

**ENVIRONMENTAL SCANNING AND INVESTMENT DECISION QUALITY:
INFORMATION PROCESSING PERSPECTIVE**

BY

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DEDICATIONS

The tenacity and perseverance that have been required to complete this process were instilled in me by my mother, *Fauziah*. The self-confidence and honor that were necessary to overcome obstacles at various stages were taught to me by my father, *Nik Muhammad*. To my husband, *Nadzmi*, the two particulars you have taught me, that is to see the positive and to enjoy what I do, have been the essence of my success. Thank you for never letting me settle for less in this dissertation. Thank you for always being there to listen and provide your insightful and unique perspectives. Thank you for your continual support. I could not have done it without you. To all my children, *Fawwaz, Ain, Elyn, Fara and Aisya*, in many ways, this degree and dissertation are “ours”. “*Forgive mummy who often saw little of you all during days when mummy was busy at school. In spite of that, you all have shown excellence. Mummy’s very proud of you all*”. I dedicate the completion of my DBA work to all of you.

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Abstrak

Di dalam persekitaran yang dinamik, pengimbasan menjadi begitu penting dalam membuat keputusan, khususnya keputusan pelaburan. Kajian lampau berkaitan pengimbasan masih belum jelas tentang penentu tingkahlaku pengimbasan di kalangan eksekutif serta hubungannya dengan prestasi. Kajian ini menguji secara empirik kesan tingkahlaku pengimbasan persekitaran ke atas kualiti keputusan pelaburan dan peranan Kapasiti Pemprosesan Maklumat (KPM) sebagai penyederhana (moderator) kepada hubungan tersebut. Tingkahlaku pengimbasan dikonseptualkan mengikut sejauh mana pengimbasan dilakukan (berdasarkan sektor persekitaran), kaedah pengimbasan yang digunakan dan sumber informasi persekitaran yang digunakan oleh para eksekutif. Analisis data menggunakan 118 keputusan yang diperolehi melalui soal selidik yang diposkan, di mana setiap responden diminta untuk memilih satu keputusan pelaburan yang khusus dan memberi penilaian berdasarkan keputusan yang dipilih. Penemuan kajian menunjukkan hanya maklumat berkaitan teknologi, ekonomi and persaingan diimbaskan oleh eksekutif Malaysia dalam membuat keputusan berkaitan pelaburan modal. Eksekutif Malaysia didapati mengimbas maklumat persekitaran secara sederhana, menggunakan kedua-dua kaedah yang formal dan tidak formal serta menggunakan pelbagai sumber maklumat. Tiada perbezaan yang bererti yang dapat dilihat dari segi sejauh mana pengimbasan dibuat, kaedah yang digunakan dan sumber maklumat yang diimbaskan, yang digunakan untuk setiap jenis maklumat. Hubungan yang terhad juga didapati antara tingkahlaku pengimbasan dan kualiti keputusan pelaburan. Analisis regresi menunjukkan bahawa kualiti keputusan berkait secara bererti dan positif hanya dengan maklumat ekonomi dan persaingan dan formaliti kaedah yang digunakan untuk mengimbas maklumat persaingan. Kapasiti memproses maklumat didapati bertindak sebagai penyederhana kuasi, mempunyai kesan langsung dan juga kesan interaksi ke atas kualiti keputusan.

Abstract

In a dynamic environment, scanning becomes critically important when making decisions, particularly investment decisions. Previous research on scanning has proved inconclusive regarding the determinants of scanning behaviors of executives and their subsequent relationships to performance. This study tests empirically the impact of environmental scanning behaviors on investment decision quality, and the moderating role of Information Processing Capacity in the relationship. Scanning behavior was conceptualized according to the extent of scanning conducted (by environmental sector), methods of scanning used and sources of environmental information engage by the executives. Data analysis uses 118 decisions obtained through mailed questionnaires, where each respondent was asked to select a particular investment decision and responds according to the selected decisions. The finding shows that only technology, economic and competition information was scanned by Malaysian executives in making capital investment decision. Malaysian executives were found to scan for environmental information at a moderate level, using both formal and informal methods and using various sources (both personal and impersonal) of information. No significant difference was found across the various type of information in terms of the extent of scanning done, method of scanning used and sources of information used. Limited relationships were also observed between scanning behavior and investment decision quality. Regression analyses show that the quality of decision is positively and significantly related to extent of economic and competition information and formality of method used to scan competition information. Information processing capacity was found to be a quasi moderator, thus having a direct as well as an interaction effect on decision quality.

