

## Comprehensiveness of Strategic Environmental Scanning Information Systems among 5-Star Hotels in Malaysia

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This study explores the comprehensiveness of strategic environmental scanning information practices among 5-star hotels in Malaysia. The purpose of the research is to understand how this activity is conducted, what the processes involved were, who is responsible for conducting, when it is conducted, why the processes are conducted and what types of information were collected. This research used a qualitative approach where data was collected through face to face interviews using semi-structured interview. The results provide a better understanding of the environmental scanning activities in hotels with a particular emphasis on the extent of comprehensiveness of Strategic Environmental Scanning Information systems, structure and processes. This finding also describes the level of depth and breadth of the information collected for the general environment, task environment and specific environment, as part of the initial steps such as identifying information needed and the information source for the strategic environmental scanning information system activities.

**Keywords:** *Environmental scanning, Business environment, Strategic scanning Practices, Malaysian hotels*

### Introduction

Environmental scanning systems are important instruments for supporting managerial decisions, especially in turbulent times. The recent global economic crisis in 2007 (Henderson, 2007) and the unfortunate event in the Malaysian airline industry (Shaffer, 2014) has created many negative impacts for business stakeholders in particular the hotel industry; one of the most industries most vulnerable to the economic crisis (Hall, 2010). The hotel industry is directly influenced by the tourism industry. It is due to this reason that with a decrease in the number of tourists, the arrival of guests at the hotels reduces, which directly affects the profitability of the hotels (Raymond, 2001). The Tourism Industry at large acts as one of the

important engines of development for the Malaysian economy receiving vital focus in the government's industry strategy (Mazumder et al. 2011; Kobylinski, 2018).

Hotels are positioning themselves to attain sustainability in their operations and in transforming the recession-based status to a growing status. The price and revenues were managed by the hotels through the involvement of new and more refined facilities within their portfolio, so that the potential guests can be attracted (Peters & Pikkemaat, 2006). The main aim of the hotels is intended towards the enhancement of occupancy rates, which is attainable through the integration of tourism related resources within operations. It will aid in the prioritization of the sector-based objectives in order to enhance market competitiveness (Pizam & Ellis, 1999). The recent 2007 economic crisis in Malaysia has provided a sustainable impulse to focus on emerging threats and opportunities. Although a rich body of knowledge does exist on Environmental Scanning practices (Aquilar (1967), Fahey et al. (1977) Costa & Teare (1994), Nishi et al. (1982), Choo & Auster (1993), Choo (1998), Choo et al. (2001), Analoui et al. (2002), Aldehayyat (2004), Wadie (2011), Zhang et al. (2010), Raja Metri et al. (2013), the concepts remain unused in practice. There is no mechanism to explain how ES is conducted. Often there is also a lack of applicability due to the lack of integrity on the information/data collected based on which strategic decisions are made (Bischoff et al., 2012).

## **Background of Study**

Environmental scanning is linked to organizational information seeking behaviour through human capital capabilities to understand changes in external environment so that it is able to anticipate future trends, avoid surprises, identify threat and opportunities, gain competitive advantage and improve long term and short-term planning (Simard and Rice, 2006). This research will answer questions such as 'Why is environmental scanning conducted by an organization?', 'How comprehensive is the strategic environmental information scanning system in the organization?' and 'What are the factors related to the general environment, the task environment and the specific environments that are scanned?'

The objective of this study is to:

1. Investigate the extent of comprehensiveness of the overall strategic environmental scanning information system; and
2. Determine the level of the depth and breadth of the information collected regarding the general environment and the task and specific environments as part of the initial steps in the strategic environmental scanning information system activities;

The study is significant in contribution to the body of knowledge on strategic environment scanning information systems and to achieve a better understanding of the complex and

dynamic external and internal environments through proactive scanning activities. These would then facilitate and support the objective in decision-making process.

### **Strategic Environmental Scanning Practices**

Based on the literature review, the development of ES concept was found in breakthrough studies during 1980s to 1990's i.e. Aaker (1983), Byars (1987), Daft et al. (1988), Fahey et al. (1981), Jain (1984), Nishi et al. (1982), Smeltzer et al. (1988), Burack and Mathys (1989), Lester and Waters (1989), Choo & Auster (1993), Choo (1998). However, between the 1990s and 2010, studies on the ES model have further examined the concept and development of conceptual models. Minimal literature was found on integrated models during 2011 to 2016. The literature review concentration of ES research is on organization strategy and organization performance and minimal literature was found on how organizations collect, compile, catalogue, store, retrieve and disseminate information.

