporate documents and government publications. Investments in safety and security are the contemporary issue, therefore, the study dealt with this phenomenon. As an exploratory study, the unit of analysis, which was the process utilized in valuing investments in hotel safety and security, was examined extensively. Propositions were expected to be developed during, not prior the study; thus, relationships among constructs might not be specified in advance.

The case study approach may lead to a more informal basis for theory development through analytical rather than pure statistical generalizations (Benbasat et al., 1987). (A theory can be defined as a set concepts and generalizations. A theory can provide a perspective and a way of seeing an interpretation, which ultimately leads to understanding some phenomenon (Agar, 1986).) Thus, a case study was used in this study to gain a better understanding of the process which the firm utilized to value investments made in hotel safety and security. It was expected that the dimensions of hotel safety and security would be identified and the components of a decision-making model for investments in hotel safety and security would also be developed along with a set of propositions regarding future research.

Research Design

Yin (2003) suggests that five components of a research design are especially important for case studies:

1) A case study questions;
2) Its proposition, if any;
3) Its unit of analysis;
4) The logic linking the data to the propositions; and
5) The criteria for interpretation the findings.

Research questions provide an important clue regarding the most appropriate research strategy to be used. Each of the propositions directs a researcher's attention to an idea that should be examined within the scope of study. It guides the study in the right direction. Unit of analysis can be regarded as defining what the "case" is. The case can be an individual, event, or entity. In addition, case studies have been done about decisions, programs, the implementation process, and organizational change.

Linking data to propositions can be done in a number of ways; Yin suggests a "pattern matching" approach. Prior to the study, rival propositions should be developed. Then several pieces of information from the case should be related to these rival theoretical propositions. Then a researcher should be able to see what a priori patterns or propositions are better matched by a pattern found in the data or actual observations. The criteria for interpreting a study's findings address the problem of how close a match has to be in order for it to be considered a match?

The researcher included the following components in the research design for this study:

1) Research questions;
2) Proposed basic framework;
3) Scope of study;
4) Unit of analysis;

5) Selection of a case;
6) Data collection;
7) Definitions of constructs;
8) Method of analysis; and
9) Tests for design quality.

Research Questions

Safety and security has emerged as a major force driving change in the multinational hotel industry. However, there is no common typological scheme for the issue, making intangible parts of the issue even more difficult to be quantified and evaluated. Identifying dimensions that underlie safety and security events currently facing the multinational hotel industry is an appropriate way to make the problem more manageable. The same idea is applied to elements of a decision-making model for investments in safety and security since the industry only needs to include elements which are relevant to the valuation problem. These needs were translated into two research questions as stated below:

1) What are the key dimensions of safety and security that affect the multinational hotel firm and in what order do they deserve attention from the firm?

2) Understanding the key dimensions of hotel safety and security, what process is used in making a decision to invest in hotel safety and security? Specifically, how are:

- 2.1) Annual cash flows from the investment estimated?
  - Yearly revenues as a result of the investment estimated?
    - Key value drivers for the leverage on yearly revenues as a result of an investment defined?
    - Key value drivers for annual cost savings as a result of the investment defined?
  - Annual costs incurred by the investment estimated?
    - Key value drivers for the annual costs defined?
  - Life of cash flow stream determined?
- 2.2) Cost of capital for the investment project determined?
  - Method of estimating cost of capital chosen?
  - Value drivers that affect the cost of capital identified?
- 2.3) Risk of the investment estimated at the time of making an investment decision?
- 2.4) Value of initial investment estimated?

Proposed Basic Framework

A proposed basic framework for this study was based on a model for investing in hotel safety and security discussed at the end of Chapter Two (Figure 2-7). This framework was a product of a synthesis of concepts suggested by the Co-Alignment Model as an underpinning theory as well as the current body of knowledge of hotel safety and security and strategic capital investment. The adapted framework (as shown in Figure 3-1) is slightly modified from Figure 2-7 to indicate the scope of the study (i.e. the constructs included in this study).

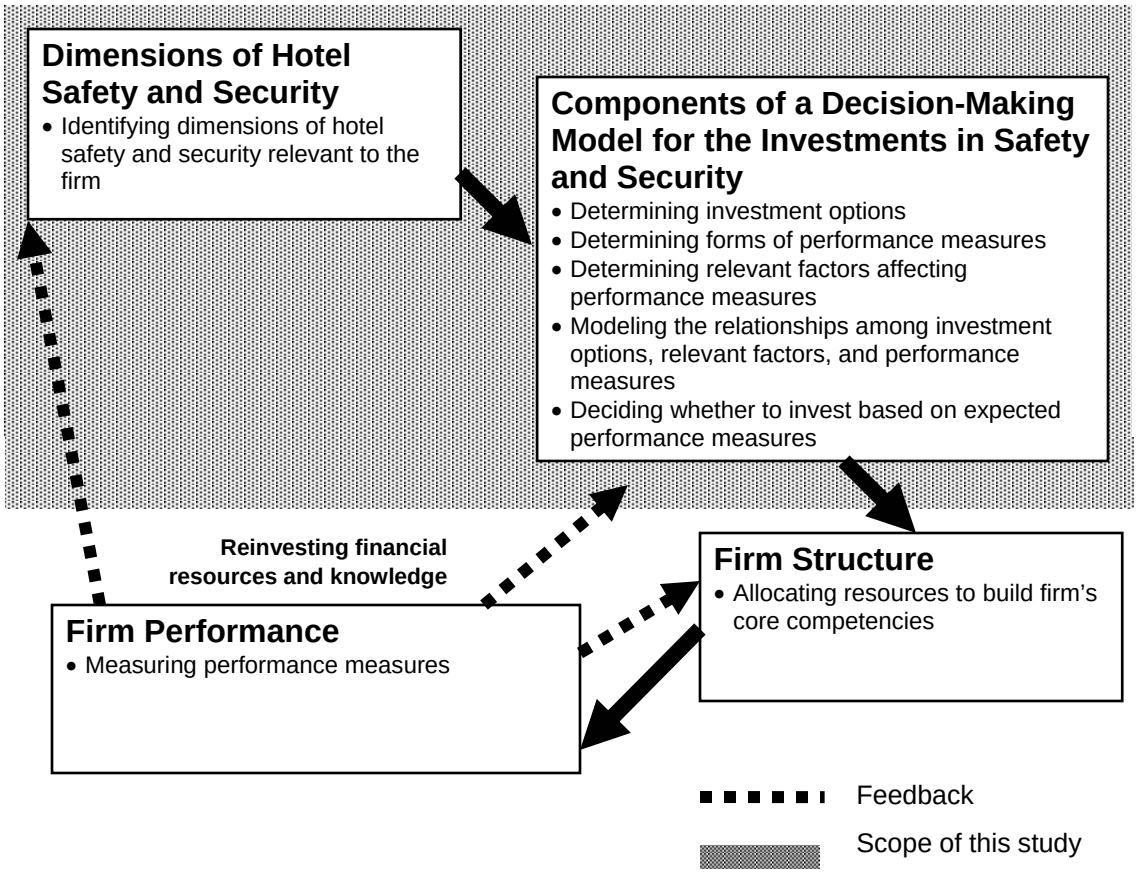

Figure 3-1
A Framework for Investigating the Process of Valuing Investments in Hotel Safety and Security
Source: Olsen et al. (1998)

Scope of the Study

Value creation through investments in hotel safety and security on behalf of the firm is better explained by the entire model with a presence of all four constructs, including assessment of environmental events (i.e. dimensions of hotel safety and security), evaluation of strategic choice (i.e. components of the decision-making model for investments in safety and security), firm's structure, and firm performance (as shown in Figures 2-7 and 3-1). Because a research project that covers all four constructs and relies largely on primary data requires an extremely large amount of resources, especially in terms of time and money, only the first two constructs, as indicated in the shaded pattern of Figure 3-1, were explored. This was in conformance with the two primary research questions previously discussed.

Additionally, the researcher studied these two constructs in an exploratory fashion. Therefore, the components of a decision-making model for investments in safety and security can be specified as results of this exploratory case study. It was not attempt of

the researcher to present mathematical functions showing how these dimensions and components of the decision-making model relate to each other. A descriptive decision-making model with causal relationships between these components can be later developed in future research.

This research was pursued in this fashion because the current body of literature on the dimensions of hotel safety and security has not been well established, nor have the components of the decision-making model. Therefore, this study sought to establish an agreeable list of dimensions of hotel safety and security as well as the components of the decision-making model. These are the necessary inputs for future research where the descriptive decision-making model is to be built upon the findings of this research. The results of this study will provide a frame of reference in which to gather information required by a process of valuing investments in hotel safety and security (i.e. dimensions of safety and security as well as the elements of a decision-making model) which will then be used as a foundation for such future explanatory research.

Unit of Analysis

This component of a research design is related to the fundamental problem of defining what the "case" is; individual, entity, event, decision, program, process, organizational change, etc. Selection of the appropriate unit of analysis will occur when primary research questions are accurately specified. The situation of having more than one unit of analysis should be avoided when a case study is chosen as a research strategy. In other words, the main research questions do not lead to the favoring of one unit of analysis over another. If they do, primary research questions must be too vague or too numerous. A researcher may have difficulty conducting a case study in that situation (Yin, 2003).

Again primary research questions dictated a unit of analysis. Since the researcher investigated how a multinational hotel firm viewed its business environment regarding safety and security forces as well as how it framed and evaluated investments in hotel safety and security, the appropriate unit of analysis for this study was a process of valuing investments in safety and security at a multinational hotel firm.

This process began by defining a scope of the investment needs (i.e. dimensions of safety and security). These dimensions of safety and security identified as relevant to the firm's investment needs (i.e. able to affect the firm's value creation) lead the firm to specify the elements of a decision-making model of the investment to address the safety and security forces. The expected results from this study was a frame of reference in which to gather information needed in a process of valuing investments in safety and security at the firm.

Selection of a Case

A single multinational hotel firm was investigated. Although there were no clear a priori propositions stated in advance. For this reason, the criteria chosen for a firm were:

1) be a multinational hotel firm operating and/or managing property in a sufficient number of countries with different environmental contexts;

2) has substantially invested in the safety and security.

The multinational hospitality firm chosen as a case study firm for this research met these two criteria. It operated approximately 190 hotels and resorts with over 50 properties under development in 38 countries in Europe, Africa, the Middle East, and China as of December 31, 2004 with a portfolio including five brands serving major segments of the lodging industry. This study focused on hotels under a brand which was defined by the firm as the four-star hotel brand. Its unique features included the concept of room styles, a strong focus on bars and restaurants, special MICE (meeting, incentive, conference, and exhibition) facilities, and easy internet connection.

The firm operated properties under this brand in twenty-five countries throughout Europe in four regions, including Western Europe, The Nordics, Eastern Europe (former centrally-planned countries or the Soviet Bloc Countries) and Turkey, as well as Russia and the Baltics. Although all hotels were located in the same continent (i.e. Europe), the firm still operated in different political backgrounds, stages of economic development, ecological forces, socio-cultural factors, and stages of technological development. These differences allowed the researcher to develop a better understanding of how the firm made investments in hotel safety and security.

In addition, this firm had been known to be more aggressively investing in safety and security than other firms in the region. This was particularly true with the properties under the aforementioned brand. The firm's safety and security program was a well-established part of operations at hotels under the case study brand. The program was in place to ensure a safe and healthy working environment for its staff, as well as a safe and comfortable stay for its guests. The firm's focus on addressing the safety and security forces included: fire safety, guest safety and security, employee safety and security, and operational security. More details of the firm and its ambitious policy to respond to the safety and security forces are discussed on Chapter Four.

Data Collection

The case study approach dictates that the researcher collected data that are related to or support the research questions (Yin, 2003). Semi-structured interviews and the Delphi surveys were utilized as collection techniques for a primary data. In addition, secondary data were collected through various sources including company documents ranging from annual reports, policies and procedures, to manuals, as well as the United States governmental documents and those of the World Bank. This method of collecting data from various sources is referred to as "triangulation" suggested by Denzin (1978) as a way to increase construct validity (Yin, 2003).

There were five stages of data collection for this study. First, the researcher extracted the dimensions of hotel safety and security as well as the components of a decision-making model for investments in safety and security from the literature. Second, the questionnaires for semi-structured interviews were developed based on inputs from the literature and were used to gather data from the management teams at the hotel level as well as executives at the corporate finance office and the corporate security office. Third, the firm's documents regarding policies and procedures for strategic financial investments were reviewed. Data collected through these first three stages were used to construct the two Delphi questionnaires. Fourth, the researcher launched the first Delphi

surveys which centered on identifying the dimensions of hotel safety and security. Last, the second Delphi survey was used to collect data regarding the components of a decision-making model and served as a tool for refining group opinion on the dimensions of safety and security. Semi-structured interviews, secondary data collection, and the Delphi surveys are discussed in the following sections.

Semi-Structured Interviews

Since interviews were appropriate when a case study was chosen as a research strategy (Stark and Torrance, 2005), they were included as a primary data collection tool. These interviews needed to be conducted before other primary data collection methods. Since the literature on the dimensions of hotel safety and security had not been well established, the semi-structured interviews could provide rich information on the issue. The results made the researcher more familiar with the problem in the firm context and were helpful for inputs in the development of the Delphi survey questionnaires. The researcher conducted interviews on three groups of management; the chief financial officer (CFO) and the director of corporate finance, the director of corporate security, as well as the management teams at five hotels. The CFO and the director of corporate finance were interviewed on the issue of a decision-making process for the hotel's investment application while the director of corporate security was interviewed about the overall issues regarding hotel safety and security. The management teams at five hotels were asked for their assessment of safety and security forces surrounding their hotels and the process utilized in valuing the investments to address those forces. All interviews were conducted on site at the firm's corporate offices and the hotels in June and July of 2004.

Five hotels were selected to represent as many different regions of Europe as possible. Three out of four sub-regions were presented during the interviews including Western Europe, the Nordics, as well as Eastern Europe and Turkey. Among the five hotels visited, three were in Western European countries including the United Kingdom, Germany, and Belgium. A hotel in Denmark and another one in Poland were chosen to represent the Nordics and Eastern European countries, respectively. The profile of the hotels is discussed in Chapter Four.

Since each group of interviewees was requested to provide answers to different research questions, three different questionnaires were used during the interview process (see Appendices A, B, and C). One was used for the interviews at a hotel level while the other two were used for interviews at the corporate finance office and the corporate security office, respectively. All interviews were semi-standardized. The characteristics of this type of interview are shown in Figure 3-2.

Semi-standardized interviews, also known as semi-structured interviews (Lewin, 2005), were adopted for the reason of narrowing a gap between academic and practical worlds. The questions were problematic as they may not be interpreted in the same manner by different management teams even though they had been revised and tested on a group of academic professionals with previous practical experience in the lodging industry. These professionals were the researcher's colleagues who had experience in managing hotels in the past. Interview scripts were prepared based on feedback from the academic professionals and used during the interviews. Scripts allowed for a certain

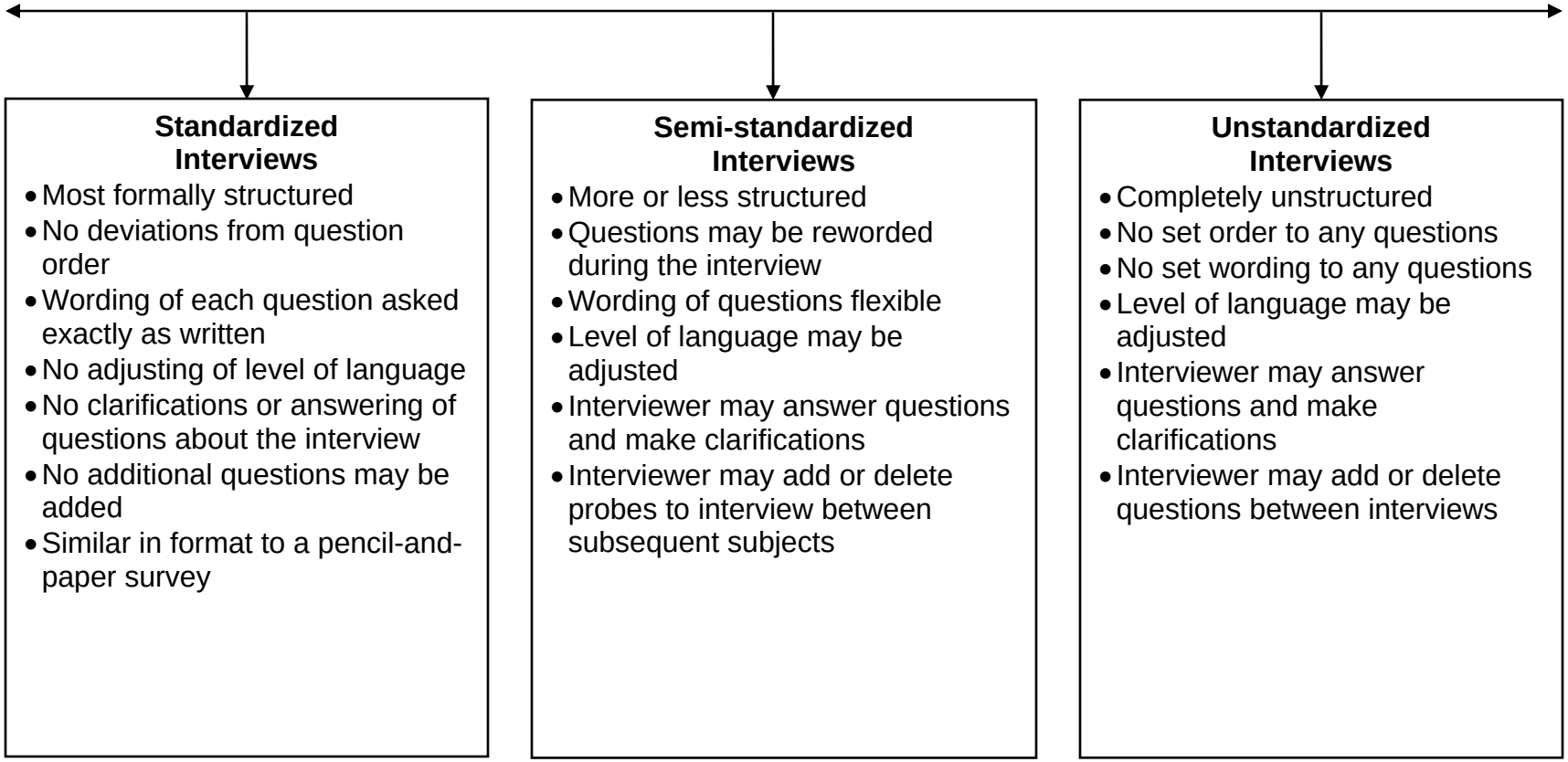

Figure 3-2
Interview Structure Continuum of Formality
Source: Adjusted from Berg (2004)

flexibility of asking clarifying questions which could be better understood by the interviewees than the original questions listed in the interview questionnaires without changing the meaning of the questions. This flexibility was useful in this situation when interviewees had limited time to participate in the interviews and thus the interviewer needed to extract as rich an answer as possible within as short a time as possible.

Secondary Data Collection

Although this was an exploratory case study where the major part of the data came from the field (Berg, 2004), secondary data in the forms of corporate policy and procedures needed to be collected and analyzed. This information helped the researcher understand the context of the domain better and improved on the validity of the two Delphi surveys. Policy and practices regarding hotel safety and security were obtained during the researcher's visit to the corporate finance office. Procedures for an approval of the investment application sent from the hotel to the corporate finance office along with related information were acquired from the office at the firm's headquarters.

Although not an a priori assumption guiding the research, it was anticipated that differences in environmental forces in host countries may affect the hotel managers' views on dimensions of safety and security, as well as the components of a decision-making model for investments in safety and security. For this reason, a key national economic development index like Gross National Income (GNI) per capita was retrieved through the World Bank's online database. The site also provided country information regarding political and economic systems that can be used in the analysis of survey results. Additionally, country reports published by the United States Department of State provided information on assessment of a country's safety and security for travelers. This information can be used to make a comparison of the assessment of the safety and security situation in a country of the hotel's location made by the hotels' managers, and that may be made by the firm's outsiders (i.e. the United States government agencies).

The Delphi Surveys

Descriptions of the Delphi technique

Following the interviews, the researcher conducted two rounds of the Delphi surveys. The Delphi technique is a tool for organizing group communication, without direct discussion, in order to refine group opinion and arrive at a consensus (Fendt, 1978; Linstone & Turoff, 1975; Tersine and Riggs, 1976). Major vital paradigmatic assumptions underpinning the Delphi technique are positivism and social constructivism.

The positivist paradigm assumes the researcher to be an objective and uninvolved observer (Robson, 1993). A researcher utilizes an objective and quantitative approach to data collection and applies a single statistical measure, which is normally a standard deviation, to the identification of a consensus. A researcher does not get involved in providing his or her opinion on the research subject to the panel members, but instead acts as an administrator of the survey who distributes the Delphi questionnaires to panel members, reminds the members of the deadline for returning questionnaires, performs data analysis, provides results of the survey in the form of means and standard deviations,

asks the members to revise their opinions in order to reach a group consensus, as well as performs other administrative tasks.

A process of refining group opinion to reach a consensus fits with social constructivism (Schwandt, 2000). Within the Delphi technique, panel members are given an opportunity to change their positions through their revised scores that are closer to the group mean scores. This practice refines group opinion and assists the group in reaching a consensus on the studied issue.

Types of Delphi techniques

There are different types of Delphi techniques. Van Zolingen and Klaassen (2003) offer categories of Delphi: a classical Delphi, a policy Delphi, and a decision Delphi. Features of each type pf Delphi are shown in Figure 3-3.

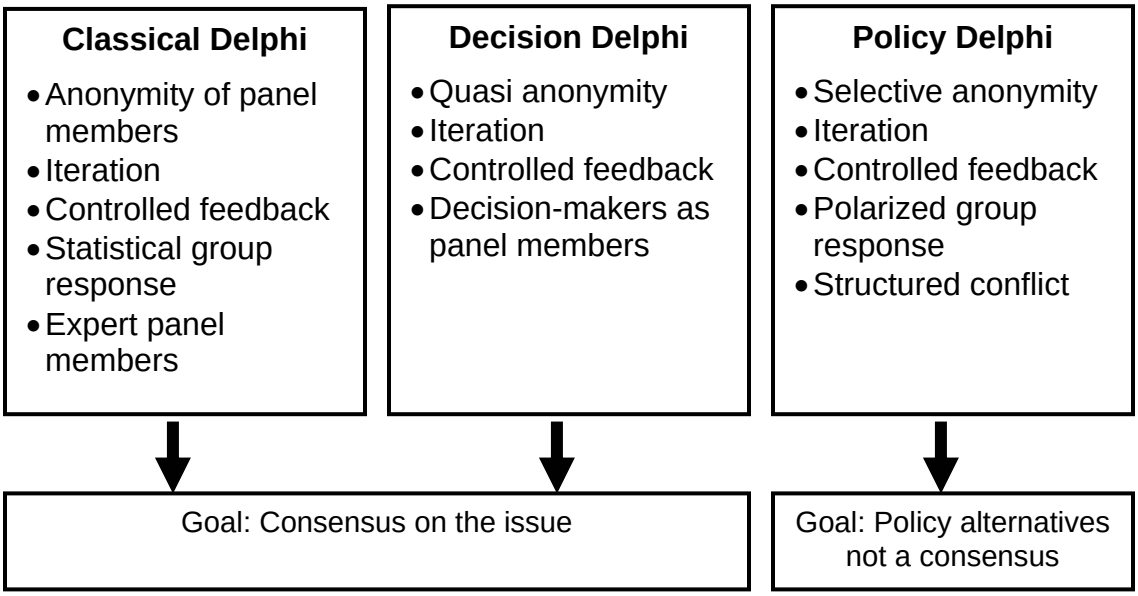

Figure 3-3
Types of Delphi Technique
Source: Developed based on data provided by van Zolingen and Klaassen (2003)

The Delphi technique selected for this study most resembled the decision Delphi. The panel members for the Delphi surveys in this study were a group of decision-makers at the hotel level (i.e. the management teams of the hotels). These management teams at the hotel level were invited to serve as panel members and responded to two rounds of the Delphi surveys. Chapter Four reflects the demographics of the hotels whose managers participated in the Delphi surveys.

The adopted Delphi technique had a characteristic of quasi anonymity where the panel members were mentioned and made known to all as the management teams at the

hotel properties under the same hotel firm. They knew each other because they worked for the same hotel firm. They had met and exchanged ideas as the work network required (i.e. meeting at the annual corporate conference). However, their individual responses to the Delphi surveys remained anonymous. Instead, the panel members were provided with the group means and standard deviations on different questionnaire items. These group response statistics were made available to all members so that they could adjust their original responses in the second round of Delphi surveys in order to help the researcher refine a group opinion and reach a group consensus.

Advantages and Disadvantages of the Selected Delphi Technique

In general cases, the apparent advantages of the decision Delphi technique are the ability to reach a true and unbiased group consensus, and ease of data reduction. The Delphi survey achieves a consensus without or with less intervention from influential characters in the group, and therefore the findings are most likely to be true (Gow, 1979; Goodman, 1987; Snyder-Halpern, 2002). It has the capacity to capture a wide range of interrelated variables and multidimensional features (Gupta et al., 1996). In order to reach a true consensus, however, the Delphi survey administrator needs to ensure that there is truly no, or very little intervention, from dominant or higher status group members. There were no dominant panel members in the Delphi surveys in this study, since the members were all managers at the same level (i.e. the hotel level). In addition to being able to reach a group consensus, or at least refine a group opinion, the ease of condensing opinions of copious respondents is another advantage of the Delphi survey (Snyder-Halpern, 2002). This is achieved through the use of statistics (i.e. means and standard deviations).

The Delphi technique also has drawbacks: a lack of credibility and unaccountability, a dilution of the best opinions, and perhaps requirements of time and money. Sackman (1975) advises that anonymity may lead to a lack of credibility and accountability since responses may not be traced back to the source. This is true in most Delphi surveys when the identification part of the survey is not detailed enough to identify the respondent. The Delphi surveys administered in this study actually contained a property identification question in which the required answer was in the form of a five-digit hotel property code. The researcher could identify where individual responses were from. Besides a lack of credibility and accountability, the other disadvantage of the Delphi survey is that the best opinions may be diluted through a consensus approach (Powell, 2003). This is true when the best opinions do not fit with those of the majority of the panel members and can be given little attention in the surveys where the panel is comprised of managers with relatively the same ability to judge the studied subject or to give the forecast for the subject. Last, Fitzsimmons and Fitzsimmons (2001) concur that the Delphi technique is time consuming and labor intensive, and, therefore expensive, although there is no agreement in the literature about this (Powell, 2003). Advancement in communication and research technology can be used to solve this shortcoming of the Delphi technique.

Procedure of Delphi Surveys for This Study

Tersine et al. (1976) suggest steps to be taken for conducting the Delphi survey as shown in Figure 3-4. The researcher carefully followed those steps. First, the problem was defined by two primary research questions as stated earlier in this chapter. Since a decision Delphi was chosen as the preferred technique, the panel members were therefore the decision-makers. Since the decisions regarding the dimensions of hotel safety and security as well as the components of the decision-making model for investments to address safety and security forces were made at the property level, the management teams at the hotels comprised the panel for the Delphi surveys in this study.

Then the first Delphi questionnaire was prepared to measure the group opinion on the first research question. In other words, questions in the first survey centered on the dimensions of safety and security affecting the hotel. These questions were developed based on information gathered through interviews and the review of the literature. Members of the researcher's Ph.D. dissertation advisory committee took on important roles during this step. They carefully reviewed and provided suggestions for changes in the questionnaire design and in the questions themselves. By the recommendation of the advisory committee, the researcher conducted a pilot test of the first survey using a focus group. The focus group, which was defined as an interview style designed for small groups (Berg, 2004), was administered with four panel members who were the researcher's peer doctoral students. The researcher strived to learn through a group discussion about the topic (Basch, 1987; Lengua et al., 1992). The focus group's participants were provided with the questionnaire in advance and asked to act as the hotel manager answering the survey. During the focus group session, the participants provided crucial information for a revision of the drafted Delphi survey in the areas of the attitude measurement scale, terms used in the survey, and writing style, etc. This feedback was shared with members of the advisory committee who then provided additional suggestions for the final version of the first Delphi questionnaire.

The first Delphi survey (see Appendix E) was distributed in mid November of 2004 to the general managers of the firm's 121 hotels under the case study brand. It contained questions regarding the dimensions of safety and security as well as the hotel demographics. The general managers were asked to share the survey with their area managers and provide the answers to the survey together. The original deadline, which was two weeks after the day of distribution, was extended for another two weeks due to a low response rate. Out of 121 hotels, fifty-three hotels returned the survey. One hotel only completed the demographics section and left the main questions section blank. Thus, there were finally fifty-two usable questionnaires. A consensus on the dimensions of safety and security was not reached from the first-round survey (see Chapter Four). Therefore another round of survey was needed.

The second survey served as a tool to gather answers for the second primary research question, as well as a platform where the panel members could change their positions on their opinions regarding the first research question (i.e. the dimensions of hotel safety and security). In other words, the survey contained questions regarding the components of a decision-making model for investments in safety and security in its first half, as well as questions regarding the dimensions of safety and security that needed to be reevaluated in the other half.

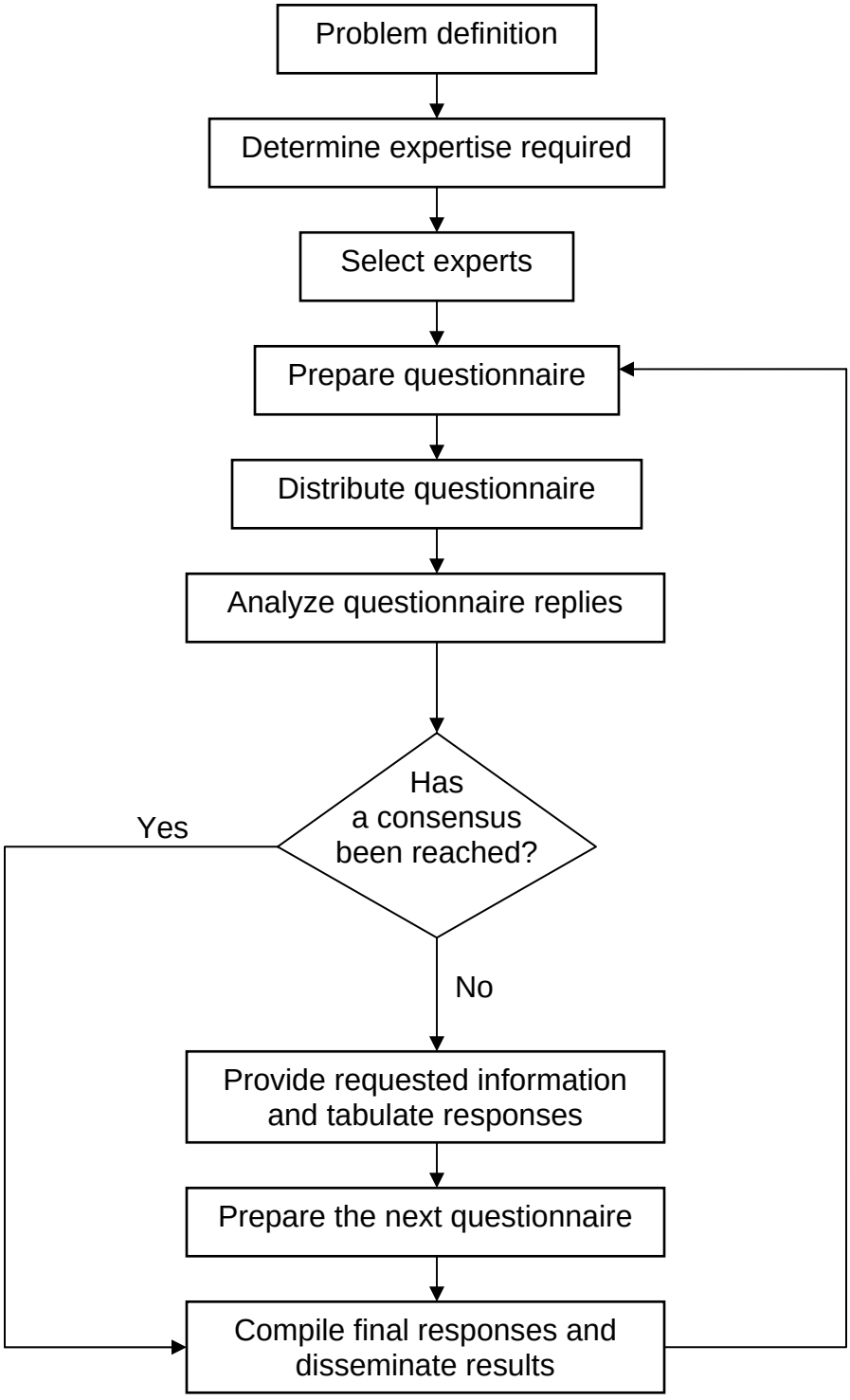

Figure 3-4
Procedures of Delphi Survey
Source: Tersine at el. (1976)

The second survey was developed based on information from the interviews, the first survey, and secondary data sources. To ensure that the second survey fit well with the business domain and culture of the case study firm, the researcher sought help from the director of corporate security of the company. The questionnaire, titled "Second Questionnaire for the Corporate Security Office," (see Appendix F) was sent to the director of corporate security in early February of 2005. The director was asked to provide additional variables of the decision-making model for investments in safety and security. These variables were referred to as value drivers in that questionnaire.

The Director decided to take the questionnaire to the Corporate Risk Management Task Force. A group of corporate experts on strategic financial investments including the chief financial officer, the vice president for operations, the director of corporate security, and other executives, provided their group insights and opinions on the questionnaire. The researcher received a response to the questionnaire from this group two weeks after it was administered and used it to develop the second Delphi survey. Again, the second survey was reviewed by two instructors at the university who are industry veterans: one in lodging, and the other in food services. Finally, it was revised based on the recommendations of the researcher's Ph.D. dissertation advisory committee. At the end of February of 2005, the final version of the second Delphi survey (see Appendix H) was distributed to all fifty-one hotels participating in the first survey. In fact, fifty-three hotels participated in the first survey, but one hotel did not completely answer the first, and another has left the chain at the end of 2004. Therefore, the researcher decided to leave these two hotels out of the second survey.

The hotels had two weeks to complete the second survey, as it did for the first survey. Again, data collection for the second survey ended two weeks after the original deadline due to a low response rate at the original deadline. Thirty five hotels returned the survey, one declined to participate, and another has been busy with an unpredicted event at the property. The final results were compiled, and the researcher performed analyses based on them. Methods of analysis are discussed later in this chapter.

Summary of Data Collection Methods

Figure 3-5 summarizes key points discussed throughout the data collection section. It illustrates sources of data collected throughout the study in chronological order and shows which source provided answers for which research question. Data provided by each source are discussed in Chapter Four.

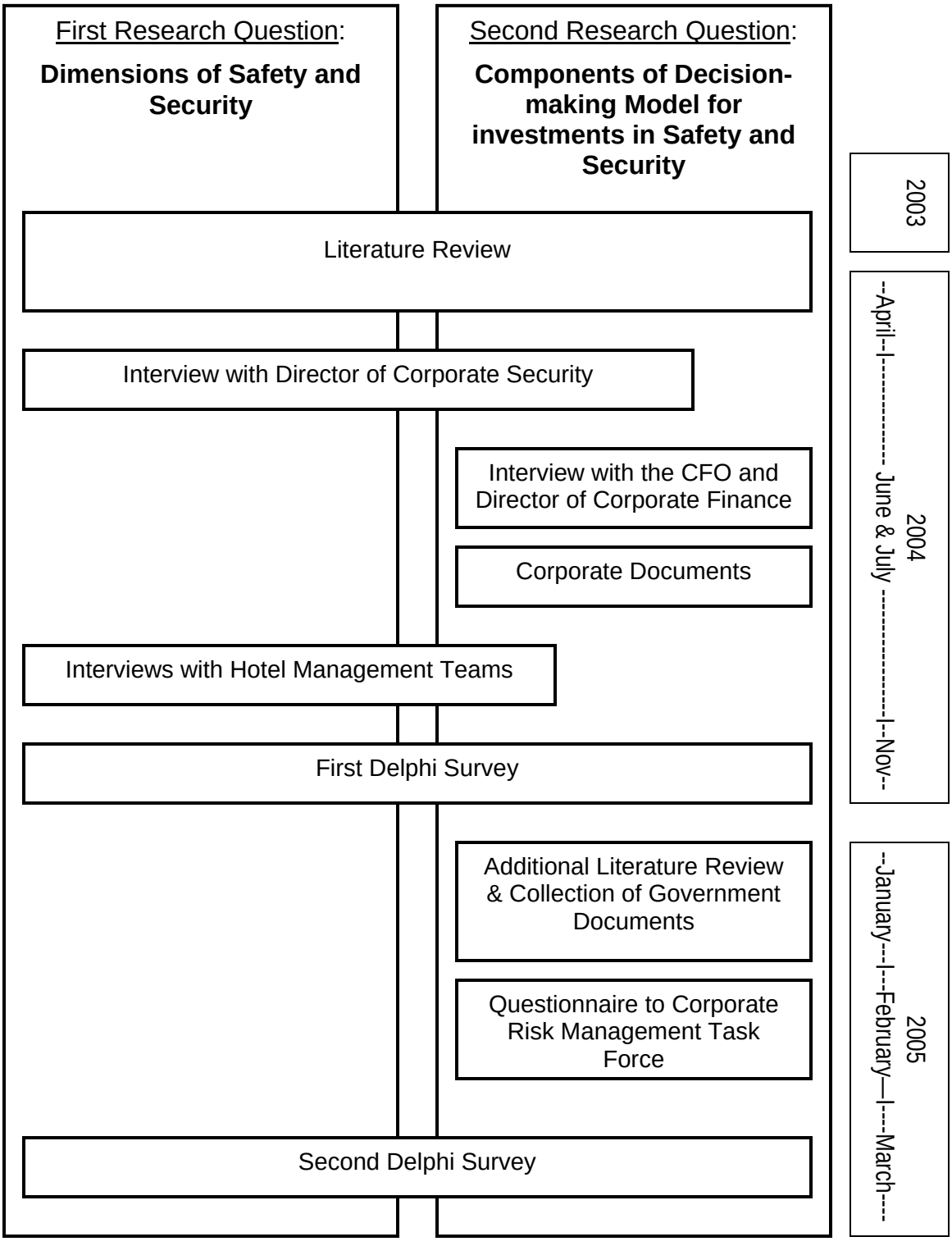

Figure 3-5
Sources of Data Needed for Answering Primary Research Questions

Definitions of Constructs

As illustrated in Figure 3-1, the four constructs studied in this research were the dimensions of hotel safety and security, the components of the decision-making model for investments in hotel safety and security, a firm's structure, and firm performance. It was also discussed in the prior section that the researcher focused on the first two constructs in this study. In other words, it was expected that this study provided an updated list of the dimensions of safety and security that affected the multinational hotel firm as well as the components of a decision-making model for investments in hotel safety and security. These findings comprised a frame of reference for future explanatory research where the descriptive decision-making model would have causal relationships specified. That descriptive decision-making model can then be used as an input for optimization of the prescriptive model. For this reason, it is sufficient to provide definitions only for the first two constructs of the framework, illustrated in Figure 3-1.

The Dimensions of Hotel Safety and Security

This was a construct that was not well developed in the literature. The participants in the semi-structured interviews and the Delphi surveys were asked to define the dimensions of safety and security relevant to the upscale hotel segment. In other words, these were the dimensions of safety and security that affected the value creation of the case study firm. The researcher studied the dimensions from the two angles: their importance, and their likelihood.

The safety and security events affecting the case study firm had different levels of importance. Some events were perceived by the hotel managers as highly important to their strategic thinking, while others were not. The other angle in looking at safety and security events in this study was based on the likelihood of the events. In other words, the hotel managers evaluated the imminence of the events. Some events were very imminent (i.e. very likely to affect the firm in the short term), while others were not. It was the task of the managers to assess the safety and security events from this perspective, as well as to assess their importance.

It is important to distinguish the terms "safety and security events" and "dimensions of safety and security." A dimension of safety and security is comprised of a number of safety and security events that share common characteristics. It is necessary for the hotel managers who had numerous tasks on their hands to group the environmental events jeopardizing the value of their hotel into a smaller number of dimensions. This practice helps make responses to the threats more manageable.

During the preliminary phase of data collection, the researcher interviewed selected hotel managers. During this phase, interviewees were asked to list the events of hotel safety and security in general. There was no distinction between their importance and their likelihood made clear during this phase. This phase of data collection helped the researcher to be more familiar with the firm context.

The events of safety and security provided by the interviewees, along with those derived from the current literature, were used to develop the Delphi surveys. During the Delphi survey stage, the panelists were given individual safety and security events to

assess, instead of the dimensions. In addition, they were asked to assess the events from two perspectives: importance of the events, and likelihood of the events.

After the conclusion of the Delphi survey, the events were grouped back to the dimensions. The data reduction technique was used to assist the researcher in the grouping. Since some characteristics of this study violated some vital assumptions of factor analysis, the researcher opted for qualitative visual inspection as a tool used in grouping the events into the dimensions (see detailed discussion in Chapter Four). That is, the events with common characteristics were grouped into one of the five dimensions of hotel safety and security suggested by Olsen et al. (1998, 1999) (Figure 2-4). Again, the reason for using the dimensions instead of individual events was to reduce a copious amount of environmental scanning data into a more manageable size for the managers.