CHAPTER 1

INTRODUCTION

This study examines the relationship between environmental scanning behavior and the quality of investment decisions made by managers, and the role of information processing capacity in this relationship. This chapter therefore presents a background to the research. It discusses the problem statement, research questions, purpose and objectives of the study and finally the significance of the study.

1.1 Introduction

Everyone is interested in making good decisions. More precisely, decision makers are interested in making decisions that have good outcomes. According to Brower (2000), a good decision or quality decision is a decision that results from quality decision making process. He argued that one of many successful decision-making strategies that emerged from a decision process is where individuals and organizations seek out and process the information effectively in situations of uncertainties. This is true for both large and small organizations, as well as for profit and non-profit organizations. Success requires a keen strategic understanding of external influences in order to respond or make decisions. Environmental scanning is one tool in an organization's arsenal that can be used to gain this understanding (Albright, 2004). Environmental scanning is the internal communication of external information about issues that may potentially influence an organization's decision making process. The extent of environmental scanning or scanning behavior of the decision maker such as how much scanning is done, scanning methods used to scan the environment, source

of information used and the scope of environment scanned, to understand the environment will impact the decision making quality. Thus, this research investigates the impact of the environmental scanning on decision making quality, with specific focus on capital investment decision for firms in Malaysia.

1.2 Background of the Study

For more than forty years, there have been periodic reviews of the decision making literature. In almost six decades since Simon's (1947) seminal critique of the rational model of decision-making, theorists have been trying to replace it with a systematic and coherent explanation of decision-making behavior (Cray, Mallory, Butler, Hickson and Wilson, 1991). Over the years a number of factors have been suggested as being important for understanding quality strategic decision-making. Hage (1980) in Cray et al. (1991) stated that the frequency of occurrence, cost, continuity with previous issues and risk are important factors in understanding strategic decision making. MacCrimmon (1985) on the other hand argues that the degree of rationality, informedness, social interest and degree of manipulateness are the key dimensions of the decision-making context that influenced the outcome of the process. More recent literature by Makadok and Barney (2001), suggests that, process and information quantity are important factors in understanding strategic decision-making. Thus, the quantity and quality of data gathered should commensurate the degree of environmental uncertainty facing the firm, to ensure successful decision making.

The extant literature has provided a variety of models regarding managerial decision making. For example, one stream of research suggests that managers process information in an intuitive manner (e.g., Mintzberg, 1988) while another research stream (e.g., Thomas, Clark and Gioia, 1993) suggests that managers deliberately seek

out and sift through enormous amount of new information in order to make effective decision. This evolving research is important given the growing emphasis on understanding the dynamics of strategic decision-making. Hambrick and Mason's (1984) work directed researchers toward the importance of the top management team in decision-making and directing strategy. Subsequent research has extended Hambrick and Mason's work, by examining top management team decision-making in several contexts, including environmental scanning (e.g. Daft and Weick, 1984). Many researchers acknowledge that rational data gathering activity lies at the heart of strategic decision-making. Rational data gathering includes environmental scanning that involves acquiring and processing voluminous amount of information (Daake, Dawley and Anthony, 2004). Environmental scanning assesses the internal strengths and weaknesses of an organization in relation to the external opportunities and threats it faces (Abels, 2002). Some believe that supplementing rational data gathering with intuition or tacit knowledge may improve managerial decision-making (Mintzberg, 1988). However, in spite of the many researches on strategic decision making in relation to environmental scanning, no management research has focused on the impact of environmental scanning as an input to the strategic decision-making process to investment decision quality. Issues of the extent of scanning, scope of scanning, methods (formal vs. informal), etc. and their impact on the quality of decisions made are amongst issues yet to be fully addressed in the literature on environmental scanning.

One study in the information technology literature suggests that a knowledge acquisition information system might help managers systemize their thoughts during strategic planning (Jonas and Laios, 1993). This may be especially helpful when environmental uncertainty requires that a large body of information be considered

