

# Aligning Executive Scanning with Strategic Management : The Stages of Executive Scanning Process in Healthcare Organizations

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## <Abstract>

The thrust in this paper is to discuss the dimensions of executive scanning process (ESP) that support continuous scanning activities by executives. Executive scanning is especially important for the healthcare organizations in these days since the environment they are faced with is extremely complex and dynamic. While much has been written about ESP, two important aspects have been underemphasized in the past. The first is a link to the strategic management process (SMP) or the issue of strategy-scanning alignment. The second is a feedback loop to verify the quality of information generated through scanning process. This paper discusses the improved ESP by adding these two features.

*Key Words : Executive Scanning, Strategic Management, Environmental Uncertainty, Complexity, Variability*

## I . Introduction

Efforts by executives to assess environmental uncertainty are called “(executive) scanning (behavior),” the most important functions of executives (Fahey & Naraynan, 1986; Ginter et al., 2002). Scanning seeks to reducing uncertainty in the environment (Elenkov, 1997) and is valued its usefulness to the strategic management process (SMP).

Fahey and his colleagues (1986) classified three types of scanning mode: irregular, periodic, and continuous. While the first two modes restrict the role of scanning only in finding information for decision-making, the continuous scanning mode is more comprehensive and incorporates the processes of identifying opportunities and avoiding problems for the SMP. The authors further argued that the continuous mode is more adequate to be fully integrated into the strategic management process (SMP) compared to two other modes of scanning (Fahey et al., 1986).

The presence of sophisticated scanning system based on continuous mode is especially important for healthcare organizations since environment they are faced with is extremely uncertain (Begun & Kaissi, 2004; Fortler, 1981; Richardson & Schneller, 1998; Stefl, 1999). Therefore, the ESP based on either irregular or periodic mode may not be sufficient to provide the valuable information for the healthcare executives due to the limited role of these modes (Singh et al., 1994).

There are four sequential phases in the scanning process: scanning, monitoring, forecasting, and assessing (Ginter et al., 2002). First, executives identify the possibility of environmental change through scanning phase, aiming at alerting organizations to significant external forces. Executives also try to categorize information they identified through scanning phase. Next, both monitoring and forecasting phases are necessary to select valuable information and to predict the selected trend of environmental change. Finally, executives identify issues within each category of environment and assess these issues for their organizational SMP.

This paper aims to improve executive scanning process (ESP) that supports continuous scanning activities for healthcare executives. While much has been written about ESP, two

important aspects have been underemphasized in the past: (1) a link to the strategic management process(SMP) and (2) a feedback loop to verify the quality of information. Since the scanning behavior is closely related to the SMP, it is essential to design the ESP for scanning that provides meaningful information for organizations. In addition, the inclusion of feedback loop in the process enhances the quality of information identified through scanning activities of executives. Adding these two features in the ESP will help executives to perform external environmental analysis more efficiently, and facilitates the process of information gathering required to gain competitive advantages of organizations (Friend, 1990; Huber, 1984).

I first describe the concept of strategic uncertainty that initiate a strategy-scanning link in the ESP. Next, the paper provides the each stage of improved ESP that comprehensively supports healthcare executives to scan the environment on continuous mode. Finally, the paper concludes by stressing the importance of strategic concepts in the process of executive scanning in healthcare organizations.

## **II. Strategic Uncertainty**

Strategic management is the most important task for executives of organizations (Andrews, 1971; Ansoff, 1965). It attempts to harmonize the difference between the external environment and internal situation of organizations to get competitive advantages. The process of strategic management can be either analytical or emergent (Ginter et al., 2002). The analytical approach attempts to develop the SMP based on logical sequence, while the emergent approach is dependent upon the intuition of executives. Ginter and his colleagues metaphor “the analytical approach is similar to a map whereas the emergent model is similar to compass (Ginter et al., 2002; p.27).” Therefore, both approaches are complimentary since executives need both map and compass to find the directions to sustain competitive advantages for their organizations.

No matter which approach organizations follow, the scanning is always the starting point

of the strategic management process for organizations. By scanning the external environment, executives are able to identify environmental issues (changes) that can be either opportunities or threats to organizations. Executives must respond these issues because they are directly related to organizational successes or failures (Duncan, 1972).

