# ENVIRONMENTAL BUSINESS SCANNING LITERATURE–PAST, PRESENT AND FUTURE RESEARCH AGENDA

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**Abstract**
*The purpose of this paper is to make research propositions that can potentially fill the research gaps in the literature of scanning by businesses about the broader condition that may affect them (environmental scanning) environmental scanning. Major databases such as ABI/INFORM, Elsevier's science direct, and Emerald have been searched. Most of studies were included from published sources. The literature on environmental scanning is reviewed with an aim to identifying the patterns of the extant literature as well as research gaps. Based on the literature review, five propositions are suggested. These propositions are concerned with the antecedents of the environmental scanning behavior and the measurement of firm performance. The contributions of this paper are the identification of the evolution of the environmental scanning literature, research gaps, and the establishment of propositions that future research may further the knowledge of environmental scanning.*

**Keywords: Environmental Scanning, Market Entry Mode Choice, Strategic Planning, Born Global Firms, Firm Performance**

## INTRODUCTION

The contemporary economy is a global economy. Buyers and sellers in every country of the world engage in business transactions that, in one way or another, affect other buyers and sellers worldwide. A critical issue for business is how to best manage the changes currently taking place in the economic world. Global information is a platform to the understanding of the changing global market environment and the development of a successful business strategy. Environmental scanning concerning the activities of acquiring information provides a systematic mechanism to gather global information for managers to make strategic decisions. As such, a need to explore and understand environmental scanning has arisen among academia who look for explanations and try to understand and conceptualize environmental scanning, its nature, its key determinants and predictions, as well as the relationships among environmental scanning set of variables.

This study documents the findings of a literature review of the extant literature in relation to environmental scanning. This study has three main purposes: 1) to document existing literature, 2) to find patterns evolved from the literature, and 3) to make propositions for future research to fill the research gaps.

The research method used in this study is secondary research. The first stage in the research was to collect as much literature related to environmental scanning as possible. Several citation identification methods were utilized. A basic search was performed in ABI/Inform, Elsevier's science direct, and Emerald databases, using key-word search based on the occurrence of the phrases "environmental scanning" and/or "environmental analysis" in the abstract and/or title. A modified approach of content analysis advocated by Baregheh, Rowley and Sambrook (2009) was then employed to categorize the collected literature.

This paper is structured in four main sections. First, a literature review of environmental scanning, reflecting on the development in this area is presented. This is followed by the patterns evolved from the literature. Research gaps are then identified. On this basis, propositions are proposed to fill these gaps.

## LITERATURE REVIEW

### The first phase

A review of the environmental scanning literature indicates that Aguilar (1967) was the pioneer in identifying the types, sources, and methods of information acquisition frequently utilized by managers. His study found that none of the functional area, hierarchical level or firm size was strongly related to the extent executives scanned different environmental areas. His work was regarded as a micro approach, indicating that the use of environmental analysis was nothing more than a personal engagement of scanning environmental information (Thomas, 1980). The study aroused the interest of and paved a way for studying environmental scanning practices.

In an exploratory study, Kefalas and Schoderbek (1973) found that colleagues and informal meetings were the most important sources of information. Trade magazines and internal reports were of significant written sources. Their findings also showed the relationships between the executive's functional level and specialty and the types of information acquired. Furthermore, the results suggested that production executives spent more time scanning the environment than any other type of executive.

Keegan (1974) found that the executives of U.S. multinational firms relied on external sources of information that written materials from outside the firm were regarded as more important than those from inside. The major sources of this information were the staff of the firm's subsidiaries and affiliates, and those of law and accounting firms, and banks. The results indicated the reliance of the executives on human sources of information than on documentary sources. It showed general tendency that the character of environmental analysis was very subjective at that time. The study also found no computer-based systems for information gathering or retrieval, or significant information flow within the organizations. The contribution of Keegan's study was twofold. First, it provided empirical evidence contrary to a general belief that executives relied primarily on internal sources of information. Second, it

confirmed the Aguilar's (1967) propositions that managers relied chiefly on external human sources of information.

Wall (1974) conducted a longitudinal survey of the U.S. executives' attitudes toward corporate espionage and competitive information gathering. The results showed that published sources were the most frequently relied sources. The findings were contrary to those of Keegan (1974) and Aguilar (1967) that there was a shift in the mid 1970s from the previously relied on personal sources for information acquisition to documentary sources.

With previous research calling for a need for better environmental scanning techniques, Fahey and King (1977) conducted an empirical study centered on environment in both national and global context of social, political, regulatory, economic and technological conditions. They proposed three models to classify firms involved in environmental scanning activities; namely, irregular model, regular model, and continuous model. Their study was pioneer in that it was the first study describing the practice of environmental scanning activities in a diverse range of large firms in a systematically manner. The study substantiated a broad awareness of the importance of environmental scanning, but few of the firms materialized, in fact neglecting, the value of environmental scanning.

A study of U.S. firms found a direct relationship between the size of a firm and the extent of the involvement in environmental scanning activities (Thomas, 1980). It was found that most of the firms had scanning procedures in places with an average of ten years prior to the study. Scanning was thriving among the very largest firms. His study was opposing to Fahey and King's findings that "far from being in a state of neglect or decline, scanning for planning is alive and well, at least in the world's largest corporation." He further argued that "environmental scanning is on the threshold of rapid growth and development (Thomas, 1980, p.21)." However, the key limitation of his study was the research methodology that employed published data as the only source.