Components of a Decision-Making Model for Investments in Hotel Safety and Security

Any decision-making model has a boundary. It must be limited by some attributes in order to specify the components of the model. In this study, a decision-making model for investments in safety and security was bounded by the dimensions of safety and security that were most likely to affect the hotels. From the dimensions of hotel safety and security identified by the hotel managers, the researcher could specify the components of a decision-making model for investments in safety and security, including performance measures, decision options, and value drivers of the performance measures (i.e. factors affecting the performance measures). Performance measures were used to quantify the projected outcome of the investment project and were a function of decision options and value drivers. In other words, they possessed the characteristic of a dependent variable and were explained by decision options and value drivers. Decision options were indeed independent variables. It was up to the decision-makers (i.e. the hotel managers) to determine what decision option to invest in and in what quantity. Value drivers acted as constants from the viewpoint of decision-makers since the decision-makers did not have control over these value drivers. Value drivers can only be measured, estimated, and forecasted. Figure 3-6 illustrates these points.

The researcher used an open-ended questionnaire to collect possible performance measures, value drivers, and decision options from the semi-structured interviews. The hotels' managers who participated in the interviews described the process of valuing strategic financial investments in general, and in the safety and security case, if any. The investment performance measures preferred by the firm were discussed. From the interviews with the hotel managers and the executives at the corporate finance office, net present value and return on investment were suggested as financial performance measures preferred by the firm. Dictated by the firm's corporate finance office, the net present value (NPV) was used as a performance measure in the investment project. However, there were questions in the interviews and surveys asking the hotel managers to provide their preferred non-financial performance measure of the investment project to improve hotel safety and security (e.g. number of claims regarding on-premise injury per year).

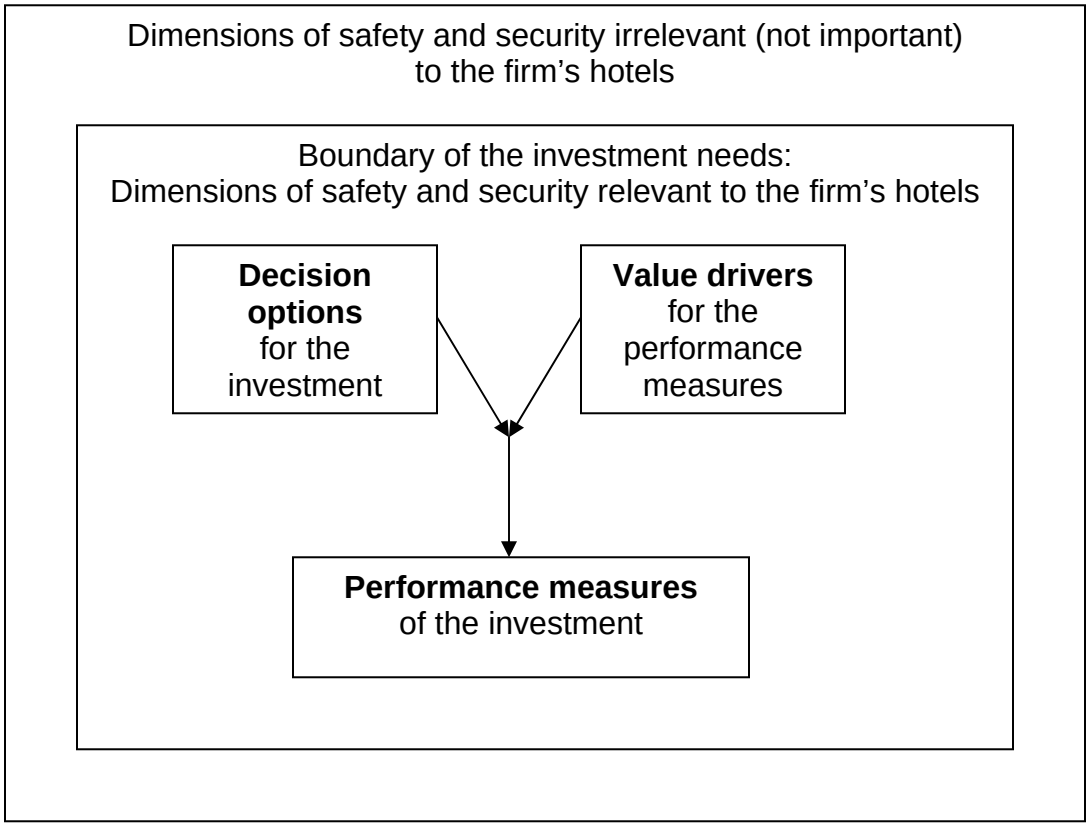

Figure 3-6
Structure of a Decision-Making Model for Investments in Hotel Safety and Security

Though not extensively cited, a list of decision options in safety and security which were actually chosen by the hotels in the past was given by the hotel managers. These decision options relating to safety and security provided by the managers who participated in the interviews were in fact small components of general renovation projects at their hotels. The hotel managers were limited in their discussion about the value drivers of the NPV, given the fact that they had not experienced investment in a pure safety and security project in the past. However, the possible list of decision options and value drivers of the NPV were needed for the second Delphi survey, the one devoted to the components of a decision-making model. For this reason, the first Delphi survey also contained questions regarding the investments in safety and security that the hotel had made in the past. This helped the researcher identify possible decision options and value drivers of the NPV for the next round of the Delphi surveys. Besides the feedback from the panelists serving in the first survey, inputs from colleagues of the researcher who were instructors in hospitality management and who had previously worked in the industry and the firm's Risk Management Task Force were used to develop the second survey.

Methods of Analysis

In case study research, the use of inferential statistical analysis is limited since a number of observations (i.e. a sample size) is small. The researcher administered the two Delphi surveys to a larger group of respondents to overcome this weakness. However, the use of inferential statistics was limited in this study to an analysis of variance (ANOVA) which was used to detect the relationship between the dimensions of hotel safety and security and the demographic factors surrounding the studied hotels.

Since this was an exploratory study, its main purposes were to describe the dimensions of hotel safety and security as well as the components of a decision-making model for investments in safety and security, and to construct a frame of reference for future research from these variables. Therefore, the types of analysis used in this study were primarily descriptive. The analysis of variance (ANOVA), which was an inferential statistics technique, was limitedly used for the purpose of identifying a relationship of safety and security dimensions and demographics related to the hotels in the sample.

Data Reduction

Miles and Huberman (1984) refer to data reduction as a process of selecting, focusing, simplifying, abstracting, and transforming the raw data that appear in written-up field notes. The researchers pursuing qualitative research often face the difficulty of dealing with a copious quantity of collected data. In this study, these were the verbal responses from the semi-structured interviews. The researcher used the interview data to build a better understanding of and familiarity with the process utilized in valuing investments in hotel safety and security.

The results from the Delphi surveys were used to build a frame of reference for future research. The data collected from the Delphi surveys were more quantitative in nature than those collected through the interviews. However, a small number of observations still prohibited the use of hard inferential statistical techniques. For this reason, data reduction techniques selected for this study were in a form of performing descriptive statistics (e.g. means and standard deviations) on the variables.

Means and Standard Deviations

A group opinion was interpreted from descriptive statistics including measures of central tendency and measures of dispersion. A measure of the central tendency of a set of data provided an indication of the typical score in that data set. There were three different measures of central tendency typically used to describe the data: mean, median, and mode. The researcher preferred to use a mean as the measure of central tendency in this study. This was calculated by averaging all the scores on a particular safety and security event.

A measure of dispersion indicated how much variation there was in the distribution of the scores. There were two different measures of dispersion frequently used: range, and standard deviation. Unlike a range, a standard deviation provided an indication of what was happening between the maximum and minimum scores. It was a

measure of how much the scores in the observations varied around the mean (Dancey and Reidy, 2004).

Means as measure of central tendency and standard deviations as measures of dispersion were the only descriptive statistics used in the study since they are normally used in Delphi surveys as tools to help refine a group opinion and, if possible, reach a group consensus (Robson, 1993; Schwandt, 2000). Means and standard deviations of the response scores on safety and security events were calculated for the first Delphi survey and made available to the hotel managers participating in the second survey. The participants were asked to revise their score (i.e. give a new score that was closer to the group mean) on each safety and security event whose score was different by more than one standard deviation from the group mean.

Unlike the dimensions of safety and security, the components of a decision-making model for investments in hotel safety and security were only rated once (in the second Delphi survey. The respondents were not further asked to revise their scores on the dimensions and the components after the conclusion of round two. Hotel managers' resistance to build a consensus on the dimensions of safety and security as well as their limited understanding of the NPV prevented the researcher from conducting more rounds of the Delphi surveys. However, both dimensions and components relevant to the hotel, and thus included in the framework for valuing investments in hotel safety and security, were presented along with their means and standard deviations in Chapter Four.

Analysis of Variance (ANOVA)

Although it was not related to the first research question in this study, the reason for including hotels with different environmental backgrounds in the study was to detect whether demographic factors had an effect on the dimensions of hotel safety and security relevant to the firm. The Co-Alignment Model suggested that the effect (i.e. the relationship) existed. However, the framework for valuing investments in hotel safety and security might not be suitable for use at all hotels in different regions of Europe in that case. Thus analysis of variance was performed to detect this effect. An analysis of variance (ANOVA) analyzed the different sources from which variation in the scores arose (Dancey and Reidy, 2004). The demographic effect was not deemed to exist if there was no statistically significant difference in scores on the safety and security dimensions given by the managers of the hotels operating in different demographic environments.

Tests for Design Quality

The concept of validity is to ensure that a study reflects the true meaning of the concepts under investigation. There are generally three types of validity to be tested: construct validity, internal validity, and external validity. In addition, the study must be tested for its reliability.

Construct Validity

Miles and Huberman (1994) indicated that construct validity was addressed if the research design was related to the theory. This study centered on identifying the dimensions of hotel safety and security, as well as the elements of a decision-making model for investments in hotel safety and security. Therefore the research design of the study was based on the literature on the dimensions of safety and security, and on the theoretical literature of financial appraisal techniques for investments with an intangible content. The dimensions suggested by the literature were used to shape the design of this study. Additionally, the four steps of the evaluation process—cash flow estimation, cost of capital projection, risk forecasting, and determination of initial investment—provided a theoretical background for the research design for studying the second research question in this study. This was fitted under the overall concept of the Co-Alignment Model.

In case study research such as this one, construct validity was normally derived by using either multiple sources of evidence, or a chain or evidence (Yin, 2003). Data triangulation was a tool adopted by the researcher to achieve construct validity. Under the data triangulation technique for this study, three sources of data, namely semi-structured interviews, corporate documents, and the Delphi surveys, were combined to measure the same phenomenon (i.e. a process of valuing investments in hotel safety and security) that the study sought to explain. That phenomenon was a unit of analysis in this study.

Internal Validity

Internal validity was a main concern in the study, involving identification of causal relationships (Yin, 2003). Based on Yin's suggestion, internal validity was not deemed to be a problem in this study. Since this study was exploratory in nature and did not involve any causal relationships, internal validity was out of the scope of the researcher. However, this internal validity can be included as a factor in the design of future research when relationships proposed from this study need to be tested. Thus, there was no need to discuss this validity any further until a future study would be conducted.

Though the issue of internal validity, in general, did not concern the researcher given the fact that this was exploratory research, limited knowledge of the hotel managers on the investment evaluation process using the net present value (NPV) concerned the researcher regarding the internal validity of the case study to some extent. The limited understanding of the hotels' managers on the issues of cost of capital and investment risks might have a negative effect on the internal validity of the second research question (the components of the decision-making model).

However, the corporate approach for calculation of the cost of capital used as a discount factor for any financial investment project along with related issues are discussed in Chapter Four. The components of the cost of capital provided by the corporate finance office can be used in place of the hotel managers' opinion on the relevancy of the components of the cost of capital. This addresses the internal validity problem at some level.

External Validity

External validity, also called generalizibility, is the ability of a researcher to generalize his or her findings beyond the case used in the study, whether the other cases are within the same industry or other industries. A single case study has a weakness in terms of generalizibility. However, the researcher is still able to generalize findings to theoretical propositions to be tested in other cases. That method is called analytic generalization, as opposed to theoretic generalization which cannot be achieved from the case study method. This external validity remains to be addressed in subsequent research

Reliability

The reliability issue deals with attempts to minimize errors and biases in a study. If other research exactly replicates the design and method of prior research and reaches the same findings, then the original study is considered as a reliable one. Thus procedures and rules in the research design stage, as well as the database from this study, which were developed from the three sources of data as discussed before, are maintained and made available for other researchers to test for reliability.

Summary

This chapter justified how a single case study methodology was used in this research and how "triangulation" as a data collection technique, and concurrent flows of activity as methods of analysis, were selected for the study. The criteria on how the case-study company was selected were also mentioned. The overall plan of the research presented in forms of the components of research design was discussed throughout the chapter. These components included research questions, a proposed basic framework, the scope of the study, the unit of analysis, the selection of a case, data collection, definitions of constructs, methods of analysis, and tests of design quality.

Chapter 4

Results and Analysis

Introduction

This chapter presents the results of the study and organized by the research questions presented in Chapter Three: What are the dimensions of hotel safety and security and what are the components of a decision-making model for investments in hotel safety and security. First, however, the case study firm's profile and its practices in addressing safety and security issues are provided in order to give background information on the general business environment in which the firm operates as well as its culture and the commitment to safety and security of its guests and employees. In addition, demographics of the hotels participating in the semi-structured interviews and two rounds of Delphi surveys are shown. Then the key dimensions of hotel safety and security and the components of the decision-making model for investment in the hotel safety and security are presented as.

Company Profile and Policy on Hotel Safety and Security

Company Profile

The case study company has a vision to become one of the world's leading international hotel management companies, with a focused collection of high-performing, profitable brands in various market segments. The firm currently has its main operational bases in Northern Europe, the United Kingdom, and Ireland. It has ambitiously expanded its operations to Eastern Europe as well as the Middle East, Africa, and China. Table 4.1 shows its portfolio of brands.

The brand chosen as a case study for this research is a highly acclaimed four star, club class hotel brand that is as comfortable in the city as in a resort or an airport location. Unique features include concept room styles, a strong focus on bars and restaurants, special MICE (Meetings, Incentives, Conferences, and Exhibitions) facilities, service

Table 4-1
Firm's Brand Portfolio

Brand	Description	Number of hotels in operations (as of April 30, 2005)	Example of main competitors
A*	These hotels and resorts offers first class, full service hospitality in Europe, the Middle East, Africa and China, providing guests with a contemporary, upscale, business class hospitality experience. Properties vary from 40 to 700 rooms, with 225 rooms as an average.	109	Marriott, Le Meridien, and Sofitel.
B	A three-star alternative for business and leisure travelers who want a cozy stay at a comfortable price. It typically has 80 to 140 rooms.	6	Courtyard
C	These hotels offer casual, easy-to-use, mid-positioned, value-for-money accommodation for the frequent traveler, whether on business or leisure. A broad, volume concept, its property sizes vary from 60 to 1000 rooms.	40	Novotel and Mercure
D	A five-star, deluxe brand and a luxury legend, internationally famed for its unique levels of service, supreme sophistication and attention to detail. It is positioned in line with world-class hospitality experiences. It is typically a grand hotel with 100-400 rooms.	4	Four Seasons and Ritz-Carlton
E	It is a pure, life style concept with 120-175 rooms aimed at an upbeat, style-conscious, metropolitan audience. It is a limited service concept, initially to be launched in continental Europe but has worldwide potential. Upper mid-priced, but premium performing, it will provide exceptional value for its guests.	3	W hotels and resorts

* A is a case study brand.

inquiries by one-digit dialing via a room telephone, a wide range of breakfast offerings, and easy internet connectivity. However, the most important differentiators in this hotel brand are: A simplified but fresh and hospitable service culture, service providers with a mindset that everything can be done to satisfy the guests, and a "100% guest satisfaction guarantee or your money back" promise. Its 109 properties in operation at the end of April 2005 were mainly managed under lease (33 hotels) or management contracts (38 hotels) with the remaining (37) hotels as franchise properties. The company only owns one hotel.

Leveraging Relationships with Customers

The company builds and leverages strong relationships with its stakeholders, including customers, investors and property owners, employees, suppliers, community, government, and the environment. These strong relationships allow for open dialog which permits the firm to abreast of stakeholder demands and rapidly adapt to a continuously changing business environment. Table 4-2 shows how the firm transfers specific key success factors into goals and how to achieve them. Without disregarding other important stakeholders, the company's first priority is to ensure that owners, customers and employees are satisfied in order to run a successful hotel management company. The next priority is to the second-tier stakeholders, namely suppliers, community, government, and environment are satisfied. This is illustrated through Figure 4-1.

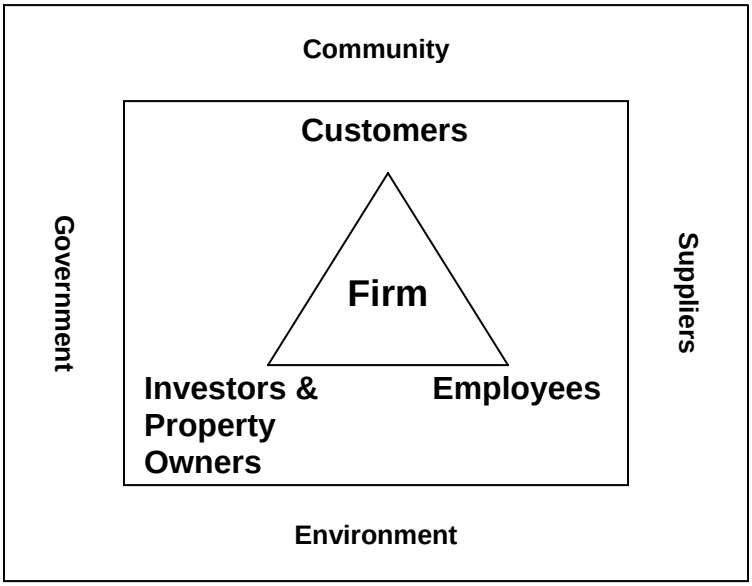

Figure 4-1
Tiers of Stakeholders

Table 4-2
Leveraging Relationships with Stakeholders

Stakeholders	Key Success Factors	Goals	Activities	Results (end of 2004)
Customers	High customer satisfaction High rate of repeat business on returning customers High brand awareness	Increase customer satisfaction index to 90 (out of 100) Increase unprompted brand awareness in all regions	Launch of a new loyalty program designed for leisure travelers (in addition to a precursor program designed for business travelers) New service concepts: Wireless connection in room and meeting facilities Various advertising campaigns	Overall customer satisfaction index at 90 Top brand awareness ranking in the Nordics Received numerous awards
Investors/ Property Owners	High Return on Investment High Gross Operating Profit Trusted and recognized brand High market penetration	Maintain high gross operating profits Increase number of hotels EBITDA growth of 15% as an average over a business cycle An EBITDA margin of 10%	50% profit conversion program Revenue related program	Ten years of consecutive economic growth (revenues and profits) Opened 34 hotels Signed 50 new contracts Maintained RevPAR penetration
Employees	High job satisfaction Safe working environment Personal development and growth Continuous training and education	Increase job satisfaction index to 85 (out of 100) Zero tolerance for work related injuries	Internship program Mentor program Recognizing individual performance Management school	Job satisfaction index at 81 More than 190 employees trained in management schools, in addition to local training Sixty student internships

Table 4-2
Leveraging Relationships with Stakeholders

(continued)

Stakeholders	Key Success Factors	Goals	Activities	Results (end of 2004)
Suppliers	Quality products for good value for money	Stable & long-term relationships	Electronic data interchange with suppliers and hotels joining the system Responsible Business Supplier Evaluation	Joining hotels saved 10-15% of their purchasing costs Eco-labelled detergents 23% of electricity purchased from renewable energy sources
Community	Local employment & training Local purchasing Community involvement	At least one community activity per hotel Partner with research and Interest organizations	Local projects to raise money for charity Projects with UNESCO to protect world heritage sites	All hotels have one or more community projects per year Sponsored UNESCO events in the past 4 years Sponsored local charity projects
Government	Stable and secure tax payer Regulatory compliance	Ensure all hotels comply with local and national legal framework	Regional legal database for regulatory compliance Checklists for compliance	In legal compliance
Environment	Minimized negative impact	Energy efficiency Water conservation Waste reduction	Monthly reporting Local action plans	Received Worldwide Hospitality Award for Environmental Protection and Sustainable Development Increased resource efficiency in most hotels

Customer loyalty is one of the key factors securing the future value of the firm and is driven by brands, partners, loyalty programs, as well as its focus on safety and security (see Figure 4.2). Building coherent brand characteristics into the products offered and delivering consistently on brand promises are crucial to ensuring customer loyalty. All of the firm's five brands operate against clearly defined product and service standards while its Quality Assurance programs ensure that product and service delivery is continuously secured. Customer satisfaction is assessed through a monitoring program that gives continuous feedback about each hotel's performance to the general managers and the regional directors. The program serves as a tool in fine-tuning brand performance and securing customer satisfaction by providing data to track and compare with historical performance and benchmark scores.

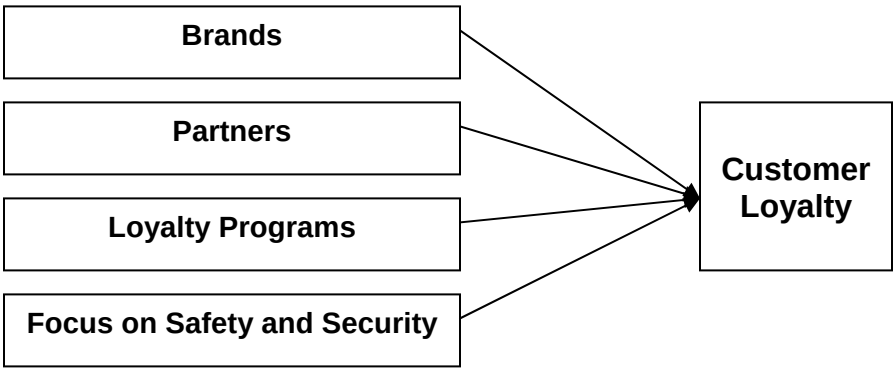

Figure 4-2
Determinants of the Firm's Customer Loyalty

The company's Customer Relationship Management (CRM) activities were important in building strong relations with customers and partners. Partners played a key role in building awareness for the brand and also increasing the reach of firm's promotional programs. In 2004, approximately 16% of all room nights were sold in association with partner programs; the frequent flyer program at a major European airline represents 42% of these room nights, followed by that of another major European airline. In total, there were twenty five airline companies, as well as several credit card companies, partnering with the firm. The launch of the firm's first loyalty program designed for business travelers in 2003 and another program targeted at leisure travelers in 2004 were important decisions to improve its CRM strategy; it became a vehicle for customer recognition, benefits and rewards. The programs were based on what members spend

Since 2001, the company's commitment to sustainable development, i.e. sustainable economic growth, environmental improvements and social responsibility, had been placed within the scope of a program called Responsible Business (RB). The RB program was integrated into corporate strategies, objectives and operational plans. The program's targets and policies were set by the corporate management team and apply to

all brands within the company. During the time of the study, the program was four-years old and a well-established part of operations at hotels under the case study brand. In 2004, ninety percent of the hotels operating under the case study brand, excluding franchised hotels, continued to report their energy, water and waste figures on a monthly basis to the corporate office, while obtaining overall benchmark figures on a quarterly basis. This system had increased awareness among the hotels about their consumption patterns and has resulted in better housekeeping of resources. The program was introduced to other brands in 2003 and was being implemented in 2004.

The company integrated the RB program into day-to-day process; operationally responsibility lay with the general manager, supported by RB coordinators at each hotel. In 2003, a regional structure was also added, focusing on supporting the hotels at a regional level and providing communications between the hotels and the corporate Director for Responsible Business. The local RB action plans guided the hotels in what measures and actions they would take during the year to improve performance. These action plans varied in ambition depending on the local demands, infrastructure and awareness. The RB action plans, supported by regional business plans, ensured local ownership of the program. Although the firm initiated the RB program in 2001, it did not seriously factored in safety and security into the customer loyalty model until 2003.

Focus on Safety and Security

Recent additions to the RB program were health and safety, labor practices, human rights and community involvement and the update on the progress was made through the annual, intranet based, status report. As was the execution of the RB program, safety and security for guests and employees was also an operational responsibility.

The firm deals with projected losses due to safety and security events and budgets spending to address these events by analyzing available information from numerous sources. Analysis was proactively passed to hotel general managers, country managers or to executives at the firm headquarters, depending on the anticipated scope of an event's impact. The goal was to prepare each unit to take actions or precautions when and where they were necessary. This analysis and information flow would persist as safety and security continue to become increasingly important for travelers.

The scale of each safety and security problem differed from one place to another. The laws, which determined how the company should work to prevent each problem, also differed greatly from one country to another. Additionally, the interpretation of laws and regulations could vary on a local level and cities or municipalities had been known to interpret laws in different ways.

It was therefore vital that each hotel or business unit was able to adapt to the demands it encountered. During the past couple years, advisors for corporate security visited over fifty hotels on-site to provide support including special security event preparation, incident follow-up, start-up support for new properties and audit assistance. The firm attempted to reduce health and safety incidents not only among customers but also among its employees. Its Health and Safety Program was in place to ensure a safe and healthy working environment for its staff, as well as a safe and comfortable stay for

its guests. The firm's standards were based on four cornerstones: Fire Safety, Guest Safety and Security, Employee Safety and Security, and Operational Security.

Towards the end of the year, the Emergency Management Best Practices were made available for all hotels. Hotel managers can access it to help them evaluate threats and risks introduced by safety and security forces. These practices also helped managers introduce prevention and response practices in a way that was best suitable to their individual operation and needs. In a global environment where the ability to rapidly adapt to changing challenges and demands was a key to survival, the firm saw it as a worth-while task to assist property management teams make business-minded decisions without compromising the safety or security of guests, employees or owners' invested interests.

Hotels Participating in the Study

Primary data was collected through semi-structured interviews and two rounds of Delphi surveys to ascertain the demographics of the hotels participating. Limited by time and monetary resources, hotels in Denmark, Germany, Belgium, the United Kingdom, and Poland were chosen for the semi-structured interviews. The director of corporate security guided participant selection process with an expectation that a diverse group of interview participants would be included in the study.

As for a panel for the Delphi surveys, the researcher, management teams at all hotels operating under the case study brand in Europe at the time of data collection were invited to participate in the first round of the Delphi surveys to develop a panel of experts. The director of corporate security urged the hotel managers to take part in the surveys by co-signing the invitation letter and sending those who had not returned the survey a reminding note. Thus the management teams at 121 hotels were invited to fill in the survey which centered on the dimensions of hotel safety and security. Fifty two responses were received. In the second round of the Delphi surveys, only management teams at hotels which had participated in the first survey were invited to evaluate and restate, if necessary, their position regarding their original opinion on the dimensions of safety and security in the first round. In addition, participants were also asked to express their opinion regarding the elements of a decision-making model for investments in safety and security. However, one hotel left the firm by the time the second Delphi survey was administered, reducing a number of invited hotel management teams to 51. Thirty four responses were received for the second Delphi survey. Demographics of the hotels participating in the study are described next.

Demographics of Hotels Participating in the Interviews

Five city hotels in Denmark, Germany, Belgium, the United Kingdom, and Poland were included in the initial data collection through interviews. Each was a four-star hotel and located in a central business district, except for the hotel in Denmark which was located 0.6 mile from the city center but was still considered as a city hotel. The firm did not own these hotels, but operated them under either a lease or management contract. The property demographics are shown in Table 4-3. The hotel in Germany was

Table 4-3
Demographics of Hotels Participating in the Interviews

Figure for the Year ended December 31, 2003

	Denmark	Germany*	Belgium	United Kingdom	Poland
Ownership	Management contract	Leased	Leased	Management contract	Management contract
Star rating	4-star	4-star	4-star	4-star	4-star
Segment	Business Leisure (Cruise)	Business	Business	Business	Business
Miles from city center	0.6	0.1	0.0	0.0	0.0
Guest rooms	542	427	281	231	311
Employees	180	n/a	180	200	113
Gross revenue (approx.)	$29.7M (181M DKK)	n/a	$21.9M (18M EUR)	$21.5M (12M GBP)	$10.68M (39M PLN)
Restaurants	4: American/Italian Japanese Thai International	3: International Grills Asian Japanese/Middle East	2: Seafood Grill Belgian/International	1: International/ Mediterranean	2: Breakfast Buffet Latin-American
Bars	1	1	1	1	1
Meeting rooms	14	6	18	11	5
Meeting space (m^2)	1,565	1,238	1,206	1,272	588
Fitness facilities	Fitness room, pool, squash courts, massage, solarium and hairdresser	Fitness room, pool, massage, saunas, and stream bath	Fitness room, massage, Jacuzzi, solarium, and saunas	None	Fitness room, pool, massage, Jacuzzi, solarium, and saunas
Other facilities	Casino	Aquarium	-	-	-

* Note: Hotel in Germany was opened in March 2004 and was only 4-month old at the time of an interview. Some of its property information is not available for the year 2003.

opened in March 2004 and was only four-months old at the time of the interview thus yearly information cannot be provided.

The hotel in Denmark was located in a large city. The firm also had another hotel located in a central business district. The hotel participating in the interview was not positioned as a pure business hotel but also served a leisure segment, mainly a cruise passenger group. Since the city where the hotel was located was a major port of call for cruises in Northern Europe, the hotel received more than half of its business from the cruise passenger group. The hotel had comprehensive recreation facilities, four restaurants, a spacious lobby, guest rooms featuring modern decoration, as well as a casino adjacent to the main hotel building.

The hotel in Germany was brand new and was built on the lot of the former one, the facility reopened in March 2004. It was located between a historic building and a big telecommunication tower on another side. Guest rooms were well decorated with a contemporary theme. There was an attraction built inside the lobby of the hotel which was visible from all guest rooms that did not have an outside view. Spa and recreational facilities were spacious and modern at this newly built hotel. There were three restaurants in the hotel as well as numerous restaurants and shops in the same building complex.

The hotel in Belgium primarily served business travelers and was located in a central business district near famous tourist attraction sites. Though it was not on the main street, it was conveniently accessible. The site was smaller than the other hotels mentioned earlier, however there were sufficient recreation facilities and a spacious lobby. Guest rooms were reasonably sized and boasted a classical style. This hotel hosted many political delegates as guests because the city regularly hosted international summits and meetings.

Like the hotel in Belgium, the hotel in the United Kingdom was conveniently located in the central business district of a major city. Although it was not on the main street, it was only three blocks away from the city's main shopping area. It had limited recreational and dining space as it targeted pure business guests and allocated most of its public space for meetings. Even though it had the highest average room rate among the five properties, its guest rooms and all public areas were relatively aged and the guest rooms were the least spacious in the group.

The property in Poland was relatively new. It was at the end of its second year of operation at the time of the interview. The hotel was situated a block away from the main commercial street in one of biggest cities in Poland but the hotel boasted spacious meeting and recreational facilities with guest rooms decorated in a contemporary fashion. It was important to note that hotel's perimeter and neighborhood were somewhat desolate in the evening even though it was a block away from the main street. As for competition, the hotel was in a highly competitive market as the city had recently experienced an oversupply of hotel rooms.

Demographics of Hotels Participating in the Delphi Surveys

There were two rounds of the Delphi surveys administered in this study. Fifty-two hotels participated in the first survey. Table 4-4 presents property information based on fifty-two hotels. Major participating hotels were from Western Europe (42.3%) and

the Nordics (34.6%). It is important to note that the firm had relatively fewer hotels in Eastern Europe, Turkey, Russia, and the Baltics but it had aggressively expanded its operation to these emerging markets. The proportion of hotels in these emerging markets was still relatively low at the time of survey.

Countries in Western Europe and the Nordics were classified as high-income countries by the World Bank. Table 4-5 shows gross national income (GNI) per capita of the countries in the studied areas. GNI, formerly known as gross national product (GNP), is the sum of gross value added by all resident producers plus any product taxes (less subsidies) that are not included in the valuation of output plus net receipts of income from abroad (World Bank, 2005).

Table 4-4

Demographics of Hotels Participating in the First Delphi Survey

(*n* = 52)

Variable	*N*	%
Country location		
Western Europe	22	42.3
The Nordics	18	34.6
Eastern Europe and Turkey	8	15.4
Russia and the Baltics	4	7.7
Wealth of host nation (based on gross national income per capita)		
High income	40	76.9
Upper middle income	9	17.3
Lower middle income	3	5.8
Business location		
City hotel	43	82.7
Airport hotel	5	9.6
Resort/ spa	4	7.7
Types of ownership		
Wholly-owned by the firm	4	7.7
Leased	9	17.3
Management contract	33	63.5
Franchise	4	7.7
Joint venture	1	1.9
No response	1	1.9
Star rating		
Three stars	1	1.9
Four stars	31	59.6
Five stars	18	34.6
No response	2	3.8

Table 4-4

Demographics of Hotels Participating in the First Delphi Survey

(*n* = 52) (Continued)

Variable	*N*	%
Hotel size based on number of guest rooms		
Up to 200 rooms	21	40.4
201-300 rooms	20	35.8
301 rooms and up	10	19.2
No response	1	1.9
Mean = 231.3, Standard deviation = 100.6		
Size of meeting facility		
Up to 500 square meters	16	30.8
501-1,000 square meters	12	23.1
1,001-1,500 square meters	13	25
1,501 square meters and up	8	15.4
No response	3	5.8
Mean = 936.41, Standard deviation = 708.57		
Number of full-time employees		
Up to 50 employees	16	30.8
51-100 employees	16	30.8
101-150 employees	14	26.9
151-200 employees	4	7.7
201 employees and up	2	3.8
Mean = 98.06, Standard deviation = 82.31		
Number of part-time employees		
None	7	13.5
1-10 employees	11	21.2
11-20 employees	10	19.2
21-30 employees	6	11.5
31-40 employees	5	9.6
41 employees and up	10	19.2
No response	3	5.8
Mean = 26.29, Standard deviation = 29.14		

As for the business location, the majority of hotels (82.7%) participating the first Delphi survey were classified as city hotels. Approximately ten percent of hotels were airport hotels. Most of these were newly built since the firm cited that opening airport hotels was a new trend in Europe. This is the market firm had aggressively sought opportunities to sign new management contracts for hotels at airport locations. Again, as the hotel management company, it rarely owns the properties, but operates under the management or lease contract. Franchised properties were rarely a part of the first and second surveys though 37 out of total 127 hotels (29%) were franchised hotels as of December 2003.

Table 4-5
Gross National Income per Capita of Selected European Countries

Country	GNI per capita (For the year ended 2003)	Level of Economic Development
Belgium	25,820	High income
Czech Republic	6,740	Upper middle income
Denmark	33,750	High income
Estonia	4,960	Upper middle income
Finland	27,020	High income
France	24,770	High income
Germany	25,250	High income
Hungary	6,330	Upper middle income
Iceland	30,810	High income
Ireland	26,960	High income
Italy	21,560	High income
Lithuania	4,490	Upper middle income
Netherlands	26,310	High income
Norway	43,350	High income
Poland	5,270	Upper middle income
Russian Federation	2,610	Lower middle income
Slovak Republic	4,920	Upper middle income
Sweden	28,840	High income
Switzerland	39,880	High income
Turkey	2,790	Lower middle income
United Kingdom	28,350	High income

Source: World Development Indicator Database of the World Bank (2004)

The majority of participating hotels were four- (59.6%) and five-star (34.6%) upscale properties. However, they were diverse in terms of size, no matter what measure was used including guest rooms, meeting space, full-time employees, and part-time employees. Standard deviations of these measures were very high compared with the means.

The second survey was sent to fifty-one respondents from the first survey. One hotel that participated in the first survey was omitted from the second survey because it was no longer a part of the firm when the second survey was sent out. Thirty-six hotels returned the survey; two of which contained incomplete responses. That left thirty-four hotels in the analysis. Their demographics are presented in Table 4-6.

Table 4-6

Demographics of Hotels Participating in the Second Delphi Survey

(*n* = 34)

Variable	*N*	%
Country location		
Western Europe	15	44.1
The Nordics	8	23.5
Eastern Europe and Turkey	7	20.6
Russia and the Baltics	4	11.8
Wealth of host nation (based on gross national income per capita)		
High income	23	67.6
Upper middle income	8	23.5
Lower middle income	3	8.8
Business location		
City hotel	29	85.3
Airport hotel	2	5.9
Resort/ spa	3	8.8
Types of ownership		
Wholly-owned by the firm	0	0.0
Leased	4	11.8
Management contract	28	82.4
Franchise	1	2.9
Joint venture	1	2.9
Star rating		
Three stars	1	2.9
Four stars	19	55.9
Five stars	12	35.3
No response	2	5.9
Hotel size based on number of guest rooms		
Up to 200 rooms	14	41.2
201-300 rooms	15	44.1
301 rooms and up	4	11.8
No response	1	2.9
Mean = 216.55, Standard deviation = 92.53		
Size of meeting facility		
Up to 500 square meters	13	38.2
501-1,000 square meters	7	20.6
1,001-1,500 square meters	6	17.6
1,501 square meters and up	6	17.6
No response	2	5.9
Mean = 914.78, Standard deviation = 810.21		

Table 4-6

Demographics of Hotels Participating in the Second Delphi Survey

(*n* = 34) (Continued)

Variable	*N*	%
Number of full-time employees		
Up to 50 employees	10	29.4
51-100 employees	13	38.2
101-150 employees	8	23.5
151-200 employees	2	5.9
201 employees and up	1	2.9
Mean = 99.94, Standard deviation = 92.23		
Number of part-time employees		
None	5	14.7
1-10 employees	8	23.5
11-20 employees	8	23.5
21-30 employees	5	14.7
31-40 employees	2	5.9
41 employees and up	5	14.7
No response	1	2.9
Mean = 23.67, Standard deviation = 30.15		

The gap in terms of number of participating hotels between developed and emerging markets (i.e. Western Europe and the Nordics versus Eastern Europe, Turkey, Russia, and the Baltics) was narrowed. The ratio was 2:1. Distribution in terms of business location, star rating, types of ownership was slightly different from those of the first survey. In addition, hotels were still diverse regarding their size in the second survey.

Research Question 1: The Dimensions of Hotel Safety and Security

The dimensions of safety and security relevant to the hotels of the case study firm were identified using semi-structured interviews and two rounds of Delphi surveys. The dimensions presented in this section are exhibited two steps as they were developed. First, preliminary dimensions of hotel safety and security as a result of semi-structured interviews are discussed. Then, the dimensions of safety and security as a result of the two Delphi surveys are presented. Since safety and security has been identified as one of major forces driving change in the multinational hotel industry (Olsen and Cassee, 1995), the researcher asked the hotel managers participating in the interviews to describe key forces driving change in their business. Although these results were not part of the first research questions, they provided an insight into how important safety and security was to the hotel managers.

Forces Driving Change in the Multinational Hotel Firm and Preliminary Dimensions of Hotel Safety and Security from the Interviews

The semi-structured interviews were conducted in order to identify outcomes of strategic management activities, namely forces driving change and dimensions of safety and security forces, at five selected hotels. The current literature revealed that safety and security in addition to capacity control, assets and capital, technology, and new management had been major forces driving change in the multinational hotel industry (Olsen et al., 1995). As for safety and security forces themselves, the literature regards crime, terrorism, natural disasters, health, and man-made hazards as dimensions of safety and security (Olsen et al., 1998 & 1999).

The management team at each of the five hotels provided a list of major forces driving change in its hotel as well as major dimensions of safety and security relevant to the hotel. Since this data was collected from a small sample, the findings on the dimensions of hotel safety and security from the interviews were considered preliminary. The actual dimensions used to construct a framework for future research valuing investments in hotel safety and security were identified using the Delphi surveys and are presented later in this chapter.

Forces Driving Change in the Multinational Hotel Firm

The way of monitoring and addressing the forces driving change in the business environment was different among hotels, even if they were within the same company. This was primarily due to the fact that hotels were located in different regions of Europe and then subject to different environments. A demographic effect that best explained variance in the performance of a hotel located in one city might not be the best driver of the performance of a hotel in another city. Therefore the hotel managers' perception of the business environment might not be unified; and this fact must be well aware of. However, an attempt was made to explore whether there was commonality in the way that these five hotels participating in the interviews viewed their environment. Thus the hotel managers participating in the interviews were asked about forces driving change in their business and the results are reported here in this section.

In this section, results are reported in the order of the hotels visited. From now on, these hotels are regarded as Danish Hotel, German Hotel, Belgian Hotel, British Hotel, and Polish Hotel, respectively. The following is a report on each hotel which provides an overview of the respective management's environmental scanning habits and results of these activities and the forms of identifying of major forces driving change in their business. Figure 4-3 summarizes these major forces driving change.

Danish Hotel

The management team at the Danish Hotel formally scanned the environment once a year prior to a preparation of a business plan. Environmental scanning indicated that the top forces driving change in their business were economic downturn, a growth of budget hotels, and a movement toward a conference destination of the city in which the hotel was located.