Daft (1988), Aaker (1983), Doyle (1994), Choo (2001), Albright (2004), and Zhang, et al. (2011), proposed many different approaches to scanning. These different approaches posed some difficulties in establishing an acceptable measurement. According to these researchers, it was difficult to establish the scanning measures as the executives tended to scan in informal and casual ways. Aaker (1983), developed a Strategic Environmental Scanning Information System Model. The model provides a simplistic 6-step process which begins with the identification of information needed, identification of information sources, identification of participants, assignment of scanning tasks, storage and processing of information and dissemination of the information. Aaker proposed a strategic scanning system to provide useful strategic information at a low cost when needed, which focuses on target information needs, allocates effort among those exposed to relevant information and provides an effective system for storing, processing and disseminating information. A formal and simple strategic information scanning system may improve the effectiveness of the scanning effort and preserve much of the information that may go missing, to the organization. Such loss of information is due to undirected scanning efforts, whereby participants are not partitioned, where scanning activities are not performed adequately and where there is an absence of a medium to store, subsequently retrieve and disseminate information.

Similarly, Daft (1988), in developing a model based on the Environment Information Process suggested that the environmental scanning process follow a 6-step continuous process. The six steps are (i) Scanning Needs Identification, (ii) Information Acquisition, (iii) Information Processing and Synthesizing, (iv) Information Organization and Storage, (v) Information Distribution and (vi) Information Evaluation and Use. Daft's model states that senior managers' perceived strategic uncertainties would determine the scanning frequency and mode. Further information acquisition, identification of information needs, and information distribution would also be influenced by perceived uncertainty levels which remain

unexplored. This model failed to consider the role of literacy skills in environmental scanning as well as employee participation. A refined model has been proposed to address the limitation of Daft's model and has been developed based on a formal six-step environmental scanning process conducted to fulfil the top management's need for strategic decision making. In this refined model, equal importance has been placed on the scanning steps beginning from "scanning needs identification" to "information evaluation and use". Also, it acknowledges various senior manager roles in the whole process and employee participation in environmental scanning through the influence of information literacy skills on conducting scanning activities.

Further to that, Doyle (1994), suggested a Systematic Approach to an Information Literate Model which comprised of 10 steps. The first step is to (i) recognize need for Information; (ii) recognize need for accurate and complete information; (iii) formulate questions based on needs, (iv) identify potential sources of information; (v) develop successful search strategies, (vi) access sources including computer based and other technology, (vii) evaluate information, (viii) organize information for practical application, (ix) integrate new information into existing body of knowledge, and (x) use information in critical thinking and problem-solving.

Choo (2001), further explained the steps required to perform formal scanning. At a first step, it was necessary to identify the scanning needs. This was followed by the process of collecting information and then analyzing them. The results were then communicated to the relevant personnel, and decisions would be made based on the information. The formal environmental scanning process starts with clearly defined scanning needs. Organizations actively collect environmental information through various channels and sources. The collected information is either stored for future use or processed and synthesized with the existing organizational knowledge. After filtering (the process of removing the irrelevant parts of the information, repacking (selecting information from different sources and compiling such information) or interpreting (analyzing and adding organizational context and meaning to the collected information based on understanding), the processed environmental intelligence may be organized and stored in an organization repository for future references, or disseminated directly to target users.

Albright (2004) proposed a simplified 5 step Environmental Scanning Process. The process starts with identifying the needs to conduct the scanning of information. This is followed by the actual act of gathering information from the environment; the information may be general information, task information or specific information. Once the information has been gathered, the information will go through an analysis process where the data will be analysed as an objective information. This intelligence information needs to be communicated to the top managers to assist them to make decisions and strategize for the organization.

Zhang, et al. (2011), further explained a Model on Environmental Scanning Process which was based on Choo's (2001) model. The difference was in the increased volume of feedback and review process that would be carried out at each step. Unlike Choo's information management model, Zhang et al. (2011), defined environmental scanning as that which ends at information evaluation and use (evaluating and using the collected and processed external environmental information for assisting tactical and strategic decision making). The step 'information products/service' is replaced with 'information processing and synthesizing', which can provide a clearer picture of the systematic scanning process. Upon receipt, the end-users may evaluate its quality, such as timeliness, relevance and accuracy and use these factors for assisting in tactical or strategic decision making. If an end-user's information need is not satisfied, a new round of acquisition, processing and distribution will take place. At times, steps like 'information processing and synthesizing' and 'information distribution' may be avoided due to certain factors such as fulfilling urgent information needs which require fast action, or due to a lack of human resource or the information collector will use knowledge without sharing with the others.