O'Connell and Zimmerman (1979) argued that the literature on the subject was too mechanistic, emphasizing purely on scanning systems and tools. Based on the results of the executives from America and Europe in international firms, they found that professional peers, particularly individuals in corporate headquarters, were ranked as the most important source of information. Their finding was different to that of Keegan's (1974). They conclude that firms' members might introduce their own values and needs that biased the ability of the firms to perceive their external environment. It was the first study to introduce human facet in the study of environmental scanning.

The researches on environmental scanning in the 1970's were at the infant stage. The units of the studies were mainly large U.S. firms. Researches focused on scanning systems and tools. In general, the studies were relatively descriptive that stated only the status quo of the environmental scanning behavior.

**The second phase**

During the second phase, interest in environmental scanning started to proliferate. Hambrick (1982) made a significant contribution in investigating the relationship between strategy and environmental scanning practices. The study was the first time of all the environmental scanning research that brought in other organizational variables, while all previous research was mainly concerned with describing the scanning systems. He found that in certain industries, firms with pioneering product or service scanned the entrepreneurial sector more than did firms offering a stable set of products or services. He suggested that executives scanned to reinforce their organizations' competitive strategies. It was this tendency that limited their responsiveness to environmental signals beyond their strategy scope.

Daft and Weick (1984) proposed a conceptual model to explain why organizations interpret the environment in a different way. The two dimensions used by the authors were management's assumptions about the analyzability of the external environment and the extent of organizational intrusiveness into the environment to understand it. These two dimensions form the basis for an interpretation system describing four modes of intrusive organization behavior; namely undirected viewing, enacting, conditioned viewing and discovering. These modes were then related to other organization variables for prediction with regard to strategy and decision processes. The major contribution of the study is the attempt of integrating the environmental scanning theories in the strategic management literature.

Examining the evolutionary process and state of environmental scanning, Jain (1984) found that environmental scanning activities were evolved in a pattern manner which could be distinguished in four phases. These primitive, ad hoc, reactive and proactive phases form a staged model from the primitive to proactive which was the most sophisticated stage of scanning. He further argued that executives' perception about the usefulness of the scanning process and a formalized system of strategic planning are the two prerequisites for firms establishing successful scanning process. He urged executives to change and adapt their perspective to the realities of forthcoming events in order to reap the benefits from environmental scanning.

A three-year-three-phase study surveyed almost 500 of the world's largest firms in three different sections; U.S. industrials, U.S. non-industrials, and foreign corporations showed that about 95 percent of all respondents conducted long-range planning activities Klein and Lineman (1984). Their findings suggested that environmental analysis was emerging as a substantial part of formalized long-range planning process. However, in general, the forecasting tools under environmental scanning were not effectively integrated into planning processes.

Kennedy's (1984) survey tried to find out the firms' approaches to environmental and political risk analysis, methodologies employed, level of integration into strategic planning, and firm characteristics. He found that the scanning activities had developed to a more sophisticated and coordinated state. The existence of SBU was discovered to have a significant relationship with environmental assessment; while the firm characteristics, percentage of sales abroad, and the number of foreign countries were no longer related to environmental scanning activities.

Lenz and Engledow (1986) conducted a field study of 10 firms with the most advanced environmental analysis in place to gain further insights of environmental scanning activities. Results showed that experimentation with alternative administrative structures was persisting. The majority of the firms relied on corporate monitors to initiate environmental analysis. They were usually non-professional personnel involved in scanning activities as volunteers. When potential interest was identified by the corporate monitors, an abstract of the article would be forwarded to the environmental analysis unit. The scanning unit was not tightly linked with strategic planning processes. The authors argued that extending knowledge of design and management of structures and process facilitating strategic adaptation could improve strategic management practice.

Examining the relationship of the perceived level of strategic uncertainty and the frequency and mode of scanning, Daft, Sormunen and Parks (1988) found that customer, economic and competitor sectors generated greater strategic uncertainty than technological, regulatory and sociocultural sectors. When strategic uncertainty increases, executives responded with greater scanning frequency and greater use of personal information sources. The results also indicated that chief executives in high-performing firms scanned more frequently the environment and more broadly when strategic uncertainty was high in comparison to their counterparts in low-performing firms.

Preble, Rau and Reichel (1988) based their study on the recognition that multinational firms were faced with increasing levels of uncertainty and complexity in their multiple and geographically dispersed operating environments. Their study looked at the extent of sophistication of environmental assessment activities, the nature and use of both internal and external sources of information, forecasting techniques, and risk evaluation. The authors concluded that there was an ever-increasing usage, sophistication and integration of international environmental scanning activities. Compared to the Keegan's study (1974), the findings represented substantial progress in terms of sophistication of environmental analysis.