(Daake et al., 2004). While perceived environmental uncertainties vary from industry to industry, the level of recognition of the importance of the environment also varies from company to company, as does the reaction of companies to their environment. Therefore, getting the right information to the right person at the right time to produce the right processed information is of critical importance, and this is not an easy task. The adaptation of technology, skills and knowledge synthesis within environmental scanning should occur (Raghu and Vinze, 2005). According to Elofson and Konsynski (1991), "problems in the environmental monitoring process often occur when a particular expertise, an agent in the problem-solving network, is unavailable, and knowledge from the domain does not play a role in the analysis". Their study found that "delegation technologies" provide the capability of capturing, organizing, and distributing knowledge that may be used by experts in classifying patterns of qualitative indicators in the business environment and subsequently achieve better quality decisions. According to Lord and Maher (1990), during the past three decades there has been a trend amongst management practitioners to apply information-processing principles to develop theory and improve management or personnel practice. It includes improving performance appraisal of an organization. Given the dynamic and competitive nature of today's business, a great extent of environmental scanning is needed, but it is insufficient to ensure quality decision; in other words environmental scanning is a necessary but not a sufficient condition for decision quality. Thus information processing capabilities is required to resolve various uncertainties due to an increasing volume of information. In other words, a great extent of environmental scanning does not necessarily translate into better decision, unless the accompanying voluminous information can be readily processed

Taking an information processing perspective on the strategic decision-making process, this research theorized that the extent of environmental scanning is one of the key elements for investment decision quality. Environmental scanning is beneficial to the decision making process as it provides the amount and variety of information that match the complexity and uncertainty of the strategic decision-making task. Despite the mentioned benefits, information error can occur during decision-making that can affect the processing of contradictory information and the actions taken by the decision makers. Therefore specialized knowledge and technologies should come together to reduce the risk of relying on the information provided (Dooley and Fryxell, 1999). As such, this study will also look at the moderating effect of information processing capacity that will have an impact in enhancing the relationship of environmental scanning behavior to the investment quality of decision-making.

1.3 Problem Statement

Today's corporate world is undergoing unprecedented changes. The accelerating pace of technology, markets integration, and highly competitive market, place an increasing demand to get strategic investment decision right. Malaysia like the rest of the world is doubling its efforts in transforming the economy towards achieving higher value- added growth. Therefore, more efficient decision mechanisms are required to support this transformation. However, the past years have been eventful years for Malaysia's corporate sector, with the revamp of the Renong-UEM, Malaysian Airline System (MAS), Malaysia Resource Corp Bhd (MRCB), Kuala Lumpur rail operators PUTRA , STAR (Asia Times, 2001), massive losses faced by Bank Islam Malaysia Berhad (BIMB) and most of the smaller listed shipping

companies in Bursa Malaysia (the Star, 2005) as well as many small and medium firms that cannot gain strong sustainability in the market.

Namura International (Hong Kong) Ltd., one of the research houses says: "the performance of each company depends entirely on its management. In a nutshell, it's all about when you lock in your contracts, and how soon you can capitalize on a spike in the rates." (Business, 2005). Therefore, the right decision strategy allows the company to reap major strategic and operational advantages: a wrong one can lead to an important opportunity being lost or even worse, a disadvantage that curtails future revenues.

Companies invest hundreds of billions of dollars every year in fixed assets. By their nature, these investment decisions have the potential to affect a firm's fortunes over several years. A good decision can boost earnings sharply and dramatically increase the value of the firm. A bad decision can lead to bankruptcy. The reason is that most of these decisions involve committing a big sum of money and the results heavily depend on forecasting and creating the future in a competitive and ever-changing business environment. Thus the risk and uncertainty is inherent in these investments. Therefore, it is reasonable to assume that poor performance of many Malaysian firms is partly if not fully related to badly or wrongly made strategic investment decisions. Due to this reason, further investigation needs to be conducted.

In spite of the practical aspect of the importance of strategic decision making to the organizational performance, the theoretical aspect on strategic decision making and organizational performance has also been deliberated on by many researchers. The early studies done by Burns and Stalker (1961), Chandler (1962), Harper (1993), and Lawrence and Lorsh (1967) as cited in Jennings and Lumpkin (1992), found that a firm's high performance depends on its successful corporate strategy and structure.