### **Research Design**

A qualitative methodology is described as the best strategy for "discovery, exploring a new area, developing hypotheses" (Miles & Huberman, 1994). In this study, an in-depth interview approach (Patton, 1990), by way of "guided" conversation is utilised with the participants. It consists of semi-structured interviews guided through the use of open-ended questions. The interview sessions were tape recorded after obtaining permission from the respective respondents. Denzin & Lincoln, (2005) state that qualitative research should include the use and collection of a variety of empirical materials derived through a variety of means such as case studies, personal experiences, introspection, life stories, interviews, observations, history, interactions and visual texts which could give meaning to routine and problematic moments as well as meaning in individuals' lives.

A case study research was especially effective in facilitating the understanding of this phenomena, which before was not understood clearly; as it was seen as ambiguous and a dynamic process rather than a static one, which included a large number of variables and relationships which are thus complex and difficult to overview and predict (Denzin & Lincoln, 2005; Merriam, 1998; Yin, 2003).

The primary data that was used for this study comprised of information from the in-depth interview on categorized under the following: (i) profile background of the respondent, (ii) profile background of the organisation, (iii) environmental scanning system, (iv) environmental scanning structure, (v) environmental scanning process, and (vi) strategic environment scanning information system. The secondary data that was used for this study comprised

information on each hotel that was derived from published research reports, organisation prospectus, published data on statistical economic reports and information on the hospitality industry provided by Tourism Malaysia, Ministry of Tourism Malaysia, and the Malaysian Association of Hotels.

Before the process of selecting the hotels to be investigated, the following criteria were established: (i) two groups of hotels based on the location would be required (resorts and city hotels); (ii) the hotels had to be rated 5-star; (iii) had been in operation for at least 2 years; (iv) and had a minimum of 100 rooms; further each group had to consist of at least 3 hotels. The criteria in selecting the appropriate number and type of cases has been included in order to minimize the variation in the findings. The following steps were taken to ensure the number and type of cases that would be sufficient for the study:

Step 1 : The name of hotels included in the study was derived from 3 sources: (i) Malaysia Accommodation Directory 2010 - 2011, ii) Malaysian Tourists Profile 2010 by Selected Markets, published by Tourism Malaysia, and (ii) Malaysia Tourism 2010 Key Performance Indicators. The total number of hotels selected from each of the two groups were 10 resort hotels and 10 city hotels.

Step 2 : The hotels were then checked for registration with the Malaysian Association of Hotels (MAH). This was for the purpose of getting endorsement support in case of insufficient responses.

Step 3 : Initial contact with all the 20 hotels' general manager/top level managers was made via personal networking through some high-ranking personnel in each hotel.

Step 4 : Positive responses were received from the General Manager/top level managers of 13 hotels. An Initial Letter of Intent was then sent out.

Step 5 : A total of 8 hotels responded on the willingness to participate in the study. Two communicated via email while 6 communicated through messages posted through the social media. Co-incidentally, 4 were resort hotels and the other 4 were city hotels.

Step 6 : Two sets of fieldwork were scheduled with each hotel. The first was an interview session with the general manager and the second interview session was with one of the following department heads (marketing, corporate communications, sales, human resources or event and catering). During both the field work, observations were carried out, document and published materials were examined, and all conversations were recorded.

There are two basic models of data analysis that were adopted. These models are as follows; (i) pattern matching, and (ii) explanation building. In pattern matching, past experience, logic, or theory would be necessary where expectation of the findings would be formulated (Creswell, 2003; Khrennikov, et.al 2015). The analytical process would be to compare the actual findings to the expectations. When the findings fit, the pattern would be confirmed. When the findings do not fit, the researcher would adjust the expectations or elaborate as deemed fit, thus building a sub-routine that could explain the unexpected findings. Explanation building would be the inverse procedure. It begins with observations and the researcher then develops a picture of what was happening and why. Data would then be used to fill in the initial hunches, to include the necessary changes, and to elaborate.

The first strategy matched the findings to the hypotheses or assumptions. The second, used the data to structure the propositions/ hypotheses or assumptions. For this case analysis, the researcher looks for consistent or inconsistent points in the findings. The search for clusters or groupings in the data was carried out using verbal notes and reviewing field data until patterns are evident. Then the data base searched for further evidence that would confirm or be in conflict with the pattern. When all the findings were confirmed, the data analytical process ended.

## **Results and Analysis**

### ***The extent of comprehensiveness of the overall strategic environmental scanning information system***

The combination of the three variables:- (i) Subsystem, (ii) Structure and (iii) Processes were used to determine the extent of overall comprehensiveness of the Strategic Environment Scanning Information System. It was found that the overall strategic environmental scanning information system was slightly comprehensive. It is supported by the findings that the subsystem was slightly organized, the strategic environment scanning information system was slightly structured, and the processes were clear.