A pioneering study on environmental scanning in this phase was the comparison of the practices of Korean firms and those of the U.S. firms (Ghoshal, 1988). The main areas to examine were the scanning behaviors of individual managers and the structures, roles, and the systems of formal environmental scanning units. The author argued that although scanning behaviors of American and Korean firms were quite similar on average, they differ sharply in the practices. His findings indicated that there was a level of homogeneity in the scanning practices of Korean firm and in their overall approach to the scanning function, which was in sharp contrast to the diversity of scanning practices in U.S. firms. The reason behind this difference was, according to the author, that the scanning practices were the responsibility of one staff in a Korean firm whereas in the United States there were many individuals who contributed to the design and implementation of environmental scanning systems. The author nevertheless indicated that culture might not be the reason for this difference.

In a conceptual paper, Schneider (1989) studied the relationship between strategy formulation; in terms of scanning, selecting, interpreting, and validating information, and national culture. The author suggested two sets of cultural assumptions were

believed to be associated to strategy formulation. They were external adaptation and internal integration, representing relationship with the environment and relationship among people respectively. The assumption made by Schneider is that with confidence on the conditions increases, less time and resources on environmental scanning will be devoted. The major implication of this paper is the author's recognition of the cultural differences in ways of approaching strategic formulation task.

Gilad's work at the end of 80's (1989) criticized the environmental scanning not being able to generate competitive advantage. In order to gain inferior strategic decisions, he proposed that organized intelligence that environmental scanning should be integrated into the overall strategic plan was critical. Organized intelligence should be the coordinated efforts across the whole organization rather than just directed toward familiar and easy-to-obtain information. Gilad further developed a "3E" strategy in terms of competitive intelligence to achieve competitive advantage. The 3Es are Entrepreneurial, Economic and Essential. His study shed light on the use of environmental scanning in relation to strategic management.

The researches on environmental scanning in the 1980s were flourishing. Not only did the studies try to understand what firms did with regard to environmental scanning, but also examined the relationships between the environmental scanning behavior and strategic management. It expanded the knowledge of environmental scanning practices. While most of the studies still focused on the U.S. firms, a comparison study was performed to enlarge the scope of the environmental scanning literature.

**The third phase**

Environmental scanning in the third phase had received continuing recognition in both general management and strategic literature (Ginter & Duncan, 1990; Preble, 1992). Soderlund (1990) proposed that there was a need to have a different approach to the environmental scanning function in the 1990s, which was considered to be a fragmented and confused, irrational and subjective nature of the contemporary society. This post-modern period for business had become increasingly turbulent and dynamic. As a result, the development of the environment scanning system depends on how the firms defined its environment. In respond to these post-modern phenomena, Soderlund (1990, p.9) suggested that "an internal environment based on ad hoc, spontaneous and voluntary interaction which gives rise to a mutual exchange of information. Soderlund's paper provided some insight into the post-modern era of environmental scanning.

A practical guideline of how to tackle macroenvironmental analysis for strategic management was put forward by Ginter and Duncan (1990). The authors proposed managers to ask themselves five questions about macroenvironmental analysis; 1) do we need it (macroenvironmental analysis)? 2) what areas should we analyze? 3) how much information do I need an where do I get it? 4) what techniques can we use to analyze important trends and events? And 5) what procedure and organization structures are most appropriate for analyzing the macroenvironment? It is an integrated framework that allows managers to think about macroenvironmental analysis from the strategic point of view.

Preble (1992) proposed an overall strategic control process to act as a guide for future strategic control systems. Preble's overall strategic control process was based on the use of environmental scanning to provide information for strategic surveillance and premise control. Strategic surveillance and premise control played significant roles in strategy formation, implementation and evaluation feedback control.

Jennings and Lumpkin (1992) conducted an empirical study to determine whether firms employing different strategies based on Porter's (1980) generic strategies would differ their approach to environmental scanning. Their findings confirmed that the type of scanning activity was significant related to strategy. In other words, firms adopting differentiation strategy would tend to scan the environment for opportunities while firms employing a cost leadership strategy would scan the environment in relation to threats. Firms emphasized on differentiation strategy perceive that new acquisitions, market, and investment are more important to their firms while the cost leaders perceive that regulatory and competitive threats were most important to their firms.

Empirical studies found that established firms were more likely to collect macro environmental information such as demographic, population, and socio-cultural trends; and to use formal methods of data collection such as focus groups, structured personal interview and database research than the newer ventures (Mohan-Neill, 1995). Similarly, high performance firms seemed to put more emphasis on a formal and coordinated scanning system (Analoui & Karami, 2002).

A study from Lim, Sharkey and Kim (1996) suggested that high-involvement exporters were involved in greater extent in environmental scanning in terms of export opportunities, competitor activities, and changes in global business conditions than low-involvement exporters that in turn were more involved than non-exporters. Along the line of this study, Yasai-Ardekani and Nystrom (1996) examined the relationships between the scanning design and the organizational context and found that i) the task environment was positively related to the scope design, frequency of scanning, and the top management team responsibility; ii) the general environment was positively related to the top management team responsibility; iii) organizational size was negatively related to the top management team responsibility, iv) inflexibility of technology was positively related to the scope of scanning design, and v) low-cost orientation was positively related to frequency and the top management responsibility. In general, they found that firms with effective scanning systems tended to align their scanning designs with the requirements of their context better than those with ineffective scanning systems.