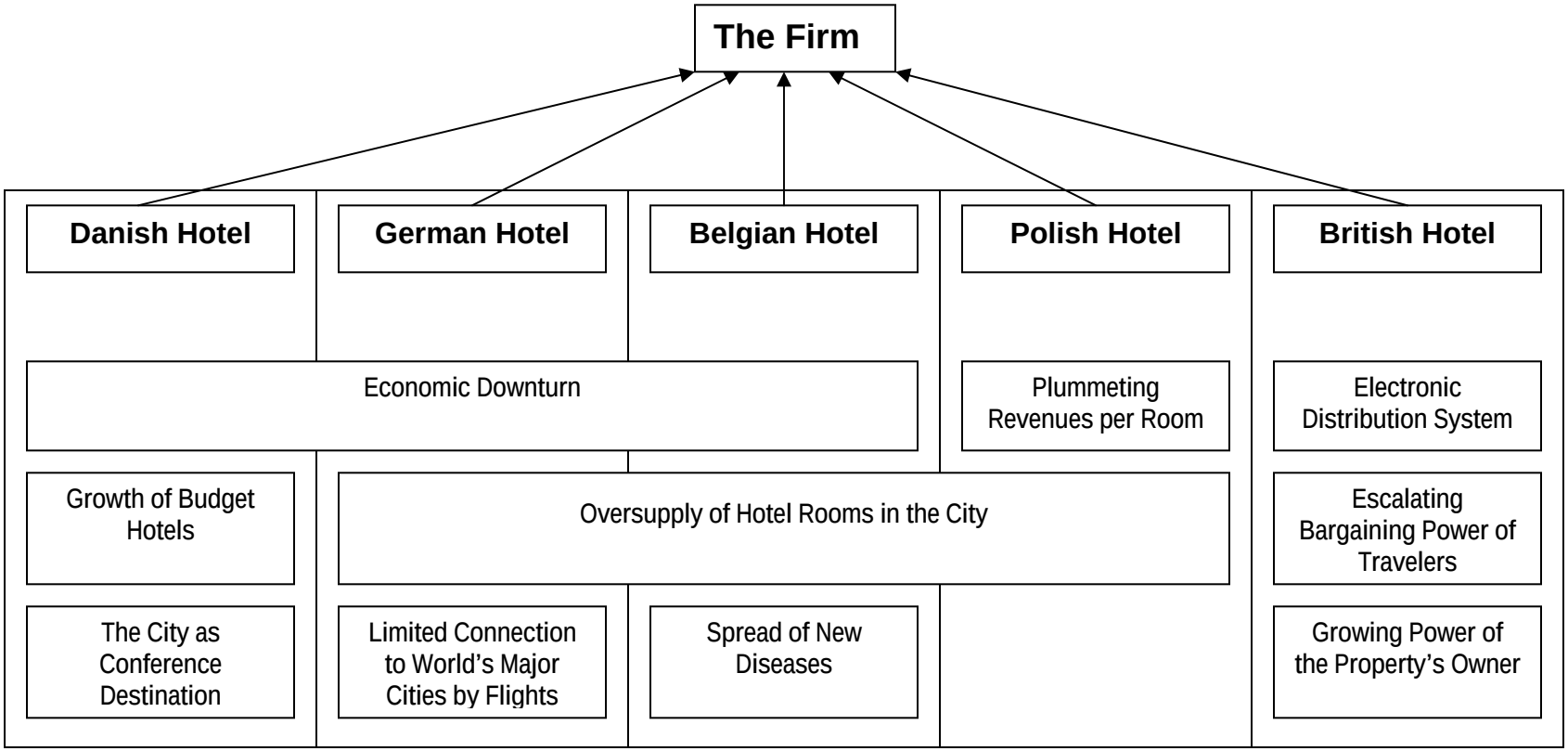

Figure 4-3
Forces Driving Change in the Firm's Hotels

The managers viewed a political remote environment as extremely static and believed that this characteristic of the hotel's remote environment was normal for an upscale property located in the Scandinavian region. Since changes rarely occurred within a year period it was not necessary to scan the remote environment more often. In Denmark, however, some regulations, especially in the case of fire prevention (e.g. smoke detection in a public place), tended to more strictly enforced than other regulations for hotel operators and needed to be monitored closely on a regular basis.

Also the management team paid a particularly close attention to changes in any practices that would lead to becoming more responsible operator in terms of ecological pursuits through ecological related news from the suppliers and local hotel associations, including best practices in cooling services and garbage treatment. Economic conditions were also monitored because economic downturn in Denmark was a major problem threatening the value of the hotel at the time of interview.

As for the task environment, customer needs were also important outputs of the environmental scanning that needed to be monitored more than once a year. The management team regularly checked feedback from corporate clients. As its location was in the largest port of call for the cruise industry in Northern Europe, the hotel served a large number of leisure travelers (i.e. cruise passengers) as well. However, the feedback from this customer group was normally difficult to obtain directly from the travelers, instead, tour operators passed the feedback information of its clients to the hotel. Besides the hotel's traditional customers (i.e. business travelers and cruise passengers), the hotel also received more and more business from people who came to attend conferences and exhibitions as the city has became a conference destination.

Another aspect of the task environment that the hotel's managers were interested in included changes in strategies and tactics of its competitors, especially nontraditional ones. Like the airline industry, the lodging industry in Denmark was faced with entrances of budget hotel operators. Although these hotels were not be designed to fit well with business travelers' needs or get attention from the cruise tour operators, their business from free independent travelers had grown. These travelers were normally more cost-conscious than business and cruise travelers, and therefore switched to the low cost competitors.

Aside from the economic downturn, a growth of budget hotel sector, and the city's attempt to become a conference destination, the hotel managers did not pay close attention to any other dimensions of the remote and task environment. Safety and security was not determined as a major force driving change at this hotel.

German Hotel

The management team at the German Hotel indicated major forces driving change as economic downturn, oversupply of rooms, and limited direct transcontinental flights serving the city. Like that of the Danish Hotel, it formally scanned the remote environment once a year before a business plan was prepared. Some aspects of the remote environment received attention more than once a year but this needed to be considered on an ad hoc basis.

However, the hotel managers spent more time, on a regular basis reviewing the task environment. To monitor competitors' performance, they received a key

performance index report from a lodging intelligence service company on a daily basis. This report contained daily information on occupancy, average daily room rate (ADR), and revenue per available room (RevPAR) for a group of eight hotels in the area where the hotel was located. The group was called "competitive set" in this report and the members were known among the hotels which were members of the set. However, the report did not reveal which information belongs to which hotel. Instead, the hotels within the set were disguised as "MyCompetitiveSet (1)" to "MyCompetitiveSet (8)" in the report along with their daily information.

The management team formally monitored customers' needs monthly via a check-out questionnaire. However, this practice brought in only feedback from customers who wanted their needs to be known and accommodated. Relying solely on this form of customer research, the managers might miss useful information gathered from other types of data collection beside a self-report questionnaire. However, a check-out questionnaire was still a source of customer data that the managers monitored on a regular basis.

The other group in the task environment which the managers monitored was the regulator. The hotel was updated about changes in regulations through two channels. The general manager or his representative attended a monthly meeting of the chamber of commerce to receive updates with new requirements for hotel operators. In addition, the general managers of multinational hotels located in the city met on monthly basis at a meeting where new government regulations were shared among the members and the possible solutions were discussed.

As for forces driving change in its business environment, the German Hotel had been affected by the economic downturn just like the Danish Hotel. The economic downturn seemed to be a regional force rather than one affecting a single country in particular.

Additionally an oversupply of rooms in the city, another force driving change, affected the revenue stream of the hotel even more. Regardless of the fact that it was recently reopened after years of reconstruction, it had a satisfactory occupancy rate at the time of the interview. However, the average daily room rate (ADR) was significantly lower than expected due to the tight competition induced by room oversupply. In addition, hotel guests were mainly domestic travelers and did not pay as high a rate as foreign travelers for the hotel room. However, the hotel's ability to generate revenue was not totally threatened by a low ADR because its occupancy rate was still acceptable. This was due to its being a brand new and modernized facility as well as its prime location.

There were limited transcontinental flights serving the city where the German Hotel was located, regardless of its role as political and commercial center at the national and regional levels. However, there was an attempt by the hospitality operators in the city to bring more direct flights to the city with the expectation that more travelers would come to the city if it was better connected with the world cities on other continents. In fact, the city's transportation infrastructure was well developed and it was served by three modern airports and they were all linked by an excellent rail system. With one of its airports was under expansion, the city had the potential to be a gateway to Russia and Eastern Europe due to its geographical location. Direct flights from other world cities would create a satisfactory growth rate in the number of inbound visitors resulting in a narrowing gap between demand and supply of hotel rooms in the city.

In sum, the economic downturn, an oversupply of hotel rooms, and lack of connection to the world's major cities were cited by the management team at the German Hotel as major forces driving change. Like the Danish Hotel, the German Hotel ignored the importance of safety and security as a force that drove change in its business environment.

Belgian Hotel

The Belgian Hotel's management team scanned the environment on a yearly basis prior to the time it prepared a business plan. It identified an oversupply of rooms in the city, the economic downturn, and a spread of new diseases as major forces driving change in its business environment. Again, safety and security except for the spread of new diseases was regarded little by the management of the Belgian Hotel.

The hotel was located in a prime commercial area in one of the biggest cities in Belgium. The country served as a headquarters for the European Community and received a large amount of political delegations as well as business and leisure visitors each year. However, the number of these visitors did not prohibit the problem of oversupply of hotel rooms in the city.

The economic downturn was also a major cause affecting the value of the hotel. The appreciation of the euro was one of the primary roots of the downturn, resulting in higher costs of traveling because travelers lost value in a currency exchange with their home currency.

Lastly, new fatal diseases like SARS were perceived by the hotel managers as a cause of potential guests postponing international travel, reducing a demand for hotel rooms. Even though the managers at the Belgian Hotel believed that the impact of SARS on the hotel's ability to generate revenue was somewhat limited, they still regarded a spreading of new diseases as major force driving change. Managers felt it was not certain whether other emerging diseases, especially ones that could cause an epidemic in the region, would affect the hotel's revenue stream in the future.

British Hotel

The management of the British Hotel scanned the remote environment on a monthly basis. As for the task environment, the competitors were the group it monitored most frequently. Like the German Hotel, the hotel subscribed to the intelligence service of a company that provides the hotel with operational statistics of other hotels in its competitive set. There were only six hotels in its competitive set rather than the eight hotels in the case of the German Hotel. The information from the service came in on a daily basis and the managers gathered additional information about the competitors that was not provided by the service. For instance, they observed what conferences were hosted at competitor hotels, realizing the hotel's position as a pure business hotel that devoted itself to the conference business.

Electronic distribution systems, the escalating power of travelers, and the growing power of the owners of the property were the top forces driving change that affected the hotel's power to create the value for the stockholders of the case study firm. Again, the

British Hotel's management overlooked the importance of the safety and security force, just like that of other hotels participating in the interviews.

With the electronic distribution systems, the managers felt they lost power to control capacity of the hotel and the room rates. Although the firm had an efficient web-based reservation system, many travelers do not make a reservation through the firm. The firm had less control over its room rates when the travelers made a reservation through online travel agencies.

Through greater numbers of choices of hotels to stay in the city and wider varieties of ways to reserve the room, customers have greater bargaining power over the hotel rate. The room rates were not dropping at the time of the interview but the hotel felt a threat on the rates in the near future.

Besides customers, the hotel had experienced declining bargaining power against the owners of this property (i.e. the group of people who owned this hotel property and had granted a management contract to the case study firm). This had been an ongoing problem for the management of the British Hotel for the last five to six years. However, this growing bargaining power of the property owners was a common problem for all large multinational hotel management companies in the city. The management companies were not able to choose the property to manage anymore, instead property owners awarded the management contract to the firm that offered them the highest bid.

Polish Hotel

Like other hotels discussed earlier, the management at the Polish Hotel scanned the environment on a yearly basis. However, it reviewed changes in customers on a monthly basis and competitors on a weekly basis. Additionally, the management team exchanged information on a reciprocal basis with competitors as well. Though the managers did not intend to keep updated with latest regulatory changes, however, it was inevitably informed of one when the local authorities visited the hotel for weekly inspection. As aggregate results of its environmental scanning activity, the oversupply of hotel rooms and plummeting revenues per unit were identified by the managers as major forces driving change.

The RevPAR dropped from a 2002 average of 120 euros to 45 euros in July of 2004. It was approximately 1/3 drop in the RevPAR since the start of its operation in 2002. Although the oversupply of rooms in the city, which was another force driving change, could account for the case of tumbling revenues, the economic downturn had played a major part in this phenomenon.

There are twelve international brands located within a three-kilometer radius from the hotel, adding more than enough rooms for the city. However, this abundance of lodging allowed this major city of Poland to host large conferences and exhibitions as well as big sporting or cultural events. Managers believed that the oversupply problem and the plummeting RevPAR would finally be improved when big events hosted by the city throughout the year were sufficiently increased.

In sum, the managers at the Polish Hotel only cited the plunging RevPAR and the room oversupply as two forces driving change in their business. The safety and security force was not identified as a major force driving change in its business.

The Identification of Dimensions of Hotel Safety and Security from the Interviews

Based upon the information in the previous section it could be concluded that the management at the five hotels participating in the interviews overlooked the safety and security forces when considering investments for the future. Safety and security was not viewed as a major force driving change and needed no immediate attention from the managers. This was contradictory to the International Hotel and Restaurant Association's publication "*Into the new millennium, a white paper on the global hospitality industry"* in which representatives from the private sector, government agencies, and educational institutions saw technology, capacity, new management, assets and capital, and safety and security as major forces (Olsen and Cassee, 1995). However, the managers participating in the interviews were asked to define the dimensions of hotel safety and security which were likely to threaten the value of their hotels. As in the previous section the results are reported in sequence for the following hotels: the Danish Hotel, the German Hotel, the Belgian Hotel, the British Hotel, and the Polish Hotel and are summarized and presented in Figure 4-4.

Danish Hotel

The management at the Danish Hotel identified six dimensions of safety and security in its business domain: 1) direct safety and security threats to its guests, 2) direct safety and security threats to its employees, 3) direct safety and security threats to its local community, 4) indirect safety and security threats to its guests, 5) indirect safety and security threats to its employees, and 6) indirect safety and security threats to its local community. Compared to the way the managers at the other four hotels classified their safety and security forces, the approach used by the management at the Danish Hotel was unique.

The classification of safety and security forces at this hotel was based on a matrix with two variables: the directness of the effect on a group in task environment affected. For instance, electric shock in the guestroom was considered as a direct threat to hotel guests while the long-term health effect due to chemicals used to treat water that goes to the guest room was viewed as an indirect threat to the guests. The management did not provide safety and security dimensions based on other classification schemes based on the reason that separating guests from employees and local community helped the hotel focuses its resources on the task environment group with the higher priority before moving on to the next one. In other words, it would solve safety and security problems for the guests before doing so for employees and the local community, respectively.

It was important to note that the Danish Hotel's way of classifying the safety and security events was different from the other four hotels participating in the interviews as previously discussed. Intended by the structure of the interview, however, the hotel managers were given some freedom on the way they viewed the environment. This practice at the Danish Hotel was indeed another creative and perhaps efficient way to address the safety and security events affecting the hotel's value.

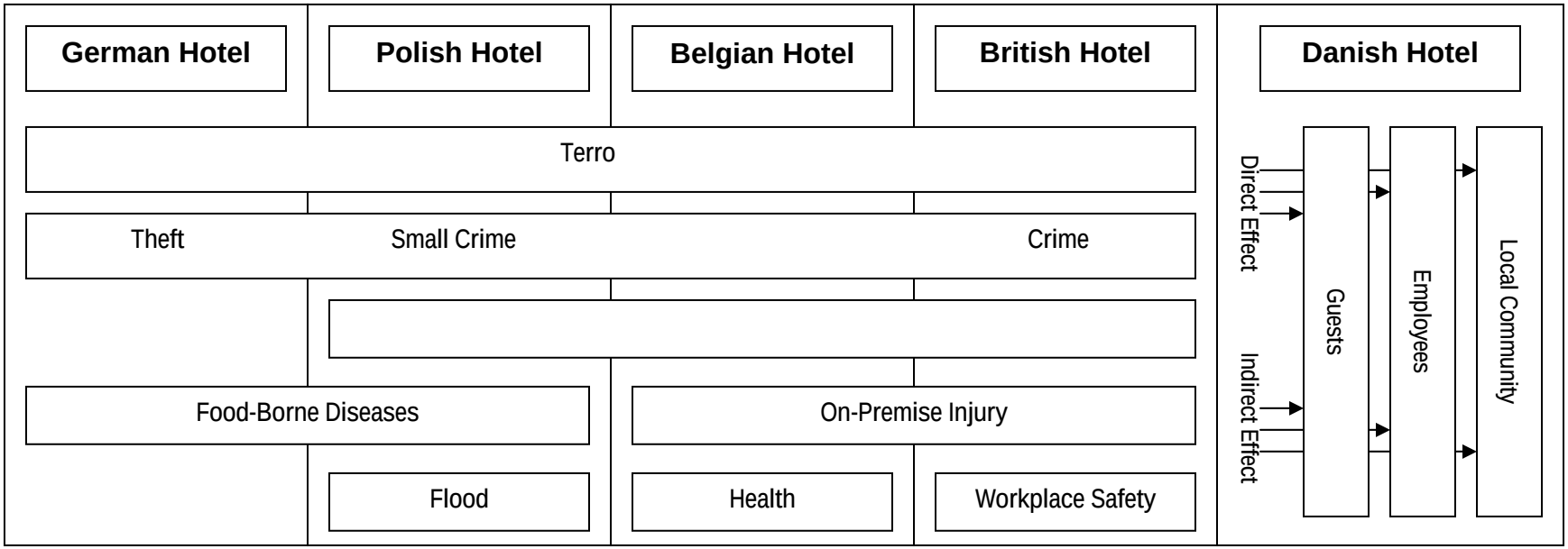

Figure 4-4

Dimensions of Hotel Safety and Security from the Interviews

German Hotel

The German Hotel indicated food-borne disease, theft, and terrorism as dimensions of hotel safety and security. Food-borne diseases were the biggest concern for local authorities in the city where the hotel was located. The authorities inspected the kitchen and cooking facilities on a monthly basis. Hotel management needed to be alert for any new disease that might come with meats and fresh produce (e.g. the foot and mouth disease). Besides contamination threats in the supplier's production and delivery process, the managers also looked for a better way to improve upon the food production process in its kitchen and storage facilities. The idea was to make sure that the hotel provided safe and hygienic meals to the hotel guests which were end users in this food supply chain.

Although the hotel neighborhood was relatively safe compared to other areas in the city or those of other major German cities, the transient nature of the hotel guests and limited control over contractual workers was a concern of the managers regarding the theft and minor damage to the guests' property. Additionally, use of contract personnel in the hotel was somewhat more difficult to monitor by the hotel managers and there were theft cases likely to be linked with them. Also, the hotel operated an underground garage where there were cases of hit and run by suppliers which caused damage to guests' vehicles.

Lastly, terrorism was viewed as a dimension of safety and security by managers at the German Hotel. Although the German government strongly opposes the war in Iraq, because the city was important politically and economically, the management believed there was possibility of terrorism in the hotel locale. The perceived terrorists frequently targeted politically and/or commercially important cities. The hotel was in one of the prime business centers and not far from one of the biggest transportation hubs in the city. Furthermore, the hotel was located next to a key governmental building and on the major street in which most governmental offices residing in this city are located. For this reason, it was reasonable for the management to think about the possibility of the terrorist events in the hotel locale.

Belgian Hotel

Crime, robbery, terrorism, health, on-premise injury, and hotel fires were identified as the dimensions of hotel safety and security by the management of the Belgian Hotel. These dimensions were relevant to management's decisions to invest in safety and security. Crime and robbery were close dimensions though they were slightly different in their effect on the hotel guests. The hotel management treated a robbery as a threat to a guest's personal property while it regarded a crime as a threat to the property and well-being of the guests.

Terrorism was not traditionally likely to take place in this or other Belgian cities but anywhere in this country was inevitably considered a possible target since the country recently began to serve as a headquarters for the European Union. The hotel's management believed that it was a wise practice to consider terrorism as a threat even though the likelihood was very low.

Health was also a major dimension of safety and security. Besides coping with new communicable diseases, the management tried to minimize the chance that its guests were exposed to these health threats. On-premise injury was also a concern. This did not only include traditional events like the guests falling in the shower, but also contained the event happened when the guests bumped their head on the desk when trying to plug in the computer power cables.

Among all six dimensions of safety and security, the hotel management was most concerned about fire because it was believed that the fire would affect the value of the hotel the most. Thus the managers tried to keep fire prevention systems as updated as frequently possible.

British Hotel

As for dimensions of safety and security, the management of the British Hotel was concerned about on-premise injury, workplace safety, crime, terrorism and hotel fires. Although the hotel had limited recreational and dining facilities, the managers believed that guests might be injured in the guest rooms.

In the case of employees, an injury might happen in the back of the house. The design of the facilities and work system could be changed as needed to ensure the safety in the workplace.

Although it was located in a good neighborhood in the city, just a few blocks of the city's famous shopping street, small crime like pickpocketing or robbery were frequently reported in the hotel locale and could present a problem for quests. Management believed that the city was not relatively safe compared to other major big cities in Western Europe.

Hotel fires concerned the management since it believed that a small fire in a guest room might quickly lead to a large fire claiming lives and property of the guests and employees. Many guest rooms and spots in the back of the house were not monitored by the security cameras, for this reason, it might be too late to extinguish a fire by the hotel's personnel if a small fire in an unattended guest room engulfed the entire floor.

The last dimension of safety and security affecting this hotel was terrorism. The United Kingdom had a long history of internal terrorism and this British city had experienced terrorism events in the past. Although internal terrorism did not recently take place, it was not impossible. Additionally, there was the possibility of an act of destruction by foreign groups since the British Government actively supported and participated in the war on terror lead by the United States.

Polish Hotel

The management of the Polish Hotel identified terrorism, small crime, food-borne disease, fire, and floods as dimensions of safety and security. Terrorism was their greatest concern as Poland sent troops to Iraq in the war lead by the United States. In addition, the hotel frequently had international delegations as guests. Although it had never had heads of states on premises, the VIP guests at a rank of minister visited the property on a regular basis. For example the Norwegian Minister of Defense met his

Polish counterpart at the hotel on the morning of the interview day. This type of meetings made this hotel a possible target for terrorist acts.

Small crime (e.g. cell phone pick pocketing) were common at this property, so did small vehicle hit and runs in the garage. Although the city where the hotel was located was one of the biggest and most economically developed cities in Poland, there was still a large gap between haves and have-nots. Thus small crimes were likely to continue in the hotel locale and the managers still needed to tackle the problem.

Management also paid close attention to the potential food-borne diseases. It was impossible for the managers to control the entire food supply chain, however, they could reject incoming produce and meat that might put the health of the hotel guest in danger. Good practices in food receiving, handling, and processing could help ease the concern, so could the new practices in the design of the food processing facilities.

Like other hotels discussed earlier, fire was also a major concern at this property because it would be the most devastating safety issue if it did happen. The managers tried to keep the fire preventing facilities as updated as possible and the owner of the hotel property actively participated in this endeavor.

The Polish Hotel was not subjected to natural disasters with the exception of floods. Situated by a river, the city had a history of floods and recently encountered a major one. Though floods would not likely threaten the lives of the hotel guests and employees due to advanced weather forecasting, it could destroy the hotel property, especially the lobby and restaurant in the ground floor.

Conclusion of the Preliminary Findings on Dimensions of Safety and Security

Figure 4-4 summarizes the dimensions of safety and security that are most likely to affect the five hotels participating in the interviews. With the exception of the Danish Hotel which had a unique way to classify the safety and security events through the use of a matrix, the other four hotels cited terrorism, crime, fires, food-borne diseases, health, on-premise injury, workplace safety, and floods as the key dimensions of hotel safety and security. These findings were highly agreeable with the five dimensions of safety and security suggested by Olsen and Pizam (1998, 1999) (see Figure 2-4 and Table 4-7 for details).

Final Dimensions of Hotel Safety and Security from the Delphi Surveys

As discussed earlier (Table 4-7), the dimensions of safety and security identified by the management teams at five hotels participating in the interviews agreed in general with the literature (Olsen & Pizam., 1998, 1999). For this reason, the researcher again used the dimensions offered by Olsen and Pizam (1998, 1999) as a frame of reference in developing a list of safety and security events included in the two Delphi surveys.

The reason for asking the survey participants to assess the importance and likelihood of detailed safety and security events instead of the overall five dimensions was that the detailed events were less abstract and would be easier for the hotel managers to picture. A single dimension of safety and security might comprise many events. Some of these events were relevant to the investment needs at particular hotels but not to others. For this reason, the researcher relied on literature in developing a list of safety and

Table 4-7
A Comparison of the Dimensions of Hotel Safety and Security from the Interviews and the Literature

Dimensions from the literature (Olsen and Pizam, 1998, 1999)	Dimensions from the interviews
Crime	Crime
Terrorism	Terrorism
Health	On-premise injury
	Health
	Food-borne diseases
	Workplace safety
Natural disasters	Floods
Man-made hazards	Hotel fire

security events possibly affecting the multinational hotel firm. Table 2-1 presents a summary of all possible events. Since the table was discussed before in Chapter Two, there is no need to explain it again here.

A detailed discussion on how the two Delphi surveys were developed can also be found in Chapter Three. However, it is suitable to provide, in this Chapter, an overview of the two Delphi surveys regarding the participation of the hotel managers in the surveys, the safety and security events used in the surveys, and the procedure in refining the group opinions.

As for the participation of the panel members in the Delphi surveys, fifty-two hotels participated in the first survey. The second Delphi survey was sent to fifty-one hotels which had completely participated in the first survey and were still a part of the case study firm. One hotel participating in the first survey was no longer part of the firm by the time the second Delphi survey was administered so its management team was excluded from the Delphi panel. Thirty-six hotels returned the second Delphi survey with two surveys containing incomplete responses. The demographics of the hotels whose management teams served as the Delphi panel member were discussed earlier in the chapter.

There were fifty-eight safety and security events included in the first Delphi survey. The participants were the management teams of hotels under the case study brand. They were asked to separately assess each event from two perspectives; importance of the event and likelihood of the event. The event was highly important if it was perceived to highly affect the value of the firm; and it was considered imminent if the likelihood of its occurrence was high.

The mean score of each of the safety and security events represented a group opinion for that particular event. Ideally, the standard deviation which was a measure of variation in opinions of individual participants should be low to conclude the group had

reached a consensus regarding a specific safety and security event. The results of the first Delphi survey indicated there were still events whose individual assessment scores given by the participants were different more than one standard deviation from the mean. In other words, group opinion should continue to be further refined in the second Delphi survey.

The results of the first survey were shared in the second survey in the form of means and standard deviations of scores assessed by the participants on each of the safety and security events. The second survey asked them to reassess their original scores on particular events to refine group opinion and thereby lower the standard deviation of the assessment scores. To make the participants' task easier, however, the survey asked each of the participants to reassess the importance and likelihood of the events whose original scores were different from the group means by more than one standard deviation. However, they were given an opportunity to confirm their original scores if the scores were deemed accurate. Since most participants in the first Delphi survey gave opinions that were not much different from the group opinion (i.e. the means) on most of the fifty-eight events, they were asked to reassess, in the second Delphi survey, only safety and security events which were given scores significantly different from the group's mean scores. The dimensions of hotel safety and security identified through the Delphi surveys are presented in the next section.

Confirmed Dimensions of Hotel Safety and Security

Summary tables containing means and standard deviations of final scores (i.e. scores revised by the hotel managers) assessed the events in terms of their importance and likelihood are presented. Additionally, the events were ranked in the order of their mean scores and summarized in the tables; one from the perspective of importance and another for the perspective of timing. Extracted from the data, the dimensions underlying safety and security events were provided at the end of this section.

Safety and Security Events as Variables in the Delphi Surveys

The hotel managers participating in the semi-structured interviews identified terrorism, crime, fires, food-borne diseases, health, on-premise injury, workplace safety, and floods as the dimensions of safety and security relevant to their operations (Figure 4-4 and Table 4-7). Although some of the dimensions suggested from the interviews were narrower (i.e. more specific) than ones suggested by Olsen and Pizam (1998, 1999), their five dimensions including terrorism, crime, health, man-made hazards, and natural disasters seemed to hold true for the interview results. The hotel managers specifically cited fires, on-premise injury, and workplace safety instead of man-made hazards. Natural disasters, on the other hand, seemed to be overlooked by the managers, though the managers of the Polish Hotel had to worry about flooding.

Since the dimensions suggested by hotel managers participating in the interviews were highly conformant with those suggested by the literature, safety and security events listed in Table 2-1 were used to develop fifty-eight hotel safety and security events for the Delphi surveys. Table 4-8 illustrates these fifty-eight variables which were possible

Table 4-8
Safety and Security Events Used in the Delphi Surveys

Safety and Security Events
1) On-premise injury (in guest rooms, bathrooms, restaurants, lobby, stairs, elevators, escalators, glass furnished areas, etc.)
2) Injury in recreational facilities (e.g. gym, sauna, stream room, solarium, tennis court, swimming pool, Jacuzzi, jogging trails, children play areas, etc.)
3) Injury caused by employee (e.g. waitress spilling a hot soup on guest)
4) Food borne diseases (i.e. viral infection from consuming foods)
5) Food poisoning (i.e. illness caused by bacteria in foods)
6) Severe Acute Respiratory Syndrome (SARS)
7) Human influenza
8) Avian influenza (bird flu)
9) Storms
10) Blizzards (snow storms)
11) Earthquakes
12) Torrential rains/floods
13) Volcanic eruptions
14) Landslides
15) Avalanche
16) Arson (i.e. hotel fire caused intentionally)
17) Fire caused by machine failure (e.g. an electric short circuit)
18) Fire caused by natural disaster (e.g. a lightning)
19) Blackout caused by machine failure
20) Blackout caused by natural disaster
21) Money laundering (i.e. a guest spending illegal money on hotel services)
22) Credit card fraud (i.e. guest's illegal use of credit card on premises)
23) Information security breach that affects the guests (either on their business deal or their personal matters)
24) Vehicle theft/break-in
25) Carjacking
26) Destructive action of walk-in thefts
27) Robbery of the hotel
28) Robbery of the guest
29) Burglary of the hotel
30) Burglary of the guest
31) Perpetuating a scam on a guest (e.g. "good samaritans" scam)
32) Employee theft
33) Collusive theft (i.e. theft committed in an association with hotel employees)
34) Kidnapping a guest for ransom
35) Destructive behavior of youth gangs/street children
36) Destructive behavior of sport hooligans (e.g. football hooligans)
37) A case of violation of human right under your country's human right law, also known as "hate crime, in the hotel locale
38) Violence committed by an intoxicated guest
39) Prostitution (either on premises or in the neighborhood)
40) Drug dealing (either on premises or in the neighborhood)
41) Shooting (either on premises or in the neighborhood)
42) Violence committed by employee against a guest
43) Violence in the workplace (i.e. violence among employees)

Table 4-8
Safety and Security Events Used in the Delphi Surveys
(Continued)

Safety and Security Events
44) Violence committed against a guest by a person who does NOT know the guest
45) Sexual assault/violence (e.g. rape) committed against a guest by a person who does NOT know the guest
46) Murder of a guest committed by a person who does NOT know the guest
47) Violence committed against a guest by a person who knows the guest
48) Sexual assault/violence (e.g. rape) committed against a guest by a person who knows the guest
49) Murder of a guest committed by a person who knows a guest
50) Political riot in the hotel locale
51) Political demonstration in the hotel locale
52) Taking a guest as hostage
53) Assassination of a guest
54) Bombing in the hotel locale
55) Terrorist-induced contamination of food supply
56) Terrorist-induced contamination of water supply
57) Terrorist-induced contamination of the hotel ventilation system
58) Terrorist-induced radiation contamination of the hotel ventilation system

events grouped under the general categories of terrorism, crime, health, man-made hazards, and natural disasters.

Based on a suggestion from a member of the researcher's Ph.D. advisory committee, the researcher presented these variables in an order from least offensive to most offensive to the participants. In other words, events that are likely to be originated by the hotel guests themselves and affect individuals or small groups of guests (e.g. on-premise injury) were listed first. Events which are normally caused by a third party and tend to destroy lives or property of others on a massive scale (e.g. bombing in the hotel locale) were listed last. It was believed that most hotel managers were more discouraged from participation in the survey if they saw extreme events at the beginning of the survey. Natural disaster events were also presented at the beginning of the list as they were deemed as the acts of God and should not be considered offensive to the participants of the surveys.

Hotel Managers' Assessment of Safety and Security Events

The hotel managers participating in the first survey were asked to assess these fifty-eight events from two points of view. First, they were asked to indicate their perceived importance of (i.e. level of their concern on) each of these fifty-eight events on the Likert scale 1 to 7, where 1 means lowest level of concern and 7 means highest level of concern. Once they assessed the events from the first perspective, the hotel managers then evaluated each of the fifty-eight events again from another perspective. This time, they estimated the likelihood of each event occurrence on a scale of 0 to 10. The first Delphi survey is shown in the Appendix E.

Group opinion on the importance and likelihood of hotel safety and security events was not reached at the conclusion of the first survey because there were still events with scores different of more than one standard deviation from the mean. This was typical for the Delphi survey, requiring an additional iteration. The second Delphi survey was utilized to refine the group opinion. The hotel managers participating in the first survey were given an opportunity to revise their scores that fell outside one standard deviation from the group mean. The reassessment was done in a manner that helped the firm reach a consensus about the assessment of safety and security events. In other words, they were closer to the group mean than the original ones.

The more refined group opinion on a particular event was measured based on the lower standard deviation of the scores given by the panelists to that event. The researcher asked the panelists for their cooperation in building a consensus on the dimensions of hotel safety and security. Some panelists were given numerous safety and security events that needed to be reassessed while others were asked to reassess a few events, depending on their assessment of the events in the first survey. The managers at some hotels were not even asked to do so since their assessments were not significantly different from the group mean. However, many hotel managers did not reassess their original scores on many events in the second survey and argued that the original assessment was accurate and provided specific reasons in the space provided in the second survey. The main argument was that each hotel operated in a different business environment, thus agreement on each and every safety and security event was too idealistic and forced consensus in that case should be avoided. This required an ANOVA to test whether their claim on the hotel demographic effect was valid. The results of the ANOVA are presented later in this Chapter.

Due to the resistance of the managers to build a consensus on the safety and security events, the standard deviations of the event scores were not significantly lower at the conclusion of the second survey. The group opinion was slightly refined but the consensus was hot reached. The researcher would invite the panelists to participate in additional round, however, there was no significant attempt made by the panelists to build a group consensus. For this reason, it might not worth the time and effort of a small number of hotel managers who were willing to build a consensus on the issue. Their attempt to adjust their own opinion to the group opinion in the next round of Delphi survey, if ever administered, would not significantly improve (i.e. lower) the standard deviations in the Delphi study given that the majority of the group was not willing to do. In addition, limited by time and monetary resources, the data collection was stopped after the second survey.

If the standard deviations were strictly used as an indicator of a consensus of the Delphi study, it could be concluded that a consensus was not reached in this study on most safety and security events from either the importance or the likelihood perspective. However, the group opinion had been slightly refined. Chocholik, Bouchard, Tan, and Ostrow (1999) suggested that a standard deviation of one unit could be adopted as the ideal consensus or agreement measure in the Delphi study when the possible scores for each item were from 0 to 10.

In this study, the importance of the safety and security event was rated by the hotel managers on the scale 0 to 7 while the likelihood of the event was rated on the scale 0 to 10. If the standard deviation of one unit was used as the ideal consensus measure in

this study, there was no consensus reached on safety and security events from both importance and likelihood perspectives, except for a few events. From the importance perspective (Table 4-9), the consensus was reached only on the volcanic eruption event (SD = 0.49), the landslide event (SD = 1.00), and the avalanche event (SD = 0.27). These were the events that concerned the panelists the very least. From the likelihood perspective (Table 4-10), the consensus was reached on the same three events. Their likelihood was extremely low also.

Although the strong consensus was not reached from the study, the group opinion on the importance and likelihood of the safety and security events were somewhat refined through the Delphi process. Turoff (1970), a well-known Delphi researcher, suggested that a consensus might not be reached when the decision-makers (i.e. the panel members) were not interested in having a group generate their decision; but rather, have an informed group present all the options and supporting evidence for their consideration. This situation could happen in any kind of Delphi studies but it was common in the Policy Delphi.

Graham, Regehr, & Wright (2003) argued that a consensus might not be reached on a controversial issue but there seems to be clear value in pooling the experiences of experts in a field to establish a consensus on the topic. At least the Delphi could serve as a starting point toward collecting actual evidence on the issue. Whether or not safety and security was a controversial issue in the multinational hotel industry context could not be absolutely concluded in this study. However, it was quite obvious that different panelists expressed different opinions on most safety and security events regardless of their relative low concern for the events.

The results of the two rounds of the Delphi surveys on the importance of safety and security events as well as their likelihood are shown in Table 4-9 and Table 4-10, respectively. The importance and likelihood are shown in terms of means and standard deviations. It can be concluded from these summary tables that standard deviations were not significantly lower from the first to the second round of the surveys. Again, most panelists insisted they retain their initial scores given in the first round. Many of them suggested that reassessment of the importance and the likelihood of the events was not necessary since their initial assessment was accurate: because their initial judgment was based on the information suggested by the environmental factors in their business context. The panelists had supreme confidence in their earlier answers.

An analysis of Delphi responses is presented below by categories. The categories were based upon the typology offered by Olsen and Pizam (1998, 1999), including man-made hazards (i.e. on-premise injury and hotel fire), health (i.e. food-borne illnesses and air-borne diseases), natural disasters, crime (i.e. traditional crime and electronic crime), as well as terrorism and political upheaval. The original category of terrorism was expanded to cover political upheaval in this study as the target was the mass of people instead of single individuals or small parties of individuals. The term “categories” will be replaced with a term “dimensions” later in this chapter when the groups of similar safety and security events are proven to be important to the case study firm.

Table 4-9
Importance of Safety and Security Events

Safety and Security Events	Round 1		Round 2	
	Mean	SD	Mean	SD
1) On-premise injury	4.63	2.45	4.78	2.31
2) Injury in recreational facilities	4.52	2.36	4.52	2.17
3) Injury caused by employee	3.98	2.38	4.00	2.18
4) Food borne diseases	4.47	2.54	4.62	2.32
5) Food poisoning	4.62	2.57	4.78	2.34
6) Severe Acute Respiratory Syndrome (SARS)	2.40	2.66	2.26	2.59
7) Human influenza	2.46	1.98	2.29	1.65
8) Avian influenza (bird flu)	2.02	2.44	1.86	2.32
9) Storms	2.08	1.94	2.00	1.71
10) Blizzards (snow storms)	1.72	1.70	1.74	1.62
11) Earthquakes	0.95	1.88	0.81	1.78
12) Torrential rains/floods	1.63	1.90	1.56	1.87
13) Volcanic eruptions	0.31	0.88	0.19	0.49
14) Landslides	0.38	1.21	0.28	1.00
15) Avalanche	0.19	0.80	0.08	0.27
16) Arson	3.98	2.63	3.84	2.38
17) Fire caused by machine failure	4.45	2.51	4.54	2.28
18) Fire caused by natural disaster	3.19	2.50	3.10	2.33
19) Blackout caused by machine failure	3.86	2.34	3.94	2.17
20) Blackout caused by natural disaster	3.14	2.15	3.14	2.07
21) Money laundering	2.98	2.08	3.00	1.96
22) Credit card fraud	4.33	2.33	4.20	2.14
23) Information security breach that affects the guests	4.46	2.30	4.37	2.13
24) Vehicle theft/break-in	3.75	1.99	3.60	1.76
25) Carjacking	2.90	2.44	2.78	2.18
26) Destructive action of walk-in thieves	4.35	2.27	4.35	2.04

Table 4-9
Importance of Safety and Security Events

(Continued)

Safety and Security Events	Round 1		Round 2	
	Mean	SD	Mean	SD
27) Robbery of the hotel	4.46	2.28	4.47	2.13
28) Robbery of the guest	4.44	2.26	4.49	2.07
29) Burglary of the hotel	4.62	2.24	4.57	2.05
30) Burglary of the guest	4.67	2.18	4.67	1.96
31) Perpetuating a scam on a guest	2.71	2.21	2.65	2.03
32) Employee theft	4.48	2.26	4.61	2.02
33) Collusive theft	3.90	2.40	3.86	2.25
34) Kidnapping a guest for ransom	2.46	2.76	2.27	2.65
35) Destructive behavior of youth gangs/street children	2.79	2.59	2.76	2.41
36) Destructive behavior of sport hooligans	2.78	2.45	2.86	2.29
37) A case of violation of human right under your country's human right law (hate crime)	2.88	2.56	2.82	2.44
38) Violence committed by an intoxicated guest	3.73	2.32	3.75	2.02
39) Prostitution	3.20	2.17	3.24	2.01
40) Drug dealing	3.47	2.35	3.56	2.10
41) Shooting	2.90	2.67	2.74	2.45
42) Violence committed by employee against a guest	2.77	2.78	2.51	2.60
43) Violence in the workplace	2.88	2.65	2.69	2.43
44) Violence committed against a guest by a person who does not know the guest	3.27	2.68	3.14	2.44
45) Sexual assault/violence committed against a guest by a person who does not know the guest	3.22	2.82	2.94	2.54
46) Murder of a guest committed by a person who does NOT know the guest	2.88	2.86	2.61	2.59
47) Violence committed against a guest by a person who knows the guest	3.24	2.65	2.98	2.39
48) Sexual assault/violence committed against a guest by a person who knows the guest	3.32	2.69	3.14	2.46
49) Murder of a guest committed by a person who knows a guest	2.80	2.74	2.63	2.56
50) Political riot in the hotel locale	2.57	2.64	2.33	2.46
51) Political demonstration in the hotel locale	2.57	2.57	2.36	2.42

Table 4-9
Importance of Safety and Security Events

(Continued)

Safety and Security Events	Round 1		Round 2	
	Mean	SD	Mean	SD
52) Taking a guest as hostage	2.54	2.88	2.31	2.69
53) Assassination of a guest	2.55	2.86	2.28	2.68
54) Bombing in the hotel locale	3.44	2.80	3.29	2.65
55) Terrorist-induced contamination of food supply	2.94	2.88	2.82	2.58
56) Terrorist-induced contamination of water supply	2.76	2.90	2.54	2.70
57) Terrorist-induced contamination of the hotel ventilation system	2.84	2.98	2.63	2.80
58) Terrorist-induced radiation contamination of the hotel ventilation system	2.88	2.95	2.65	2.76

NOTE: The means and SD was calculated from scores ranging from 0 to 7. SD indicates standard deviation.