Similarly, Sulaiman (1989) also found that high performing Malaysian manufacturing firms have the right corporate strategy. However, the effectiveness of the corporate strategy process relies on strategic decision making quality; that is the extent to which they result in desired outcome (Sharfman, 1996). According to Hammond, Keeney and Raiffa (1998), bad decisions can often be traced to the way the decisions were made – the alternatives were not clearly defined, the right information was not collected, the cost and benefits were not accurately weighted as well as the biased choice made by the decision maker. This judgmental bias is due to eight traps which are; (1) The anchoring trap – which led the decision maker to give disproportionate importance to the first information they receive; (2) The status quo trap which led the decision maker toward maintaining the current situation even though better alternatives exist; (3) The sink-cost trap – which inclines the decision maker to perpetuate the mistakes of the past; (4) The confirming-evidence trap – which led the decision maker to seek out information supporting an existing predilection and to discount opposing information; (5) The framing trap that occurs when the decision maker misstate problem, undermining the entire decision-making process; (6) The overconfidence trap that biases the decision maker to overestimate the accuracy of their forecast; (7) The prudence trap – which led the decision maker to be overcautious when they make estimates about uncertain events; and (8) Recall ability trap, which led the decision maker to give undue significance to recent and dramatic events. These traps are particularly disastrous in situations of great uncertainties of today's environment. According to Duncan (1972) perceived environmental uncertainty will lead individuals to the difficulties in deciding what is the most appropriate action that gives the best results. Duncan (1972) also suggested that uncertainty can be caused by (a) the lack of information concerning the situational

demands, and (b) an inability to assign probabilities with confidence to the occurrence of events that could affect the appropriateness of the decision. Anything that can contribute to making a decision difficult, however, would increase the perceived environmental uncertainty.

In order to overcome the traps mentioned earlier, Hammond et al. (1998), suggest that, decision makers must be open minded and seek information and opinions from a variety of people (sources) to widen their frame of references and to push their mind in fresh directions. This is called environmental scanning. Environmental scanning is a process of seeking information about events and relationships from a company's outside environment (Hambrick, 1981). Knowledge from the information helps the top managements to plan for the company's future course of action. Furthermore, environmental scanning is the first step in problem-solving sequence and it influences the perceptions and actions of the organization (Daft and Weick, 1984; Hambrick, 1981). Environmental scanning is also used to reduce uncertainties surrounding the decision-making process. Leroy and Bernard (2004), in his study found that environmental scanning can reduce manager's risk-averse attitude in increasing the level of productive investment. Ekmen (2005) in his study of small manufacturing enterprise in the printing and clothing industries also found that owner managers decision making process was based on their past experience or from the experience of others, that is through collection of external information. Thus, environmental scanning can be seen as a mechanism for reducing uncertainty in the decision-making context.

Several studies such as Daft and Weick, (1984); Hambrick, (1981); Venkatraman (1989) found a positive relationship between scanning and performance. According to Dess, (1987) environmental scanning is the primary strategy and is

necessary in establishing organizational goals. In addition, it has been found that successful firms differ from unsuccessful firms because they do more scanning and they also have a broader pattern of scanning (Daft, Sormunen, Parks, 1988) as scanning will help decision makers to make better decision and ultimately quality decision. Many studies found that high performing companies scanned more frequently and more broadly in response to strategic uncertainty than their counterparts in low-performing companies (e.g. Daft et al., 1988; Beal, 2000). Therefore, it can be assumed that the poor performance of some Malaysian firms can be attributed, partly if not fully to poor decision making strategy. One of it can be attributed to lack of environmental scanning. Occurrences such as financial crisis, SARS outbreak, Bird Flu disease, Terrorism, and concern over prolonged war in Iraq that lead to oil prices becomes turbulent will give more impact to the deterioration of the Malaysian firm's performance. The impacts of these events will generate greater uncertainties for both business and consumer. Therefore, according to Porter (1980), to reduce the level of uncertainty, scanning the environment is important. It can improve investment decision-making.

Although studies have pointed out the negative effects of uncertainty on investment decision-making (e.g. Ozer, 2005) Perceived environmental dynamism and risk-aversion (e.g. Maguire and Albright, 2005; Rasheed, 2004), the relationship between perceived environmental uncertainty and scanning behavior (e.g. Ebrahimi, 2000; Elenkov, 1997; May, Stewart and Sweo, 2000; Suh, Key, Munchus, 2004) and environmental scanning, competitive strategy and organizational performance (e.g. Beal, 2000; Kumar, Subramaniam and Strandholm, 2001), very few have examined the impact of environmental scanning behavior toward investment decision-making.

Previous research on environmental scanning and impact on investment decision-making only looked at how investment decisions are made, (Eknem, 2005) and not on how scanning should be done that will impact their investment decision-making. This research therefore aims to fill such a gap in the research of environmental scanning and strategic decision making by looking at the impact of environmental scanning behavior to investment decision-making quality based on the comprehensiveness of the amount of information that should be scanned, the method of scanning that should be utilized, the source of information that should be used, and the sector of environment that should be sought out. Therefore, this research will investigate how scanning is done by top management in all types of firms in Malaysia, and how it should be done to ensure quality decisions.