From the international marketing perspective, Ojah and Han (1997) examined the environmental effects on marketing activity in developing countries. Their study reinforced the importance of environmental scanning when entering a distant and unfamiliar market. Following their idea of learning the role of functional area in environmental scanning, Huffman (2004) proposed that line managers need to play a critical role in feeding the information to the systems. His study shed light on an untouched issue of the role of lower rank staff in environmental scanning. The study suggested that environmental scanning was not only a corporate issue, but also involved line staff. In studying the impacts of environmental scanning on competitive strategy in small manufacturing firms in the U.S., Beal (2000) found that scope of

scanning, but not frequency of scanning, statistically associated with strategy formulation.

Trying to find out the impact of environmental scanning on new product development, Ahituv, Zif and Machlin (1998) found that firms that were more successful in new product development exhibited more frequent formal scanning, had more computer applications in their information system inventory, and possessed more computerized marketing information system than did less successful firms.

A study of Fortune 100 firms, Hough and White (2004) found that scanning increased as the environment increased in uncertainty from stable to moderate and dynamic. Some interesting findings in this study were related to the managers' roles. While the relationships between scanning completeness and environmental dynamism were found in an inverted U shape from vice presidents and product development managers, a positive linear and U shape were found from manufacturing and Sales/Marketing managers respectively. Their study suggested an interaction effect of managers' roles. Kumar, Subramanian and Strandholm (2001) studying the environmental scanning practice of the America health care industry confirmed the moderating role of environmental scanning activities in the strategy/performance relationship.

One of the major themes emerging during this period was the examination of the environmental scanning behavior of firms in different countries. Findings of 55 Hong Kong executives suggested that the executives perceived higher degree of uncertainty in the competitive, customer, and economic sectors than the political (Ebrahimi, 2000). He also found a positive relationship between the degree of perceived strategic uncertainty and scanning frequency and interest of firms in Hong Kong. In addition, the executives also scanned the task environment in terms of competitors, customers, and suppliers of resources sectors more intensely than the remote ones that included political/legal, economic, social/cultural, and technological sectors. Another empirical research studied the sources of information used, environmental scanning practice and organizational performance of Nigerian manufacturing firms (Swayerr, Ebrahimi, & Thibodeaux, 2000). They found that greater scanning frequency in the economic and political sections of the environment than the customer/market and competitor sections. Also, environmental scanning frequency did not affect firm's performance and internal sources of information was preferred in comparison to external ones. May, Stewart and Sweo (2000) studied the environmental scanning behavior of firms in Russia. The empirical results suggested that the Russian executives did not scan more frequently even though the Russian environment was ranked as highest in strategic uncertainty in terms of customer/market, economic and competition. Ogunmokun and Ng (1999) studied the differences between high and low performance of Australian firms in terms of their environmental scanning practices. The results showed that Australian firms with higher performance were significantly different to those lower performance firms in terms of the frequency of use of a systematic method and a fixed policy. Elenkov (1997) studied 141 medium-size Bulgarian firms with regard to the relationship between perceptions of strategic uncertainty and environmental scanning behaviors. The findings suggested that the increase in strategic uncertainty would have a positive impact on managers' reliance on personal modes of scanning and external sources of information. This study further revealed that Bulgarian firms are different to their U.S. counterparts in terms of strategic uncertainty perception and environmental scanning behavior. Another

study using in-depth interviews to examine the environmental scanning behavior of Thailand SMEs found that firms practising environmental scanning were better able to develop appropriate new products (Ngamkroeckjoti, Speece, & Dimmitt, 2005). This finding was in agreement with Ahituv, Zif and Machlin's (1998) study. In a more recent study, an exploratory study of German corporations revealed that environmental scanning would still be an important tool for the German firms in the future (Schwarz, 2008). The findings also suggested that environmental scanning was expected to create alternative pictures of the future, detect change in an organizational environment, and keep track of these changes so that firms can react strategically to them.

In a comparative study of 47 U.S. and 57 Indian entrepreneur firms, Steward, May and Kalia (2008) found that Indian and U.S entrepreneurs are similar in scanning behaviors. Both Indian and U.S. entrepreneurs increased the scanning frequency when they perceived that there were increases in the rate of environmental changes. However, Indian entrepreneurs scanned more frequently than U.S. entrepreneurs due to more discomfort with uncertainty, higher risk avoidance and a greater future orientation in comparison to the U.S.

One of the major contributions in the third phase is the examination of the environmental scanning behavior of the firms in different countries. In addition, various studies were conducted to examine the relationships amount environmental scanning, strategy and firm performance.

A summary of the extant literature is shown in table one.