Table 4-10
Likelihood of Safety and Security Events

Safety and Security Events	Round 1		Round 2	
	Mean	SD	Mean	SD
1) On-premise injury	4.60	2.95	4.41	2.59
2) Injury in recreational facilities	3.96	2.88	3.98	2.67
3) Injury caused by employee	3.96	2.86	3.74	2.66
4) Food borne diseases	2.79	2.39	2.65	2.18
5) Food poisoning	2.96	2.57	2.82	2.39
6) Severe Acute Respiratory Syndrome (SARS)	1.54	2.48	1.37	2.20
7) Human influenza	3.71	2.56	3.90	2.32
8) Avian influenza (bird flu)	1.46	2.32	1.29	2.00
9) Storms	2.25	2.14	2.14	1.83
10) Blizzards (snow storms)	1.52	1.94	1.45	1.84
11) Earthquakes	0.52	1.46	0.53	1.47
12) Torrential rains/floods	0.92	1.63	0.94	1.64
13) Volcanic eruptions	0.02	0.14	0.02	0.14
14) Landslides	0.12	0.43	0.10	0.41
15) Avalanche	0.06	0.31	0.06	0.31
16) Arson	2.63	2.45	2.59	2.18
17) Fire caused by machine failure	3.71	2.75	3.59	2.62
18) Fire caused by natural disaster	2.19	2.27	1.98	1.89
19) Blackout caused by machine failure	3.17	2.25	2.96	1.97
20) Blackout caused by natural disaster	2.56	2.43	2.37	2.05
21) Money laundering	2.96	2.15	2.86	1.89
22) Credit card fraud	3.85	2.50	3.71	2.24
23) Information security breach that affects the guests	3.17	2.35	3.02	2.08
24) Vehicle theft/break-in	3.73	2.58	3.41	2.17
25) Carjacking	1.71	1.98	1.59	1.79
26) Destructive action of walk-in thieves	3.57	2.73	3.36	2.48

Table 4-10
Likelihood of Safety and Security Events

(Continued)

Safety and Security Events	Round 1		Round 2	
	Mean	SD	Mean	SD
27) Robbery of the hotel	3.06	2.32	2.84	1.96
28) Robbery of the guest	3.38	2.64	3.18	2.37
29) Burglary of the hotel	3.29	2.52	3.08	2.22
30) Burglary of the guest	3.57	2.64	3.36	2.38
31) Perpetuating a scam on a guest	2.19	2.21	1.94	1.86
32) Employee theft	3.96	2.56	3.76	2.18
33) Collusive theft	2.96	2.57	2.76	2.14
34) Kidnapping a guest for ransom	1.48	2.35	1.14	1.78
35) Destructive behavior of youth gangs/street children	2.08	2.27	1.88	1.96
36) Destructive behavior of sport hooligans	2.08	2.12	1.84	1.68
37) A case of violation of human right under your country's human right law (hate crime)	1.73	1.97	1.43	1.43
38) Violence committed by an intoxicated guest	3.46	1.97	3.35	1.64
39) Prostitution	3.25	2.50	3.06	2.25
40) Drug dealing	2.85	2.41	2.67	2.11
41) Shooting	1.67	2.08	1.51	1.74
42) Violence committed by employee against a guest	1.54	2.12	1.37	1.77
43) Violence in the workplace	2.00	2.17	1.84	1.85
44) Violence committed against a guest by a person who does not know the guest	2.21	2.12	2.12	1.79
45) Sexual assault/violence committed against a guest by a person who does not know the guest	1.98	1.92	1.84	1.49
46) Murder of a guest committed by a person who does NOT know the guest	1.54	2.12	1.37	1.77
47) Violence committed against a guest by a person who knows the guest	2.08	1.95	1.88	1.38
48) Sexual assault/violence committed against a guest by a person who knows the guest	2.14	1.94	2.06	1.53
49) Murder of a guest committed by a person who knows a guest	1.60	2.10	1.39	1.71
50) Political riot in the hotel locale	1.15	1.41	1.14	1.39
51) Political demonstration in the hotel locale	1.75	1.90	1.51	1.43

Table 4-10
Likelihood of Safety and Security Events

(Continued)

Safety and Security Events	Round 1		Round 2	
	Mean	SD	Mean	SD
52) Taking a guest as hostage	1.37	2.11	1.12	1.60
53) Assassination of a guest	1.31	2.09	1.04	1.62
54) Bombing in the hotel locale	2.19	2.58	2.04	2.36
55) Terrorist-induced contamination of food supply	1.63	2.47	1.35	1.98
56) Terrorist-induced contamination of water supply	1.63	2.47	1.35	1.98
57) Terrorist-induced contamination of the hotel ventilation system	1.60	2.44	1.31	1.94
58) Terrorist-induced radiation contamination of the hotel ventilation system	1.54	2.45	1.25	1.95

NOTE: The means and SD was calculated from scores ranging from 0 to 10. SD indicates standard deviation.

Man-Made Hazards

There was no change or addition suggested by the Delphi panelists for this category. Eight events, including events 1 to 3 and 16 to 20, were rated by the panelists. The events with an on-premise injury nature (events 1 to 3) received mean rating scores in terms of their importance to the firm between 4.00 and 4.78, on the scale 0 to 7, thus they fell in the moderately important group (Table 4-9). However, their ratings were among the highest in all 58 events.

The standard deviations of 2.36 to 2.45 were quite high for the means of 4.00 to 4.78. The panelists obviously have different opinions on the importance of these safety and security events. The results of a series of analysis of variance (ANOVA) tests are presented later in this chapter. The outcome illustrates whether or not the difference in hotel managers' assessment regarding the importance of these events comes from the differences in the demographic factors.

In terms of their likelihood relative to the impact on the firm, these events were given scores between 3.96 and 4.60 on the scale 0 to 10 (Table 4-10). In other words, there would be 3.96 to 4.60 out of 10 times that the occurrence of the event would affect the firm's value. These assessed chances were among the highest in the group of fifty-eight events.

Like the events relating to the on-premise injury, arson as well as fire and blackout events caused by a machine failure were considered by the panelists some of the most important to the firm's value creation. The mean importance scores were 3.98 for arson (event 16), 4.45 for fire caused by machine failure (event 17) and 3.86 for blackout caused by machine failure (event 19) with the standard deviations of 2.63, 2.51 to 2.34, respectively. Additionally, the fire and blackout events caused by a natural disaster (e.g. a lightning) (events 18 and 20) received slightly lower mean scores in terms of their importance. In addition, the panelists were more concerned with fires and blackouts caused by machine failure which relating to human errors than the ones caused by a natural disaster (e.g. lightning). These four items were also rated high, compared to other events, in terms of their likelihood. Again, the likelihood scores were slightly higher in cases of fire and blackouts caused by a machine failure than ones set by a natural disaster. The likelihood of arson fell between the two groups.

Health

Of the five events under the health category (events 4 to 8), food-borne disease and food poisoning (events 4 and 5) were considered moderately important, with mean scores of 4.47 and 4.62 respectively, to the firm. Severe Acute Respiratory Syndrome (SARS), human influenza, and avian influenza were perceived to be less important by the panelists. However, the likelihood of human influenza was perceived to be the most imminent among the five events.

The assessment of the level of importance and likelihood of these five health-related events varied somewhat from the management team of one hotel to that of another since the standard deviations were still somewhat high when comparing the means. The group's focus was on food-related events, not the airborne events. Particular attention

should be paid on the events with highest likelihood score (i.e. the "most imminent" tribute) among these "score 4" events.

Natural Disasters

None of the seven natural disaster events (events 9 to 15) were of major concern to the panelists and were not considered imminent events. These events included blizzards and floods received the highest scores from the panel members. This is in an agreement with the panelists' view on the likelihood of the events. Earthquakes, volcanic eruptions, landslides, and avalanches were definitely not included in the framework of the investment needs. Panelists believed blizzards and flood could impact the investment decision but the need to include these events in the framework was not urgent.

Crime

Eight of twenty-nine crime-related events received the "importance" scores of higher than 4. These were credit card fraud (4.33), information security breach that affects the guests (4.46), destructive action of walk-in thieves (4.35), robbery of the hotel (4.46), robber of the guest (4.44), burglary of the hotel (4.62), burglary of the guest (4.67), and employee theft (4.48). Overall, the likelihood of these events was perceived to be more likely than the rest of the twenty-one crime-related events.

The survey results demonstrate that the hotel managers were more concerned with crime threatening personal property of the guests and the hotels than those jeopardizing the well-being and life of the guests and employees (e.g. murders and violence committed against the guests and employees). Interestingly, the violence committed by intoxicated guests and prostitution were among the crime-related events most likely to occur at the hotels although they were not among events most concerned the hotel managers.

Terrorism and Political Upheaval

Olsen and Pizam.(1998, 1999) cited terrorism as one of five major dimensions of safety and security in the multinational hotel industry. Guided by the literature, the political upheaval events ware added into this group (Burstein, 1985; Buzby II et al., 1976; Pizam, 1999; 1999; Richter, 1999; Sonmez et al.; Strizzi et al., 2001). Although political riot and demonstration in the hotel locale (events 50 and 51) are not acts of violence targeting at innocent lives, they often lead to losses in personal property and sometimes lives. Additionally, the hotel guests can be injured by rioting or demonstrating groups even though they do not directly participate in the political upheaval events.

None of the nine events (events 50 to 58) relating to terrorism and political upheaval received an importance score of 3 and up with the exception of the bombing in the hotel locale event (event 54) which received a score of 3.44. All of these were also considered as distant events. The chance of happening was deemed very low (between 1.15 to 2.19 out of 10) for these events. Again, the likelihood of the bombing in the hotel locale event was 2.19, the highest in the group.

In conclusion, the terrorism and political upheaval category, together with the natural disaster category, concerned the panelists the least among the five categories of safety and security events. Their likelihood was also somewhat low. All fifty-eight events are ranked in terms of their importance and likelihood in the next section.

Ranking of Assessed Safety and Security Events

The safety and security events were ranked by importance scores received from the panelists in round two (Table 4-11). In order to indicate the likelihood that events will affect the firm, the likelihood scores were also listed aside in the table. As discussed in the previous section, the safety and security events whose importance scores were more than 4 were to be retained in the framework of the investment needs. The "4" score indicated moderately important events. Out of fifty-eight safety and security events, fourteen events were retained. In order to indicate the likelihood that events will affect the firm, the likelihood scores were listed aside in the table.

On-premise injury was ranked highest with a mean score of 4.78 on the importance scale 0 to 7. Its likelihood score was slightly below the moderate point (4.41 on the likelihood scale 0 to 10). Its standard deviations were relatively high compared to its means from both importance and likelihood perspectives. The issue of a lack of consensus due to a controversy of the studied topic and unwillingness of the panelists to build a consensus on the topic was discussed in the prior section and is not repeated here.

Other man-made hazard events that were kept in the framework included injury in recreational facilities (event 2) and injury caused by the employee (event 3) which ranked eighth and fourteenth respectively. Additionally, fire caused by machine failure (event 17) was retained in the framework. Arson (event 16) was not rated high enough (3.84) in terms of its importance to the firm's value, as well as three other related fire and blackout events (events 18, 19, 20).

As for the health events, food poisoning (event 5) and food-borne diseases (event 4) which were regarded as food-related illnesses ranked high (4.78 and 4.62) in terms of their importance to the firm. Interestingly, the importance rating score of food poisoning tied with that of on-premise injuries, sharing the title of most important safety and security events to the firm. Important these food-borne illness events were, they were not relatively imminent. Nonetheless, the two events were kept in the framework since the relevance of the events to the investment decision is judged by their importance.

Unlike food-related illness events, air-borne illness events including severe acute respiratory syndrome (event 6), human influenza (event 7), and avian influenza (event 8) were not considered a big concern for the panelists. As such, these air-borne illness events were not kept in the framework.

Crime-related events were the third group of safety and security events identified by the panelists as important events to the firm and thus left in the framework. However, not all crime-related events listed in the Delphi surveys were considered relevant or sufficiently important to the investment needs. Of twenty-nine events relating to economical (money), electronic, and traditional crime events, the following were kept in the framework: Burglary of the guest (event 30), employee theft (event 32), burglary of the hotel (event 29), robbery of the guest (event 28), robbery of the hotel (event 27), information security breach affecting the guest (event 23), destructive action of walk-in

Table 4-11
Safety and Security Events Ranked by Their Importance

Safety and Security Events	Importance Score		Likelihood Score	
	Mean	SD	Mean	SD
1) On-premise injury	4.78	2.31	4.41	2.59
5) Food poisoning	4.78	2.34	2.82	2.39
30) Burglary of the guest	4.67	1.96	3.36	2.38
4) Food borne diseases	4.62	2.32	2.65	2.18
32) Employee theft	4.61	2.02	3.76	2.18
29) Burglary of the hotel	4.57	2.05	3.08	2.22
17) Fire caused by machine failure	4.54	2.28	3.59	2.62
2) Injury in recreational facilities	4.52	2.17	3.98	2.67
28) Robbery of the guest	4.49	2.07	3.18	2.37
27) Robbery of the hotel	4.47	2.13	2.84	1.96
23) Information security breach that affects the guests	4.37	2.13	3.02	2.08
26) Destructive action of walk-in thieves	4.35	2.04	3.36	2.48
22) Credit card fraud	4.20	2.14	3.71	2.24
3) Injury caused by employee	4.00	2.18	3.74	2.66
19) Blackout caused by machine failure	3.94	2.17	2.96	1.97
33) Collusive theft	3.86	2.25	2.76	2.14
16) Arson	3.84	2.38	2.59	2.18
38) Violence committed by an intoxicated guest	3.75	2.02	3.35	1.64
24) Vehicle theft/break-in	3.60	1.76	3.41	2.17
40) Drug dealing	3.56	2.10	2.67	2.11
54) Bombing in the hotel locale	3.29	2.65	2.04	2.36
39) Prostitution	3.24	2.01	3.06	2.25
20) Blackout caused by natural disaster	3.14	2.07	2.37	2.05
44) Violence committed against a guest by a person who does not know the guest	3.14	2.44	2.12	1.79
48) Sexual assault/violence committed against a guest by a person who knows the guest	3.14	2.46	2.06	1.53
18) Fire caused by natural disaster	3.10	2.33	1.98	1.89

Table 4-11
Safety and Security Events Ranked by Their Importance

(Continued)

Safety and Security Events	Importance Score		Likelihood Score	
	Mean	SD	Mean	SD
21) Money laundering	3.00	1.96	2.86	1.89
47) Violence committed against a guest by a person who knows the guest	2.98	2.39	1.88	1.38
45) Sexual assault/violence committed against a guest by a person who does not know the guest	2.94	2.54	1.84	1.49
36) Destructive behavior of sport hooligans	2.86	2.29	1.84	1.68
37) A case of violation of human right under your country's human right law (hate crime)	2.82	2.44	1.43	1.43
55) Terrorist-induced contamination of food supply	2.82	2.58	1.35	1.98
25) Carjacking	2.78	2.18	1.59	1.79
35) Destructive behavior of youth gangs/street children	2.76	2.41	1.88	1.96
41) Shooting	2.74	2.45	1.51	1.74
43) Violence in the workplace	2.69	2.43	1.84	1.85
31) Perpetuating a scam on a guest	2.65	2.03	1.94	1.86
58) Terrorist-induced radiation contamination of the hotel ventilation system	2.65	2.76	1.25	1.95
49) Murder of a guest committed by a person who knows a guest	2.63	2.56	1.39	1.71
57) Terrorist-induced contamination of the hotel ventilation system	2.63	2.80	1.31	1.94
46) Murder of a guest committed by a person who does NOT know the guest	2.61	2.59	1.37	1.77
56) Terrorist-induced contamination of water supply	2.54	2.70	1.35	1.98
42) Violence committed by employee against a guest	2.51	2.60	1.37	1.77
51) Political demonstration in the hotel locale	2.36	2.42	1.51	1.43
50) Political riot in the hotel locale	2.33	2.46	1.14	1.39
52) Taking a guest as hostage	2.31	2.69	1.12	1.60
7) Human influenza	2.29	1.65	3.90	2.32
53) Assassination of a guest	2.28	2.68	1.04	1.62
34) Kidnapping a guest for ransom	2.27	2.65	1.14	1.78
6) Severe Acute Respiratory Syndrome (SARS)	2.26	2.59	1.37	2.20

Table 4-11
Safety and Security Events Ranked by Their Importance

(Continued)

Safety and Security Events	Importance Score		Likelihood Score	
	Mean	SD	Mean	SD
9) Storms	2.00	1.71	2.14	1.83
8) Avian influenza (bird flu)	1.86	2.32	1.29	2.00
10) Blizzards (snow storms)	1.74	1.62	1.45	1.84
12) Torrential rains/floods	1.56	1.87	0.94	1.64
11) Earthquakes	0.81	1.78	0.53	1.47
14) Landslides	0.28	1.00	0.10	0.41
13) Volcanic eruptions	0.19	0.49	0.02	0.14
15) Avalanche	0.08	0.27	0.06	0.31

thieves (event 26), and credit card fraud (event 22). These relevant events were of a traditionally criminal nature, except for information security breaches affecting the guest sand credit card fraud. The latter events were electronic and economical crime and possessed a virtual nature.

In conclusion, only fourteen out of fifty-eight events remained in the framework of valuing investments in hotel safety and security. These were classified into three groups: man-made hazards, health, and crime. The focus of the panelists on man-made hazards was in on-premise injury and hotel fires. These hotel managers were interested in only the food-borne illness events, seeing the possibility of air-borne illness as a slight risk. Crime events selected to be included in the framework were minor which focused on the guest and hotel property. It was important to note that none of the events relating natural disasters or terrorism and political upheavals received sufficient attention from the panelists. In addition, their likelihood scores were lower (much lower in many events) than those of the fourteen events selected, with the exception of human influenza which was likely to occur 3.9 in 10 times from the judgment of the panelists. Thus these two groups of events were excluded from the framework.

Dimensions of Safety and Security Relevant to the Investment Needs

As for the first research question, major safety and security events affecting the firm's value identified by the hotel managers were selected. These events were utilized to create a framework of a decision-making model for investments in safety and security from the perspective of importance of the event to the firm's value creation. In other words, they were events that concerned the hotel managers surveyed in the Delphi panel the most. Possible scores for the level of importance of the safety and security events ranged from 0 to 7, with 0 indicating the event was not important; 4, the event was moderately important; and 7, the event was of the highest importance.

Based on this scale, events receiving average score of 4 and up (i.e. the events which were at least moderately important in the investment needs) were included in the framework. Retaining the factors (i.e. events) that received at a minimum of moderate assessment score from the Delphi panelists was supported by earlier Delphi studies (Kim, 1992; Gow, 1979; Miller, 1988).

The hotel managers deal with abundant amount of information. This information needs to be reduced into a manageable and meaningful size. The safety and security forces are not only forces deserved attention from the managers. There are other forces including assets and capital, new management, technology, and capacity control for the managers to address. Safety and security events sharing common characteristics can be grouped in to dimensions. The managers can then consider the dimensions of safety and security instead of the events they underlie.

Thus the fourteen events selected and discussed in the previous section needed to be classified into underlying dimensions. That is, a data reduction was needed here. The use of factor analysis as a data reduction technique (Hair, Anderson, Tatham, and Black 1998) was not suitable in this study for two main reasons; too few observations (i.e. participants) and too many variables (i.e. safety and security events). Like other inferential statistical techniques, a factor analysis was subjected to sample size requirements and assumptions. It was advised to have at least 100 participants and five

times as many participants as variables (Dancey and Reidy, 2004; Hair et al., 1998). Having fifty-one observations rating fifty-eight safety and security events did not allow for proper use of the factor analysis as a data reduction tool.

Other inferential statistic techniques were not viable in this case either due to a small number of observations or a large number of variables. For this reason, the dimensions underlying the safety and security event were extracted by the researcher's judgment guiding by the literature. Reviewing the literature again after interpreting the results of the interviews and the Delphi surveys, various classification schemes offered by safety and security researchers in the hospitality and tourism field (those whose works illustrated in Table 2-1) were compared. With careful consideration of those schemes, the classification scheme offered by Olsen and Pizam (1998, 1999) was selected for two reasons. First, the scheme covered more events possible to the multinational hotel firm than others. In other words, it was the most comprehensive classification scheme in the group. Second, the scheme was built on information provided by the participants in two safety and security think tanks. The participants of those think tanks were experts in the industry mainly from two continents; North America and Europe. Their suggestions were based on the scanning of the environment in North America and Europe. The European data would especially fit well with the data gathered in this study.

As discussed earlier, Olsen and Pizam (1998, 1999) classified the safety and security forces into 5 dimensions: crime, terrorism, health, natural disasters, and man-made hazards (Figure 2-4). Each of the fourteen safety and security events identified by the Delphi panelists as sufficiently important events (i.e. events receiving an importance score of at least 4) to the firm (Table 4-11) was categorized into one of those five dimensions. Table 4-12 shows the classification.

Table 4-12
Dimensions of Safety and Security from the Delphi Surveys

Dimensions	Events	Ranking†
Health	Food poisoning (event 5)	1
	Food-borne diseases (event 4)	3
Man-made hazards	On-premise injury (event 1)	1
	Fire caused by machine failure (event 17)	6
	Injury in recreational facilities (event 2)	7
	Injury caused by employee (event 3)	13
Crime	Burglary of the guest (event 30)	2
	Employee theft (event 32)	4
	Burglary of the hotel (event 29)	5
	Robbery of the guest (event 28)	8
	Robbery of the hotel (event 27)	9
	Information security breach that affects the guests (event 23)	10
	Destructive action of walk-in thieves (event 26)	11
	Credit card fraud (event 22)	12

†ranking 1 indicates events most important to the firm (there is a tie for ranking 1)

Two dimensions absent from the table were terrorism and political upheaval as well as natural disasters. Although these two dimensions were of the concern of the experts participating in the safety and security think tanks (Olsen & Pizam, 1998, 1999), they were not identified as major dimensions of safety and security events in the context of the case study firm. In conclusion, the hotel managers of the case study firm were most concerned about health, man-made hazards, and crime. Detailed events making those three dimensions are fourteen events listed in Table 4-12. Overall, the managers focused on food-borne illness when they considered the health dimension while on-premise injury and fires were two areas of concern under the man-made hazard dimension. In addition, the crime dimension was comprised of crime events targeting at the hotel property and their guests, not the lives of the guests or employees.

Demographic Factors Affecting the Perceived Importance of Safety and Security Dimensions

It is important to recall from the previous section that the hotel managers argued that each hotel operated under different demographic factors and thus was subjected to different dimensions of safety and security, making the group consensus on the dimensions difficult to reach. The Co-Alignment Model also suggested causal relationships between demographic factors. A difference in a certain economic conditions may lead to different perceptions with regards to a particular safety and security dimension. For example, Olsen (2002) concurred that the growing gap between "haves" and "have-nots" in the developing nations is a factor driving crime committed by the "have-nots". The panelists were hotel managers located in countries of different levels of economic development. Their perceptions could easily differ on this subject. Based on the classification of country provided by the World Bank, countries presented in this study fell into one of three groups; high income countries; upper middle income countries, and lower middle income countries. The gap between "haves" and "have-nots" is anticipated to negatively relate to the level of economic development. That is, the gap is assumed to be wider in the countries less economically developed.

The countries presented in this study can also be grouped by their geo-political environment such as Western Europe, the Nordics, Eastern Europe and Turkey, and Russia and the Baltics. While Western European countries are closest to the laissez faire political system, the Nordics have a strong socialist ideology. The Eastern Europe countries are not as democratic as Western European countries but they are becoming more democratic states after the fall of the Berlin Wall. Russia and the Baltics countries are allowing freedom to their people after the fall of communist USSR.

Hotel characteristics were expected to be factors affecting the importance of the dimensions of safety and security. Three characteristics were investigated in this study including a business location of the hotel, a hotel size based on number of guest rooms, and a hotel size based on meeting space. Again, causal relationships between these characteristics and the importance of safety and security dimensions were expected to hold under the Co-Alignment Model. For example, the managers of city hotels were expected to be more concerned of crime (e.g. robbery of the guests) than the managers of resorts. This is because resorts generally located in the closed and private location with a

limited access for persons who are not the guests while the city hotels were more vulnerable to the criminal activities.

Moreover, the large hotels with many guest rooms may reduce the ability of the employees to monitor activities on the property while this may not be a problem for small hotels. A number of hotels in this study had limited meeting space while others had large meeting facilities. Having more services to offer or more groups of customers to serve was likely to introduce to the hotel managers more dimensions of the safety and security events to be concerned of.

If there are such causal relationships, the dimensions extracted from the results of the Delphi surveys may not be equally important to the hotels operating under different demographic factors. Thus they may not support the goal of reaching a consensus or at least refining a group opinion in this study.

A one-way analysis of variance (ANOVA) was statistical technique used to assess their possible relationships. Measures of demographic factors are explained later in this section. First, a discussion about the dimensions of safety and security events that were entered into the analysis is needed. Fourteen safety and security events that were perceived to be adequately important to the hotels (Table 4-12) were entered into the analysis under their three underlying dimensions; health, man-made hazards, and crime. The scores of events classified under the same dimensions were averaged, yielding three scores which were then entered into the ANOVA as dependent variables.

As previously discussed, the factors affecting the importance of the safety and security dimensions, which were the independent variables in the ANOVA, included; 1) a geographical region of a host country, 2) a level of economic development of a host country (by the definition of the World Bank), 3) a business location of a hotel, 4) hotel size in terms of number of guest rooms, and 5) hotel size in terms of meeting space. Table 4-4 and Table 4-5 provide classification details for these independent variables.

One major assumption that must be met when using an ANOVA was the homogeneity of variance. In order to detect a condition of equal variances among the test groups, the Levene's test was conducted when performing the one-way ANOVA in this study. When the equal variance assumption was met, the results of the one-way ANOVA could be used to conclude whether there was an demographic factor or property characteristic affecting the importance of a particular safety and security dimension.

If this assumption was not met, then there was a need for the post-hoc test in order to make a statement on the effect of the demographic factor or the hotel characteristic on the safety and security dimension. Dancey and Reidy et al. (2004) suggested the use of Tamhane's T2 test when equal variances were not assumed among the test groups (i.e. groups of hotels).

In addition, the post hoc test was needed regardless of the "homogeneity of variance" assumption when the ANOVA revealed the causal relationships between a demographic factor and the importance of the safety and security dimension. In such cases, it was worth to perform a post hoc test to see which groups of the panelists expressed the same opinion on a particular dimension of safety and security and which groups did not.

In such cases, there were alternative post hoc tests to be chosen if equal variances were assumed. Dancey and Reidy et al. (2004) suggested the use of the Tukey honestly significant difference (HSD) test as it was a relatively conservative test, allowing a safe

conclusion to be made from results of the test. If equal variances were not assumed, the Tamhane's T2 test could be used as a post hoc test.

The Levene's test of homogeneity of variance revealed that variances of all groups of each independent variable entered into the ANOVA, including location of the host country, business location of the hotel, level of economical development of the host country, size of the hotel based on a number of the guestrooms, and size of the hotel based on meeting space, were not significantly different from each other at a level of confidence of 0.05. The exceptions were in the three analyses; 1) a country location's effect on the importance of the man-made hazard dimension ($p = 0.003$), 2) a country location's effect on the importance of the crime dimension ($p = 0.047$), and 3) a hotel business location's effect on the importance of the health dimension ($p = 0.003$). For these three cases, the Tamhane's T2 test was used to investigate the relations instead of the one-way ANOVA. Unlike the one-way ANOVA, the Tamhane's T2 test allowed a pairwise comparison one pair of test groups at a time. However, supported by the result of the Tamhane's T2 test, a conclusion statement could still be made on a country location's effect on importance of the man-made hazard dimension, on a country location's effect on importance of the crime dimension, and on a hotel business location's effect on the importance of the health dimension.

Except for the three cases specified above, the one-way ANOVA technique was appropriate in comparing means of each dimension of safety and security from different groups of hotels under each of the five classification schemes. The results of ANOVA and the Tamhane's T2 tests are shown in Table 4-13 to Table 4-19 and the summary of the results is shown in Table 4-20.

The first group of tests was done to detect the effect of the geographical regions of a host country on the importance of three dimensions of safety and security; health, man-made hazards, and crime. Again, these were the three dimensions identified by the Delphi panelists as adequately important to the firm. The ANOVA test could only be performed on the health dimension (Table 4-13). The Tamhane's T2 tests were performed on the other two dimensions since the equality of variance assumption was not met in those two cases (Table 4-14). The means of importance scores of hotels from different regions in Europe were compared one pair at a time in the latter two cases. There was no significant difference in means among the regions detected by the ANOVA and the Tamhane's T2 tests in three cases.

It could be concluded that geographical regions have no effect on the perceived importance of the three dimensions of hotel safety and security. In other words, the hotel managers in different regions were indifferent regarding the importance of health, man-made hazards, and crime. Again, the events under each dimension are shown in Table 4-12. Additionally, a summary of the test results is presented in Table 4-20.

Since the homogeneity of variance assumption was met, the one-way ANOVA was used to help the researcher investigate the effect of the economic development of a host country on the importance of the three dimensions of safety and security. The difference in means of the perceived importance score provided by the hotel managers from three groups of countries (high income, upper middle income, and lower middle income) were not statistically significant (Table 4-15). Thus, the conclusion was that the level of economic development of a host country did not affect the perceived importance of the health, man-made hazard, and crime dimensions.

Table 4-13
Test of the Equality of Mean Importance Scores of the Health Dimension for Geographical Regions of a Host Country

Health

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	26.220	3	8.740	1.483	.232
Within groups	271.085	46	5.893		
Total	297.305	49			

Note: 1) Geographical regions of a host country: 1) Western Europe, 2) The Nordics, 3) Eastern Europe and Turkey, and 4) Russia and the Baltics.
2) The ANOVA was not performed for the man-made hazard and crime dimensions due to inequality of variances. The Tamhane's T2 test was used instead. The results are shown in Table 4-14.

Table 4-14
Pairwise Comparisons of Mean Importance Scores of the Man-Made Hazard and Crime Dimensions for Geographical Regions of a Host Country

Man-Made Hazards

Region (I)	Region (J)	Mean Difference (I-J)	Std. Error	Sig.
Western Europe	The Nordics	-1.1846	.65103	.388
	Eastern Europe and Turkey	-.0500	1.11910	1.000
	Russia and the Baltics	.5333	.89872	.995
The Nordics	Western Europe	1.1846	.65103	.388
	Eastern Europe and Turkey	1.1346	1.07613	.900
	Russia and the Baltics	1.7179	.84461	.553
Eastern Europe and Turkey	Western Europe	.0500	1.11910	1.000
	The Nordics	-1.1346	1.07613	.900
	Russia and the Baltics	.5833	1.24174	.998
Russia and the Baltics	Western Europe	-.5333	.89872	.995
	The Nordics	-1.7179	.84461	.553
	Eastern Europe and Turkey	-.5833	1.24174	.998

Table 4-14
Pairwise Comparisons of Mean Importance Scores of the Man-Made Hazard and Crime Dimensions for Geographical Regions of a Host Country

(Continued)

Crime

Region (I)	Region (J)	Mean Difference (I-J)	Std. Error	Sig.
Western Europe	The Nordics	-1.0525	.60933	.444
	Eastern Europe and Turkey	-.2165	.98357	1.000
	Russia and the Baltics	.1429	.77447	1.000
The Nordics	Western Europe	1.0525	.60933	.444
	Eastern Europe and Turkey	.8359	.92901	.949
	Russia and the Baltics	1.1953	.70387	.610
Eastern Europe and Turkey	Western Europe	.2165	.98357	1.000
	The Nordics	-.8359	.92901	.949
	Russia and the Baltics	.3594	1.04479	1.000
Russia and the Baltics	Western Europe	-.1429	.77447	1.000
	The Nordics	-1.1953	.70387	.610
	Eastern Europe and Turkey	-.3594	1.04479	1.000

Table 4-15
Test of the Equality of Mean Importance Scores of the Dimensions of Hotel Safety and Security for Levels of Economic Development of the Host Country

Health

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	7.480	2	3.740	.606	.549
Within groups	289.825	47	6.166		
Total	297.305	49			

Man-Made Hazards

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	17.769	2	8.884	2.026	.145
Within groups	179.833	41	4.386		
Total	197.602	43			

Table 4-15
Test of the Equality of Mean Importance Scores of the Dimensions of Hotel Safety and Security for Levels of Economic Development of the Host Country

(Continued)

Crime

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	12.414	2	6.207	1.620	.209
Within groups	176.268	46	3.832		
Total	188.682	48			

Note: A level of economic development: 1) high income, 2) upper middle income, and 3) lower middle income.

Table 4-16 and Table 4-17 show the results of the ANOVA and Tamhane's T2 test where business location of hotel (city, airport, and resort/spa location) was investigated. The Tamhane's T2 test was used instead of the ANOVA in the case of the health dimension since the condition of equal variance could not be assumed. Although the hotel managers from different types of properties indifferently assessed the importance of the man-made hazard and crime dimensions, the significant mean difference was found in the case of health at the significance level of 0.05. The managers of the city hotels are less concerned with the health dimension than their counterparts at the airport hotels (Table 4.17). Their difference of the mean importance score on health (i.e. food poisoning and food-borne diseases as shown in Table 4-12) of 2.2560 was statistically significant at 0.05 and even at 0.001. However, there was no statistically significant difference in means of importance score between managers of the city hotel and managers of resort/spa or between managers of the airport hotel and manager of resort/spa.

Table 4-16

Test of the Equality of Mean Importance Scores of the Man-Made Hazard and Crime Dimensions for Business Locations of the Hotel

Man-Made Hazards

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	3.068	2	1.534	.323	.726
Within groups	194.534	41	4.745		
Total	197.602	43			

Crime

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	3.179	2	1.589	.394	.677
Within groups	185.504	46	4.033		
Total	188.682	48			

Note: 1) Business locations of the hotel: 1) city hotel, 2) airport hotel, 3) resort and spa.

2) The ANOVA was not performed for the health dimension due to inequality of variances. The Tamhane's T2 test was used instead. The results are shown in Table 4-17.

Table 4-17

Pairwise Comparisons of Mean Importance Scores of the Health Dimension for Business Locations of the Hotel

Health

Business Location (I)	Business Location (J)	Mean Difference (I-J)	Std. Error	Sig.
City Hotel	Airport Hotel	-2.2560(*)	.40310	.000
	Resort/Spa	1.6190	1.12777	.539
Airport Hotel	City Hotel	2.2560(*)	.40310	.000
	Resort/Spa	3.8750	1.06800	.100
Resort/Spa	City Hotel	-1.6190	1.12777	.539
	Airport Hotel	-3.8750	1.06800	.100

* The mean difference is significant at the .05 level.

To conclude the ANOVA section, Table 4-18 and Table 4-19 indicate that the difference in hotel sizes, no matter how they were measured in terms of the number of guest rooms or meeting space, did not lead to differences in the perceived importance of the health, man-made hazard, or crime dimensions. Table 4-20 summarizes the results of the ANOVA and Tamhane's T2 tests. Since demographic factors and property characteristics did not affect the hotel managers' perception on the importance of health, man-made hazards, and crime to the firm's value creation (except in the case of business location on the health dimension), the dimensions of safety and security identified by the Delphi panelists (Table 4-12) were believed to hold true across the hotels managed by the case study firm. In other words, these dimensions could be comfortably used to substantially define the scope of the investment in safety and security for hotels in this study.

Table 4-18

Test of the Equality of Mean Importance Scores of the Dimensions of Hotel Safety and Security for Hotel Sizes (Number of Guest Rooms)

Health

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	1.954	2	.977	.165	.849
Within groups	273.097	46	5.937		
Total	275.051	48			

Man-Made Hazards

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	5.939	2	2.970	.664	.521
Within groups	178.965	40	4.474		
Total	184.904	42			

Crime

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	.584	2	.292	.075	.928
Within groups	174.609	45	3.880		
Total	175.192	47			

Note: Hotel size (guest rooms): 1) up to 200 rooms, 2) 201-300 rooms, and 3) 301 rooms and up

Table 4-19

Test of the Equality of Mean Importance Scores of the Dimensions of Hotel Safety and Security for Hotel Sizes (Meeting Space)

Health

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	10.696	3	3.565	.546	.653
Within groups	280.772	43	6.530		
Total	291.468	46			

Man-Made Hazards

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	6.952	3	2.317	.463	.710
Within groups	185.145	37	5.004		
Total	192.098	40			

Crime

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*-value	Sig.
Between groups	12.445	3	4.148	1.021	.393
Within groups	174.648	43	4.062		
Total	187.093	46			

Note: Hotel size (meeting space): 1) up to 500 sq.m., 2) 501-1,000 sq.m., 3) 1,001-1500 sq.m., 4) 1,501 sq.m. and up.

Table 4-20
Summary of the ANOVA Results

Dependent Variable	Independent Variable	Effect of IV on DV at a significance level of 1%	Effect of IV on DV at a significance level of 5%
Importance Score of the Health Dimension	Geographical Region of the Host Country	No	No
	A Level of Economic Development of the Host Country	No	No
	A Business Location of the Hotel	Yes	Yes
	Hotel Size (Guest Rooms)	No	No
	Hotel Size (Meeting Space)	No	No
Importance Score of the Man-Made Hazard Dimension	Geographical Region of the Host Country	No	No
	A Level of Economic Development of the Host Country	No	No
	A Business Location of the Hotel	No	No
	Hotel Size (Guest Rooms)	No	No
	Hotel Size (Meeting Space)	No	No
Importance Score of the Crime Dimension	Geographical Region of the Host Country	No	No
	A Level of Economic Development of the Host Country	No	No
	A Business Location of the Hotel	No	No
	Hotel Size (Guest Rooms)	No	No
	Hotel Size (Meeting Space)	No	No

Note:

1) Geographical regions of a host country: 1) Western Europe, 2) The Nordics, 3) Eastern Europe and Turkey, and 4) Russia and the Baltics.
2) Levels of economic development of the host country: 1) high income, 2) upper middle income, and 3) lower middle income.
3) Business locations of the hotel: 1) city hotel, 2) airport hotel, 3) resort and spa.
4) Hotel sizes (guest rooms): 1) up to 200 rooms, 2) 201-300 rooms, and 3) 301 rooms and up
5) Hotel sizes (meeting space): 1) up to 500 sq.m., 2) 501-1,000 sq.m., 3) 1,001-1500 sq.m., 4) 1,501 sq.m. and up.

A Comparison of the Important Dimensions of Safety and Security from the Hotel Managers' Perspective and the Outsiders' Perspective

The dimensions of safety and security which were identified as adequately important to the case study firm were outlined in the previous section. The effect of the demographic factors and hotel property characteristics on the importance of the dimensions was also explored through the ANOVA and the Tamhane's T2 test. The results suggested that there was no significant causal relationship between demographic and property factors and the importance of the dimensions. In other words, the hotels, whose management teams participated in the Delphi surveys, were affected by the same dimensions of safety and security; health, man-made hazards, and crime. Table 4-12 presents specific safety and security events fitting under each of these three dimensions.

This section reports the dimensions of safety and security specific to each of the European countries present in this study. Information was provided from reports published by the United States Department of State. The department, through the United States Embassies in Europe, reported on information pertaining to the safety and security situation in these countries. These were aiming at helping Americans be alert for specific aspects of safety and security while traveling in these countries. The dimensions of safety and security provided in the reports were general to the hospitality and tourism industry, not specific to the multinational hotel industry. However, they either directly or indirectly affect American hotel guests. Table 4-21 presents the dimensions of safety and security for the American travelers in each of the countries that were present in this study. This information came from the electronic sources at the United States Department of State and was retrieved at the same time the first round of the Delphi surveys were being administered.

The intelligence staff at the United State Department of State assessed the environment of the hospitality and tourism industry in the European countries and concluded that the travelers should be concerned of two dimensions of safety and security: crime and terrorism. It did not address the other three dimensions suggested by Olsen and Pizam (1998, 1999): man-made hazards, natural disasters, and health. The view of the Department of State staff on the environment regarding safety and security was in agreement with the hotel managers participating in the Delphi surveys to some degree, except terrorism.

Both groups agreed that crime were important and natural disasters were not. Unlike the Department of State staff, the hotel managers cited the health dimension as important to the firm. However, it was only the food-borne aspect of the health dimension that worried the hotel managers. In addition to the health dimension, the hotel managers were concerned about man-made hazards while the Department of State staff disregarded their importance.