1.4 Purpose and Objective

The study on environmental scanning is well-recognized in strategic management and decision making literature. However whether its impact to investment decision making quality is not well researched. The general objective of this research therefore is to determine the impact of extent of environmental scanning behavior in Malaysia and its contribution to the investment decision performance and quality. It also attempts to address the issues of how scanning should be done in an organization to ensure quality decisions. Thus this study will attempt to achieve the following:

1. To determine the environmental scanning behavior in relation to capital investment decisions in terms of extent of scanning done, method, sources used and sector scanned; and whether these behaviors differs by the various

decision contexts such as the decision maker, the organization and the type of decision involved.

2. To investigate the impact of environmental scanning on their investment decision-making quality.
3. To determine the contingent effect of information processing capacity on the relationship between environmental scanning and investment decision-making quality.

1.5 Research Questions

Based on the above problem identification and the objectives, this study seeks answers to the following research questions:

1. What is the extent of environmental scanning practice in making capital investment decision?
2. What sectors of the environment is scanned more when making capital investment decisions?
3. What methods are generally used in environmental scanning?
4. What sources of information are relied on when scanning the environment?
5. Do the extent, methods and sources used differ by the context of the decisions, in particular by decision-maker, the organization and the nature of the decision?
6. What is the impact of environmental scanning behavior on their investment decision-quality?
7. Does Information Processing Capacity enhance the impact of investment decision quality?

1.6 Definition of Terms

Table 12.1: Definition of Terms

Terms	Definition
Environment	As the relevant physical and social factors outside the boundary of an organization that are taken into consideration during the organizational decision making (Duncan, 1972)
Scanning	Refers to the means through which top managers perceive external events and trends. (Hambrick, 1982, Culnan, 1983)
Environmental scanning	Is the acquisition and use of information about events, trends, and relationships in an organization's external environment, the knowledge of which would assist management in planning the organization's future course and action. (Aguilar, 1967, Choo and Auster, 1993).
Information processing capacity	How decision makers understand, predict, stimulate, interpret, store, retrieve, transmit, generate judgments, and solve problems based on the information gathered. An organization ability to processes information to make sense of its environment, to create new knowledge, and to make decision (Larkey and Sproull, 1984).
Investment decision making quality	Investment decision making quality is a decision that: (1) meets (or contributes to the achievement) the objectives of the organization; and (2) gives rise to positive outcome to the decision maker
Frequency of scanning	Scanning frequency is the amount of scanning done by managers (Elenkov, 1997; May et al., 2000; Sawyer, 1993) and the number of times the managers scan the environment for information in a given time period (Hambrick, 1982).
Scope of scanning	The environment sector that information is being sought out. E.g. Government, technology, supplier, competitors etc
Source of scanning	Source of scanning is defined as where the information is being collected, e.g. Internal, external, personal or impersonal.
Method of scanning	How scanning is being done, whether regularly and formally or irregularly and informally.

1.7 Significance of the Study

The findings from this research have important implications to both theory and practice. Theoretically, this study will add to the strategic decision making and environmental scanning literature. Practically, it will also provide decision makers and strategic planners with formal data to make them aware of the major issues related to environmental scanning and strategic decision making process to improve their decision making outcome.

1.7.1 Theoretical Significance

The literature has generally agreed that environmental scanning has significant positive impact on the performance of an organization, as attested to by several studies such as Daft and Weick, (1984); Hambrick, (1981); Venkatraman (1989); and Dess, (1987). Furthermore environmental scanning has been established as the first step in the strategic decision-making process, which influences the perceptions and actions of the organization (Daft and Weick, 1984; Hambrick, 1981). However, many of these studies have focused on decisions related to the choice of corporate strategies, and there is certainly a dearth of literature that focused on strategic investment decisions, which is the primary focus of this study. Further, the above studies have conceptualized environmental scanning in totality by taking the extent of scanning undertaken, without looking at the various components of scanning, such as those iterated in this study's objectives. Thus the findings of this study will further add to the literature with in-depth understanding of scanning and its differential impact on quality of decision. Furthermore, the inclusion of the moderating variables will further

enhance the understanding of the differential impact of scanning under various contexts of the decision-making situation.