Table 1: A summary of the extant literature of environmental scanning

| **Author (year)** | **Type of study** | **Findings / Propositions** |
|---|---|---|
| ***Phase One*** | | |
| Aguilar (1967) | Empirical | Types, sources, and methods of information acquisition were frequently utilized by managers. |
| Kefalas and Schoderbek (1973) | Empirical | Colleagues and informal meetings were the most important sources of information. Trade magazines and internal reports were of significant written sources. |
| Keegan (1974) | Empirical | Written materials from outside the firm were regarded as more important than those from inside. The major sources were the staff of the firm's subsidiaries and affiliates, and those of law and accounting firms, and banks. No computer-based system was used. |
| Wall (1974) | Empirical | Published sources were the most frequently relied sources. |
| Fahey and King (1977) | Empirical | Few of the firms materialized, in fact neglecting, the value of environmental scanning |

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|---|---|---|
| Thomas (1980) | Empirical | The size of a firm affected the extent of the involvement in environmental scanning activities. |
| O'Connell and Zimmerman (1979) | Empirical | Professional peers, particularly individuals in corporate headquarters, were ranked as the most important source of information. |
| ***Phase Two*** | | |
| Hambrick (1982) | Empirical | The study found a difference between innovative firms and firms focusing price/quality/service/delivery in the amount of scanning. |
| Daft and Weick (1984) | Conceptual | The study attempted to integrate the environmental scanning theories in the strategic management literature. |
| Jain (1984) | Empirical | Four phases of environmental scanning activities were found; namely primitive, ad hoc, reactive and proactive phases |
| Klein and Lineman (1984) | Empirical | Environmental analysis was part of formalized long-range planning process. But, the forecasting tools were not effectively integrated into planning processes. |
| Kennedy (1984) | Empirical | The existence of SBU had a significant relationship with environmental assessment; while the firm characteristics, percentage of sales abroad, and the number of foreign countries were not related to environmental scanning activities. |
| Lenz and Engledow (1986) | Empirical | Non-professional personnel were involved in scanning activities as volunteers. The scanning unit was not tightly linked with strategic planning processes. |
| Daft, Sormunen and Parks (1988) | Empirical | Strategic uncertainty increases increased scanning frequency and greater use of personal information sources.<br><br>High-performing firms scanned more frequently the environment and more broadly when strategic uncertainty was high in comparison to their counterparts in low-performing firms. |
| Preble, Rau and Reichel | Empirical | Evidence suggested ever-increasing |

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|---|---|---|
| (1988) | | usage, sophistication and integration of international environmental scanning activities. |
| Ghoshal (1988) | Empirical | Scanning behaviors of American and Korean firms were quite similar on average, but they differ sharply in the practices. |
| Schneider (1989) | Conceptual | Two sets of cultural assumptions, external adaptation and internal integration, were conceptualized to be associated to strategy formulation and environmental scanning. |
| Gilad (1989) | Conceptual | A model called "3E" strategy in terms of competitive intelligence to achieve competitive advantage was developed. "3E" stood for Entrepreneurial, Economic and Essential. |
| ***Phase Three*** | | |
| Soderlund (1990) | Conceptual | Mutual exchange of information was based on ad hoc, spontaneous and voluntary interaction. |
| Ginter and Duncan (1990) | conceptual | A five-step guide of how to tackle macroenvironmental analysis for strategic management was developed. |
| Jennings and Lumpkin (1992) | Empirical | Firms adopting differentiation strategy tended to scan the environment for opportunities and perceived that new acquisitions, market, and investment were more important to their firms<br><br>Firms employing a cost leadership strategy scanned the environment in relation to threats and perceived that regulatory and competitive threats were most important to their firms. |
| Preble (1992) | Conceptual | Environmental scanning could provide information for strategic surveillance and premise control. |
| Mohan-Neill (1995) | Empirical | Established firms were more likely to collect macro environmental information; and to use formal methods of data collection than the newer ventures. |
| Analoui and Karami (2002) | Empirical | High performance firms possessed more formal and coordinated scanning system. |

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|---|---|---|
| Lim, Sharkey and Kim (1996) | Empirical | High-involvement exporters scanned export opportunities, competitor activities, and changes in global business conditions in greater extent than low-involvement exporters which in turn did more than non-exporters. |
| Yasai-Ardekani and Nystrom (1996) | Empirical | Firms with effective scanning systems tended to align their scanning designs with the requirements of their context better than those with ineffective scanning systems. |
| Ojah and Han (1997) | Empirical | The environmental scanning affected marketing activity in developing countries. |
| Huffman (2004) | Empirical | Environmental scanning was not only a corporate issue, but also line staff. |
| Ahituv, Zif and Machlin (1998) | Empirical | Firms more successful in new product development exhibited more frequent formal scanning, had more computer applications in their information system inventory, and possessed more computerized marketing information system. |
| Hough and White (2004) | Empirical | There was an interaction effect of managers' roles in scanning completeness and environmental dynamism. |
| Swayerr, Ebrahimi and Thibodeaux (2000) | Empirical | Nigeria firms showed greater scanning frequency in the economic and political sections than the customer/market and competitor sections. Also, there was no relationship between environmental scanning and firm's performance. Internal sources of information were preferred to external ones. |
| May, Stewart and Sweo (2000) | Empirical | The Russian executives did not scan more frequently even though the Russian environment was highly uncertain. |
| Ogunmokun and Ng (1999) | Empirical | Australian higher performance firms made use of a systematic method more frequent than those lower performance firms. |
| Elenkov (1997) | Empirical | Bulgarian firms tended to rely on manager's personal modes of scanning and external sources of |