The Subsystem refers to how the Strategic Environment Scanning Information System is organized. As indicated by Byars (1987), environmental scanning should be the systematic method used by organizations to monitor and forecast those forces that are external to and not under the direct control of the organizations or industries. Aaker (1983), suggested that the strategic information scanning system which sought to enhance the effectiveness of the scanning effort and preserved much of the information could be invariably lost to organizations. This would mean that information on the external environment was mostly disregarded by the hotel organizations as the results of the study indicated that the hotel organizations had only a slightly organized scanning system. This was supported in the study

conducted by Preble et al. (1988), on the scanning carried out by the multinational operations, found that 39% scanned the external environment, while 69% of all respondents used publications and reports as sources of environmental information.

The Structure refers to how formalized the strategic scanning system is. Choo and Auster (1993), contend that organizational structure will remain the primary determinant in ensuring that appropriate information is gathered and disseminated to the relevant decision-makers throughout the organization. Alderfer (1980), discovered that within organizations, all data obtained was analyzed, dispersed and managed by information technology systems established within smaller units in the organizations. These units or departments assume the role of the gatekeepers of information and determine the means and types of information that would be collected, the manner by which the information would be disseminated, and the personnel who would have access to the information. With this structural set up, all data and information would be contained within the organization and the central location would facilitate the control and maintenance of the data or information. This study revealed that hotel organizations Strategic Environment Scanning Information System was slightly structured.

A study by Hamrick (1979), based on 195 executives from the top three levels of organizations in three industries, also found that the scanning activities of executives did not appear to vary significantly with the hierarchical levels or with the functional specializations. O'Connell and Zimmermann's study (1979), investigated policy level executives and planning staff managers in multinational corporations and revealed that persons in these positions were the chief sources of environmental information.

The Processes refers to the extensiveness of the procedures involved in conducting the Strategic Environment Scanning Information System. The information processing approach seeks to understand and predict how organizations perceive stimuli, interpret such stimuli, store, retrieve and transmit information, generate judgements and solve problems (Larkey and Sproull, 1984). Some studies (Choo, 1991; Herbert Simon and James March, 1958; Karl Weick and Richard Daft, 1983), found that organizations are treated as information processing systems. In these studies, it was found that hotel organizations Strategic Environment Scanning Information System had clear processes.

This was supported in the study by Preble et al. (1988), in the sample of 95 multinational corporations which revealed that nearly half of the organizations reported that some degree of computerization was used in the scanning processes; and also, a formal system or procedures were in place in more than half of the samples. However, in an earlier study by Keegan (1974), it was found that scanning methods were rarely used and computerization was absent, however both studies concluded that, among the multinational companies there was a shift towards the

establishment of a more formalized system with the use of a more sophisticated technique to scan the environment, Hye, Lau & Tourres (2014).

***The level of the depth and breadth on the information collected regarding the macro/general environment, the task and specific environments***

***International Level: Depth of Factors Scanned***

The General Environment, Task Environment, and Specific Environment at the International Level:

Based on the findings, there was no Depth since no significant factors were scanned as per the decision rule at the international level.

***National Level: Depth of Factors Scanned***

**General Environment:** Based on the findings, the Political factor specifically related to regulations and Economic factors, focused on Trade that was scanned.

**Task Environment:** Based on the findings, the factors scanned were Customers specifically related to trends, prices, products, location, and services; while Competitors were specifically related to prices, products, promotion and branding.

**Specific Environment:** Based on the findings, the factors scanned were Marketing specifically related to product/service, image building, advertising and promotion, marketing research; and Human Resource Management which focused on training and development.

***International Level: Breadth of Factors Scanned***

General Environment, Task Environment, and Specific Environment at the International Level: Based on the findings, there was no Breadth identified since no significant factors were scanned as per the decision rule at International level.

***National Level: Breadth of Factors Scanned***

**General Environment:** Based on the findings, the Political factor scanned specifically related to regulations using formal sources such as association newsletters and Government publications and guidelines; and were scanned on a monthly basis. The next factor scanned was the Economic factor which focused on trade (published industry sources) on a monthly basis.

**Task Environment:** Based on the findings, it is indicated that the Customer factor was scanned (trends, prices, products, location and services) with both formal sources, specifically the Online Travel Agent (OTA) report and the Informal source such as Personal Networking (Friends and Families) and Social Media such as television, internet and video on a daily and weekly basis. As for the Competitors factor scanned (price, products, promotions, and branding) both formal and informal sources were used. The formal source comprised of the OTA report while the informal sources were Personal Networking (Friends and Families) and the Social Media such as television, internet and videos on a daily and weekly basis.