Thus, it is clearly necessary that studies on environmental scanning should be expanded since the large number of studies in environmental scanning only focused on areas such as:

- The relationship between environmental uncertainty and scanning behavior (e.g. Ebrahimi, 2000; Elenkov, 1997; May, Stewart and Sweo, 2000; McGee and Sawyerr, 2003; Suh, Key, Munchus, 2004);
- The relationship between environmental scanning and firm's performance (e.g. Beal, 2000; Daft and Weick, 1984; Hambrick, 1981; Kumar, Subramaniam and Strandholm, 2001; Venkatraman, 1989);
- Scanning the environment for strategic advantage (e.g. Choo, 2001); and
- Factors influencing environmental scanning (e.g. Correia and Wilson, 2001).

Only one study found in the literature, that of Leroy and Bernard (2004) that looked at the impact of environmental scanning on investment decision-making. Their study posited environmental scanning as a moderator to enhance productive investment decision and reduce the risk-averse attitude of the managers. No study was found to directly relate the impact of environmental scanning and investment decision-making quality and comprehensively look at how managers scan the environment, the source of information they use, the sector of environment they seek out, and the influence of information processing capacity to enhance their investment decision-making quality.

The outcome of this research therefore, may add to the literature on strategic management particularly strategic decision making which focuses specifically on the impact of environmental scanning on company's investment decision-making quality.

1.7.2 Practical Significance

One of the greatest challenges for managers of all organization today is managing uncertainty. The future is not known with certainty; as a result managers must do what they can to reduce uncertainty. It means reading the signals, following the trends and scanning the external environment. Thus the findings from this research will provide important guidelines as to the extent of scanning and the areas of scanning that need to be focused when making important investment decisions.

There are many important reasons to do environmental scanning. Rapid changes in today's marketplace and the new emerging business practices can easily cause an organization to lag behind if it does not keep up in the areas such as technology, regulations, and various rising trends. Therefore, environmental scanning reduces the chances of being blindsided and results in greater anticipatory management (Albright, 2004).

Thus the study on environmental scanning is significant in order to identify whether the decisions made by Malaysian managers through his/her scanning behavior give positive impact to their strategic investment decision making. The finding from this study hopefully will encourage Malaysian companies to enhance their environmental scanning practices and practically will help them to conduct environmental scanning effectively. This can be done through:

- Identifying the environmental scanning needs of their organizations.

CHAPTER 2

LITERATURE REVIEW

Research literatures in strategic decision making, information scan and information processing theory set the context of this study. This chapter therefore presents a review of the literature that describes the theory leading to studies that directly investigate environmental scanning.

2.1 Introduction

Decisions are made almost every day by every human being. However it is a complex process and must be well understood. In making a good decision, one that is of quality, the decision makers must know a great deal about the industry and social and business environment in which they work (Simon, 1987). Quality decisions are decisions that have met the objectives of the organization and give rise to positive outcomes to the decision maker. A quality decision relies on the decision process in which a decision maker organizes, prioritizes, seeks and sorts the information (Simon 1987). Data seeking process which is also called scanning is part of the decision making process and it involves acquiring and processing voluminous amount of information (Daake, Dawley and Anthony, 2004). Environmental scanning as an element of the rational decision making process has positive relationship with organizational performance (Daft and Weick, 1984; Venkatraman, 1989). Over the past decades, numerous studies have been conducted in the area of strategic decision making in conjunction with environmental scanning. The reasons were to aid decision makers in making better decisions in this complex and uncertain environment. In spite of these work in the area of strategic decision making and

- Identifying the characteristics of an investment decision that influence their need for environmental scanning,
- Identifying sources of information, sectors of environment, skills, personnel, decision-making software, or IT support that give a positive impact to the quality of their investment decision-making.

1.8 Conclusion

To conclude, the primary focus of the study is to determine the impact of environmental scanning behavior to the investment decision making quality, looking at the information processing perspective. Since the current study is prescriptive or normative in nature, the final implication of the study is to identify how scanning should be done in order to achieve investment decision quality.

This dissertation is divided into five chapters. The present chapter discusses the background of the study, its objectives and purpose, its relevance and significance and the theory underlying the study that will be explored further have been discussed. The remainder of this dissertation has Chapter two elaborating on the theoretical context of the problem by reviewing the literature, chapter three describing the methodology employed, chapter four reporting the findings of the study and finally, chapter five analyzing the findings, providing interpretation and conclusions related to the research hypothesis, and discussing the implications of these results for the future research and practice.

environmental scanning, the link between environmental scanning to investment decision making quality is still little studied. Most of the past literatures are descriptive in nature and more concern on environmental scanning behavior of the managers in relation to strategic planning effectiveness and overall firm's performance. None was found to relate how scanning should be done in an organization and what scanning behavior organizations should adopt to ensure investment decision making quality per se.