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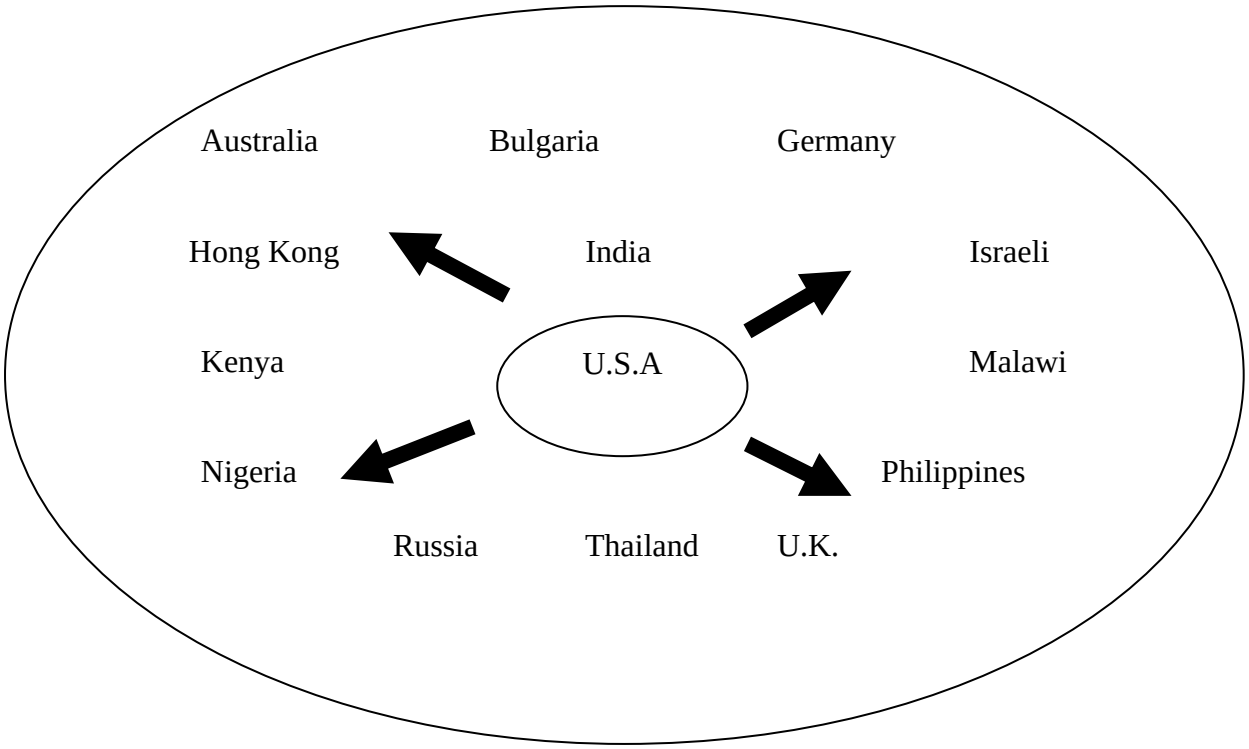
|---|---|---|
| | | information with the increase in strategic uncertainty. |
| Ebrahimi (2000) | Empirical | Hong Kong executives scanned the competitors, customers, and suppliers of resources sectors more intensely than the remote one. There was a positive relationship between the degree of perceived strategic uncertainty and scanning behavior in terms of frequency and interest. |
| Schwarz (2008) | Empirical | Environmental scanning in German firms was expected to create alternative pictures of the future, detect change in an organizational environment, and keep track of these changes for strategic deployment. |
| May and Kalia (2008) | Empirical | Indian entrepreneurs scanned more frequently than U.S. entrepreneurs due to more discomfort with uncertainty, higher risk avoidance and a greater future orientation in comparison to the U.S. |
| Beal (2000) | Empirical | Scope of scanning, but not frequency of scanning, was statistically associated with strategy formulation. |
| Ngamkroeckjoti, Speece, & Dimmitt (2005) | Empirical | Thailand SMEs practising environmental scanning were better able to develop appropriate new products. |
| Kumar, Subramanian and Strandholm (2001) | Empirical | There was a moderating role of environmental scanning activities in the strategy/performance relationship. |

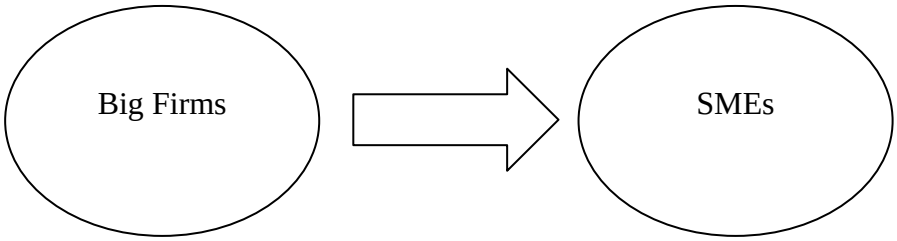
The three-phase evolution of environmental scanning literature shows three distinctive characteristics. The first is the expansion of the country studies, as depicted in figure 1. Most of the studies in the first two phases were based on the U.S. From the third phase, more studies tried to look at the environmental scanning behavior of firms in other countries.