Though there was disagreement about the impact of man-made hazards, there was agreement between the two groups with respect to the terrorism and crime dimensions. Terrorism was not considered a major dimension of safety and security by the Department of State in most of these countries which finding was in an agreement with the Delphi panelists. Out of twenty-one countries, only five, including France, Italy,

Table 4-21
United States Department of State's
Dimensions of Safety and Security by Countries

Country	Dimensions of Safety and Security
Belgium	Crime • Non-violent street crime (street thefts, purse snatching, and pick pocketing) • Carjacking of expensive vehicles
Czech Republic	Crime • Violent street crime (muggings) • Non-violent street crime (pick pocketing)
Denmark	Crime • Non-violent crime (pick pocketing and purse snatching in hotel lobbies and breakfast areas) • Car break-ins
Estonia	Crime • Non-violent crime (pick pocketing and purse snatching) • Credit card fraud • Car thefts and break-ins
Finland	Crime (relative uncommon, but do occur) • Violent street crime (muggings) • Non-violent street crime (pick pocketing)

Table 4-21
United States Department of State's
Dimensions of Safety and Security by Countries

(Continued)

Country	Dimensions of Safety and Security
France	Crime • Non-violent crime (pick pocketing and purse snatching) at museums, monuments, restaurants, hotels (in lobbies, breakfast rooms, and guest rooms in lower floors), beaches, trains, and airports • Car break-ins • Car thefts of vehicles of non-local license plates • Stealing of a purse in the moving cars with open window by thieves on motorcycles Terrorism • Occasional bombings of local government institutions, banks, and travel agencies in the south of France, especially in the island of Corsica, by the Basque Separatist Party (ETA) and the National Front for the Liberation of Corsica (FLNC)
Germany	Crime • Violent street crime (assaults to foreigners committed by intoxicated, skinhead hooligans) • Non-violent street crime (pick pocketing)
Hungary	Crime • Violent street crime (especially near major hotels and restaurants) • Thefts of passports, currency, and credit cards • Highway scams and robberies (when stopping at gas stations and highway parking lots)

Table 4-21
United States Department of State's
Dimensions of Safety and Security by Countries

(Continued)

Country	Dimensions of Safety and Security
Iceland	Crime • Non-violent street crime (minor assaults and pick pocketing) • Car break-ins
Ireland	Crime • Non-violent street crime (assaults to foreigners, thefts, burglaries, and purse snatching) • Car break-ins targeting at rental cars
Italy	Crime • Violent crime (robberies, physical or sexual assaults, drugging tourists with drinks laced with sleeping drugs) • Non-violent crime (pick pocketing and purse snatching, petty crime committed by thieves impersonating police officers) • Car thefts and break-ins; carjacking or thefts of cars waiting in traffic • Highway car scam Terrorism • Occasional episodes of politically motivated violence (bombings attributed to organized crime and anarchist movement)
Lithuania	Crime • Non-violent street crime (pick pocketing and thefts) • Car break-ins, car thefts, carjacking through road scams

Table 4-21
United States Department of State's
Dimensions of Safety and Security by Countries

(Continued)

Country	Dimensions of Safety and Security
Netherlands	Crime • Non-violent street crime (robberies, pick pocketing, and purse snatching)
Norway	Crime • Non-violent crime (pick pocketing and purse snatching in lobbies, reception areas, and restaurants areas in the hotels) • Car thefts and vandalism to parked cars
Poland	Crime • Violent street crime (muggings and aggravated assault) • Non-violent street crime (organized thefts and pick pocketing) • Car thefts and carjacking through road scams
Russian Federation	Crime • Violent crime (assault, harassment, violent attacks on people of color and foreigners, robbery, crime committed by persons presenting themselves as police officers) • Non-violent crime (pick pocketing and purse snatching) • Highway crime (robberies of drivers sleeping in vehicles along the road, hitchhikers who are narcotic traffickers) • Demanding protection money from business travelers who operating businesses in Russia by the organized criminal groups Terrorism • Frequent acts of terror including bombings and hostage taking in large Russian cities

Table 4-21
United States Department of State's
Dimensions of Safety and Security by Countries

(Continued)

Country	Dimensions of Safety and Security
Slovak Republic	Crime • Violent street crime (muggings, armed robbery, and shooting) • Non-violent street crime (pick pocketing, sometimes by street children, and drugging) • Car break-ins
Sweden	Crime • Non-violent crime (pick pocketing and purse snatching in restaurants, amusement parks, museums, bars, buses, and trains; as well as thefts of unguarded purses and briefcases in the hotel breakfast rooms and lobbies) • Car break-ins
Switzerland	Crime • Non-violent street crime (robberies, pick pocketing, and purse snatching)
Turkey	Crime • Violent crime (mugging; drugging foreign tourists by Northern African nationals using teas, juice, alcohol, or foods laced with nembitol or benzodiazepine) • Non-violent crime (pick pocketing and purse snatching) Terrorism • Terrorist bombings responsible by the Al-Qa'ida network, the Turkish Group Revolutionary People's Liberation Party/Front (DHKP/C), and the Kurdistan Workers' Party/Kurdistan Freedom and Democracy Congress/Kongra Gel (PKK/KADEK/Kongra Gel)

Table 4-21
United States Department of State's
Dimensions of Safety and Security by Countries

(Continued)

Country	Dimensions of Safety and Security
United Kingdom	Crime • Violent street crime (muggings and robberies) • Non-violent street crime (pick pocketing) • Car break-ins (especially with cars parked at roadside restaurants, hotels, and resorts) Terrorism • Violence related to the political situation in Northern Ireland • Increased threat of terrorist incidents of international origin

Source: Department of State (2005)

Russia, Turkey, and the United Kingdom, were cited as the grounds for possible acts of terrorism. In addition, the problems in these countries were domestic, not international. Domestic separatist forces or parties were reported as the only groups that may commit these acts of violence in all of these countries, except for the United Kingdom. The acts of terrorism in the United Kingdom in the past were connected with the domestic group in Northern Ireland. However, there was increasing possibility of terrorist acts committed by foreign groups in the United Kingdom.

It is important to note that in Italy the terrorism dimension consisted of violent events committed by the organized criminal or political rebel groups. These were occasional minor bombings at governmental buildings instead of major bombings targeted at a large crowd of innocent people in other country like Russia.

Crimes in European countries, especially minor ones, were major concern of the United State officials. This supported the perception of the Delphi panelists who were most concerned with minor and non-violent crime. They took place in and outside the hotel properties, exposing guests to these threats during their entire stay. However, the hotel managers seem to overlook the importance of guests' security relating to vehicles. These included car thefts, carjacking, and highway or road scams.

In addition, crimes not targeted at guests' security were also neglected by the hotel managers. These crimes ranged from assaults of the guests to violently racial attacks on the tourists of color. Again, Enz et al. (2002) defined the safety events as ones targeted at life and well-being of the hotel guests while the security events as ones targeted at the guests' property.

Research Question 2:
Decision-making Model for Investments in Hotel Safety and Security

Again, both primary research questions were used to shape the framework of the decision-making model of investments in hotel safety and security. The framework was bounded (i.e. scoped) by the dimensions of safety and security that were identified by the first research question. Through the second research question, the panelists provided the components of the decision-making model and the decision-making process in investments in safety and security.

Based on the results of the interviews and the first Delphi survey, the three preliminary dimensions of safety and security identified by the hotel managers included; on-premise injuries of the guests and hotel fires, crime, and food-borne diseases. Though both on-premise injuries and hotel fires were parts of the man-made hazard dimension (Olsen & Pizam, 1998 and 1999), they called for different investment programs. Thus, they were treated as separated programs in the investment.

The second research question is stated again as follows:

Research Question 2: Understanding the key dimensions of hotel safety and security, what process is used in making a decision to invest in hotel safety and security? Specifically, how are:

2.1) Annual cash flows from the investment estimated?

- Yearly revenues as a result of the investment estimated?

        - Key value drivers for the leverage on yearly revenues as a result of an investment defined?
        - Key value drivers for annual cost savings as a result of the investment defined?
    - Annual costs incurred by the investment estimated?
        - Key value drivers for the annual costs defined?
    - Life of cash flow stream determined?

2.2) Cost of capital for the investment project determined?

- Method of estimating cost of capital chosen?
- Value drivers that affect the cost of capital identified?

2.3) Risk of the investment estimated at the time of making an investment decision?

2.4) Value of initial investment estimated?

The answers to the four sub-questions were used to specify the components of the decision-making model. As discussed before, a general decision-making model consists of performance measures, decision options (i.e. decision variables), and value drivers of the performance measures (Figure 3-6). The dimensions of safety and security resulting from the first research question served as a boundary for investments in safety and security. In other words, the scope of the investment needs was defined by the three dimensions of safety and security that were important to the panelists (Table 4-12).

However, the man-made hazard dimension was divided into two sub-dimensions (on-premise injuries and hotel fires) in this section since the sub-dimensions involved different decision options and factors affecting the net present value (NPV). Additionally, the panelists seemed to distinguish the two sub-dimensions in their strategic thinking. The academic dimensions were translated into practical ones that better fit the thinking of the panelists because these sub-dimensions can be later reverted to their original dimension.

The researcher relied on two sources of information in developing a framework for the decision-making model; 1) the interviews with the chief financial officers and the director of corporate finance as well as the management teams at the five hotels, and 2) the second Delphi survey. The general procedure for evaluating financial investments which was a basic instrument guiding the investment decision is reported in the next section, followed by the components of the investment decision-making model.

Companywide Financial Investment Evaluation Procedure

Any kind of financial investment in the hotels was guided by the policies and procedures published in the economic manual developed in the head office. The manual contained a section devoted to the investment policy on fixed assets. The manual provided the company's requirements on approving the investment in fixed assets. However, the intangibles as invested assets were not apparently discussed. Based on the interview with the chief financial officer and the director of corporate finance, there was no clear policy on how to value the intangibles. The chief financial officer approved the interviews for this study as well as the Delphi surveys to be conducted at the firm's hotels because the firm expected the study would provide a better understanding on the

intangible side of the investment projects. The two executives at the corporate finance office shared part of the economic manual and discussed how the investment evaluation process went at the firm.

Normally, the general managers initiated the investment projects for their respective hotel. The firm only acted as the approval authority. All investments at the hotels had to be initiated based on a careful assessment of their competitive environment and investment ability (i.e. their projected revenue in the year of an initial investment). Although the investment ideas were mostly initiated at the hotel level, corporate executives suggested investment possibilities in some areas, including safety and security, in order to avoid the situation of putting the hotels' value in jeopardy. The corporate executives did express their opinions on the investments on the regular basis. They frequently shared the best practices from some hotels with others. The decision to adopt these practices was then left up to the individual hotel general manager.

When findings about a malfunction of the safety equipment at one hotel might call for an upgrade of the equipment or systems at other hotels, then occasionally the firm may require all hotels upgrade their safety equipment. Failure to do so might lead to a tragedy for the employees or guests. In such cases, the firm initiated the investment project for its hotels. For instance, the corporate finance office recently suggested all of the firm's hotels upgrade their water boiler systems as part of their annual budget.

As for spending at the hotels, all services and general spending at any hotel must be categorized either as an expense or as an investment. To be qualified as an investment, the spending had to create future income or improve demographic or health and safety performance. In many cases, an investment consisted of more than one individual item. For instance, a renovation of guest bathrooms might require purchases of products and services and might be made in order to accomplish different goals (e.g. improving the ambience as well as safety of the bathroom at the same time). In such cases all related costs must be grouped together as one investment.

Any investment should be classified into one of the following categories:

- Necessity: An investment required by law or government regulations.
- Replacement: Ordinary replacement to keep facilities up to standard.
- Expansion: Improvement of efficiency of original equipment, installment of best available technology standards, improvement of the working environment, and addition of new products or concepts.

Investments in safety and security fell into one of the three categories. The investments needed to be planned well in advance especially in the case of long-range investments. Each year the regional director together with the firm's headquarters staff evaluated, as a part of the annual budget approval process, the investment needs of the hotels. Any investment made must be included in the annual budget that was approved by the regional director and relevant authorities at the headquarters. However, it was subjected to another approval again at the time of the investment. The investment in safety and security or any other kind of an investment must not be made until the appropriate authority granted a formal approval (see Table 4-22).

The firm only required the hotel to submit an investment application form if the investment could not be approved by the general manager of the hotel. In other words, any investment that cost more than 1% of the budgeted annual revenues was subjected to

approval from higher authority than the general manager of the hotel and must be done through an investment application form. In some cases, the vice president for technical services needed to be involved in the application approval process.

Table 4-22
Appropriate Authorities Approving an Investment Application in the Case Study Firm

Size of investment	Appropriate authority who approves an investment application
Less than 1% of budgeted annual revenues	General manager
More than 1% of budgeted annual revenues AND less than 1 million euros	Regional director
More than 1% of budgeted annual revenues AND between 1 and 4 million euros	Chief financial officer
More than 1% of budgeted annual revenues AND more than 4 million euros	The board of directors

Figure 4-5 illustrates the investment application process. The main sections of the application form included; nature of investment (split into capitalized, leased, and expensed), an executive summary containing evaluation of the investment and technical highlights, and calculation of the net present value (NPV) or the internal rate or return (IRR). In calculation of the NPV or the IRR, the hotel general managers must take the following issues into considerations; supply and demand analysis, risks of the investment, and cost of capital. Although the NPV or the IRR was used to decide whether to invest in the project, the investment should provide strong benefits to the hotel in terms of improved labor relations (e.g. personnel efficiency, working environment) and improved quality standards (e.g. health and safety). However, these non-financial performance measures of the investments were normally meaningless if the project failed to yield the acceptable NPV or IRR. In addition, existing purchasing agreements must be utilized for the project if possible.

As for the cost of capital to be used as a discount rate in the calculation of the NPV or the IRR, the firm mandated that the hotels use the weighted average cost of capital (WACC) which was published regularly. An example computation formula is shown in Table 4-23. The cost of capital applied to each host country was variable due to the differences in demographic forces (Table 4-24). There were costs of capital published at the time of the interview with the chief financial officer in June, 2004. The WACC in US dollars was used in hotels in African countries, Russia, and other countries

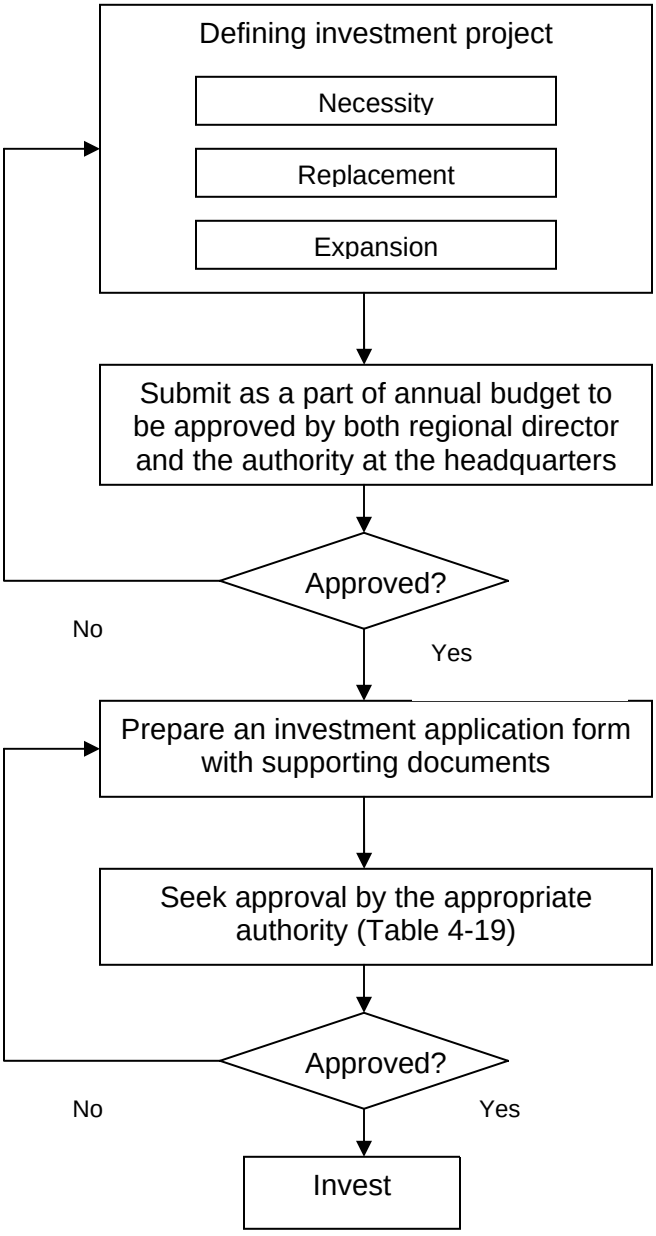

Figure 4-5
Investment Application Process

not specified in the table where investment in these countries were made in US dollars, except for Russia where it was either made in the Russian Rubles (RBL) or US dollars. The WACC for the euros was used in hotels in nine countries including Belgium, Germany, France, Ireland, Italy, the Netherlands, Austria, Portugal and Finland. The firm did not operate hotels in Greece, Luxembourg, and Spain where the euro was also used as a currency.

Table 4-23
The Firm's WACC Computation Formula

Inflation (1)	2.0%
Real interest rate (2)	3.3%
Risk-free interest rate (3)	5.3%
Risk premium (4)	7.0%
Cost of equity after tax	12.3%
Tax (5)	5.3%
Cost of equity before tax	17.6%
Risk-free interest rate (3)	5.3%
Spread	1.0%
Cost of debt	6.3%
Weighted cost of debt (60%)	3.8%
Weighted cost of equity (6) (40%)	7.0%
Weighted average cost of capital (WACC)	10.8%

(1) Official published figure

(2) Residual = (3) – (1)

(3) 10-year government bonds

(4) Shareholders' calculated return over and above the risk-free interest (This is determined by the firm)

(5) Standard tax rate of 30%

(6) Preferred capital structure

Table 4-24
WACC by the Host Countries

For June 2004 (unit: %)

Countries / Currencies	Euro Countries EUR	Denmark DKK	Norway NOK	Russia RBL/USD	Sweden SEK	Switz. CHF	UK GBP	Africa USD	Others USD
Inflation	2.00	2.00	2.00	3.00	2.00	1.00	3.00	3.00	2.00
Real interest rate	2.38	2.78	2.76	4.10	2.71	1.89	2.22	6.00	2.75
Risk-free interest rate	4.38	4.78	4.76	7.10	4.71	2.89	5.22	9.00	4.75
Risk premium	7.00	7.00	7.00	7.00	7.00	7.00	7.00	11.65	7.00
Cost of equity after tax	11.38	11.78	11.76	14.10	11.71	9.89	12.22	20.65	11.75
Tax (fixed at 30%)	4.88	5.05	5.04	6.04	5.02	4.24	5.24	8.85	5.04
Cost of equity before tax	**16.26**	**16.83**	**16.80**	**20.14**	**16.73**	**14.13**	**17.46**	**29.50**	**16.79**
Risk-free interest rate	4.38	4.78	4.76	7.10	4.71	2.89	5.22	9.00	4.75
Spread	1.00	1.00	1.00	3.00	1.00	1.00	1.00	3.00	1.00
Cost of debt	**5.38**	**5.78**	**5.76**	**10.10**	**5.71**	**3.89**	**6.22**	**12.00**	**5.75**
Weighted cost of debt (60%)	3.23	3.47	3.46	6.06	3.43	2.33	3.73	7.20	3.45
Weighted cost of equity (40%)	6.50	6.73	6.72	8.06	6.69	5.65	6.98	11.80	6.72
Weighted average cost of capital (WACC) before tax	**9.73**	**10.20**	**10.18**	**14.12**	**10.12**	**7.99**	**10.72**	**19.00**	**10.17**

Note: EUR = Euro, USD = US Dollar, DKK = Danish Kroner, NOK = Norwegian Kroner, RBL = Russian Rubles, SEK = Swedish Kronor, CHF = Swiss Franc, and GBP = British Pound.

Performance Measures of Investments in Hotel Safety and Security

The overall picture of the investments made in safety and security at the hotels can serve as a starting point for the discussion on the components of the decision-making model for the investments. All but one of fifty hotels whose management teams served as the Delphi panelists had emergency evacuation plans (Table 4-25). Forty-five hotels (86.5%) had security cameras; thirty-nine hotels (75%) had access control systems; and thirty-one hotels (59.6%) hired private security.

Table 4-25
Security Measures in Place at the Hotels

Security Measures	Number of Hotels†
Emergency evacuation plan	51
Security cameras	45
Access control systems	39
Private security	31

† A "check all that apply" question.

The panelists were asked whether their hotels had invested in safety and security projects during the past five-year period between 2000 and 2004 (Table 4-26). Thirty-two hotels had engaged in such investments. Most of the hotels that had invested (twenty-nine out of thirty-two) classified the investments as "necessity". The investments were mainly for safety and security improvements (twenty-two out of thirty-two hotels).

Based on the interview with chief financial officer and the director of corporate finance, the net present value (NPV) was suggested as a common performance measure of the investment projects at the case study hotels. In other words, the firm required only one performance measure, either the net present value (NPV) or the internal rate of return (IRR), to be submitted with an application for the investment. Both NPV and IRR were discounted cash flow (DCF) techniques. However, the NPV was more common than the IRR in these applications.

Although the performance measure required by the firm for any investment appraisal was financial one, either the NPV or the IRR, non-financial performance measures such as days of sick leave or cases of on-premise injury in the bar could be used as supporting measures. In fact, these non-financial measures tied back to the NPV or the IRR as they either provided benefits or incurred costs that had monetary values. These monetary values could be used as a part of cash flow.

Table 4-26
A Number of Hotels Investing in Safety and Security Project(s) in the Last Five Years

Classified by	Number of Hotels†
1) Descriptions of the project	
1.1) Mainly safety and security improvement	*22*
1.2) Safety and security improvement as a part of hotel renovation/remodeling	*9*
1.3) Safety and security improvement as a part of hotel construction (in case of a newly built hotel)	*8*
2) Investment categories as stated in the company's Economic Manual	
2.1) Necessity	*29*
2.2) Expansion	*10*
2.3) Replacement	*5*

† A "check all that apply" question.

The hotel managers had to comply with the DCF requirement. Their comprehension of the DCF techniques was required if the use of the techniques was to be successful. The panelists were asked the first round of the Delphi Surveys whether they viewed the investments in safety and security as financial ones. Out of fifty-two management teams, twenty-six (50%) treated it as a financial investment while twenty-one (40.5%) did not agree and five (9.5%) did not answer (Table 4-27). Since only half of the panelists realized the financial nature of the investments in safety and security, a large number of panelists may not fully understand the concept of the NPV or the IRR.

Table 4-27
Nature of Investments in Hotel Safety and Security

Nature of the Investments	Number of Agreeing Panelists
Financial	26
Non-financial	21
Not respond to the question	5

Among those twenty-six management teams agreeing that investments in safety and security was financial in nature, sixteen used the NPV as a performance measure of

an investment project to address safety and security (Table 4-28). Return on investment (ROI), the IRR, and payback period were used as a performance measure at five, three, and nine hotels respectively. The question was presented in a "check all that apply" type so the panelists could choose more than one answer.

Table 4-28
Performance Measures of Investments in Hotel Safety and Security

Performance measures	Number of Hotels Adopting the Measures†
Financial performance measures†:	
Net present value (NPV)	16
Payback period (PB)	9
Return on investment (ROI)	5
Internal rate of return (IRR)	3
Non-financial performance measures††:	
Number of the theft on premise cases	6
Guests' perception of hotel security	4
Compliance with local legislation	3
Number of accidents/on-premise injuries	3
Hotel fire cases	2
Employee injuries	2
Airline crew's evaluation of hotel security	2
Number of prostitution in a hotel	1
Number of guests bringing weapons into a hotel	1
Number of credit card frauds	1
Fire department's rating of hotel security	1
Police department's rating of hotel security	1
Oil companies' evaluation of hotel safety	1
Company's internal security rating of the hotel	1
Number of damaged cars in the garage	1
Amount of property damages	1
Number of information security breach	1

† from a "check all that apply" question
†† from an open-ended question

The panelists stating that they recognized the financial nature of the investments in safety and security were then asked to provide non-financial performance measures in addition to their preferred financial measures for the investments (Table 4-27). There were not many panel members that suggested these measures. As a more objective measure, the number of the thefts on premise cases was used at six hotels. Guests' perception of the hotel security that was more subjective was adopted as non-financial performance measure of the investment projects in others. Other measures suggested by more than one hotel were compliance with local legislation, the number of accidents or

on-premise injuries, cases of hotel fire, employee injury cases, and an airline crew's evaluation of hotel security. Except for an airline crew's evaluation of hotel security, these were all subjective measures and normally reported on the temporal basis (i.e. per year).

In order to comply with the firm's policy as well as reflect the popularity of the NPV among the panelists, the researcher specified the NPV as a performance measure of a decision-making model for investments in safety and security. That provided part of the answer to the second research question. The NPV was listed as a performance measure in the decision-making model in the second Delphi survey. As a dependent variable in the model, the NPV was driven by a group of factors. These factors were regarded as the value drivers.

To make the second Delphi survey less academic and more practical to the panelists, the researcher used the phrase "factors affecting the NPV of the investments" was used instead of the term "value drivers of the NPV of the investments". The panelists were asked to rate the relevancy of each of the value drivers of the NPV provided in the survey. Value drivers relevant to the investment needs at the case study firm are reported after the discussion of the decision options in the investments in safety and security in the next section.

Decision Options in the Investments in Hotel Safety and Security

The decision options in the investment decision-making model relate to products and services available to be invested in. The presence of these products and services in a particular investment affects the performance measures of the investment. Since the net present value (NPV) was selected as a performance measure of the investments in safety and security, it was affected partly by these decision options. Decision options available to the hotel managers as decision-makers for the investment projects addressing the hotel safety and security affect both revenue and cost sides of the NPV. For example, each security camera bought is an outflow of cash while it possibly saves money due to a decrease in on-premise injury claims annually for the hotel. Since available decision options were expected to affect the NPV at different levels, the panelists in the second round of the Delphi surveys were asked to evaluate the relevancy of these decision options to the firm's safety and security investment needs.

As discussed in the review of the literature, there were various decision options available in the market. The study delved into these decision options through the semi-structured interviews with the director of corporate security and the management teams at five hotels. Based on the findings from the interviews, a list of possible decision options was added to the second survey where the panelists decided whether or not to keep each option in the decision-making model.

The director of corporate security viewed the investments in safety and security as highly strategic to the firm. The main competitive methods in safety and security on his drawing board were the VIP-safe hotel programs, survey-driven safety and security programs, and the safety and security rating programs. He believed that VIP guests, especially national delegates, demanded the highest safety and security conditions in

every dimension possible for their visits. If the safety and security conditions at the hotels met minimum requirements of this guest group, it would meet those of other groups as well. It was a major task for him to identify the safety and security needs (i.e. the dimensions of safety and security) from the VIP guests' perspective.

In addition, the director would like to create a survey-driven safety and security program for the firm. The guests would be expected to express their concerns regarding safety and security. The results would be later used to develop a series of competitive methods. Guests had been concerned with traditional safety and security events such as an injury caused by a hot pot provided at some of the firm's hotels. This concern had still not been addressed at all hotels and since there were new emerging areas of concern all the time, it would be appropriate to check with the guests on a regular basis regarding their present safety and security concerns. For example, there was an incident in one hotel in Denmark where the large gravel on the roof the lobby was taken by storm winds and broke the glass window of the restaurant and some guest rooms on the higher floors. Although no one was seriously injured from the debris and storms were not a normal occurrence in Denmark, it would be useful if the guests could express their opinions on these emerging safety and security problems like these. It was believed there were many investment opportunities in multiple areas of guest concerns which offered excellent potential as competitive methods for future investments.

Hotel safety and security classification system was reviewed as a potential competitive method to the firm. It would be comparable to the star rating system but dealing directly with the safety and security condition at a particular hotel. There were a few companies initiating the idea of safety and security classification system. A company operating the www.safehotels.com website was among them. In addition, national hotel associations were also interested in the idea of developing such a classification system. Working with these organizations, the firm could push the system into operation. Since the director of corporate security was confident that the overall safety and security of firm's hotels were relatively high, most of the firm's hotels would likely receive a high safety and security rating from the program. This accreditation would give the firm a unique competitive advantage over its competitors.

Although the director of corporate security saw the opportunities in safety and security, the hotel managers seemed to think otherwise. The management teams at the hotels participating in the interviews did not view the investments in safety and security as competitive methods. They did not perceive that improved safety and security provided competitive advantages to the hotels like other forces driving change, especially technology.

The British and Belgian Hotels suggested that communicating with the guests on improved safety and security at the hotels negatively affected their purchasing decision. The reason was that safety and security was a controversial subject. Though travelers demanded their safety and security while traveling, they tended to be scared if the hotels directly discuss the safety and security issue with them. While investment in technology, like a high speed internet connection in every guest room, should be intensively advertised, marketing communication on the safety and security issue should be on the "don't ask, don't tell" basis rather than a big marketing campaign. Due to this limited marketability, both hotels believed that investments in safety and security should be done as little as possible. Although the interviewees at the other three hotels did not share this

view with the British and Belgian Hotels, they did not offer any ideas how to develop competitive methods based on the safety and security forces.

Though the interview results regarding the investment options were somewhat disappointing, it helped describe the nature of the investment better. From the perspective of the interviewees, the investment needs was not related to the proactive approach or was strategic in nature as one would hope. It was indeed of reactive nature (i.e. defending strategy). The investments were made in the decision options commonly in place at the competitor hotels, rather than ones that were unique to the firm. That is, the hotels attempted to comply with minimum requirements with respect to safety and security but they would not consider leading the industry in terms of new safety and security features.

When asked to provide major critical success factors and competitive methods that their hotels had invested in, the interviewees described them as shown in Table 4-29. As products and services commonly invested at the competitor hotels, the critical success factors were identified by the interviewees as security cameras, fire prevention program, and food-borne illnesses prevention programs. The Belgian Hotel's management team listed a chemical control program as an additional critical success factor. This was its attempt to lower health risks to the customers by the use of chemicals in the hotel. For example, there was an attempt to reduce the amount of a particular chemical used to treat the running water at this hotel while preserving the cleanliness and quality of water. Besides the critical success factors in common with other hotels, the German Hotel also spent money to improve the safety and security in the car garage.

Table 4-29

Critical Success Factors and Competitive Methods Addressing Safety and Security Force at the Hotels Participating in the Interviews

	Danish Hotel	German Hotel	Belgian Hotel	British Hotel	Polish Hotel
Critical Success Factors (CSFs)	Security cameras Access control stand for staffs Fire prevention program	Security cameras Fire prevention program Food-borne illness prevention program Garage safety program	Security cameras Fire prevention program Food-borne illness prevention program Chemical control program	Security cameras Fire prevention program Food-borne illness prevention program	Security cameras Fire prevention program Food-borne illness prevention program
Competitive Methods	Well-trained staff who operate the CSFs	Well-trained staff on top of those CSFs	Well-trained staff on top of those CSFs	Monthly safety and security audit from outside auditor	None

The interviewees at the Danish, German, and Belgian Hotels suggested that they had no ideas how or even desired to understand the opportunities offered by the safety and security forces. To turn the critical success factors into competitive methods; the managers believed they would have to add the human factor into the critical success factors currently in place at their hotels. The managers at the British Hotel suggested that their use of outside safety and security auditors was considered a competitive method at its hotel because these auditors were experts in the field and always suggested the needed changes. The management team at the Polish Hotel did not cite any competitive method, given the fact that there was no competitive method relating to safety and security at its hotel.

As for the hotels' spending to improve safety and security, these hotels spent at a minimum level and often as a part of the hotel renovations. Table 4-30 provides a picture of hotels' spending on safety and security improvements in 2003. The German Hotel could not provide answers for those questions since it had only been opened for three months at the time of the interview. In addition, the owner of the hotel made all the investments and did not share the numbers with the hotel.

Based on the literature on investment options in safety and security as well as results of the interviews, a list of possible decision options for investments in safety and security was developed. These options reflected to the dimensions of crime (theft and robbery), on-premise injuries of the guests, food-borne diseases, and hotel fires which were the most important to the firm's value creation as previously discussed. The list (Appendix F) was sent to the director of corporate security who then asked the risk management task force to help update the list.

The second Delphi survey (Appendix H) was designed based on inputs from the risk management task force and the director of corporate security. The panelists from the thirty-four hotels (see Table 4-6 for their demographics) decided whether each of the decision options was relevant to the investment needs and if it should be kept in the decision framework.

The results are reported for each of the four safety and security programs identified by the panelists. There were three dimensions outlined by the hotel managers; health, man-made hazards, and crime. The term dimension was too abstract and academic to the hotel managers thus some modifications on the survey were made to improve the understanding of the panelists. The man-made hazard dimension was divided into two sub-dimensions, on-premise injuries and hotel fires, to make the second Delphi survey more practical to the panelists. The health dimension was made more applicable to the real problem surrounding the hotels by using the words "food-borne diseases." The word "crime" was followed by theft and robbery in parentheses. For this reason, there were four safety and security improvement programs used throughout the second Delphi surveys, including improvement programs on crime (theft and robbery), on-premise injury, food-borne diseases, and hotel fires.

As for the crime prevention program, the panelists suggested that five of the six decision options approved by the firm's risk management task force were relevant to the firm's investment needs and to be retained in the decision-making model (Table 4-31). Almost every (32 out of 34) panel member agreed that surveillance cameras were relevant investment decision option. In other words, the quantity (i.e. units) of surveillance cameras needed to be determined by the decision-makers contemplating

investments in crime prevention. Twenty-nine suggested that a data storage system was a decision option. The crime prevention program would not be run at its full capacity if there was no data storage system because it served as a supporting tool for the surveillance cameras. Interestingly, many panel members disregarded the rest of the decision options approved by the risk management task force. These options included maintenance contracts on the equipment, staff running the program, camera employees, and a consulting service for the program. The latter was supported by less than 40% of the panelists.

Table 4-30
Safety and Security Investments at the Hotels Participating in the Interviews

	Danish Hotel	Belgian Hotel	British Hotel	Polish Hotel
Total capital expenditures in 2003†	3.512 million DKK (irregularly low to help the owner improve cash flow situation††)	1.5 million EUR (1.2 million EUR spent in the renovation)	1.79 million GBP	The figure was not released by the owner.
Safety and security investments in 2003	185,120 DKK for employee access control	Approx. 45,000 EUR for improvement of smoke detectors, evacuation signs on the door, guestroom lighting in the rooms, additional security cameras in the corridors, and tabletop power and LAN plugs.	2,000 GBP for modernizing a boiler room	Additional cameras in the conference area, the lobby, and the restaurant. In an amount that could not be revealed.
Average estimated life of the safety and security investment	Until it is not usable	5 years for cameras in accounting term	5-10 years	In accounting term in Poland, the useful life of camera is 5 years. In practice, about 10 years

Note: † EUR = Euro, DKK = Danish Kroner, and GBP = British Pound
†† Average of annual spending from 1999 to 2003 was 7.5 million DKK

Table 4-31
Decision Options for the Crime Prevention Program

Decision Options	No		Yes		Total
	Count	%	Count	%	Count
Surveillance cameras	2	5.88%	32	94.12%	34
Data storage system	5	14.71%	29	85.29%	34
Maintenance contract on equipment	14	41.18%	20	58.82%	34
Program staff	15	45.45%	18	54.55%	33
Employee monitoring surveillance camera screens	17	50.00%	17	50.00%	34
Consulting service	21	61.76%	13	38.24%	34

Regarding the on-premise injury program, the majority of panelists suggested an equipment upgrade, a purchase of new equipment, signage, supplies, and staff running the program as relevant decision options (Table 4-32). The latter two were supported by less than 60% of the panelists. Only half the managers regarded documentation and reporting system as a decision option in the on-premise injury improvement program. In addition, 56% of the managers ignored a possible option in the form of maintenance contracts on the program equipment.

Table 4-32
Decision Options for the On-Premise Injury Program

Decision Options	No		Yes		Total
	Count	%	Count	%	Count
Existing equipment (to be upgraded)	8	23.53%	26	76.47%	34
Signage	8	23.53%	26	76.47%	34
New safety equipment (to be purchased)	11	32.35%	23	67.65%	34
Supplies	14	41.18%	20	58.82%	34
Program staff	15	45.45%	18	54.55%	33
Documentation and reporting system	17	50.00%	17	50.00%	34
Maintenance contract on equipment	19	55.88%	15	44.12%	34

As for the decision options that were relevant to the investment needs, all eight options suggested by the risk management task force were supported by more than half of the hotel managers (Table 4-33). Food packing systems were most supported in the

group and the majority of the panelists deemed that an upgrade of existing and the purchase of new equipment in the receiving and storage facilities were relevant options. In other words, the decision-makers must look at both possibilities when formulating the food-borne disease program.

Table 4-33
Decision Options for the Food-Borne Illness Program

Decision Options	No		Yes		Total
	Count	%	Count	%	Count
Food packaging systems	5	14.71%	29	85.29%	34
Special cleaning equipment	7	20.59%	27	79.41%	34
Existing equipment in food storage facilities (to be upgraded)	9	26.47%	25	73.53%	34
Existing equipment in food receiving facilities (to be upgraded)	10	30.30%	23	69.70%	33
New equipment in food storage facilities (to be purchased)	11	32.35%	23	67.65%	34
Maintenance contract on equipment	13	38.24%	21	61.76%	34
New equipment in food receiving facilities (to be purchased)	13	39.39%	20	60.61%	33
Program staff	13	39.39%	20	60.61%	33

Table 4-34
Decision Options for the Fire Prevention Program

Decision Options	No		Yes		Total
	Count	%	Count	%	Count
alarm system hardware	3	8.82%	31	91.18%	34
fire detection equipment	4	11.76%	30	88.24%	34
alarm system software	5	14.71%	29	85.29%	34
stationary extinguishers	8	23.53%	26	76.47%	34
portable extinguishers	9	26.47%	25	73.53%	34
internal communication links	10	29.41%	24	70.59%	34
external communication links (to city fire department)	11	32.35%	23	67.65%	34
maintenance contracts on equipment and hardware	12	35.29%	22	64.71%	34
program staff	13	39.39%	20	60.61%	33

As for the fire prevention program, the majority of the Delphi panelists supported all nine options suggested by the task force (Table 4-34). Out of the thirty three, thirty-one management teams agreed that alarm system hardware was a relevant option in the investment decision-making model. More than twenty-nine management teams suggested fire detection equipment and alarm system software. Like those in the other three programs, the maintenance contract on equipment and staff running the program were regarded as relevant decision options for the investments by fewer hotel management teams.

Value Drivers Influencing the Net Present Value of the Investments in Hotel Safety and Security

In addition to the performance measure and decision options, value drivers, also known as parameters, are the third and last components of any decision-making model. Although internal value drivers in the strategic financial sense are under the control of the firms, value drivers in decision-making model building sense can only be measured, forecasted, or estimated but they are not directly controlled by the firms. Simply, these value drivers of the performance measure of the investment must be identified, measured, and retained in the investment decision-making model if they exist in the business environment of the hotels and affect the performance measure.

Since the net present value (NPV) was agreed by the hotel managers as a performance measure of the investments in safety and security, the Delphi panelists were only asked to indicate how relevant the value drivers of the NPV were to the decision-making model. During the development stage of the second Delphi surveys, the literature was used to construct the list of possible value drivers for the investments to improve safety and security in four areas; crime (theft and robbery), on-premise injury, food-borne diseases, and hotel fires. The risk management task force suggested additions and modifications of items in the initial list (Appendix F). As discussed in Chapter Three, the second Delphi questionnaire (Appendix H) was prepared based on inputs from the task force as well as the suggestions of members of the researcher's Ph.D. dissertation advisory committee and the pretest group. These value drivers were regarded as the factors affecting the NPV of the investments in the second survey since the latter was a better description of the subjects in a practical fashion.

Table 4-35 presents the value drivers of net present value (NPV) of the hotel safety and security investments, along with their relevancy scores on the scale 1 to 10. According to the net present value literature, Table 4-35 lists the value drivers in four sections; annual benefits of the investments (i.e. annual cash flow), costs of the initial investment, costs of capital, and risks. Before the findings on each of these four sections are discussed, it is important to point out the dispersion of the assessment scores.