While this research focuses on strategic investment decision making, the question arises concerning whether the extent of environmental scanning behavior will give rise to quality investment decision making? Does the information processing capacity enhance the relationship between environmental scanning and quality investment decision making? This research will begin to examine these issues by first reviewing literature on decision making, strategic decision making, and strategic investment decision making to gain an in-depth understanding of strategic decision making. This is followed by reviewing the environmental scanning behavior and information processing capacity to see the relationship and impact towards the quality of investment decision.

2.2 Decision making

2.2.1 Definition

Many literature as cited by Harris (1998) viewed decision making as the process of choosing among alternative courses of action for the purpose of solving problem or attaining better situation regarding the opportunity that exist (e.g. Charlisle, 1979; Stoner, 1982; Harrison, 1999). Harris (1998) also defines decision making as the study of identifying and choosing alternatives based on values and preferences of the

decision maker. This definition stresses the information gathering function of decision making. Every decision involves a certain amount of risk. Therefore, very few decisions are made with absolute certainty because complete knowledge about all the alternatives is seldom possible. Harris (1998) stresses that every decision is made within a decision environment, which is defined as the collection of information, alternatives, values and preferences available at the time of the decision. An ideal decision environment would include all possible information, all information is accurate, and every possible alternative together with its impact, is known. However, the identification and collection of all information and alternatives are constrained by time and effort necessary to do so. To make quality decision in the highly competitive environment today, decision makers in any organization need to devote a significant amount of knowledge, skill and attention to managerial decision making.

2.2.2 Nature of the decision

The nature of the decision or decision characteristics has an impact on the quality of decisions. According to Rajagopalan, Rasheed, and Datta (1993), there is a relationship between decision characteristics and the decision making process. Leonard, Scholl and Beauvais, (2005), added that differences in decision making processes or decision behavior can be attributed to differences in the decision task, differences in the situation or the environment in which the decision is made, and the individual differences.

Decision Task

Decision task would include the dimensions of complexity of the task, difficulty and familiarity of the task and ambiguity of the task (Leonard et al., 2005). Empirical

findings suggest that an increase in decision time when the task is unfamiliar or ambiguous, and also an increase in the amount of information used when the task is complex or difficult. According to Wood (1986), complex tasks require significantly more processing of information cues (where the cues are interrelated to decision task) than simple tasks.

Decision Situation/Environment

Characteristics of the decision situation or decision environment include time pressures, irreversibility and significance of the decision and accountability of the decision makers. Time pressures on the decision will lead to a structured, rule based decision process that will reduce the number of alternatives generated and considered. Irreversibility of the decision and significance of the decision and accountability of the decision maker are linked to an increase in decision time (Abelson & Levi, 1985).

Individual Differences

Personal characteristics of decision makers do influence each phase of the decision making process. Individual variables which have been examined in the literature include both demographic and psychological variables. Demographic variables such as an individual's age, tenure in the firm, education level, and functional background have been examined (Hambrick & Mason, 1984). Psychological variables include variables such as locus of control, tolerance for ambiguity, and cognitive style (Hurst, Rush & White, 1989; Slater, 1989).

The studies of both Hambrick and Mason (1984) and Mahmood (2001) lend support to the belief that the characteristics of the management team making the decision have an impact on decision making, organizational outcome, and direction.

In terms of psychological variables, Hurst, et al. (1989) in their development of the creative management model of strategic decision making, suggest that differences in the cognitive preferences, or differences in the way that individual's prefer to process information, has an impact on their ability to identify and exploit strategic opportunities.

2.2.3 Decision-making theory

In order to understand the investment decision making better, it is necessary to understand the different theoretical perspectives to decision making. Theories of decision making do not belong to a single academic discipline. Contributions have come from philosophy, economics, political theory, sociology, psychology, and management science. These theories can be grouped into three categories:

- Firstly, the descriptive theories which attempt to explain how decisions are actually being made in practice.
- Secondly, normative theories that explain how decisions should be made, often based on rationality and consistent methodologies.
- Thirdly, prescriptive theories that attempt to improve decision making in specific context through removing limitations and biases identified in descriptive theories. Prescriptive approaches seek to formulate recommendations that lead to better decisions, reproduce the complexity and uncertain characteristics or uncertainties of real-world situation and give the true nature of decision makers as we know it (Johnson-Laird and Shafir, 1993).