Figure 1: The geographical expansion of the environmental scanning studies



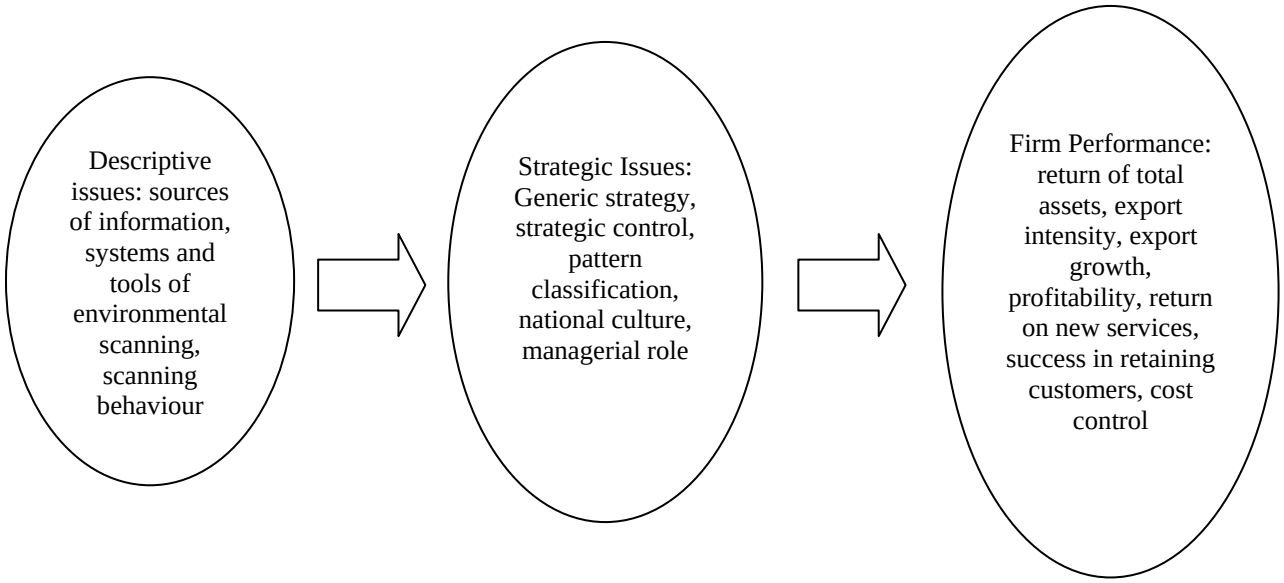

The second characteristic is the extension of the studies from big firms to SMEs. While the studies about the big firms depict what environmental scanning is, how and why they do it, the studies were unable to generalize the environmental scanning practices of smaller firms. Some emerging studies with regard to environmental scanning from the perspective of SMEs have filled this research gap.

Figure 2: The extension of the environmental scanning studies - firm size




The third characteristic identified from the literature is the expansion from descriptive research to correlational research, as shown in figure 3. The expansion spans the knowledge from what environmental scanning is and how it is carried out to what its impacts are. In other words, more empirical studies have examined the consequences of the practices of environmental scanning. In particular, the researches focus on strategic management and financial performance.

Figure 3: The research areas of the environmental scanning studies




While the extant literature on environmental scanning has attracted attention and empirical evidence has grown in the past decades, there exist some research gaps in the literature. Firstly, as suggested by Kumar, Subramanian and Strandholm (2001), the antecedents of environmental scanning behavior are understudied. Secondly, the relationship between environmental scanning and market entry mode choice remains untouched. In consideration of all these issues, the following section will discuss the propositions that can fill these research gaps in the extant literature.

**PROPOSITIONS**

Firm characteristics may affect environmental scanning behavior and practice. Firms that newly enter international markets may have different environmental scanning behavior than those established firms. A set of new firms, which were coined as born global firm, were very successful in the world markets without a strong hold of a domestic market (Rennie, 1993). Born globals have been defined as firms that "as business organizations, from inception seek to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries" (Oviatt & McDougal, 1994, p.49).

Born global firms are unique in that these firms enter the international market in a relatively short time once the firms have been established. Moreover, born global firms have a relatively high proportion of sales generated from international markets. Born globals challenge the conventional stage theories that emphasize the need to build up the domestic base thoroughly before entering the international arena. The arguments about born global firms are conflicting with the traditional internationalization theories, such as Uppsala model that emphasizes international experience (Johanson & Vahlne, 1977; Johanson & Vahlne, 1990; Johanson & Wiedersheim-Paul, 1975). Moen (2002) argued that born global firms' internal factors such as firm orientation and competitive strategy were different to non-born

global firms. All these works suggest that born global firms are different to other firms in nature and in behavior. Thus,

*Proposition 1: The environmental scanning behavior of born global firms is different to that of non-born global firms.*