Table 4-35

Value Drivers of the NPV of Investments in Hotel Safety and Security

	I don't know		Not Relevant		Relevant						Total
	count	%	count	%	count	%	Min	Max	Mean	Std. Dev.	count
I Annual benefits of the investment											
Leverage on revenues											
Airline crews	1	2.94%	1	2.94%	32	94.12%	1	10	8.25	2.16	34
Business travelers (corporate or local agreement)	1	2.94%	1	2.94%	32	94.12%	5	10	8.06	1.61	34
Governmental travelers	1	2.94%	1	2.94%	32	94.12%	4	10	7.84	1.92	34
Business travelers (independent)	2	5.88%	1	2.94%	31	91.18%	3	10	7.81	2.02	34
Group travelers	1	2.94%	1	2.94%	32	94.12%	2	10	6.69	2.19	34
Free independent leisure travelers	3	8.82%	2	5.88%	29	85.29%	2	10	6.10	2.47	34
Annual saving											
Losses due to hotel fire	2	5.88%	5	14.71%	27	79.41%	1	10	7.37	3.14	34
Spending associated with employee injuries due to poor work safety conditions	1	2.94%	4	11.76%	29	85.29%	1	10	5.59	2.92	34
Guests' claims on their losses from criminal incidents	1	2.94%	5	14.71%	28	82.35%	1	10	5.36	2.67	34
Guests' claims on their injury while on premises	1	2.94%	5	14.71%	28	82.35%	1	10	5.14	2.41	34
Guests' claims resulting from food-borne disease cases	4	11.76%	5	14.71%	25	73.53%	1	10	4.68	2.61	34
Spending associated with employee injuries due to criminal incidents	3	8.82%	9	26.47%	22	64.71%	1	10	4.36	2.94	34
Annual expenses in running program on											
Hotel fires	0	0.00%	3	8.82%	31	91.18%	1	10	7.26	2.76	34
Food-borne diseases	2	5.88%	3	8.82%	29	85.29%	1	10	5.97	2.78	34
On-premise injury of guests	0	0.00%	4	11.76%	30	88.24%	1	10	5.80	2.88	34
Crime (theft and robbery)	0	0.00%	3	8.82%	31	91.18%	1	10	5.65	2.99	34

Table 4-35

Value Drivers of the NPV of Investments in Hotel Safety and Security

(Continued)

	I don't know		Not Relevant		Relevant						Total
	count	%	count	%	count	%	Min	Max	Mean	Std. Dev.	count
II Costs of the initial investment											
Initial investment for crime program											
Cost of a surveillance camera	0	0.00%	2	5.88%	32	94.12%	1	10	5.94	2.65	34
Cost of a surveillance camera software	0	0.00%	2	5.88%	32	94.12%	1	10	5.69	2.75	34
Cost of data storage system	0	0.00%	1	2.94%	33	97.06%	1	10	4.88	2.62	34
Cost of training camera staff	0	0.00%	8	23.53%	26	76.47%	1	10	4.38	2.59	34
Consulting and design costs	1	2.94%	2	5.88%	31	91.18%	1	9	4.06	2.52	34
Permits and administration costs	0	0.00%	4	11.76%	30	88.24%	1	9	3.83	2.39	34
Initial investment for on-premise injury program											
Renovation costs (equipment and installation)	1	2.94%	2	5.88%	31	91.18%	1	10	5.61	2.89	34
Signage costs	1	2.94%	3	8.82%	30	88.24%	1	10	4.93	2.82	34
Employee training costs	1	2.94%	3	8.82%	30	88.24%	1	9	4.80	2.52	34
Consulting and design costs	3	8.82%	3	8.82%	28	82.35%	1	9	3.96	2.55	34
Initial investment for food-borne diseases program											
Renovation costs (equipment and installation)	0	0.00%	1	2.94%	33	97.06%	1	10	5.52	2.77	34
Employee training costs	0	0.00%	1	2.94%	33	97.06%	1	10	4.73	2.75	34
Consulting and design costs	0	0.00%	4	11.76%	30	88.24%	1	10	4.67	2.47	34
Certification costs	0	0.00%	1	2.94%	33	97.06%	1	9	4.30	2.76	34

Table 4-35

Value Drivers of the NPV of Investments in Hotel Safety and Security

(Continued)

	I don't know		Not Relevant		Relevant						Total
	count	%	count	%	count	%	Min	Max	Mean	Std. Dev.	count
Initial investment for hotel fires program											
Renovation costs (sprinklers, equipment and installation)	0	0.00%	2	5.88%	32	94.12%	1	10	6.94	2.72	34
Software costs	0	0.00%	2	5.88%	32	94.12%	1	10	5.78	3.18	34
Consulting and design costs	0	0.00%	1	2.94%	33	97.06%	1	10	5.42	3.07	34
Signage cost	0	0.00%	2	5.88%	32	94.12%	1	10	5.41	3.10	34
Employee training costs	0	0.00%	1	2.94%	33	97.06%	1	10	5.18	2.99	34
Permits and administration costs	0	0.00%	2	5.88%	32	94.12%	1	10	4.53	2.99	34
III Cost of capital											
Cost of long-term debts	6	17.65%	4	11.76%	24	70.59%	1	10	6.33	2.85	34
Company risk	5	14.71%	5	14.71%	24	70.59%	1	10	5.79	2.59	34
Treasury bill rate	11	32.35%	9	26.47%	14	41.18%	1	8	5.29	2.27	34
Capital structure	9	26.47%	6	17.65%	19	55.88%	1	9	5.16	2.36	34
Preferred stock dividend rate	9	26.47%	9	26.47%	16	47.06%	1	9	5.06	2.74	34
Industry risk (Lodging)	9	26.47%	7	20.59%	18	52.94%	1	10	5.06	2.69	34
Bond interest rate	9	26.47%	10	29.41%	15	44.12%	1	8	5.00	2.20	34
Stock market performance	9	26.47%	10	29.41%	15	44.12%	1	9	4.87	2.67	34
Tax rate	6	17.65%	6	17.65%	22	64.71%	1	8	4.55	2.30	34

Table 4-35

Value Drivers of the NPV of Investments in Hotel Safety and Security

(Continued)

	I don't know		Not Relevant		Relevant						Total
	count	%	count	%	count	%	Min	Max	Mean	Std. Dev.	count
IV Risks											
Uncertainty of legislation change	3	8.82%	5	14.71%	26	76.47%	1	10	4.69	2.98	34
Uncertainty of foreign exchange rate	5	14.71%	5	14.71%	24	70.59%	1	10	4.63	3.13	34
Uncertainty of economic growth rate	5	14.71%	3	8.82%	26	76.47%	1	10	4.58	2.61	34
Uncertainty of construction time	5	14.71%	5	14.71%	24	70.59%	1	10	4.50	2.72	34
Uncertainty of consumer price index	5	14.71%	4	11.76%	25	73.53%	1	8	4.36	2.34	34
Unpredictability of crime	5	14.71%	5	14.71%	24	70.59%	1	8	4.13	2.15	34
Uncertainty of fund repatriation policy	11	32.35%	6	17.65%	17	50.00%	1	8	4.06	2.51	34
Uncertainty of availability of resources	5	14.71%	5	14.71%	24	70.59%	1	9	4.00	2.83	34
Unpredictability of foreign war	5	14.71%	5	14.71%	24	70.59%	1	9	3.92	2.54	34
Uncertainty of tax rate	6	17.65%	6	17.65%	22	64.71%	1	10	3.77	2.93	34
Unpredictability of natural disaster pattern	6	17.65%	3	8.82%	25	73.53%	1	9	3.64	2.48	34
Unpredictability of food-borne disease	6	17.65%	3	8.82%	25	73.53%	1	8	3.44	2.12	34
Unpredictability of civil disorder event	6	17.65%	4	11.76%	24	70.59%	1	8	3.21	2.17	34
Unpredictability of general election results	3	8.82%	7	20.59%	24	70.59%	1	9	3.21	2.54	34
Unpredictability of coups	8	23.53%	6	17.65%	20	58.82%	1	8	2.85	2.11	34
Unpredictability of war in the country	7	20.59%	7	20.59%	20	58.82%	1	8	2.50	2.14	34

Obviously, the panelists' opinions on the value drivers were quite diverse. In the cases where they agreed that value drivers were relevant to the investment decision, individual relevance scores assigned by those panelists on each value drivers were highly variable. The relevance scores ran from 1 to 10 with the standard deviations more than one unit, ranging from 1.61 to 3.18. For this reason, a careful interpretation of the results must be taken.

The annual benefits of the investments consisted of three groups of value drivers; leverage on revenues (i.e. increase in revenue), annual saving, and annual expenses in running the programs. Among the six guest segments, the airline crews were deemed by the panelists to be the most relevant value drivers of the NPV as the mean relevance score was 8.25 for this guest section. It could be assumed from this finding that the hotels' success in getting business from the airline crews depended more on investments in safety and security in the four areas discussed before. However, the panelists gave relatively high relevance scores to the other three business traveler groups including business travelers on corporate or local agreements, governmental travelers, and independent business travelers. Increases in revenue from group travelers and free independent leisure travelers were perceived as moderately relevant to the investments since their relevancy was rated in the range of 6.10 and 6.69. The value drivers under annual saving groups were also considered by the panelists as moderately relevant drivers of the NPV. Except for that of saving on losses due to the hotel fire, the relevance scores of these value drivers ranged from 4.36 to 5.59. Clearly, the hotel managers did not confidently believe that the investments in safety and security would help hotels save on costs due to losses if the safety and security events did happen. The panelists also considered the relevancy of the annual expenses to run the safety and security programs to be moderate, with the exception of the hotel fire prevention case.

Overall, the panelists considered value drivers under the initial investment categories as moderately relevant, designated by mean scores in the range of 4 to 6. However, these value drivers should be retained in the decision-making model if the majority of the panelists suggested that they were relevant to the decision-making. Since, in the worst case, only four out of thirty four management teams serving as members in the panel disregarded the relevancy of these initial investment value drivers, they should all be retained in the model, regardless of their moderate relevance scores.

The value drivers of the NPV under the category of costs of capital initially came from the literature (Copeland et al., 2000) and later approved by the risk management task force of the case study firm. More members of the panel suggested that these value drivers were not to be kept within the decision-making model. For instance, the treasury bill rate was not supported as a relevant value drivers of the NPV by eleven members of the panel. However, a lack of knowledge on the net present value process might be the cause of these opinions. In fact, some panel members indicated at the end of the second survey that they did not even understand how the costs of capital were comprised and would rather use the pre-determined costs of capital published by the firm (Table 4-24). This finding matched the opinion of the hotel management teams participating in the interviews. The hotel managers just tended to use the costs of capital provided by the corporate finance office even though some of them did not know how the costs of capital were determined. Nonetheless, the economic manual stated clearly how the costs of capital should be derived from (Table 4-23).

Risks of the investments came in two forms. The first form was due to the failure of the hotel managers to correctly predict the occurrence and severity of safety and security events. These variations could affect both revenues and costs in the NPV calculation. For example, the firm would lose more money than it had expected if the new food-borne disease that was not included in the framework was discovered later on. For this reason, these variations should be somehow incorporated into the decision-making model if it is expected to help the decision-makers perform their tasks more effectively.

The second form of risks was due to the uncertainty of the environmental events outside the group of safety and security events. For example, the local currency of the country where the investment was being made might be devaluated, requiring more local currency to purchase or import the food packaging system. In such a case, the hotel still needed the same system with the same configuration as planned. However, it was an external environment event, not one relating to safety and security, thereby increasing the cost of the investments. This would then have a negative effect on the NPV of the investments.

Regardless of the forms of risk, the actual NPV of the investments would be affected. A good decision-making model needs to have all possible risks built in and relationships between risk events specified. The causal relationships will be left to the future model builder to specify since it was the goal of this study to only identify these risks (i.e. build a framework for the decision-making model building) and leave the remaining steps to future study. The literature (Kim, 1992 and Turnbull, 1996) was utilized to develop an initial list of project risks in the multinational hotel industry (Appendix F). The list was edited based on the suggestions of the risk management task force before it was incorporated into the second Delphi survey (Appendix H).

Half of the sixteen risk value drivers were rated in the range of "4" mean scores (on the scale 1 to 10). The rest of the value drivers received less relevant scores. Uncertainty in legislation change was regarded as the most relevant value driver, at a mean score of 4.69, to the investment decision under the risk category. Uncertainty of foreign exchange rate closely followed at a mean score of 4.63. Among the least relevant value drivers in this risk category were unpredictability of general election results, unpredictability of coups, and unpredictability of war in the host country. From the data, it appears that the hotel managers did not take these risks into serious considerations when evaluating the investment projects in safety and security.

Summary

This chapter presented the results of the study according to the two main research questions: 1) What are the key dimensions of safety and security that affect the multinational hotel firm and in what order do they deserve attention from the firm?, and 2) Understanding the key dimensions of hotel safety and security, what process is used in making a decision to invest in hotel safety and security? As to the dimensions of safety and security adequately important to the firm's value creation process posed in the first research question were described for use as variables defining the scope of the investment decision problem. Limited by these dimensions, the framework for a decision-making model for investments in hotel safety and security was developed. Included in the

framework were the NPV as a performance measure, decision options, and value drivers of the NPV. These components of the decision-making model were suggested by the hotel managers and presented in the chapter. The framework is presented and discussed in Chapter Five.

Chapter 5

Discussion and Conclusions

Introduction

This chapter presents a summary of this exploratory study on valuing investments in the context of hotel safety and security. It also presents a framework of hotel safety and security investment decisions. This framework can be used to build a descriptive decision-making model in future research where causality among its components can be specified. The framework was developed based on the findings of the two research questions as presented in Chapter Four.

The chapter also offers commentaries of the major findings and a discussion on how multinational hotel firms should proceed when they consider investing in safety and security. Based on the literature and evidence from this study, a set of propositions is offered for future studies. Also included in this chapter are contribution and limitations of the study as well as suggestions for future research.

Summary of the Study

The multinational hotel industry has been challenged with the complexity and dynamism of its business environment. The value creation at any multinational hotel firm is a function of how well its management identifies the threats and opportunities introduced by major forces driving change in the industry. Adding value to the firm involves aligning the opportunities presented in these forces with the strategic choice and the firm's structure. A good match or fit among these three constructs is believed by strategic management researchers to bring in value to the firm.

Since the firm's environment is dynamic rather than static, a check on the alignment needs to be done by the firm's management on a regular basis. For this reason, management needs to regularly scan the firm's environment for the major forces driving change. Opportunities need to be identified from these forces. They should then be transformed into a combination of uniquely knitted products and services (i.e. competitive methods) to be invested in. Last, the firm's structure should be assessed; and changes must be made by allocating resources to the firm's units responsible for creating

competitive methods. If all three tasks are properly aligned, the firm can experience superior performance as a result. This is the premise of the Co-Alignment Model (Olsen et al., 1998).

Olsen and Cassee (1995) identified five major forces driving change in the multinational hotel industry including; capacity control, new management, assets and capital, technology, and safety and security. Each of these forces is hypothesized to be important in explaining the hospitality firms' value. There has not been a comprehensive research program to test the assertion of simultaneous influence of all five forces on the firm's value. However, some individual forces have been explored with respect to their importance. Recently, technology has received attention from Co-Alignment Model researchers (Cho, 1996; Connolly, 1999, and Chang, 2004). This study, however, was built upon the work of Olsen and Pizam (1998, 1999) by further exploring the safety and security force.

Although the importance of safety and security in the multinational hotel industry should be obvious, only a few studies have been conducted on the subject. Furthermore, the dimensions of safety and security that were relevant to the multinational hotel industry had not been well defined and agreed upon. Lacking clear dimensions of safety and security created some difficulties for the hotel firms seeking to develop an appropriate decision-making model for the investments to address the opportunities and changes related to this force driving change. These dimensions would provide a boundary for the decision-making model. Meaningful research could not be done nor can the valuation of investments in safety and security occur without first developing a common industry understanding of the construct of safety and security. This study was designed in part to remedy this situation.

To identify the key dimensions that were relevant to the investment needs, a thorough review of the literature on the topic was done. The initial dimensions of safety and security including crime, health, natural disaster, man-made hazards, and terrorism (Olsen & Pizam, 1998, 1999) served as the main inputs for designing the data collection methods. This was followed by semi-structured interviews in multiple hotels within a single brand and continental context. A review of the firm's documents, interviews with the chief financial officer, the directors of corporate finance and corporate security, as well as the hotel management teams were performed. Additionally, two Delphi surveys with the management teams at all of its hotel properties in Europe were done. Fifty-three hotels participated in the first round of Delphi surveys and thirty-six hotels in the second round. Through Delphi surveys, group communication was organized without discussion in order to refine a group opinion and reach a possible consensus on the dimensions of safety and security that were most important to the hotels.

Furthermore, the study was used to provide recommendations for the components of a decision-making model for investments addressing the identified dimensions of safety and security. The framework would then be used to build a decision-making model for future research. Like the dimensions of hotel safety and security, the components of a decision-making model to address these dimensions must be defined and ranked based on their relevancy or importance to the hotel. Appropriate performance measures of the investment needs in the context of hotel safety and security was defined first, followed by the decision options and value drivers of the performance measures.

Initial findings from the interview with the chief financial officer and the director of corporate finance were used to build the second Delphi survey. The corporate finance office provided general policies and procedures for evaluating any investment project application submitted by its hotels. Financial and non-financial performance measures preferred by the firm were discussed during the interview. The two key executives also gave the formula for the calculation of the cost of capital. The firm mandated the use of the formula for all types of fixed-asset investments. However, they did not have much to share about decision options and value drivers of the NPV in the safety and security investment decision since these components of the decision-making model were not within their areas of expertise.

However, the director of corporate security and his fellow members in the risk management task force, including the chief financial officer, and the vice president for operations, reviewed the relevancy of the decision options and value drivers of the NPV before the second Delphi survey was developed. These were components of the decision-making model that came from the literature and interviews. The second survey which was the last survey in the Delphi iteration contained an approved list of decision-making model components. The survey was sent to all fifty-one hotels which responded to the first Delphi survey and were still part of the firm by the time the second survey was administered. Thirty-six hotels responded to this survey.

A framework for building a descriptive decision-making model was suggested at the conclusion of the second survey. It was termed a framework, as opposed to a model, since the causal relationships among the components of the model were not specified in this study. This exploratory study concluded when the components of a framework for valuing investment in hotel safety and security were identified. However, the framework should serve well as a starting point for future research which builds a descriptive decision-making model. There will be a need for specification of causality among the components of the descriptive decision-making model and optimization of the performance measure of the prescriptive model (i.e. the net present value). However, these last two steps were out of the scope of this study. Based on the dimensions of safety and security and relevant components of a decision-making model identified through the research, this chapter discusses the findings, offers conclusions, as well as cites limitations of the research, and give suggestions for future research.

Framework Description

The framework of a decision-making model for investments in hotel safety and security as observed in the case study firm is shown in Figure 5-1. It serves as a tool to synthesize the findings of the two primary research questions in this study. Both the dimensions of safety and security and the components of a decision-making model for investments in hotel safety and security are included in the framework. The configuration suggests that a decision to invest in hotel safety and security is the result of interaction among the components in the decision-making model. These components are identified based on their relevancy to the investment needs. They are the environmental forces and reflect the first construct of the Co-Alignment Model.

The framework is a product of the research underpinned by the Co-Alignment Model and as such it works according to the main theme of the Co-Alignment Model.

These components in the framework are significantly related to the environmental forces. However, every framework operates within limits. The limit for the framework suggested by this study is a set of safety and security dimensions that are important to the firm's value creation process.

With respect to the safety and security forces; health, man-made hazards, and crime are the important dimensions. The components identified as adequately important to be included in the framework were suggested by the hotel managers who are most directly affected by these safety and security dimensions. The components are categorized into three groups including the net present value (i.e. the performance measure) of the investments, the value drivers of the net present value, and the decision options in the investments.

The relative importance of the value drivers of the NPV and the decision options are indicated by an order of appearance, from top to bottom, in each box in the framework. That is, the decision option or the value driver that appears first in a particular box is more important than the subsequent drivers in the same box. However, there is an exception in the "cost of capital" box where all value drivers are said to be of equal importance. These "cost of capital" value drivers were provided by the corporate finance office, not the hotel managers, without suggesting their relevancy to the investment needs. While the order of importance can be realized in the framework, it is important to acknowledge that equal intervals between each pair of the decision options or value drivers cannot be assumed. In addition, the framework is presented as qualitative evidence from the study. It is regarded as a framework for a decision-making model since it does not suggest any causality in components. The causal relationships can be identified in future research in order to build a descriptive decision-making model.

The Dimensions of Safety and Security

The Co-Alignment Model suggests that the forces driving change must be identified by scanning environmental events. Since a multinational hotel firm is affected by an abundant number of environmental events, it is necessary for its management to digest the outputs of the environmental scanning endeavor and reduce the information into a manageable size. The key forces driving change are the product of such an attempt (Olsen et al., 1998). However, each force driving change still needed to be further defined as to its key dimensions. Each of the forces driving change in the multinational hotel industry is believed to contain a number of dimensions. Each dimension consists of various environmental events with common characteristics.

The main premise of the Co-Alignment Model urges the hotel managers to regularly update the list of the industry's forces driving change and their dimensions. This study assisted the managers of one major multinational hotel firm in the identification of the dimensions of hotel safety and security. Safety and security was one of five major forces driving change in the industry as defined by Olsen and Cassee (1995). Its dimensions as identified by the world's experts in various areas of safety and security who participated in the International Hotel and Restaurant Association's think-tanks on safety and security in 1998 and 1999 are terrorism, crime, man-made hazards, health, and natural disasters (Olsen & Pizam, 1998, 1999). These dimensions were assessed in this study for their relevancy to the case study firm's investment needs at the present time.

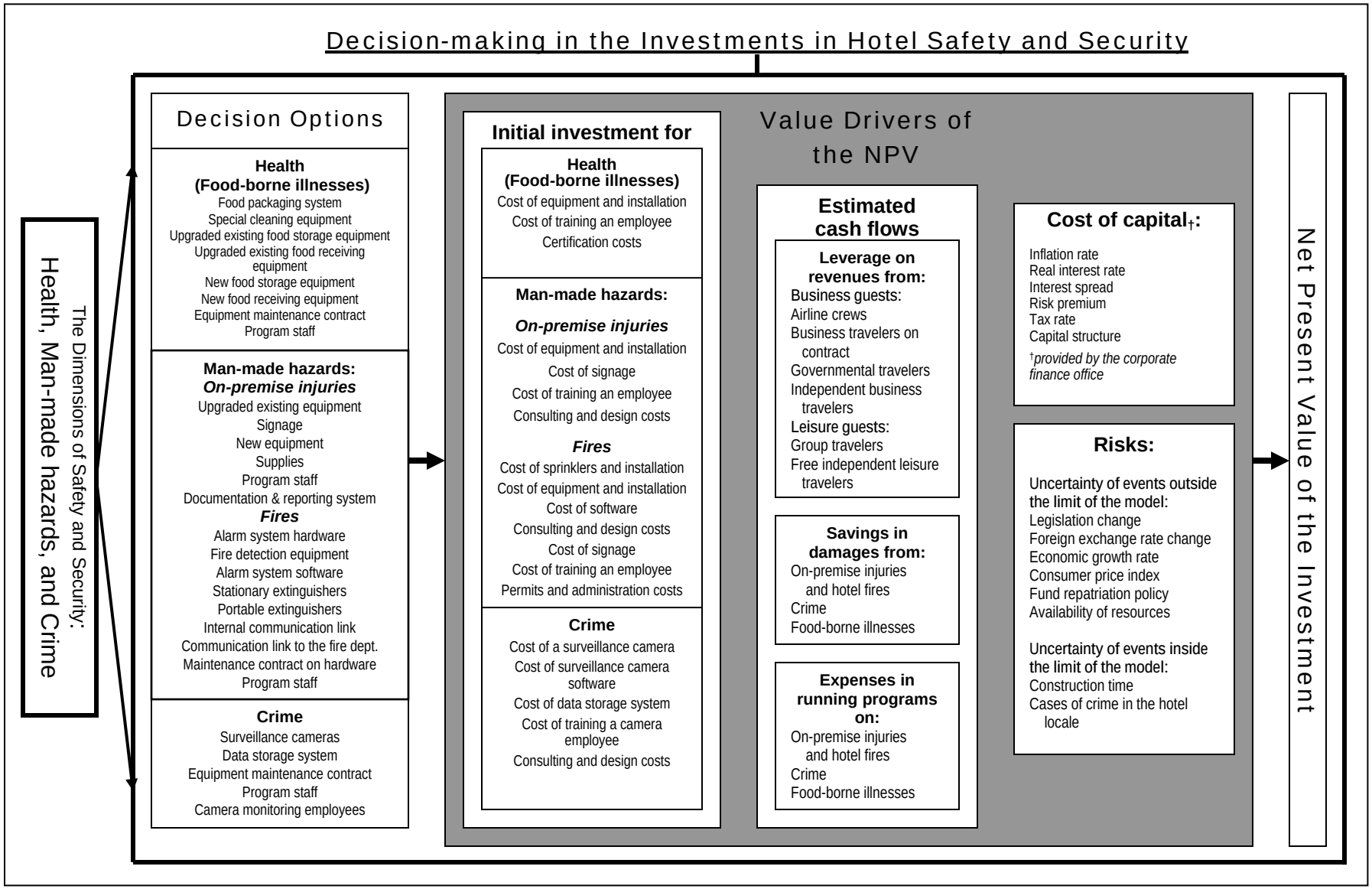

Figure 5-1

Framework of a Decision Model for the Investments in Hotel Safety and Security

Note: Value drivers of the NPV and decision options are ranked by an order of appearance in terms of their relative importance, from top to bottom, in each box. The exception is in the "cost of capital" box where all value drivers are said to be of equal importance.

The study indicates that there are three dimensions of safety and security applicable to the case study firm; man-made hazards, health, and crime. These dimensions were primarily identified as ones being moderately important to the firm. These dimensions were given a moderate importance score (i.e. the "4" score on the scale 0 to 7). Their likelihood was not considered highly imminent. That is, the likelihood scores were in the range of 3 and 4 on the scale 0 to 10, with the exception of the health events that were assessed with a score of 2. However, the importance of the dimensions to the firm's value creation was used as a criterion to retain the dimensions in the framework. For this reason, it can be concluded that the dimensions retained in the framework including man-made hazards, health, and crime are moderately important to the firm's investment needs regardless of their imminent nature (Table 4-11 and Table 4-12).

Events under each of the three dimensions were also suggested by this study. As discussed in Chapter Four, the health and man-made hazard dimensions concern managers more than does the crime dimension. Again the hotel managers are concerned with the safety and security events that are important to the firm's value creation. Therefore, managers are concerned with food poisoning and food-borne diseases under the health dimensions, leaving air-borne diseases out of the framework. The man-made hazard events concern managers in two areas; on-premise injuries and hotel fires caused by a machine failure. Last, the crime dimension consists of events with the nature of theft and robbery, with the exception of information security breaches affecting the guest. They are moderately important (i.e. on the "4" score on the scale 0 to 7) to the firm.

Since these three dimensions, man-made hazards, health, and crime are perceived by the hotel managers as adequately (i.e. moderately) important to the firm, the managers need to respond to them accordingly. The basic requirement in countering this environmental force is to invest in critical success factors, if not yet in place, defending the firm's value in the short run. However, simply investing in critical success factors is not sufficient for the firm to add value to its shareholders in the long run since the practice does not offer unique competitive advantages to the firm. Instead, the strategic choice must be well developed in a way that reflects the opportunities suggested by these dimensions. The choice must contain competitive methods that can be used to address these safety and security dimensions in a way that differs from that of the competitors.

Because of the importance of these safety and security dimensions, the opinions of the hotel managers were questioned about three possible programs addressing the problem. These three programs were created according to the three safety and security dimensions. They were; 1) health (food-borne illnesses) program, 2) man-made hazards program, and 3) crime program. Given that the man-made hazard dimension involved two concerns including on-premise injury and hotel fires, the man-made hazards program was separated into two categories. The hotel managers were asked to give their opinion on the components of a decision-making model for investments in these three programs. That is, they decided on what components were relevant to the firm's investment needs. There were three types of components for the managers to express their opinion about; 1) the performance measure of the investments, 2) the decision options in the investments, and 3) the value drivers of the performance measure.

The Net Present Value

The net present value (NPV) is used as the performance measure in the investments in safety and security. It is a performance measure that is widely used in strategic financial investment problems (Pike, 1988; Copeland, 2000). The NPV is considered as a financial performance measure. Though the popularity in using non-financial measures has recently grown contributing to the success Kaplan and Norton's (1992) concept of the balanced scorecard, the values of the non-financial measures are reflected in the NPV. That is, the NPV is a comprehensive performance measure comprised of different measures of the success of the investment. More importantly, it is a key figure that the investors and the investment analysts monitor every time there is an announcement of a new investment project from the firm. Each investment is supported by the investors and the analysts only if it provides a firm with a promising NPV.

In addition, the case study firm mandates the use of discounted cash flow (DCF) techniques as the evidence of success of its fixed-asset investment projects. The hotels are required to provide either the net present value (NPV) or the internal rate of return (IRR) in the investment application sent to the regional office and/or the corporate finance office for their approval. The results of the interviews and Delphi surveys indicate the popularity of the NPV within the firm. Thus the NPV is used as the performance measure of the investments in the framework.

Decision Options

The decision options of the framework describe the products and services that can be invested in by the hotels. They are compatible with firm's critical success factors and competitive methods, in the Co-Alignment Model literature. If the combinations of products and services to be invested in are not unique to the firm but common among the competitive firms within the industry, they are considered as critical success factors. These are the bundles of products and services offered by most hotel firms in the same competitive group, also called the strategic group (Porter, 1980 and 1985). Investments in these types of decision options do not give competitive advantages to the firm against its competitors. However, failure to do so jeopardizes the firm's value. The firm must at least have products and services that are commonly offered to the customers by the competitors.

Critical success factors normally offer tactical benefits to the firm. Efficiency induced by investments is normally realized as a key tactical benefit by any investment made at hotel firms (Cho, 1996; Connolly, 1999). Efficiency can be in the form of a reduction in costs or an improvement in productivity. Examples of cost reduction include critical success factors regarding safety and security which are likely to help the firm reduce settlements to customers who are injured, ill, or have experienced a loss of their personal valuables. Improvements in productivity as a result of investing in critical success factors relating to safety and security comes from areas including a decrease in employee injury cases and an amount of defective raw materials (e.g. contaminated meat).

Aiming only at tactical benefits offered by the investments in safety and security is a major mistake of short-sighted managers. The ultimate goal of the firm is to continue adding value for its investors which can be viewed as a firm's performance. For this

reason, investments in safety and security must provide strategic benefits or advantages that illustrate success. Being different in the industry (Porter, 1990, 1995) and pioneering the industry (Lieberman & Montgomery, 1988, 1998) as results of investments in safety and security represent such benefits or advantages and are expected to explain performance.

These strategic benefits cannot be realized unless the firm is ahead of its competitors in terms of its products and services offered to the customers. Critical success factors as combinations of products and services cannot deliver these benefits, instead competitive methods, which are combinations of products and services knitted in a unique way, deliver the benefits. A combination of decision options in safety and security investments that are truly unique to the firm are regarded as competitive methods.

The framework offers products or services that can be put together. The result of such an attempt is either considered a competitive method or a critical success factor according to the perception of the managers who create it. However, a limited presence of intangible decision options in the framework makes it difficult for any hotel manager who wants to develop competitive methods from these decision options. These decision options are more likely to be the elements of industry-wide critical success factors rather than competitive methods unique to the firm. However, one must not forget that strategy is a result of the perceptions of managers and how they view their competitive environment. Different managers may perceive different opportunities from the same environmental event.

Decision Options Regarding Health

The events under the health dimension that are perceived by the hotel managers as being important enough to be considered involve only food-borne illnesses. Thus, the decision options identified by the managers are related to such illnesses. There are eight options relevant to the firm's investment in health. The most relevant (i.e. most supported) decision option is the food packaging system, followed by special cleaning equipment, an upgrade in existing food storage equipment, an upgrade in existing food receiving equipment, new food storage equipment, new food receiving equipment, equipment maintenance contract, and employees working in the food-borne illness program.

The options of upgrading existing equipment are more supported by the managers than those of purchasing of new equipment. There are fewer managers supporting the inclusion of the maintenance contracts and employees working in the program in the framework than the managers suggesting other options.

Decision Options Regarding Man-Made Hazards

Since on-premise injuries and hotel fires were viewed as separate concepts, the hotel managers suggested separate sets of decision options. In the case of on-premise injuries, an upgrade of equipment and spending on signage are supported by more managers than other options. They are followed by a purchase of new equipment, an acquisition of supplies to prevent accidents, the investment in employees working the program, and the documentation and reporting system, respectively.

In the case of hotel fires, the alarm system hardware concerns more managers than other options. Fire detection equipment, alarm system software, stationary extinguishers, portable extinguishers, internal communication links, communication links to the local fire department, maintenance contracts on hardware, and employees working in the program are the list of decision options relevant to investments in the fire prevention program.

Decision Options Regarding Crime

The hotel managers viewed the crime dimension as thefts and robberies of the hotel and its guests and employees. Ones who committed crime in this sense target at valuables, not the life of the victim. Surveillance cameras are suggested as a decision option for the crime prevention program by managers more so than the other four options. Also included in the framework are data storage systems, equipment maintenance contracts, program staff, and attending employees.

Although the five options remained in the framework, it was important to suggest to other researchers that only surveillance cameras and their data storage systems were suggested as being included in the framework by the majority of the managers. The maintenance contract, which is the third most relevant decision option for the program, is only supported by fifty-nine percent of the hotel managers. Additionally, the spending on employees attending the cameras is suggested as a decision option by only half of the managers. However, these options are included in the framework since they are supported by more than half of the managers and need to be further explored in future research.

Value Drivers of the Net Present Value

The last components of a decision-making model to be included in the framework are the value drivers of the performance measures of the investments. Since the NPV is used as the performance measure in the framework, these components refer to the value drivers of the NPV. It was recommended by the Co-Alignment Model that the discounted cash flow (DCF) measure (i.e. the NPV or the IRR) is to be computed from four building blocks; 1) estimated cash flow, 2) the cost of capital, 3) the initial investment cost, and 4) risks. These are the four categories of the value drivers in this framework. The hotel managers were instructed to suggest the value drivers relevant to the firm in these four categories. The value drivers retained in the framework met two requirements; 1) considered relevant to the firm's investment needs by more than half of the panelists, and 2) rated at least moderately important (at least "4" on the scale 1 to 10) by those agreeing panelists.

Estimated Cash Flows

The "estimated cash flow" box in the framework (Figure 5-1) illustrates the value drivers in three groups; leverage on revenues (i.e. an increase in revenues) from different guest segments, savings in damages from different safety and security programs, and expenses in running these programs. These are both revenue generating and cost

incurring throughout the life of the investments. It is important to note that the life of the investments was not well defined by the hotel managers participating in the interviews. While some could not estimate the life of the investment in safety and security, others indicated that it was in the range of 5 to 10 years (Table 4-30). Their suggestions relied upon the accounting law in the host countries. That is, the useful life allowed in calculating the annual depreciation should be used as the useful life of the project when making an investment decision. The standard useful life for different types of assets must be specified for use throughout the firm. The lack of a companywide standard for useful life for use in the investments in safety and security is discussed in the recommendations section later in this chapter.

With an agreeable standard useful life which can be used on different assets, the three groups of cash flows can be estimated. First, the increase in revenues from different guest segments as a result of having the investments (i.e. decision options) in place can be estimated. Second, the savings in damages from the occurrences of the events under the three safety and security dimensions throughout the life of the investment can be assessed. Last, the expenses in running the three safety and security programs throughout their lives can be estimated. Again, the estimation of these cash flows cannot be computed entirely from the information presented in the framework. Though the value drivers are suggested, their causal relationships with the decision options are not yet specified. The study only suggests the components of the framework.

The "leverage on revenues" or "increase in revenues" value drivers are classified into two groups; business guest segments and leisure guest segments. Improving safety and security levels in the hotel would bring in more business from different guest segments. The hotel managers suggested that an increase in revenues as a result of improving safety and security measures in the hotels did not occur at the same level across different guest segments. The business guest segments would be more concerned with such an improvement and would increase their business at a higher rate once the improvement is made than would the leisure guest segments. That is, all value drivers in the business guest segments are deemed to have higher relevance to the investment than do value drivers in the leisure guest segments. Individual drivers in each of the two groups are listed in an order of relevancy. That is, the leverage on revenues from the airline crews is more relevant to the firm's investment needs than that from the business travelers on contract. The pattern of listing the most relevant value driver on the top and the least relevant driver on the bottom of each box is consistent throughout the framework, except in the "cost of capital" box for the reason discussed earlier.

In addition to more business from the various guest segments, the investments in safety and security are expected to help the firm save costs in the form of damages to the firm's properties and compensation paid to redress customer claims. These savings in costs can be viewed as increases in cash flows. The savings as a result of investments in three programs are retained in the framework since the majority of the managers considered that these savings are at least moderately relevant to the problem.

While the three safety and security programs are expected to bring in more business from the safety and security concerned travelers, they lead to increases in costs. These are the costs in running these programs. These expenses are the value drivers that need to be included in the framework.

Cost of Capital

The value drivers under the category of the cost of capital are inflation rate, a real interest rate, an interest spread, a risk premium, a corporate tax rate, and the capital structure. This list of value drivers is provided by the corporate finance office rather than the hotel managers. The reason for discarding the managers' opinion on the relevancy of these cost-of-capital value drivers was that a substantial number of hotel managers indicated that they did not know how to retain these value drivers in the framework (Table 4-35). Nonetheless, some of these managers suggested at the end of the second Delphi survey that the cost of capital is given by the firm; thus, they need not worry about how it is calculated.

Table 4-23 provides a formula that the corporate finance office uses in calculating the cost of capital. The weighted average cost of capital (WACC) is used by the firm as a discount rate in the NPV technique. It incorporates a risk-free interest rate (i.e. an interest rate of the treasury bill), a risk premium (i.e. the rate of return required by the investors in an addition to the rate of return they received from the risk-free investment in the treasury bill), the tax effect, the cost of debt, and the capital structure. It is a composite rate of return required by the firm's creditors and investors to compensate their opportunity costs in making their funds available to the firm rather than investing it elsewhere. Since the cash flows of the investments occur throughout the life of the project, the firm must pay the creditors and investors for their opportunity costs. The future value of these estimated cash flows needs to be discounted to the value at the day that the investment is being made by the WACC. The positive net present value is realized when the present value of these estimated cash flows is greater than the initial investments made at the first day of the project.

Initial Investment Costs

The initial investment costs are the costs of acquiring fixed assets and their related services (e.g. installation and consulting services). These costs are assumed to occur on the day that the investment is being made. That is, the money is assumed to be out of the pocket on that day. For this reason, these costs were not subjected to discounting to the present value by the WACC. Their values are actually at the present time (i.e. the day of investment).

The value drivers under this "initial investment costs" category identified as adequately relevant to the firm are classified into three groups as indicated by the three boxes in Figure 5-1. Drivers under the health program box include costs of equipment and installation and certification costs. The "consulting and design costs" driver (Table 4-35) is not retained in the framework based on the feedback from the hotel managers.

Initial investment value drivers under the man-made hazards program included in the framework are presented under the two groups; on-premise injuries and hotel fires. Cost of equipment and installation, cost of signage, cost of employee training, and consulting and design costs are listed as the value drivers under the on-premise injury prevent program. The initial investment value drivers under the hotel fire prevention program included in the framework are cost of sprinkler and installation, cost of

equipment and installation, cost of software, consulting and design costs, cost of signage, cost of training an employee, and permits and administration costs.

Last, the cost of a surveillance cameras, cost of camera software, cost of data storage system, cost of training an employee attending the cameras, and consulting and design costs are the initial investment value drivers under the crime prevention program category retained in the framework. The "permits and administration costs" driver is not kept in the framework since it is not adequately supported by the hotel managers.

Risks

Risks of the investments come in two forms. The risks in the first form are introduced by the failure to accurately forecast the future outcome of the safety and security dimensions defined by the hotel managers. That is, an uncertainty in the results of the safety and security events under the three important dimensions (i.e. health, man-made hazards, and crime) initiates risk to the investment. The firm would suffer if there are considerably more crime events occurring throughout the life of the investment than were expected as a result of the crime prevention program. The value drivers under the first form suggested by the hotel managers to be included in the framework are construction time, cases of crime in the hotel locale, and cases of food-borne diseases.

The second form of risk is introduced by the uncertainty of events other than the dimensions of safety and security identified by the hotel managers. These value drivers are related to the political and economical forces in the host country where the hotels are located (Kim, 1992; Turnbull, 1996). The value drivers deemed adequately important to be retained in the framework are the uncertainties of, in an order of importance, legislation change, foreign exchange rate change, economic growth rate, consumer price index, fund repatriation policy, and availability of resources. Except for the legislation change, all of these drivers are of an economic nature. Failing to join the list of value drivers under this category are the uncertainties of a foreign war, a tax rate, a natural disaster, a civil disorder event, a coup, and an internal war in the host country.

Critique of the Framework

First, the proposed framework is developed from an investigation of the process that the case study multinational hotel firm uses in valuing investments in safety and security. That is, the components of the decision-making model for the investment as specified in the framework are supposed to be specifically relevant to the firm. There is a need to test whether the framework can be applied in the context of other multinational hotel firms.

Secondly, a descriptive decision-making model needs to be specified using the proposed framework in future studies. This was a qualitative investigation. As such, the framework is proposed without presenting causality among its components, although the causality among the constructs of the Co-Alignment Model is assumed. That is, a fit between important dimensions of safety and security, the value drivers of the NPV, and decision options as the inputs of strategic choice must be properly assessed if the acceptable NPV is desired by the firm. However, the causal relationships between the components in the framework are not mathematically specified.

Thirdly, the proposed framework is developed from the diverse group of hotel managers. Though the three dimensions of safety and security important to the firm, including health, man-made hazards, and crime, are validated using the analysis of variance (ANOVA), there is a significant dispersion of the managers' opinions. The perception of the hotel managers is not different across the political and economical context. It is not inconsistent across hotel sizes either. Nonetheless, the standard deviations of the importance score on most of the events making up of the dimensions are more than one unit on the scale 0 to 7. The Delphi process did not work quite as well since the panelists insisted that their assessment accurately reflects the importance of the safety and security dimensions. This situation happens when the decision-makers (i.e. the panel members) are not interested in having a group generate their decision; but rather, have an informed group present all the options and supporting evidence for their consideration (Turoff, 1970). These diverse opinions are normal outputs of the policy Delphi (see Chapter Three for details). It was an intention of this study to build a consensus through the decision Delphi but it was quite evident that the results resembled of those of policy Delphi.