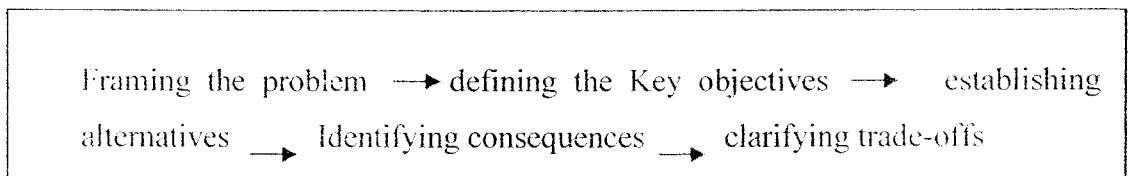
The current study, environmental scanning and investment decision making quality, in general aims to provide normative and/or prescriptive approach for decision makers with the intention of determining how scanning should be done and formulating recommendations that might lead to quality decision.

In strategic decision making model, many theorists see the analysis of the decision making processes as the key to understanding how organizations function. Theories that are most debated among strategic decision making scholars are discussed below.

Rational decision-making

In rational decision making, goals and alternatives are made explicit, the consequences of pursuing different alternatives are calculated, and these consequences are evaluated in terms of how close they are to the goals (Simon, 1987). Rationality theory is concerned with guidelines of consistency, transparency and transitivity, but not about the underlying preferences values. For a long time, literature on decision making was dominated by the assumption that decision making could take place in an entirely rational way. The rationalist perspective, which was developed in the 1950s and 1960s, has its roots in Weber's sociological theory in which he sees the rationalization of decision making within bureaucratic structures as the dominant approach to organization (Weber, 1947 in Nilsson and Dalkman, 2001). Simon (1957) introduced rational decision theory into organization theory. He said that the decision making process is the core of all organization theory, which should therefore address questions such as "How are decisions made?" and "How can decisions be made more rationally?"

The basic principles of rationalism can also be derived from utility theory. Utility theory underlies rationality because it defines rational preferences and the choices one ought to choose. According to rationality theory, the decision making process is goal-oriented and rational. Other variations on rational decision making models describe the decision process as high level of aggregation containing a sequence of steps. Such models are usually the foundations of current environmental decision support tools, and follow the following route:



This type of model can be seen in many variations in the decision-support literature (Hammond, Keeney and Raiffa, 1998). However, the rational Model or “economic man” is the ‘ideal’ model for decision making, but it is not practical, because of the limitations in human information processing capability and the ability to predict all alternatives which is termed as ‘Bounded rationality’ by Simon (1957). The concept of bounded rationality suggests that individuals have perceptual and information-processing limits. Although managers may want to act rationally, they must accept the limits. This limited function includes acting upon sufficient rather than complete knowledge. Therefore there’s a tendency for managers to use simple rather than complex search strategies for problems and consistently using shortcuts (Miller and Ireland, 2005). Hence, judgmental perspective of decision making was introduced by Simon in the late 50s.

Intuition or Judgmental Decision-making

Some scholars assert that rational decision making can only occur under “stable, clear, simple conditions” (Rainey, 2003). However, because these conditions are often non-existent, decision-makers must use judgment and intuition in their decision making. Many executives and managers embrace intuition as an effective approach to important decisions. Indeed, recent surveys and business press articles indicate broad support for the use of intuition in making strategic decisions (Miller and Ireland, 2005). Intuition can speed up decision making, which can be important in a complex and fast changing world. Intuition can be the only possible approach when resources are constrained such as managerial time and funds to support decision making.

“Intuitive” decision making is the type of decision-making that involves interpersonal interaction (Simon, 1987). It relates to irrational or judgmental decision-making that involves the behavior and emotions of the decision maker. Moreover, according to Barnard (1938) as cited in Simon (1987), non logical process of decision making was grounded in knowledge and experience. Intuitive judgments therefore, are usually subjected to tests of various kinds before they are actually implemented especially when time is the factor. According to Simon (1987) intuition corresponds to judgment or choice made through subconscious synthesis of information drawn from diverse experience. Here, information stored in memory is subconsciously combined in complex ways to produce judgment or choice that feels right (Miller and Ireland, 2005).

The need for quick decisions, the need to cope with demands created by complex market forces, and the assumed benefit of applying deeply held knowledge, create strong perceived value for the intuitive approach. However, Miller and Ireland (2005) in their study conclude that, drawing from the evidence of behavioral decision