The major differences between service marketing and product marketing are generic differences between services and physical goods and the environment within which the marketing task is performed (Cicic, Patterson, & Shoham, 1999). Generic differences are usually referred to in terms of intangibility, inseparability, heterogeneity and perishability (Bradley, 2002). The uniqueness of services suggests that service firms may need different marketing approaches. A number of works provide a solid foundation for developing a new branch of marketing literature for service firms (Bitner, 1990; Eckhardt & Houston, 2002; Vignali, 2001; Wong & Merrilees, 2009; Zeithaml, Parasuraman, & Berry, 1985). When service firms enter overseas markets they have to consider the cultural characteristics with potential adjustment of internal resources and changing marketing strategy. International services are defined as "deeds, performances, efforts, conducted across national boundaries in critical contact with foreign cultures (Clark, Rajaratnam, & Smith, 1996, p.15). This definition suggests that international services pose a couple of unique characteristics compared to domestic services. They are the involvement of cross border activities and the interaction with a foreign culture. Essentially, these studies argue that service firms are different to the product firms in international marketing practices. The information needed for service firms to do business may be different to that for product firms. Thus,

*Proposition 2: The environmental scanning behavior of services firms is different to that of product firms*

The choice of a market entry mode into international markets is a critical decision an international manager must make (Terpstra & Sarathy, 2000). Driscoll (1995) furthered an argument that firms institutionalize their initial mode choice over time as new products are sold through the same, established channels, and new markets are entered using the same entry method. Douglas and Craig (1992) embraced the competitive aspect in the market entry mode selection by suggesting that it is a kind of signal to key competitors and about the firms' intention and determination of the basis for future battles. In this context, the foreign market entry modes become international firms' strategic issue for, which requires proper information and planning efforts to support it.

The selection of the foreign market entry mode is important due to the cost and risk involved. A mistake in selecting a foreign market entry mode could be costly for international firms. When entering international markets, three groupings of foreign market entry modes can be identified; they are export, contractual and investment modes (Driscoll & Paliwoda, 1997). Each of these modes has distinguishing characteristics where different types of information generated from environmental scanning may be needed to make a proper foreign market entry mode choice. For example, since an export entry mode incurs less risk to a firm, the firm may require less information input for its market entry mode choice decision. Thus,

*Proposition 3: Firms with greater environmental scanning efforts tend to prefer a non-exporting entry mode.*

A firm's management orientation can affect how the firm is run with implications for what information is needed. Market orientation is concerned with a business focus paying balanced attention to both customers and competitors to drive the business (Kohli & Jaworski, 1990; Narver & Slater, 1990). In general, the three dimensions of market orientation are organization-wide generation of intelligence generation, sharing and dissemination of such market intelligence and organization-wide market responsiveness. Empirical studies of market orientation have suggested that there is a favourable impact on customer retention rates (Balakrishnan, 1996); it can enhance business profitability (Kim, 2003; Pelendran, Speed, & Widing, 2000); and it can positively affect sponsor trust and sponsor commitment (Farrelly & Quester, 2003). Market orientation is a multifaceted concept that includes intelligence generation, information dissemination and market responsiveness (Farrelly & Quester, 2003). In order to be market oriented, firms need to have sufficient market intelligence that can be generated by environmental scanning. Thus:

*Proposition 4: Firms with greater market orientation tend to have a more sophisticated environmental scanning system.*

A firm's overall international marketing performance indicates "the extent to which a firm's economic and strategic objectives with respect to marketing a product/service to a foreign market are achieved through planning and execution of its international marketing strategy" (Wong & Merrilees, 2007, p.389). A major limitation of extant literature of environmental scanning is that the use of a single dimension of performance (i.e. financial performance) does not adequately represent the performance construct. In another research area such as international marketing, most researchers have advocated a multi-dimensional approach (Calantone & Knight, 2000; Chaudhuri, 1999; Reid, 2002; Shoham & Kropp, 1998).

Multi-dimensional measures of a firm's performance includes financial and strategic aspects. As argued by Cavusgil and Zou (1994, p.4), "a firm usually initiates an export venture with a number of objectives, which can be *financial* (i.e. profits, sales, or costs) and/or *strategic* (i.e. market expansion, competitive response, gaining a foothold in a foreign market, or increasing the awareness of the product/firm)." It is expected that a multidimensional measure of firm performance can provide a more valid picture of the impacts of environmental scanning practices. Thus,

*Proposition 5: The measure of a firm's performance should include strategic performance.*

## CONCLUSION

Research on environmental scanning has expanded in the past 40 years. Various conceptual and empirical studies have advanced the knowledge of environmental scanning. A review of the literature of environmental scanning shows that the literature has evolved in three distinctive phases. The first phase is characterized by studies trying to understand what environment scanning was and how it worked in big American firms. Most of the studies were descriptive in nature, and the primary focus

was on the sources of and the computer usage in environment scanning. During the second phase, interest in environmental scanning started to proliferate. More correlational rather than descriptive studies were performed. Studies were not limited to only what the firms did, but also the impacts of environmental scanning on various strategic management issues. The scanning intensity and cultural issues were also examined. The third phase characterizes the expansion of the literature in terms of the geographical areas into which the studies examined. The scope of correlational study spread out to include firm performance and strategic control. The focus also shifted from big firms to SMEs. However, research gaps still exist in certain areas such as the antecedents of environmental scanning behavior and the link between environmental scanning behavior and market entry mode choice. This paper has made five propositions to fill these research gaps. Three propositions are related to the antecedents of the environmental scanning behavior; one to the market entry mode choice, and one to the measurement of firm performance. Further empirical study to validate these propositions is recommended.

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