Lastly, the limited knowledge of some hotel managers on the Co-Alignment Model concept, both in the environment-strategy-performance relationship and the investment decision using the net present value, may lead to the inappropriate inclusion and exclusion of some components in the proposed framework. These field managers do not recognize safety and security as a force driving change that is highly important to the firm. The dimensions of safety and security identified by these managers do not mirror ones suggested by experts in the academic and governmental fields. In addition, they received a moderate score regarding their importance to the firm. This is perhaps the reason why decision options identified by these managers are likely to be ingredients of critical success factors rather than those of competitive methods. Beside the limitation on the environment-strategy-performance relationship, the field managers' knowledge on the strategic financial investment is also inadequate. They do not grasp the concept of net present value, especially in the areas of cost of capital and risks in the investments. A problem was partly remedied by replacing the cost-of-capital value drivers provided by the hotel managers with those suggested by the executives in corporate finance office. However, the value drivers regarding the project risks provided by the field managers may not be complete and the framework needs to be used with caution in future research.

Commentaries to the Findings

This section presents a discussion on how well the management of the case study firm has aligned itself with the safety and security force. The Co-Alignment Model which has been discussed in Chapter Two asserts that an alignment of environmental events, strategic choice, and a firm's structure creates value-adding performance. Since this study deals with a relationship between events regarding safety and security as an environmental force and strategic choice, only an alignment of the two is discussed in this section. The areas of misalignment are also reported. In addition to a strategic alignment of the case study firm in the context of investments in safety and security, the findings on intangibles are commented on in this section.

Strategic Alignment

A strategic alignment in the case study firm with respect to investments in safety and security was assessed from two perspectives: an external alignment, and an internal alignment. An external alignment exists when the firm's management properly addresses the forces driving change in the industry and responds to them by preempting the industry in investments in new competitive methods that help it realize opportunities and avoid the impact of the threats suggested by the safety and security force. This external strategic alignment is the main theme of the Industrial Organization (IO) perspective of strategic management (see Chapter Two for full discussion about the IO literature). The safety and security force is considered to be properly assessed by the case study firm's managers when the assessment is in harmony with that made by experts in the field. Another piece of evidence required in concluding that the case study firm is externally aligned with its environment is its set of competitive methods regarding safety and security currently in place or in development. This is congruent with the main premise of the Co-Alignment Model, that a firm's management must possess the ability to properly align itself with the forces driving change in the environment. With respect to the safety and security force, the case study firm's management must sufficiently invest in competitive methods regarding safety and security that yield the greatest financial value to the firm.

The case study firm's management is not only required to be able to externally align itself with the safety and security force, it also needs to be internally aligned. The latter argument is a basic premise of the Resource-Based View (RBV) of a firm. That is, the firm must possess the assets and the internal capability required to implement its strategies (see Chapter Two for detailed literature review on the RBV). An internal alignment is assumed to exist within the case study firm if there is a consistency in the way the field managers perceive opportunities and threats introduced by the safety and security force. Additionally, a consistency in the way headquarters managers and field managers (i.e. hotel managers) view the safety and security force is a basic requirement for internal alignment. Although strategies are results of the perceptions of the managers on the firm's business environment, and the perceptions vary across managers, the Co-Alignment Model asserts that consistency among perceptions from different levels of strategy makers is needed if a firm is considered to be in alignment.

External Alignment

The case study firm's management is externally aligned with safety and security if its strategic choices properly reflect such an environmental force. That is, the management must have in place, or at least in a development stage, all competitive methods that assist it in capitalizing on opportunities suggested by the safety and security force and minimizing the impact on the firm of the threats presented by the force. The result of the assessment of the external alignment of the case study firm's management is discussed here in two areas. First, a comparison of the dimensions of hotel safety and security identified by the experts in the field and those suggested by the case study firm's management is discussed. Second, the strategic choice made by the management is commented upon.

The overall assessment of the external alignment of the case study firm starts at its management's perception of the forces driving change. The hospitality industry leaders gathered at a series of *Visioning the Future* workshops at various locations across the globe to determine the forces driving change in the industry. Capacity control, safety and security, assets and capital, technology, and new management make up major forces (Olsen & Cassee, 1995). With respect to safety and security, the headquarters executives of the case study firm realize and formally stress the importance of the safety and security force in the firm's documents, since the force is believed to be one of the major determinants of customer loyalty (Figure 4-2). The firm's hotel managers are urged by the corporate managers to think strategically with respect to the safety and security issue. However, hotel managers participating in the interviews did not cite safety and security as one of the major forces driving change in their environment (Figure 4-3). This was a starting point of external misalignment when the case study firm's field managers did not perceive that safety and security was one of the major forces driving change in the industry, as did the industry leaders.

Although safety and security was not deemed to be an important force for the case study firm from the perspective of its hotel managers, these field managers were asked to identify dimensions of hotel safety and security affecting their hotels. In order to better comment on the dimensions provided by field managers, the terms regarding the environmental events construct should be defined first. There are three terms describing the environmental events construct in this study. They operate on three different levels. The environmental event is the smallest environmental unit. Environmental events of the same nature are combined into a dimension. In the same fashion, a group of common dimensions is regarded as a force driving change in the industry. The environmental force is the biggest environmental unit. However, the dimensions are the environment unit used in the conclusion of this study. The dimensions are not as abstract as a force, and are not as detailed as events.

The dimensions of safety and security provided by the field managers in this study are compared with those identified by the experts in the field. The leading experts in safety and security from the private sector, government organizations, and education institutions were gathered to identify the dimensions of safety and security at the two think-tanks administered by the International Hotel and Restaurant Association in August, 1998 and August, 1999, in Orlando, Florida and Stockholm, Sweden, respectively (Olsen & Pizam, 1998, 1999). These experts were leading figures in the specific area and are influential in shaping the world's policies on various aspects of safety and security. The dimensions expanded from crime, terrorism, and health (i.e. food safety) in the 1998 think-tank to include natural disasters and man-made hazards in the 1999 think-tank. The impacts of these five dimensions on the firm's value creation have remained evident until the present time.

The case study firm's managers only identified health, man-made hazards, and crime as dimensions of safety and security affecting their hotels, and disregarded the importance of the terrorism and natural disaster dimensions. These two dimensions ignored by the hotel managers in this study lately have become more critical to hotels operating across the globe. There has been a series of hotel bombings since the World Trade Center terrorist attack in 2001. Israel, Pakistan, Kenya, Morocco, Spain, Indonesia, China, and Thailand have recently been operational grounds for terrorists targeting hotels

(Table 2-2). A series of bombs targeting London's mass transit system suggested that terrorism is no longer a minor force driving change in the hospitality industry, as the case study firm's field managers had thought. It is too soon at this time to conclude who is responsible for the bombings. However, it is possible that the tragic event is a well-organized terrorist event conducted by foreign group(s) in contrast to the past acts of terrorism in the United Kingdom when bombs have been planted in hotels and other public places by the country's internal separatist group. Terrorism is a safety and security dimension that is not only suggested in the literature, but also by the United States government. The United States Department of State warns American travelers to some European countries of the possibility of terrorist attacks. These countries include France, Italy, Russia, Turkey, and the United Kingdom (Table 4-21). In fact, Spain is one of the areas of concern suggested by the Department of State, but the case study firm does not operate in that country.

In addition to terrorism as the safety and security dimension underestimated by the case study's field managers, natural disasters have threatened the value of hotels at a larger scale than ever before. The areas affected by natural disasters have expanded over the past years. Central Florida was not traditionally an area hit by hurricanes until the Summer of 2004, when four hurricanes affected the operation of the Disney World Resort for the first time in its twenty-three-year history (it opened in October 1971) (Higgins, 2005). These storms claimed more than 2,000 lives in the United States Gulf Coast and the Caribbean region (O'Rourke, 2005). In addition, the 2005 hurricane season in the respective area started earlier than usual in early July. It is too soon to report on its effect on the hotel industry in the affected area. The worst natural disaster affecting the hotel industry was the 2004 South Asian Tsunamis. Seaside hotels and resorts in Thailand, Malaysia, Sri Lanka, and the Maldives were seriously damaged by the tsunamis on December 26, 2004. Thousands of guests' lives were claimed by this natural disaster. A series of earthquakes in Indonesia and California continue to threaten hotel operators within the areas and in neighboring countries. In sum, natural disasters affected the hotel industry at a larger scale and in an unconventional fashion. Hotel managers must accept the dynamic nature of this ecologically remote environment, and a plan to mitigate the impact of natural disasters on hotels and their guests and employees must be developed accordingly.

With respect to the three dimensions identified by the case study firm's managers—health, man-made hazards, and crime—not all events were considered. According to hotel managers, the health dimension consists of only food-borne illnesses. They did not cite an outbreak of infectious diseases as a major safety and security event as did the safety and security experts at the think-tanks. Hotels have been considered a place where new infectious diseases migrate from one country to another. The World Health Organization (WHO) says severe acute respiratory syndrome (SARS) first appeared November 16, 2002 in Foshan, Guangdong province, China, but the global outbreak did not begin until February 21, 2003 when a semi-retired medical professor from Guangdong checked into the Metropole Hotel in Hong Kong, and at least six others became infected. Two of the infected guests from Toronto triggered the world's spread of the disease when they traveled back to Toronto and Vancouver (Danylo, 2003).

Thefts and robberies are the only events under the crime dimensions deemed important to the firm. Although murders and other types of violent crime threaten hotels'

value (Pizam, 1999; Rushmore & Malone, 1998; Strizzi & Meis, 2001), they did not receive sufficient attention by the case study firm's hotel managers. In addition, the United States Department of State advises that the criminal problems in many European countries are beyond a minor degree (Table 4-21). It is worth the time and effort of the managers of the case study firm to reevaluate the effect of these violent criminal events on the value of their hotels. Besides, special demographic groups of hotel guests are more vulnerable to crime (Olsen & Pizam, 1998; Ellis & Stipanuk, 1999; Burstein, 1985; Shortt & Ruys, 1994; Gill, Moon, Seaman, & Turbin, 2002); thus, it may be a good prospect for hotel managers to specially address the safety and security of these special guest groups. Vulnerability of certain demographic groups such as mature guests and female travelers may suggest opportunities for new services specially designed to address safety and security concerns of these market segments.

Since the dimensions of safety and security in the literature come from the world's experts in specific safety and security areas, the case study firm's field managers included some of these dimensions in their list as a result of environmental scanning that suggested problem areas for the firm. Those dimensions included in the list identified by these field managers, were deemed as moderately important to the firm, receiving a score of "4" on the scale 1 to 7. The managers' narrow perspective on safety and security indicates an external misalignment and needs further detailed investigation. This leads to the following commentary:

- **Commentary 1:** The hotel managers have a narrow perception of the safety and security force resulting in a less than comprehensive decision-making framework on this issue.

Another way to evaluate the external alignment of the case study firm is investigating how well it invests in competitive methods to take advantage of the opportunities suggested by the safety and security force. A firm that first launches comprehensive competitive methods reflecting the most comprehensive safety and security dimensions in the multinational hotel industry would be likely to get more business from safety and security concerned travelers. The headquarters executives are well aware of this assertion and put emphasis on the customers (Figure 4-1), indicating a firm's focus on safety and security as one of four determinants of customer loyalty (Figure 4-2). However, it is obvious from the result that the hotel managers do not sufficiently incorporate safety and security into their strategic choices. That is, decision options suggested by the hotel managers were nothing but choices of plain technology that were available at any upscale hotel. The lack of intangible elements of decision options (Figure 5-1) indicates that the managers did not consider making their strategic choices sustainable ones. From this perspective, it is clear that the firm's field managers' ideas are not externally aligned with their environment.

Tangible pieces of equipment, which are normally mundane, only tactically help the firm improve its efficiency by reducing costs and improving productivity, but certainly do not give them a strategically leading position in the industry. Building an overall safety and security reputation is what a firm needs. That is, associating this reputation with the brand is believed to guarantee a firm's leading position over the long run. An analogy using a good example in another industry may better illustrate this point.

Samsonite has long been known as a firm with a strong brand. It has tried very hard during the past decades to establish customers' perceptions of its traveling products. Its reputation of making durable products has been incorporated into its brand. Nowadays, Samsonite's products may not be the toughest in the industry, but its brand is among the best recognized and its products are among the most reputable in terms of durability in the industry.

The case study firm can do the same as Samsonite does by continuously introducing innovative services relating to safety and security over the next several years. Marketing communication must be used to convey the message of the firm's devotion to guests' safety and security. There has been no multinational hotel firm that seriously announces such a message to its guests; thus, the chance of successfully capitalizing on this pioneering opportunity is high. The corporate executives have already devoted their loyal efforts to strengthen the firm's reputation for safety and security, but their devotion is not successfully communicated to the firm's field managers. It is not too late for executives at the central office to make the devotion to safety and security a common goal among managers across levels. Once the managers at all levels are committed to safety and security improvement, a comprehensive set of competitive methods relating to safety and security may be developed. A safety and security reputation can then be realized as a result of the managers' devotion to the issue. The following commentary serves as a summary of ideas regarding the external misalignment relating to the environment-strategy relationship that is discussed thus far:

- **Commentary 2:** The hotel managers' narrow view on the safety and security force offers a limited scope of strategy-making regarding the issue. The lack of competitive methods relating to safety and security could lead to a loss in business from safety and security concerned travelers in the short run. The firm's opportunity of being a reputable provider of safe and secure lodging services may be foregone; thus, one potential source of competitive advantage may be lost over the long run. The corporate executives' initiatives on pioneering safety and security opportunities must be more effectively shared with hotel's field managers. As a following step, a sense of urgency in developing a set of competitive methods addressing safety and security dimensions must be created among the firm's general managers. The firm must have competitive methods that sufficiently explain the firm's value in order to better externally align itself with the environment.

Internal Alignment

Internal alignment can be viewed as a consistency in the ways different managers at different levels in a firm perceive the importance of the safety and security force. The Co-Alignment Model suggests that consistency among perceptions from different levels of decision-makers is needed if a firm is considered to be in alignment. In addition, to create an internal alignment, the field managers (i.e. managers at the same level) must be able to establish an agreeable list of safety and security dimensions affecting hotels.

In the case study firm, there is a clear internal misalignment between the perception of the corporate executives on the safety and security force and that of the

field managers. The senior managers at the central office regarded the safety and security force as the major force driving change in their business and considered it as one of four determinants of customer loyalty along with brands, partners, and loyalty programs. In the Delphi surveys, the field managers suggested a narrow list of safety and security events that concerned them. Additionally, these events only moderately (designated by a "4" score range on the scale 1 to 7) concerned the field managers. Obviously, safety and security was not one of major forces driving change in the multinational hotel industry for these field managers, as it was for the senior managers at the corporate office.

Since corporate executives of the case study firm view the issue from a broader perspective, they must attempt to continuously share the company's focus with its general managers. Although strategic thinking is about the way that the managers perceive the forces in the environment and is thus different from one manager to another, the inconsistency in the opportunities perceived by different managers is likely to erode the value of the brand. This internal misalignment must be addressed by the firm's top executives. Since it is almost impossible for the managers of each hotel within the firm to realize the strategic importance of the safety and security force and develop their own strategic choices accordingly, greater guidance should be given from the corporate level, or higher levels of education in this area should be provided.

From the second perspective of internal alignment, the panelists did not agree on the importance of health, man-made hazards, and crime dimensions, judging from relative high standard deviations of the rating scores in the Delphi surveys. The firm's competitive methods with respect to safety and security cannot be developed by the corporate executives and agreed upon by the majority of its field managers until the dimensions of safety and security as inputs for such a development are agreed upon by its field managers. This internal misalignment could be persistent and could threaten the firm's value unless managers at the corporate office lead the field managers to an established consensus on the safety and security dimensions.

Participants in the 1999 Stockholm think-tank (Olsen & Pizam, 1999) identified several key safety and security issues. One of the issues related to cultural differences in safety standards. Do all customers, regardless of their nationality, have the same expectation regarding safety and security at hospitality enterprises? Perhaps the case study's field managers at hotels located in different countries perceived these differences when answering the Delphi surveys. Although the effect of demographical factors and sizes of hotels on the importance of safety and security dimensions was not statistically significant based on the ANOVA tests, other variables such as risky behaviors of the field managers did not go into the analysis in this study. This remains a research question for future studies.

A failure of the hotel managers to recognize the importance of all five aforementioned dimensions of safety and security (i.e. ones from the 1998 and 1999 think-tanks) poses a threat to the firm's value creation process. The relationships between these dimensions of safety and security and the firm's value were not established by the hotel managers, possibly because they lacked knowledge of the tools used in hypothesizing causal relationships between an environmental event and the firm's value (i.e. firm performance). If the existence of safety and security dimensions influence a part of a firm's value, it needs to be recognized by the hotel managers.

In addition, neglecting the opportunities introduced by these dimensions makes the firm forego possible sustainable future sources of revenues. This inability is also likely to be applicable in investments in other areas of intangibles, such as information technology or brand recognition. Such ineptness threatens a firm's value in the long term. For this reason, hotel managers must be able to establish a connection between the existence of the safety and security force and costs and benefits suggested by the force, otherwise a firm's value cannot be secured. The need for a development of such skills should be incorporated in the hotel manager development program. Although a new set of competitive methods with respect to safety and security must be standardized across hotels within the case study firm, given an approval from the central office, the field managers still initially contribute their ideas on these competitive methods to this strategic thinking process. For this reason, field managers' contributions should be in agreement otherwise their inputs will be too various and cannot lead to conclusions about a set of competitive methods for the case study firm to pursue in order to build its safety and security reputation. The following commentary is summarized from the discussion on internal misalignment at the case study firm:

- **Commentary 3:** The hotel managers' narrow perception of the safety and security force may be a result of their low level of expertise in environmental scanning, and little understanding of value creation. That is, they do not have a good grasp of the safety and security dimensions and their causal relationship with the firm. These field managers are responsible for improvement of these skills. However, the corporate executives must initiate such an improvement by providing greater guidance and the higher education required for building strategic management and financial analytical abilities among the field managers. Field managers' knowledge of environmental scanning and causality building is necessary in order to secure and heighten a firm's value in the long run.

Intangibles

The resource-based view (RBV) literature suggests the use of intangibles as a source of superior performance. The Co-Alignment Model researchers (Cho, 1996; Connolly, 1999; Chang, 2004) emphasized the growing importance of the intangible-based competitive methods in the hospitality industry. This study was initially aimed at investigating the concept by making the intangibles tangible but it later inadequately addressed the issue. A number of intangible components of the decision-making model were disregarded by the hotel managers, and they are thus not retained in the framework for future research. However, it is still worth the efforts of hotel managers to explore the concept.

Clearly, the field managers participating in the interviews had no idea how to develop competitive methods to react to the safety and security force, except for adding employee skills to the existing critical success factors (e.g. having employees attending to the surveillance system most of the time, instead of having them check the recorded video after the occurrence of the theft incident). Based on the components of the decision-making model identified by the managers in the second Delphi survey, the field managers suggested products and services that were too mundane to be turned into

competitive methods. Developing sustainable competitive methods is far beyond adding "a people touch" into safety and security equipment, or a system that any hotel firm can acquire.

However, the director of corporate security has pointed out an interesting idea about a competitive method. This should serve well as a starting point to build and incorporate a safety and security reputation into the firm's brand. He urged that the firm should work with private hotel safety and security companies as well as the national hotel organizations to develop a safety and security classification system for the European upscale hotel industry. This system is comparable to a star rating system. However, the firm's corporate executives must ensure that the hotel features eligible for the highest safety and security rating must be in place at all the firm's hotels, but not be present at the competitors', by the time the rating system is effective. Additionally, such a competitive advantage must be enjoyed solely by the firm for a given period of time. This advantage can escalate the brand value of the case study firm. As an image of luxury as well as the perception of high quality can be associated with the brand, a safety and security reputation can also add value to the brand. Barney (1991) stipulated four criteria of assets and resources that offer the greatest sustained benefits in competition: valuability, rarity, inimitability, and insubstitutability. Intangibility normally provides assets and resources with such characteristics. The safety and security reputation possesses all of these four characteristics of the resource-based view (RBV) assets. The previous discussion can be summarized into the following commentary:

- **Commentary 4:** Hotel managers must work together with corporate executives to develop sustainable competitive methods with respect to safety and security capitalizing on intangible assets such as a high safety and security rating. The case study firm's safety and security reputation can be built employing these intangible assets and can add value to its brand.

Besides the intangible nature of strategic management, financial decisions also contain intangible aspects. The NPV as an investment evaluation technique commonly used at the case study firm frustrated the field managers since not all benefits from investments in safety and security are so tangible that they can be accurately expressed in monetary terms (Aggarwal, 1991; Farbey, Land, & Targett, 1993; and Lefley & Sakris, 1997). While the NPV technique is widely used in the service sector, it has never been able to be sufficiently used to measure all the costs and benefits of investment projects. As suggested earlier, the field managers have limitations in the area of strategic financial investment decision-making skills. Their familiarity with the net present value concept is inadequate, as the general manager of the Belgian Hotel expressed during the interview his concern in the use of the NPV. When he cannot accurately calculate the NPV or the ROI, he will make a qualitative argument with the corporate finance office to get approval for the investment. *"It's up to the GM to really find (a) strong argument to get it through anyhow. We did the renovation of the fifth floor, the rooms on the fifth floor. To really calculate return on investment, it is most difficult because after ten years, you just have to do the rooms. How much is the return? Would I lose market share if I don't renovate it, or (if) can I gain market share if I do the renovations?"*

Their improved skills regarding valuing the investments in intangibles using the net present value could equip these managers with an ability to perform a better appraisal on investments in safety and security as well as those in other areas of forces driving change, including technology, new management, assets and capital, and capacity control. Education in financial investment decision-making should be provided to these field managers. The following commentary summarizes the point:

- **Commentary 5:** The hotel managers' limited knowledge of financial investment decisions using the net present value technique and making the intangibles tangible is evident from the study. This inability would likely prevent the managers from responding more properly to the safety and security force or other forces driving change, including technology, new management, assets and capital, and capacity control since these are highly intangible forces. It is suggested that ability to properly make a financial investment decision is another area for management development in the case study firm.

This study provided a better understanding of the life of investments in safety and security. As a preferred performance measure of investments in the Co-Alignment Model literature, the net present value (NPV) is calculated from the four building blocks, including the estimated cash flows. Since cash flows are generated throughout the life of the project, their value needs to be discounted back to the day that the investments are being made. One major difficulty in approximating the cash flows is the estimation of the life of the investments. Based on the results of the interviews, the case study firm does not have standard life-spans to be applied to the different types of investments and the assets themselves. New technology and knowledge have been introduced to the upscale hotel industry.

For this reason, there is a need for the corporate finance office to establish a standard useful life of these new intangible assets for use in appraisal of the investments within the case study firm. They must be an actual useful life (i.e. in financial investment term), and driven by allowable depreciation. There is a fine line between accounting and finance here on this issue. Thus, the finance personnel must factor in the real useful life of the assets when they appraise the investments in intangibles. The only exception would be using the tax shield calculated from the useful life allowed by the law. To summarize, internal alignment cannot be achieved unless the agreement on problem areas in intangibles such as the useful life of the assets and life of the investments is reached. Moreover, it cannot be obtained until there is a common understanding on the decision-making process among the corporate and field managers.

The conclusions stated above are drawn from the findings from this study. They are related to two areas of concerns: the misalignment in strategic thinking of the case study firm and their limitations on understanding the intangibles. Remedies to the problem areas are suggested. It is important that the case study firm considers these conclusions and suggestions as they can help bring the strategic activities conducted by managers at the firm into an alignment. It is such an alignment that creates superior performance for the firm.

Contribution of this Study

This study has made a contribution to the body of literature about the process of valuing investments in hotel safety and security. It also provided a contribution to the multinational hotel industry in the form of recommendations in aligning strategic activities regarding investments in safety and security.

Contribution to the Literature

This exploratory case study provided three contributions to the body of knowledge about the process of valuing investments in safety and security in the multinational hotel industry. First, it provided the dimensions of safety and security that are important to the multinational hotel industry. Secondly, it provided information about how the investments in safety and security were valued by the case study firm.

Third, it provided future researchers with a framework for the development of a descriptive causal decision-making model for investments in hotel safety and security. This framework consists of the components relevant to the investment decision-making model with respect to hotel safety and security. The health, man-made hazards, and crime dimensions provided a scope for investment needs. The net present value is suggested as the performance measure of investments in safety and security. In addition, the decision options in the investment and the value drivers of the NPV are stated. No exact causality is proposed since this is a framework for the development of a decision-making model, not the model itself. However, a causal relationship among the dimensions of safety and security identified in the study and the strategic choices that will be derived from the components of the framework is suggested by the Co-Alignment Model.

Contribution to the Multinational Hotel Industry Context

The Co-Alignment Model suggests that corporate executives and hotel managers are responsible for aligning their strategic activities to create superior performance for the firm. The firm seems to be misaligned both externally and internally, as discussed in the previous conclusions section. As for external misalignment, the hotel managers do not as yet fully recognize the importance of the safety and security force as the experts in the academic and governmental sectors do. Additionally, the dimensions of safety and security identified by the hotel managers are in a more narrow scope than those suggested by experts in the field. The perception of the corporate executives on the strategic importance of the safety and security force is highly consistent with that of outside experts; however, the headquarters executives failed to communicate their concerns about the issue to their field managers. For this reason, the hotel managers do not seem to realize the immense value-generating potential of competitive methods regarding safety and security, while the corporate executives have some valuable ideas about capitalizing on the safety and security force.

Such a disagreement between corporate and field managers suggests an internal misalignment. Moreover, a failure to reach a consensus among the field managers on the importance of the safety and security dimensions to the firm suggests another area of

internal misalignment. Although strategy is a function of the perception of the manager, and different managers perceive the environment differently, an inconsistency in the perceptions of managers within the same firm indicates difficulty in securing, if not improving, the value of the firm. In addition, the internal misalignment continues to be a persistent problem as long as there is a lack of common understanding on the decision-making process both within and among the two levels of managers. Unless the field managers all equally understand the concept and the procedure of the NPV calculation made available by the corporate managers and are able to agree upon the components of the NPV, the firm continues to be internally misaligned and its value is still in jeopardy. The recommendations for the managers of the case study firm in various problem areas with respect to misalignment and intangibles are suggested, along with the conclusions in the previous section, and are not repeated here.

Limitations of This Study

One of the general drawbacks of using a case study research design is the generalizability issue. The framework developed from the findings at the case study firm in this study may not be generalized to other firms within the same or other industries. However, this research is exploratory in nature. Generalizability of the findings was not an objective of this study. This study serves as an early step in the development of a framework for building a descriptive decision-making model for investments in safety and security.

The other limitation of this study is that the hotel managers have limited understanding of the Co-Alignment Model. They do not align their strategic activities with the environmental force of safety and security. Additionally, they lack knowledge in the concept of net present value as well as the investments in intangibles. The third limitation was the short amount of time for the semi-structured interviews. The researcher had less than two hours at each property visited, and at the corporate headquarters. This was mainly due to the interviewees' available free time and interest in the subject matter.

Propositions

Based on the description of and commentaries about the framework, as well as other discussions presented throughout the chapter, a list of some propositions is suggested for future research. While it would be inappropriate to draw causal conclusions from the findings due to the fact that the process of valuing investments in safety and security was not investigated in a quantitative manner, these findings could be worded in the form of a proposition that could serve as a main theme of future research. These propositions can be tested so that some of the findings from this research can be generalized. They reflect the first two constructs of the Co-Alignment Model, including environmental events (i.e. forces driving change) and strategic choices (i.e. competitive methods).

It is necessary to determine the relative importance of the safety and security force compared with that of each of the other four forces driving change in the

multinational hotel industry, including new management, technology, assets and capital, and capacity control. Although the hotel managers in this study seemed to neglect the importance of safety and security, the industry experts offer an opposite view on this. Olsen et al. (1998) argued that the safety and security risks have now become the number one concern of travelers as they plan their itineraries. Thus the influence of the safety and security force on the firm's value is assumed not to be less than that of each of the other four forces driving change in the multinational hotel industry. The market capitalization of the firm is suggested as a measure of the firm's value since it most appropriately describes the value shareholders place on the firm. This claim leads to the following future research proposition:

- **Proposition 1:** The portion of the multinational hotel firm's value (i.e. the market capitalization) is explained by investments in competitive methods reflecting the forces driving change in the industry including safety and security, new management, technology, assets and capital, and capacity control.

It was mentioned in a previous section that the case study firm is externally misaligned since the dimensions of safety and security important to the firm according to its field managers are merely a subset of those offered by academic experts. These hotel managers underestimate the importance of two safety and security dimensions including terrorism and natural disasters, regardless of the clear evidence of the devastation that these safety and security dimensions have left for multinational hotels during recent years. Their impact on hotel firms' value in the affected regions was high. For this reason, it is appropriate to adhere to the dimensions suggested by the literature in suggesting the following proposition for future research:

- **Proposition 2:** Safety and security dimensions, including health, man-made hazards, crime, terrorism, and natural disasters are important to a multinational hotel firm.

In order to test the above proposition, further statistical tests can be performed on large scale data. The data can be gathered solely at the case study firm hoping that most of the hotel managers will cooperate by providing their opinions on the issue. Alternatively, the study can be based on other firms within the same industry segment or can be conducted using samples across firms in the industry. Regardless of the samples used, the appropriate education regarding environmental scanning, the environment-strategy-performance relationship, and valuation of investments in intangibles using the net present value must be provided to hotel managers before the data collection for such an empirical study, since managers seem to have a limited understanding of the Co-Alignment Model (see the next section for suggestions for future studies).

The relatively high dispersion in the opinions provided by hotel managers on the safety and security dimensions important to the case study firm's value suggests an area of internal misalignment, as previously discussed. Although demographical differences are not said to have an influence on this dispersion of opinions based on the ANOVA tests, the notion of demographic effects should be further empirically tested with the same group of hotel managers as in this study, and with other groups of field managers.

For this reason, the following research proposition is offered to detect such an effect. However, demographic variables in this study are limited to the region of the host country, the level of economic development of the host country, the business location of the hotel, and hotel size. These independent variables should be expanded to include human differences such as risky behavior of the hotel managers, risky behavior of the major customer groups, and cultural differences in safety standards. These are the issues cited by the safety and security experts participating in the 1999 IH&RA Think-tank on Safety and Security (Olsen & Pizam, 1999).

- **Proposition 3:** Demographical differences among a multinational hotel firm's field managers do not affect the perceived importance of each of the safety and security dimensions including, health, man-made hazards, crime, terrorism, and natural disasters.

The case study firm's management does not focus its attempt only on satisfying the customers, but also accommodates the other top-tier stakeholders as much as possible. These stakeholders include investors and employees. In the case study firm, the hotel managers' narrow perception of the safety and security force and limitations in developing promising competitive methods addressing the force are likely to put the firm in a more difficult position to satisfy these task environmental groups. This indicates the external misalignment between the firm and task environmental groups. The possible result would be the firm's inability to create value to its shareholders. However, this phenomenon was not directly investigated in this study; thus the conclusion on this external misalignment could not be drawn. The finding is instead worded in the form of propositions for future research where the investigation on the relating constructs is more directly conducted.

The case study firm's management must externally align itself with the investors. Today's investors are more sophisticated in their stock market investment skills and are also better advised by investment analysts. The multinational hotel firms which are generally recognized by investors and analysts as producing insufficient returns to their owners (Olsen et al., 1998) are more vulnerable in terms of competing for investment funds, and thus need to exhibit their ability in creating sustainable sources of better than average incomes over time. For this reason, failing to recognize the importance of the safety and security force does not only jeopardize the value creation process of the firm as previously discussed, but it also puts the firm's ability to acquire funds from investors at risk. Given the fact that the case study firm is publicly traded, the investors would not be likely to invest their money in a firm which is vulnerable to the safety and security force even though that firm has appropriately addressed other forces driving change. This argument leads to the following proposition:

- **Proposition 4:** The hotel managers' narrow perception of the safety and security force reduces the firm's ability to compete for available capital for investments.

In addition to the investors, front-line employees are a task environment group that received great attention from the case study firm's management. Any upscale hotel firm would like to retain its employees with the company for as long a period as possible.

Losing employees and hiring new ones leads to an increase in costs and a decrease in short-term productivity during the induction period. Normally, employees leave the organization because of job dissatisfaction. The literature suggests a negative relationship between operational-leveled employees' job satisfaction and turnover with withdrawal cognitions as an intermediate construct (Hom & Griffeth, 1991; Hom & Kinicki, 1995). In the casino hotels, front-line employees' job satisfaction is affected by safety and health in their workplace (Frey & Carns, 1988; Darcy & Lester, 1995). A low job satisfaction of card dealers at casino hotels was due to their safety and health concerns including stress, ergonomics, indoor air quality, biological hazards, physical hazards, and noise (Hom & Griffeth, 1991; Hom & Kinicki, 1995). Based on the literature, it is appropriate to draw the following proposition:

- **Proposition 5:** Hotel managers' narrow perception of the safety and security force reduces the firm's ability to attract and retain its employees. A higher employee turnover reduces a firm's ability to create value to its shareholders.

The first five propositions deal with alignment with respect to the environmental events construct of the Co-Alignment Model. The next proposition is based on the premise of the Co-Alignment Model that major competitive methods developed to respond to the force driving change (i.e. an environmental event) must significantly explain the value of the firm. Co-Alignment Model researchers (Tse, 1989; Chathoth, 2002) have attempted to empirically test whether a group of competitive methods is able to explain a substantial part of a firm's value. Since such an issue is not empirically treated in this study, a statement of causal relationship among the two constructs of the Co-Alignment Model is offered for future research.

As previously discussed in the commentaries to the framework section, safety and security reputation is believed to guarantee the firm's leading position over the long run. The multinational hotel firm can introduce innovative services relating to safety and security. An attempt must be made to convey the message of its devotion to guests' safety and security. The chance of successfully capitalizing on this pioneering opportunity is high for the firm that is the first to seriously pursue this safety and security strategy, since there has been no multinational hotel firm that leads the industry in this respect. Once it is built, the safety and security reputation can be incorporated into the brand. That is, the pioneering firm must associate a safety and security reputation with the brand, and make customers reflect on its high safety and security standard every time customers think about the brand. The last proposition is phrased based on the previous argument, as follows:

- **Proposition 6:** Competitive methods with respect to safety and security increase the value of a multinational hotel firm's brand.

Suggestions for Future Studies

In general, it is suggested that more and broader research with respect to investments in safety and security in the multinational hotel industry should be carried out. The research design could be modified in a couple of ways. First, hotels could be

investigated in depth in semi-structured interviews. This would require the researchers to be part of the hotel management team, probably as consultants, for some period of time. Sufficient time would be required to allow field managers to be adequately familiar with the Co-Alignment Model and the financial investment concept. Sharing the details of the model with these managers in advance and having alternative ways to describe the concept of the model as done in this study were proven insufficient to help the interviewees understand basic premises of the Co-Alignment Model. A workshop on the Co-Alignment Model and its financial investment concepts would better prepare the interviewees for the research questions. This may present resistance among hotel managers, but the authorities at the headquarters could step in and ensure that the field managers are sufficiently equipped with the required knowledge before the study is conducted.

Second, the concept of intangibles must be substantially incorporated into the research. The lesson learned from this study is that the majority of field managers did not recognize the strategic importance of safety and security, so they did not pay enough attention when developing the components of the decision-making model for investments in safety and security. The intangible components are overlooked by these managers. It might be a wise idea to show them the empirical evidence on how investments in safety and security can significantly explain the value of particular hotels within the chain. The director of corporate security can assist the researchers in locating hotels with such good practices. Data collection on those hotels' practices and performance must be done, and the causal relationship between the practices and performance must be defined. The results can then be shared with the managers from all other hotels within the chain. Once the managers are convinced of the strategic importance of safety and security, the investigation into the safety and security dimensions, competitive methods, and the concept of intangibility of safety and security can be further explored.

Third, the steps taken in the Delphi surveys could be modified if the surveys are still needed. Prior to the launch of the first survey, the panelists could be invited to a corporate retreat where a short seminar on the concept of the Co-Alignment Principle could be administered. The topics included in the seminar would be the relationship among the four constructs of the model themselves, as well as the net present value concept. Additionally, the concept of intangibilities could be discussed. There are two separate research projects to be launched after panelists had a better grasp of these concepts. The first project aims at identifying how the dimensions of safety and security affect the value of the multinational hotel firm, while the second has a goal of specifying the components of the decision-making model for investments in hotel safety and security. At least three to four rounds of the Delphi surveys would be suggested for each of the research projects. If a consensus had not been reached at the conclusion of the second round, a third round would be needed. A fourth round would be needed if a consensus has not been reached by the end of the third round. Again, more rounds would be required if the consensus could not be reached at the fourth round. That is, the Delphi surveys would continue until a consensus is reached among the panelists. A consensus was proven to be reached quicker if the panelists were asked to complete the surveys at the same time in the same room at the corporate retreat. The results would then be quickly prepared after the conclusion of each round of the surveys. The panelists would be asked to complete the surveys back to back (Chocholik et al., 1999).

Fourth, the Likert attitude measurement scale did not work well in this study since most panelists assigned either low or moderate scores to most items in the survey. If a ranking order is sought, the use of a ranking scale would be more appropriate. In such a case, the panelists would then be asked to rank fifty-eight safety and security events by giving the most important event a rank of 1, the second most important event a rank of 2, and so on. The least important event would be given a rank of 58. The sign-ranked test could be used as the statistical test in place of the descriptive statistics or the t-test (Linstone et al., 2002).

Summary

This was an exploratory case study of the process of valuing investments in safety and security in a multinational hotel firm. The Co-Alignment Model served as an underpinning theory for the study. The study suggests that hotel managers identify the dimensions of safety and security, which is one of the major forces driving change in the multinational hotel industry. The managers must then develop strategic choices with respect to the dimensions of safety and security. To further develop the body of the literature on the hotel safety and security, a framework of the decision-making model for investments in safety and security is needed.

The dimensions of safety and security important to the firm were identified, along with the components of a decision-making model for investments. A framework for the decision-making model was constructed based on the results. The health, man-made hazards, and crime dimension defined the scope of the decision-making model. The three components of the model included; 1) the NPV as the performance measure of the investment, 2) the value drivers of the NPV, and 3) the decision options in the investments.

This study did not include any mathematical causal relationship except for theoretical relationships among the four constructs of the Co-Alignment Model. The causalities among the components in the framework are to be defined when the framework is used to develop a descriptive decision-making model in future research.

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Appendix A

Interview Questionnaire—Corporate Security Office

Interview Questions for the Corporate Security Office

Interview Procedure

1) Briefly introduce myself
2) Briefly state the research purposes
3) Begin asking questions

Interview Questions

Now I would like to ask you about the role that corporate security office plays in the investment appraisal throughout the (name of hotel chain).

1 What is the number of staff at the corporate security office? Provide the main responsibility of the office as well as the organization chart.

2 What would the corporate security office do to ensure that the firm sufficiently addresses the safety and security issues?

3 What is the corporate security office's view on idiosyncrasies among properties? In other words, what is the firm's policy on the degree of centralization in the strategy making regarding safety and security?

4 How does the office communicate with hotels in terms of investment in safety and security?

   a. What role the security office plays in the decision-making process when the firm is considering further investments in security measures.

Now I would like to ask you about the general questions about hotel safety and security.

5 How would you define the dimensions of safety and security in the business environment your property operates in? Please give a comprehensive list of dimensions.

(Go over distinctions between a competitive method and a critical success factor)

A "competitive method" refers to a combination of products and services that must be designed by the firm in responding to the dimensions of safety and security given in Question 5 in order for the firm to obtain competitive advantages. In contrast to a competitive method, a "critical success factor" refers to a combination of products and services that was once a competitive

method very unique to the firm but has now become a common tool employed in most or all firms in the same industry segment.

6 What is the trend in hotel safety and security competitive methods from the corporate viewpoint

7 What are recent critical success factors?

8 Which of the task environment group; government, customers, competitors, exerts the most influence on each critical success factor?

9 Could you go over the process of investment in safety and security in the chain?

10 In your opinion, what needs to be improved in the process?

11 What are major obstacles in investing in a safety and security project?

Now I would like to ask you to share with me any important points or concerns in the strategic capital investment in hotel safety and security of the chain that are not covered by my prior questions.

Appendix B

Interview Questionnaire—Corporate Finance Office

Interview Questions for the Corporate Finance Office

Interview Procedure

1) Briefly introduce myself
2) Briefly state the research purposes
3) Begin asking questions

Interview Questions

Now I would like to ask you about the general policies and procedures utilized in the investment appraisal throughout the chain.

1 Are investment projects in safety and security initiated at the property level or at the corporate level?

2 If they happen at both levels, explain how the two groups of investment projects are different?

3 For the safety and security investment project which is mandated by the government of the country the firm operates in, at what level is a final investment decision made?

4 Is there any form of discounted cash flow (DCF) technique (e.g. net present value or internal rate of return) used in appraising the investment project?

5 Are these techniques made mandatory by the corporate finance office?

6 Are there any uniform policies and procedures set by the corporate finance office to be used at the property level? If so, what are they?