**Specific Environment:** Based on the findings, the factors scanned were Marketing, specifically on issues on product/service image building, advertising and promotions, market research, both for formal and informal sources. For formal sources, this was derived through in-house database reports. The informal source was through personal networking via friends and families. Both were carried out on a daily and weekly basis. The other factor scanned was Human Resource management on issues related to training and development. Formal sources were used which were government publications, guidelines, reports and circulars; and training needs analysis reports conducted on an annual basis.

## **Conclusion**

The combination of the three variables:- (i) Subsystem, (ii) Structure and (iii) Processes were used to determine the extent of overall comprehensiveness of the Strategic Environment Scanning Information System. It was found that the overall strategic environmental scanning information system in the hotel industry was slightly comprehensive. This is supported by the findings that the subsystem was slightly organized, the strategic environment scanning information system was slightly structured, and the processes were clear. Further to that understanding, six propositions were built upon the findings:

### ***Proposition 1:***

Comprehensiveness of the Strategic Environmental Scanning Information System (SEGIS) is related to the Extensiveness of the Subsystem. Proposition 1 addressed the link between SEGIS and the extensiveness of the SEGIS Subsystem. Based on the study, Task Environment with emphasis on customers and competitors were scanned at national level. Informal sources were found significant in scanning for information.

### ***Proposition 2:***

Comprehensiveness of the Strategic Environmental Scanning Information System (SEGIS) is related to the Extensiveness of the Structure. Proposition 2 addressed the link between SEGIS

and the extensiveness of the SESIS Structure. Based on the study, all departments with Level 1 employees (General Manager and Directors) were charged to specify the information needed. Relevant departments with Level 1, 2 and 3 employees were responsible to specify the information sources.

***Proposition 3:***

Comprehensiveness of the Strategic Environmental Scanning Information System (SEGIS) is related to the Extensiveness of the Processes. Proposition 3 addressed the link between SESIS and the extensiveness of the SESIS Processes. Based on the study, an investigative process was carried out continuously with more than five hours spent on scanning of information. However, no proper sequence in the steps in selecting information sources was found.

***Proposition 4:***

Comprehensiveness of the Strategic Environmental Scanning Information System (SEGIS) is related to the Extensiveness of the General Environmental Information Scanned. Proposition 4 addressed the link between the comprehensiveness of SESIS and the Extensiveness of the General Environmental Information Scanned. Based on the study, Political, Economic, Technology and Social Cultural factors were scanned at national level.

***Proposition 5:***

Comprehensiveness of the Strategic Environmental Scanning Information System (SEGIS) is related to the Extensiveness of the Task Environmental Information Scanned. Proposition 5 addressed the link between the comprehensiveness of SESIS and the Extensiveness of the Task Environmental Information Scanned. Based on the study, Customer and Competitor factors were scanned at both international and national level.

***Proposition 6:***

Comprehensiveness of the Strategic Environmental Scanning Information System (SEGIS) is related to the Extensiveness of Specific Environmental Information Scanned. Proposition 6 addressed the link between the comprehensiveness of SESIS and the Extensiveness of the Specific Environmental Information Scanned. Based on the study, Marketing and Human Resources factors were scanned at national level.

In conclusion, this research enlightens hotel organizations regarding their strategy on environmental scanning practices and assists them to upgrade their practice of information gathering which will in turn assist in strategic decision-making. The goal of environmental

scanning activity is to provide the systematic use of information and actionable intelligence that will provide a competitive edge to the organization (Kahaner, 1997). Scanning systems are also known as systems that are created in response to the organization's degree of inventiveness. Hence, since these systems are intended to give a competitive edge to the organization, these organizations could then possibly generate better products or services at a lower cost, be differentiated and focus on a particular market segment which is also innovative in nature.

Based on this study, the most important environmental information for hotel organizations is in the context of task environment such as information on competitors, customers and suppliers. This information is required for operational and tactical decisions made in daily hotel operations. The research has also answered the questions about how environmental scanning should be conducted in hotel organizations, what the processes of environmental scanning involve and why hotel organizations scan the external environment. Evident from the findings was that type of industry affects the content of what was scanned. With this understanding of the strategic environmental scanning information systems in the hotel industry, top-level management is able to enhance their decision-making capabilities in strategic planning. The overall strategic environmental scanning information system extent of comprehensiveness for other industries may pose a different finding and this is a recommended focus for future research.

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