7 Who attends the meetings, both at the corporate and property levels, where the investment project is initiated?

8 How frequently are the meetings held?

9 Are there any other informal meetings or gatherings outside the workplace when the investment project is discussed? If so, what are the contributions of these informal meetings?

10 Would you consider the communication channels relating to the investment decision formal or informal?

11 What is the chain of command in this respect?

12 Who makes the final decision for the project(s)?

13 When cash flow generated during the life of the investment project is different from planned, what are some common practices of the management?

14 What are the performance measures and criteria (e.g. maximum value, minimum value, average value) used in evaluating the success of the safety and security project?

15 What would the hotel do to terminate the safety and security improvement project?

16 Are there any other crucial activities or practices regarding the investment appraisal process that have not been covered by the prior questions?

(Briefly discuss about the element of DCF methods and a basic concept of the value drivers)

Now I would like to ask you about a common decision-making model using a discounted cash flow technique.

17 What are the value drivers of cash flow common to most investment projects to improve safety and security? By what method would these value drivers be identified?

18 Does the firm ever determine causal relationships among key value drivers of cash flow? If so, by what method would they be determined?

19 How would the hotel determine the life of the safety and security improvement project?

20 By what approach would annual revenues or costs shared with more than one investment project be assigned or applied to each individual project?

21 How would the cost of capital for the investment project be determined?

22 What are value drivers for the cost of capital?

23 How would causal relationships among key value drivers of the cost of capital be determined?

24 What are the risks associated with the project? By what method would these risks be identified and estimated?

25 How would these risks be monitored during ongoing investment projects?

26 How would the value of the initial investment be determined?

27 What are the common tangible components of the initial investment? What are the common problems in measuring the value of each component?

28 What are the common intangible components of the initial investment? What are the common problems in measuring the value of each component?

29 How would the initial investment shared with more than one investment project be assigned or applied to each project?

Appendix C

Interview Questionnaire—Participating Hotels

Interview Questions for Hotel General Managers

Interview Procedure

1) Briefly introduce myself

2) Briefly state the research purposes

2.1 To identify the key dimensions of hotel safety and security, both tangible and intangible, which will then be used in the investment decision-making process.
2.2 To understand the investment decision-making process in hotel safety and security with intangible components
2.3 To develop a framework for subsequent research in the decision-making process for investment in a project with a highly intangible content.

3) Asking general questions about the property and the GM himself as well as specific questions about the process utilized in investing in hotel safety and security

Interview Questions

Now I would like to ask you about your personal information and your general view on the chain.

1 How many years have you held a GM position at this hotel?

2 How many years have you been with the chain?

3 What other positions have you held at this hotel chain?

4 How long have you been working in the hotel industry?

5 How would you define the industry segment that your hotel operates in?

6 In your view, does your property fit under the industry segment you mention in Question 5?

7 Compared to other major European cities, how safe is (name of city) in general; below average, average, or above average?

Now I would like to ask you about general operating information of your property.

8 How many rooms does the hotel have?

9 How many employees does the hotel have?

10 If they are not confidential, what were the gross revenue, operating expenses, and net income for 2003?

11 What is the estimated current market value of your property (building and equipment only)?

12 Does the hotel have any facilities that could cause safety concerns for guests (i.e. sauna, stream room, pool, free weight equipment, etc.)? If so, what are they?

13 What was the number of guests who stayed at the hotel in 2003?

14 What was the number of guests who were injured on premise in 2003?

Now I would like to ask you about general strategic management activities of your property.

15 Does the management of this hotel scan the environment on a regular basis?

16 What are major forces driving change in the industry segment that your hotel is in?

17 What are the opportunities and threats perceived from the forces driving change identified in Question 16?

18 For each force driving change identified, which of the task environment groups; government, customers, or competitors, exerts the most influence?

Now I would like to ask you about your property's investment to improve safety and security.

19 How would you define the dimensions of safety and security in the business environment your property operates in? Please give a comprehensive list of dimensions.

20 A "competitive method" refers to a combination of products and services that must be designed by the firm in responding to the dimensions of safety and security given in Question 19 in order for the firm to obtain competitive advantages.

20.1) What are the competitive methods that your property utilizes to respond to safety and security dimensions?

20.2) In delivering those competitive methods, does the hotel normally ask suppliers to develop the new technology and knowledge needed or do they acquire from them only technology and knowledge that have been already available in the market?

21 In contrast to a competitive method, a “critical success factor” refers to a combination of products and services that were once a part of a competitive method and very unique to the firm but have now become a common tool employed in most or all firms in the same industry segment.

21.1) What are critical success factors that the firms in your industry segment utilize in order to respond to the safety and security dimensions?

21.2) A competitive method can become merely a critical success factor by the influence of the firm’s task environment groups: government (by mandating some investment to improve safety and security for the guests and employees), customers (by demanding that some safety and security features are provided by the hotel), and competitors (by following the first-mover firm). What is the most influential task environment group that has resulted in the combination of products and services in Question 21.1 becoming a critical success factor?

22 What were the hotel’s total capital expenditures for 2003?

23 How much of this amount was spent to improve safety and security? (If the information is not available or is confidential, what was the percentage of investment dollars to improve safety and security to total capital expenditure spent in 2003).

24 What was the average amount spent in these safety and security improvement projects?

25 What was the average estimated useful life of these safety and security improvement projects?

Now I would like to ask you about the decision-making process for investing in safety and security competitive methods at your property.

26 Are investment projects in safety and security initiated at the property level or at the corporate level?

27 If they happen at both levels, explain how the two groups of investment projects are different?

28 Are there any uniform policies and procedures set by the finance office at the firm's headquarters to be used at the property level? If so, what are they?

29 Is there any form of discounted cash flow (DCF) techniques (e.g. net present value or internal rate of return) used in appraising the investment project?

30 Are these techniques mandatory by the finance office at the firm's headquarters?

31 Who attends the meetings, both at the corporate and property levels, where the investment project is initiated?

32 How frequently are the meetings held?

33 Are there any other informal meetings or gatherings outside the workplace when the investment project is discussed? If so, what are contributions of these informal meetings?

34 Would you consider the communication channels relating to the investment decision formal or informal?

35 What is the chain of command in this respect? (Which superiors do you need to report to regarding the investment decision?)

36 Who makes the final decision for the project(s)?

37 When cash flow generated during the life of the investment project is different from planned, what are some common practices of the management?

38 What are the performance measures and criteria (e.g. maximum value, minimum value, average value) used in evaluating the success of the safety and security improvement project?

39 What would the hotel do to terminate the safety and security improvement project?

40 Are there any other crucial activities or practices regarding the investment appraisal process that have not been covered by the prior questions?

(Briefly discuss about the element of DCF methods and a basic concept of the value drivers)

Now I would like to ask you about a decision-making model using a discounted cash flow technique.

41 What are the value drivers of cash flow common to most investment projects to improve safety and security? By what method would these value drivers be identified?

42 Does your hotel ever determine causal relationships among key value drivers of cash flow? If so, by what method would they be determined?

43 How would the hotel determine the life of the safety and security improvement project?

44 By what approach would annual revenues or costs shared with more than one investment project be assigned or applied to each individual project?

45 How would the cost of capital for the investment project be determined?

46 What are value drivers for the cost of capital?

47 How would causal relationships among key value drivers of the cost of capital be determined?

48 What are the risks associated with the project? By what method would these risks be identified and estimated?

49 How would these risks be monitored during ongoing investment projects?

50 How would the value of the initial investment be determined?

51 What are the common tangible components of the initial investment? What are the common problems in measuring the value of each component?

52 What are the common intangible components of the initial investment? What are the common problems in measuring the value of each component?

53 How would the initial investment shared with more than one investment project be assigned or applied to each project?

Appendix D

Letter of Invitation to the First Delphi Survey

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Pamplin College of Business

Department of Hospitality and Tourism Management
362 Wallace Hall (0429), Blacksburg, Virginia 24061 USA
(540) 231-5515 Fax: (540) 231-8313

November 9, 2004

Dear Mr. …

I am writing to request your participation in an online survey research project that I am conducting as part of my Ph.D. dissertation at Virginia Polytechnic Institute and State University in Blacksburg, Virginia, USA and in cooperation and authorization by (director of corporate security's name), (The firm's name). My research is an exploratory, multiple-case study in a single brand (name of the brand) of (name of the firm). It seeks to identify the dimensions of safety and security affecting the value of hotels.

Data are collected through two methods; interview and survey. Interviews have already been conducted at five (name of the brand) hotels in Copenhagen, Berlin, Brussels, London, and Warsaw during the summer. The survey has been revised based on results from the interviews. The survey should be answered by yourself as a general manager. However, some questions may be answered based on information from your management team which includes the financial controller, the marketing manager, the security manager, as well as the chief engineer.

I have enclosed with this email letter a Microsoft Word file containing the same survey as you will find on my survey website. In order to save your time in completing my online survey, please completely answer all the questions in this file prior to filling out the survey online. Once you have completed the paper-based survey, please go to https://survey.vt.edu/survey/entry.jsp?id=1100071255585 and use "XXXXXX" as a password to enter your answers online. It is a case-sensitive password, so you will need to use all upper-case (capital) letters. Please complete the survey online **by Monday, November 22, 2004**.

I would like to assure you that all data will be kept confidential, including the name of (name of the firm), (name of the brand), your hotel, and the individuals participating in the survey. In appreciation for participating in my study, I will be glad to share my results with you and (name of the firm).

Finally, I would like to thank you and the management team in advance for your time, willingness, and agreement to participate in my research. If you have any questions or concerns, please feel free to contact me via electronic mail (nuttapon@vt.edu) or by telephone (1-540-230-9545).

Sincerely,

Nuttapon Punpugdee
Ph.D. Candidate

Michael D. Olsen, Ph.D.
Professor of Hospitality Strategy

(Name)
Director of Corporate Security

Appendix E

First Delphi Survey Questionnaire

Hotel Safety and Security Survey

Administered by
Nuttapon Punpugdee
Ph.D. Candidate, Hospitality and Tourism Management
Virginia Polytechnic Institute & State University, USA

In cooperation and authorization by
(name of the director of corporate security), (name of the firm)

Please complete the survey online at
https://survey.vt.edu/survey/entry.jsp?id=1100071255585
by **Monday, November 22, 2004**
Remember to use "XXXXXX" (all in capital letters as it is case-sensitive) as your password.

This document contains the same content as in the survey you will see online.
Please use it to facilitate your effort to fill in the online survey.

Part I: General Information

1.1) Hotel five-letter hotel ID: _____.

1.2) Country location of you hotel: _____.

1.3) Please identify the star rating your hotel/resort receives

☐ Two stars ☐ Three stars ☐ Four stars ☐ Five stars ☒ Other:

1.4) How would you classify your property?

☐ City hotel
☐ Airport hotel
☐ Beach resort
☐ Lake resort
☐ Ski resort
☐ Spa resort
☒ Other:

1.5) Which of the following describes ownership structure at your property the best?

☐ Wholly owned by (the firm's name)
☐ Partly owned by (the firm's name) (i.e. a joint venture)
☐ Non-equity involvement (i.e. a management contract)
☒ Other:

1.6) Which recreational facilities does your hotel have?
Please check all that apply.

- ☐ Gym
- ☐ Sauna
- ☐ Steam room
- ☐ Solarium
- ☐ Tennis court
- ☐ Swimming pool
- ☐ Jacuzzi
- ☐ Jogging trail
- ☐ Children play area
- ☐ Aquarium

Other: ☐

1.7) How many guest rooms does your hotel have?

Number of rooms: ☐

1.8) How many restaurants does your hotel have?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Other: ☐

1.9) How many bars does your hotel have?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Other: ☐

1.10) How large is hotel's total meeting/exhibition space?
Please enter "0" if your hotel does not have meeting/exhibition facilities.

Square meters: ☐

1.11) How many employees does your hotel have?

Full-time: ☐

Part-time: ☐

Part II: Concern in Addressing Safety and Security Issues

Please indicate the level of your concern in each of the following safety and security issues at your hotel based on the scale 1 to 7, where 1 = lowest level of concern and 7 = highest level of concern.

Please select "0" if the issue is not your hotel's concern at all.
Please select "n/a" if the issue is not applicable to your hotel.

Safety and security issues	0	1	2	3	4	5	6	7	n/a
1) On-premise injury (in guest rooms, bathrooms, restaurants, lobby, stairs, elevators, escalators, glass furnished areas, etc.)									
2) Injury in recreational facilities (e.g. gym, sauna, stream room, solarium, tennis court, swimming pool, Jacuzzi, jogging trails, children play areas, etc.)									
3) Injury caused by employee (e.g. waitress spilling a hot soup on guest)									
4) Food borne diseases (i.e. viral infection from consuming foods)									
5) Food poisoning (i.e. illness caused by bacteria in foods)									
6) Severe Acute Respiratory Syndrome (SARS)									
7) Human influenza									
8) Avian influenza (bird flu)									
9) Storms									
10) Blizzards (snow storms)									
11) Earthquakes									
12) Torrential rains/floods									
13) Volcanic eruptions									
14) Landslides									
15) Avalanche									
16) Arson (i.e. hotel fire caused intentionally)									
17) Fire caused by machine failure (e.g. an electric short circuit)									
18) Fire caused by natural disaster (e.g. a lightning)									
19) Blackout caused by machine failure									
20) Blackout caused by natural disaster									
21) Money laundering (i.e. a guest spending illegal money on hotel services)									
22) Credit card fraud (i.e. guest's illegal use of credit card on premises)									
23) Information security breach that affects the guests (either on their business deal or their personal matters)									
24) Vehicle theft/break-in									
25) Carjacking									
26) Destructive action of walk-in thefts									
27) Robbery of the hotel									
28) Robbery of the guest									
29) Burglary of the hotel									
30) Burglary of the guest									
31) Perpetuating a scam on a guest (e.g. "good samaritans" scam)									
32) Employee theft									

Safety and security issues	0	1	2	3	4	5	6	7	n/a
33) Collusive theft (i.e. theft committed in an association with hotel employees)									
34) Kidnapping a guest for ransom									
35) Destructive behavior of youth gangs/street children									
36) Destructive behavior of sport hooligans (e.g. football hooligans)									
37) A case of violation of human right under your country's human right law, also known as "hate crime, in the hotel locale									
38) Violence committed by an intoxicated guest									
39) Prostitution (either on premises or in the neighborhood)									
40) Drug dealing (either on premises or in the neighborhood)									
41) Shooting (either on premises or in the neighborhood)									
42) Violence committed by employee against a guest									
43) Violence in the workplace (i.e. violence among employees)									
44) Violence committed against a guest by a person who does NOT know the guest									
45) Sexual assault/violence (e.g. rape) committed against a guest by a person who does NOT know the guest									
46) Murder of a guest committed by a person who does NOT know the guest									
47) Violence committed against a guest by a person who knows the guest									
48) Sexual assault/violence (e.g. rape) committed against a guest by a person who knows the guest									
49) Murder of a guest committed by a person who knows a guest									
50) Political riot in the hotel locale									
51) Political demonstration in the hotel locale									
52) Taking a guest as hostage									
53) Assassination of a guest									
54) Bombing in the hotel locale									
55) Terrorist-induced contamination of food supply									
56) Terrorist-induced contamination of water supply									
57) Terrorist-induced contamination of the hotel ventilation system									
58) Terrorist-induced radiation contamination of the hotel ventilation system									

Please describe any other safety and security issues in which you have an interest in addressing.

Part III: Likelihood of Safety and Security Issues

Please estimate "the likelihood", based on the scale 0 to 10, you believe that each of the following safety and security issues will affect your hotel.

If an issue is not applicable to your hotel, please enter "0".

Safety and security issues	Likelihood (on the scale 0-10)
1) On-premise injury (in guest rooms, bathrooms, restaurants, lobby, stairs, elevators, escalators, glass furnished areas, etc.)	
2) Injury in recreational facilities (e.g. gym, sauna, stream room, solarium, tennis court, swimming pool, Jacuzzi, jogging trails, children play areas, etc.)	
3) Injury caused by employee (e.g. waitress spilling a hot soup on guest)	
4) Food borne diseases (i.e. viral infection from consuming foods)	
5) Food poisoning (i.e. illness caused by bacteria in foods)	
6) Severe Acute Respiratory Syndrome (SARS)	
7) Human influenza	
8) Avian influenza (bird flu)	
9) Storms	
10) Blizzards (snow storms)	
11) Earthquakes	
12) Torrential rains/floods	
13) Volcanic eruptions	
14) Landslides	
15) Avalanche	
16) Arson (i.e. hotel fire caused intentionally)	
17) Fire caused by machine failure (e.g. an electric short circuit)	
18) Fire caused by natural disaster (e.g. a lightning)	
19) Blackout caused by machine failure	
20) Blackout caused by natural disaster	
21) Money laundering (i.e. a guest spending illegal money on hotel services)	
22) Credit card fraud (i.e. guest's illegal use of credit card on premises)	
23) Information security breach that affects the guests (either on their business deal or their personal matters)	
24) Vehicle theft/break-in	
25) Carjacking	
26) Destructive action of walk-in thefts	
27) Robbery of the hotel	
28) Robbery of the guest	
29) Burglary of the hotel	
30) Burglary of the guest	
31) Perpetuating a scam on a guest (e.g. "good samaritans" scam)	
32) Employee theft	
33) Collusive theft (i.e. theft committed in an association with hotel employees)	
34) Kidnapping a guest for ransom	
35) Destructive behavior of youth gangs/street children	
36) Destructive behavior of sport hooligans (e.g. football hooligans)	
37) A case of violation of human right under your country's human right law, also known as "hate crime, in the hotel locale	
38) Violence committed by an intoxicated guest	
39) Prostitution (either on premises or in the neighborhood)	

Safety and security issues	Likelihood (on the scale 0-10)
40) Drug dealing (either on premises or in the neighborhood)	
41) Shooting (either on premises or in the neighborhood)	
42) Violence committed by employee against a guest	
43) Violence in the workplace (i.e. violence among employees)	
44) Violence committed against a guest by a person who does NOT know the guest	
45) Sexual assault/violence (e.g. rape) committed against a guest by a person who does NOT know the guest	
46) Murder of a guest committed by a person who does NOT know the guest	
47) Violence committed against a guest by a person who knows the guest	
48) Sexual assault/violence (e.g. rape) committed against a guest by a person who knows the guest	
49) Murder of a guest committed by a person who knows a guest	
50) Political riot in the hotel locale	
51) Political demonstration in the hotel locale	
52) Taking a guest as hostage	
53) Assassination of a guest	
54) Bombing in the hotel locale	
55) Terrorist-induced contamination of food supply	
56) Terrorist-induced contamination of water supply	
57) Terrorist-induced contamination of the hotel ventilation system	
58) Terrorist-induced radiation contamination of the hotel ventilation system	

Please describe any other safety and security issues with the likelihood of more than 5.0 (on the scale 0-10) that they will affect your hotel.

Part IV: Investments in Safety and Security

4.1) Compared to other major European cities, how safe is your city in general?

☐ Below average

☐ Average

☐ Above average

4.2) Which security measures are already in place at your hotel?
Please check all that apply.

☐ Security cameras

☐ Private security

☐ Access control systems

☐ Emergency evacuation plan

Other: _____

4.3) During the past 5 years, has your hotel invested in at least one safety and security improvement project in which an approval* from a corporate head office in Brussels was required?
(*It is an approval which is stated in the "Fixed Assets-Investment Policy 9.1" section of the ECOMAN)

☐ Yes ☐ No

If "no", please skip Questions 4.3a and 4.3b and proceed to Question 4.4.
If "yes", please proceed to Question 4.3a.

4.3a) How would you describe that(those) investment(s)?
Please check all that apply.

☐ Mainly safety and security improvement

☐ Safety and security improvement as a part of hotel renovation/remodeling

☐ Safety and security improvement as a part of hotel construction (in case it is a new hotel)

Other: _____

4.3b) How would you classify that(those) investment(s) using categories listed in the ECOMAN?
Please check all that apply.

☐ Necessity

☐ Replacement

☐ Expansion

Other: _____

4.4) Do you recognize that investment in hotel safety and security is financial in nature?

☐ Yes ☐ No

If "no", please skip Questions 4.4a and 4.4b and proceed to Part V.
If "yes", please proceed to Question 4.4a.

4.4a) By what method do you use to determine whether or not you should invest in the safety and security project?
Please check that all apply.

☐ Net present value (NPV)

☐ Return on investment (ROI)

☐ Internal rate of return (IRR)

☐ Payback period (PB)

Other: _____

4.4b) Please describe non-financial performance measures (e.g. number of on-premise injury cases), in addition to financial measures stated in Question 4.4a (e.g. ROI, NPV, IRR, PB), that can be used to determine whether or not you should invest in the safety and security project?

Part V: Other Concerns on Hotel Safety and Security

Please share any comment or concern that you may have regarding hotel safety and security in the space provided below.

Thank you very much for participating in the survey.

Please go to https://survey.vt.edu/survey/entry.jsp?id=1100071255585 to fill in the survey online by Monday, November 22, 2004.

Note on some of the hotel safety and security issues:

- Issues number 19 and 20: **Blackout** refers to the failure of electric power for your city.
- Issue number 31: Good Samaritan refers to someone who helps a stranger without regard to reward. Thus "**Good Samaritans" scam** refers to an act of group of people or a person who helps a stranger by pretending that he or she does it without getting anything in return but in fact plans to commit a crime on a stranger.
- Issue number 37: **Hate crime** often refers to violation of human right under the law of a given country. It is often an act of a group of people or a person who commit a crime on others to demonstrate racial discrimination.
- Issue number 38: **Intoxicated guest** are one under the influence of alcohol or drug.
- Issues number 44-49: Although in many situations a stranger commits a crime on a hotel guest, please note that sometimes a guest becomes a victim of a person who knows he or she quite well. It maybe someone the guest invites to his or her room.
- Issues number 50 and 51: **Political riot** involves violence in an uncontrollable crowd while **political demonstration** often only causes inconvenience to

Appendix F

Second Questionnaire—Corporate Security Office and Risk Management Task Force

Second Questionnaire for the Corporate Security Office

The first round of survey indicates that hotel general managers are concerned about **crime (theft and robbery), on-premise injury of guests, food-borne diseases, and hotel fires** the most (please see file "Result – 1st round" for details). These managers also believe that those 4 areas of safety and security issues are most likely to affect their hotels. It is the goal of the second survey to develop a list of value drivers and decision variables which are factors determining a **net present value (NPV)** of an investment project to address hotel safety and security.

The researchers are developing a close-ended survey that will be sent to general managers who participated in the first round of survey. To be able to include as many value drivers and decision variables as possible, we request that experts, including director of corporate security, provide a complete list of possible factors that need to be considered when making an investment decision in hotel safety and security. The inputs from experts in responding to this questionnaire will then be included in the second-round survey.

Before you proceed to the questions, we ask that you make yourself familiar with definitions of *value drivers* and *decision variables*. Both contribute to the value of NPV of the project, but there is a major distinction between the two terms. A firm can decide on the value of each **decision variable** in order to obtain better **NPV** of the investment project. **Value drivers** can only be measured, estimated, or forecasted, but decision-makers do not normally make change in them.

Part I: Value Drivers of the NPV

Instruction:

In estimating the changes in revenues and costs resulting from investments in safety and security indicate the importance of each of the value drivers below to this estimation process.

1) Use the following scale, for the relative importance of each value driver
   - A scale 1 to 10 where 1 = least important and 10 = most important
   - Please write down "0" for value driver that is not relevant to the NPV calculation
2) Provide additional value drivers, if any, with their importance (using the same scale specified above) in the empty cells

1.1) Value drivers of *hotel yearly revenues and costs*	
Name of value drivers	*Rating (0 to 10)*
Revenue side (increase in annual revenues from the following groups of customers)	
1) Free independent travelers	
2) Group travelers	
3) Business travelers	
4) Governmental travelers	
5) Airline crews	
6)	
7)	
8)	
9)	
10)	
Cost side (annual savings on money spent to settle or address the following)	
1) Guests' claims on their losses (including personal properties) resulting from criminal incidents on the property	
2) Guests' claims resulting from food-borne disease cases	
3) Guests' claims on their injury while on premises	
4) Employee injuries due to criminal incidents	
5) Employee injuries due to poor work safety condition	

6) Losses due to hotel fire	
7)	
8)	
9)	
10)	

1.2) Value drivers of *cost of initial investment (e.g. in equipment, surveillance cameras, software, etc.)*	
Name of value drivers	*Rating (0 to 10)*
Video surveillance system	
1) cost of a surveillance camera	
2) cost of a surveillance camera software	
3) consulting and design costs	
4) cost per hour to train “an” employee to operate and monitor the surveillance cameras	
5) number of hours for each employee to be trained	
6)	
7)	
8)	
Injury-free property program	
1) consulting and design costs	
2) renovation costs (equipment and installation)	
3) employee training costs	
4) signage costs	
5)	
6)	
7)	
8)	

Food-borne disease prevention program	
1) consulting and design costs	
2) renovation costs (equipment and installation)	
3) employee training costs	
4)	
5)	
6)	
7)	
8)	
Fire prevention program	
1) consulting and design costs	
2) renovation costs (sprinklers, equipment and installation)	
3) employee training costs	
4) software costs	
5)	
6)	
7)	
8)	

1.3) Value drivers of *hotel's cost of capital*	
Name of value drivers	*Rating (0 to 10)*
1) Cost of long-term debts	
2) Preferred stock dividend rate	
3) Stock market performance	
4) Treasurer bill rate	
5) Bond interest rate	
6) Industry risk (Lodging)	
7) Company risk	
8) Tax rate	

9) Capital structure (proportion of long-term debt, preferred stocks, and common stocks)	
10)	
11)	
12)	

1.4) Value drivers of *risk of the project*	
Name of value drivers	*Rating (0 to 10)*
Financial risks	
1) Corporate taxes/taxes on hotel	
2) Foreign exchange rate	
3) Flow of fund restriction (Repatriation)	
4) Economic recession	
5)	
6)	
7)	
Operational risks	
1) Interruption of operation (due to major fires, bombings, or natural disaster)	
2) Temporary decrease in occupancy (due to outbreak in the country)	
3) Energy crisis	
4)	
5)	
6)	
7)	

Political risks	
1) Civil disorder	
2) Coups	
3) War in the country	
4) Foreign war	
5) General election	
6)	
7)	

Part II: Decision Variables of the Investment

Instruction:

The researchers seek a comprehensive list of decision variables under each of the four safety and security programs. We ask that you, as an executive who are familiar with safety and security equipment and technology, fill in all variables (e.g. units of equipment needed, units of labor required, etc.) in the cells provided below. Also fill in the "Note" cell, if any.
Note: Please feel free the expand the list under each program (There can be more than 5 decision variables for each program)

2.1) Video surveillance system (addressing the "crime" issue)

Name of variables	*Note*
1) number of surveillance cameras to be purchased	
2) number of camera staff to be hired	
3) hours of consulting service	
4)	
5)	
6)	
7)	
8)	

9)	
10)	
11)	
12)	
13)	

2.2) Injury-free property program

Name of variables	*Note*
1)	
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	

2.3) Food-borne disease prevention program

Name of variables	*Note*
1)	
2)	
3)	
4)	

5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	

2.4) Fire prevention program

Name of variables	*Note*
1)	
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
15)	

Appendix G

Letter of Invitation to the Second Delphi Survey

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Pamplin College of Business

Department of Hospitality and Tourism Management
362 Wallace Hall (0429), Blacksburg, Virginia 24061 USA
(540) 231-5515 Fax: (540) 231-8313

February 18, 2005

Dear Mr.

I would like to extend my greatest appreciation for your thoroughness and kind cooperation in completing the first survey on hotel safety and security that I am conducting as part of my Ph.D. dissertation at Virginia Polytechnic Institute and State University in Blacksburg, Virginia, USA and in cooperation and authorization by (name of director of corporate security), (name of the firm). Please find the results of the first survey in the attachment.

The second survey, which is expected to be the last one in my survey research project, is designed to develop a list of decision options available in investments in hotel safety and security as well as a list of factors influencing the net present value of the investment. It also serves as a tool for refining a group opinion on the importance and likelihood of each of the safety and security issues resulting from the first survey. Please take a few moments to complete the enclosed survey and return it to me via electronic mail at nuttapon@vt.edu **by Monday, March 7, 2005**. (Please note that I did not put the second survey up online as was done for the first survey).

Again I would like to assure you that all data will be kept confidential, including the name of (name of the firm), (name of the brand), your hotel, and your name. In appreciation for participating in my study, I will be glad to share my results with you and (name of the firm).

Finally, I would like to thank you in advance for your time, willingness, and agreement to participate in my research. If you have any questions or concerns, please feel free to contact me via electronic mail (nuttapon@vt.edu) or by telephone (1-540-230-9545) or by fax (1-540-231-8313).

Sincerely,

Nuttapon Punpugdee
Ph.D. Candidate

Michael D. Olsen, Ph.D.
Professor of Hospitality Strategy

(Name)
Director of Corporate Security

Appendix H

Second Delphi Survey Questionnaire

Hotel Safety and Security
A Second Survey

Administered by
Nuttapon Punpugdee
Ph.D. Candidate, Hospitality and Tourism Management
Virginia Polytechnic Institute & State University, USA

In cooperation and authorization by
(name of the director of corporate security), (name of the firm)

Please complete the survey and return it to nuttapon@vt.edu
by **Monday, March 7, 2005**

Hotel five-letter hotel ID: _____

Section I: Investments in hotel safety and security

The results of the first round of our survey launched last November indicate that (name of the brand) general managers are most concerned about **crime (theft and robbery), on-premise injury of guests, food-borne diseases, and hotel fires**. General managers also believe that these four areas of safety and security issues are most likely to affect their hotels. It is the goal of the second survey to develop a list of decision options as well as a list of factors influencing a **net present value (NPV)*** of an investment if the hotel is to address these four areas of safety and security issues (i.e. invest in hotel safety and security).

In *Part I*, you are given a list of possible decision options (e.g. equipment, a training program, etc.) if your property is to invest in safety and security. You will then indicate whether each of them should be treated as a decision option in an investment evaluation. Since a hotel is required by (the firm's name) to submit an NPV calculation with the investment application, the researchers seek an understanding on how general managers view factors influencing the NPV of an investment. These factors affect the NPV of an investment four areas; 1) yearly benefits throughout a life of the investment, 2) cost of the initial investment, 3) cost of capital, and 4) risk of the investment. Thus the factors are accordingly grouped into these four categories in *Part II*. We ask that you as a general manager indicate the importance of each factor in all categories.

*A net present value calculation as a form of financial analysis must be submitted with an investment application. Please refer to page three of the *fixed assets-investment policy 9.1* section of the ECOMAN for details of this requirement.

Section II: Confirmation of your response on the first survey

To help the researchers obtain a higher level of agreement among (name of the brand) general managers on hotel safety and security issues, we request for your participation in *Section II* of this survey. You are provided with a list of safety and security issues in which your rating is significantly different from the average rating. We ask that you either confirm your original rating or give us a new rating on each of these issues.

Section I: Investments in hotel safety and security

Part I: Decision options in the investments

Instruction:

The researchers seek a comprehensive list of decision options when a hotel considers an investment to address four areas of hotel safety and security: *1) crime (theft and robbery), 2) on-premise injury of guests, 3) food-borne diseases, and 4) hotel fires*. We ask that you, as a general manager, decide whether each of the following possible options should be treated as a decision option for the investment. In other words, if the option should be a part of an investment, please indicate "Yes", otherwise please indicate "No".

	*Treated as a **Decision Option***	
	Yes	No
1.1) Crime (theft and robbery)		
1.1.1) Surveillance cameras		
1.1.2) Employee monitoring surveillance camera screens		
1.1.3) Consulting service		
1.1.4) Data storage system		
1.1.5) Maintenance contract on equipment		
1.1.6) Program staff		
Additional factors: (please start from the next line)		
1.2) On-premise injury of guests		
1.2.1) New safety equipment (to be purchased)		
1.2.2) Existing equipment (to be upgraded)		
1.2.3) Supplies (e.g. first aid kits)		
1.2.4) Signage		
1.2.5) Documentation and reporting system		
1.2.6) Maintenance contract on equipment		
1.2.7) Program staff		
Additional factors: (please start from the next line)		
1.3) Food-borne diseases		
1.3.1) New equipment in food receiving facilities (to be purchased)		
1.3.2) Existing equipment in food receiving facilities (to be upgraded)		
1.3.3) New equipment in food storage facilities (to be purchased)		

(Continued)

	*Treated as a **Decision Option***	
	Yes	No
1.3.4) Existing equipment in food storage facilities (to be upgraded)		
1.3.5) Food packaging systems		
1.3.6) Special cleaning equipment		
1.3.7) Maintenance contract on equipment		
1.3.8) Program staff		
Additional factors: (please start from the next line)		
1.4) Fire prevention program		
1.4.1) Fire detection equipment		
1.4.2) Alarm system hardware (e.g. panels, call boxes, bells, loud speakers etc.)		
1.4.3) Alarm system software		
1.4.4) Portable extinguishers		
1.4.5) Stationary extinguishers (e.g. Sprinklers, suppression systems in kitchen hoods, etc)		
1.4.6) Internal Communication links		
1.4.7) External Communication links (to city fire department)		
1.4.8) Maintenance contract on equipment and hardware		
1.4.9) Program staff		
Additional factors: (please start from the next line)		

Part II: Factors influencing the NPV of investments in safety and security

Instruction:

In estimating the changes in revenues and costs resulting from investments in safety and security indicate the importance of each of the factors below to this estimation process.

1) Use a scale 1 to 10, where 1 = least important and 10 = most important, to rate the relative importance of each factor

a. Please check “Not relevant” for a factor that is not relevant to the NPV calculation
b. Please check “I don’t know” if you do not know a factor and/or do not understand a link between that factor and the NPV.

2) Provide additional factors, if any, with their importance (using the same scale specified above) in the blank cells provided

Factors influencing the NPV of investments in safety and security	I don't know	Not relevant	Least Important ----------→ Most Important									
			1	2	3	4	5	6	7	8	9	10
2.1) Yearly benefits of the investment												
2.1.1) Leverage on yearly revenues from the following guest segments as a result of investments in safety and security												
2.1.1.1) Free independent leisure travelers												
2.1.1.2) Group travelers												
2.1.1.3) Business travelers (independent)												
2.1.1.4) Business travelers (corporate or local agreement)												
2.1.1.5) Governmental travelers												
2.1.1.6) Airline crews												
Additional factors: (please start from the next line)												
2.1.2) Annual saving on the following as a result of investments in safety and security												
2.1.2.1) Guests' claims on their losses (including personal properties) resulting from criminal incidents on the property												
2.1.2.2) Guests' claims resulting from food-borne disease cases												
2.1.2.3) Guests' claims on their injury while on premises												
2.1.2.4) Spending associated with employee injuries due to criminal incidents												
2.1.2.5) Spending associated with employee injuries due to poor work safety conditions												
2.1.2.6) Losses due to hotel fire												

(Continued)

Factors influencing the NPV of investments in safety and security	I don't know	Not relevant	Least Important ----------→ Most Important									
			1	2	3	4	5	6	7	8	9	10
Additional factors: (please start from the next line)												
2.1.3) Annual expenses in running programs to address the following safety and security issues												
2.1.3.1) Crime (theft and robbery)												
2.1.3.2) On-premise injury of guests												
2.1.3.3) Food-borne diseases												
2.1.3.4) Hotel fires												
Additional factors: (please start from the next line)												
2.2) Cost of the initial investment **2.2.1) Crime (theft and robbery)**												
2.2.1.1) Cost of a surveillance camera												
2.2.1.2) Cost of a surveillance camera software												
2.2.1.3) Consulting and design costs												
2.2.1.4) Cost of training camera staff to operate and monitor the surveillance cameras												
2.2.1.5) Cost of data storage system												
2.2.1.6) Permits and administration costs												
Additional factors: (please start from the next line)												

(Continued)

Factors influencing the NPV of investments in safety and security	I don't know	Not relevant	Least Important ----------→ Most Important									
			1	2	3	4	5	6	7	8	9	10
2.2.2) On-premise injury of guests												
2.2.2.1) Consulting and design costs												
2.2.2.2) Renovation costs (equipment and installation)												
2.2.2.3) Employee training costs												
2.2.2.4) Signage costs												
Additional factors: (please start from the next line)												
2.2.3) Food-borne diseases												
2.2.3.1) Consulting and design costs												
2.2.3.2) Renovation costs (equipment and installation)												
2.2.3.3) Employee training costs												
2.2.3.4) Certification costs												
Additional factors: (please start from the next line)												
2.2.4) Hotel fires												
2.2.4.1) Consulting and design costs												
2.2.4.2) Renovation costs (sprinklers, equipment and installation)												
2.2.4.3) Employee training costs												
2.2.4.4) Software costs												
2.2.4.5) Signage cost												
2.2.4.6) Permits and administration costs												
Additional factors: (please start from the next line)												

(Continued)

Factors influencing the NPV of investments in safety and security	I don't know	Not relevant	Least Important ----------→ Most Important									
			1	2	3	4	5	6	7	8	9	10
2.3) Cost of capital												
2.3.1) Cost of long-term debts												
2.3.2) Preferred stock dividend rate												
2.3.3) Stock market performance												
2.3.4) Treasury bill rate												
2.3.5) Bond interest rate												
2.3.6) Industry risk (Lodging)												
2.3.7) Company risk												
2.3.8) Tax rate												
2.3.9) Capital structure (i.e. proportion of long-term debts, preferred stocks, and common stocks)												
Additional factors: (please start from the next line)												
2.4) Risk of the investment												
2.4.1) Corporate taxes/taxes on hotel												
2.4.2) Foreign exchange rate												
2.4.3) Restriction on fund repatriation												
2.4.4) Economic recession												
2.4.5) Cost overrun												
2.4.6) Delay of construction												
2.4.7) Shortage of resources (e.g. energy crisis, skilled labor crisis, etc.)												
2.4.8) Civil disorder												
2.4.9) Coups												
2.4.10) War in the country												
2.4.11) Foreign war												
2.4.12) General election												
2.4.13) Legislation change												
Additional factors: (please start from the next line)												

Section II: Confirmation of your response on the first survey

Part I: Concern in addressing safety and security issues

Instruction:

On the first survey launched last November, hotel general managers were asked to express their level of concern in the safety and security issues facing their hotels based on the scale 1 to 7, where 1 = lowest level of concern and 7 = highest level of concern. "0" indicates that the issue is not the hotel's concern at all. The mean (average) score and standard deviation (a measure of dispersion from the mean) are calculated for each issue. The following are issues in which your score is significantly different (i.e. different more than 1 standard deviation) from the mean score. We ask that you either confirm your original score *or give us a* revised score *which reduces the difference between your score and the mean score. If you choose to stick with your original score, please provide an explanation of your decision.*

Safety and security issue	**Company Mean Score**	Company Standard Deviation	**Your Original Score**	**Your Revised Score**	**Confirm Original Score**	**Explanation**
1)						
2)						
3)						
4)						
5)						

Part II: Likelihood of safety and security issues

On the first survey, hotel general managers are asked to estimate the likelihood based on the scale 0 to 10, that they believe each safety and security issue will affect their hotel. "0" indicates that the issue is not applicable to their hotel. The mean (average) score and standard deviation (a measure of dispersion from the mean) are calculated for each issue. The following are issues in which your score is significantly different (i.e. different more than 1 standard deviation) from the mean score. We ask that you either confirm your original score *or give us a* revised score *which reduces the difference between your score and the mean score. If you choose to stick with your original score, please provide an explanation of your decision.*

Safety and security issue	**Company Mean Score**	Company Standard Deviation	**Your Original Score**	**Your Revised Score**	**Confirm Original Score**	**Explanation**
1)						
2)						
3)						
4)						
5)						

Thank you very much for participating in the survey.

Vita

Nuttapon Punpugdee, a son of Narong and Raungtong Punpugdee, was born on June 5, 1972 in Ratchaburi, Thailand. He earned his Bachelor of Business Administration degree in Finance from Kasetsart University in Bangkok, Thailand in 1992. After graduation, he worked as a marketing analyst at the Siam Cement Group before coming to the United States in August, 1993.

In May 1995, Mr. Punpugdee received his Master of Business Administration in Management from the University of Montana in Missoula, Montana. After working as an instructor of operations management at Kasetsart University for six years, he returned to the United States in August, 2001 for his doctoral study with a concentration in strategic management and management science in the context of the hospitality and tourism industry. During four years of advanced academic training at Virginia Polytechnic Institute and State University, he presented and co-wrote papers at the *Annual Graduate Education and Graduate Student Research Conference in Hospitality and Tourism* in 2003 (Las Vegas), 2004 (Houston), and 2005 (Myrtle Beach, South Carolina), the *Annual I-CHRIE Conference* in 2003 (Palm Springs), 2004 (Philadelphia), and 2005 (Las Vegas), and the *First Annual Asia-Pacific CHRIE* in 2003 (Seoul). Most of his conference papers are about strategic management in the airline and meeting industries. He was also a co-author of an applied research note titled *Service Quality in the US Airline Industry* which was published in *e-Review of Tourism Research* in 2005.

Mr. Punpugdee's primary research, teaching, and consulting interests center on strategic management and investment decision-making in hospitality, tourism, and other types of service organizations. In particular, he continuously pursues his research ambitions in the airline industry. He has taught courses at both undergraduate and master's levels, such as operations management, service management, small business management, supply chain management, decision-making, management science, project management, and facility planning and management.