Studies show that scanning is used for a variety of strategic purposes: to reduce uncertainty in the environment (Elenkov, 1997; Kumar and Strandholm, 2002), to achieve competitive advantage through superior information gathering (Strandholm and Kumar, 2003), to gain knowledge about stakeholder priorities and demands that can be used to develop effective response strategies (Kumar and Subramanian, 1998), to develop strategies that improve financial performance (Kumar and Subramanian, 1997,1998; Kumar, Subramanian, and Strandholm, 2001), to generate strategic change (Muralidharan, 2003; Pett and Wolff, 2003), and in general to increase the usefulness of the strategic management process (Fahey and Naraynan, 1986; Subramanian et al., 1993).

A strategic concept related to scanning is called “strategic uncertainty.” As a starting point of the SMP, scanning has the task to identify the environmental uncertainty, and assess whether or not this identified uncertainty is fit into the strategic focus of organizations (Elenkov, 1997). In other words, the strategic uncertainty conveys two important concepts; (1) perceived uncertainty, and (2) strategic importance.

The perceived uncertainty can be defined as a level of confidence about the uncertainty an executive perceives (Duncan, 1972). The confidence level is determined based on a gap between the amount of information required to perform the task and the amount of information obtained by an executive (Galbraith, 1977; Kahneman & Tversky, 1982). The greater the gap between the required and obtained information, the greater the uncertainty the executive would perceive.

However, some researchers argued that the perceived uncertainty by itself does not lead to scanning behavior (Daft et al., 1988; Elenkov, 1997). Executives will more regularly monitor the sectors of the environment that are more strategically important to firms than unimportant areas (Pfeffer & Salancik, 1978). In addition, the perceived importance in the same sectors of the environment will be differed based on a firm’s strategic focus. Therefore, strategic uncertainty is the function of perceived uncertainty and strategic

importance (Daft et al., 1988), and the incorporation of strategic uncertainty in the designing process of the Executive Scanning System (ESS) is the bottom-line in supporting scanning behaviors of executives on a continuous mode.

### **1. Four levels of strategic uncertainty**

The most challenging task in designing ESS is to provide a comprehensive support for the assessing phase of the scanning process. This phase is often subjective, since executives heavily rely on their intuition to assess the environmental issues without consideration of the firm's strategic focus. For example, even in assessing identical issues, executives may have different perception on the issues. Therefore, most ESS has not been effective in systematically organizing the responses of executives on the environmental issues (Ginter et al., 2002).

Classifying the strategic uncertainty into different levels should be one to meaningfully organize the responses of executives on environmental issues. It is similar to a cluster analysis in statistics. This procedure attempts to identify relatively homogeneous groups of cases based on selected characteristics. For example, you can cluster responses of executives into several homogeneous groups. This process would generate more reliable responses of executives on the environmental issues.

Three studies have attempted to classify the environmental uncertainty into different stages (Aldrich et al., 1984; Duncan, 1972; Courtney et al., 1999). Although these studies were rooted in different theoretical backgrounds, they all classified the uncertainty into four different stages based on the concept of 'residual uncertainty,' which is "the uncertainty that remains after the best possible analysis has been done (Courtney et al., 1999: p.5)." After the possible analysis has been done, the remaining uncertainty can be categorized based on the level of uncertainty that is not identifiable or knowable.

This paper classifies the strategic uncertainty based on Duncan's(1972) frame since he incorporated the dimensions of environmental uncertainty into the study of executive scanning. According to him, complexity and variability are the main dimensions of uncertainty in the environment. Environment is said to be complex when the sectors of

environment an organization has to scan are large in number, and when the interdependence among these sectors is low in degree (the heterogeneity of the environmental sectors).

The second dimension, variability, is about the confidence interval of the perceived uncertainty in the environment. If an executive perceived environment was highly variable, i.e., the rate of change in the environment was high, his or her predictability on uncertainty should have a broader confidence interval. In contrast, in a static environment, where the rate of change remains basically the same over time, an executive would have a narrower confidence interval in predicting the uncertainty in the environment.

Based on these two dimensions, Duncan (1972) distinguished four levels of perceived uncertainty in the environment: low(simple-static), moderately low(complex-static), moderately high(simple-dynamic), and high perceived uncertainty(complex-dynamic). Table 1 details these four different levels. In the following section, based on a scheme developed by Duncan(1972), I describe the characteristics of each stage of the strategic uncertainty.

<Table 1> Four Levels of the Strategic Uncertainty

|                       |         | Complexity Dimension   |   |
|-----------------------|---------|--|---|
|                       |         | Simple   | Complex   |
| Variability Dimension | Static  | <ul style="list-style-type: none"> <li>• Level 1 Strategic Uncertainty</li> <li>• Simple-static</li> <li>• Low perceived uncertainty</li> </ul>              | <ul style="list-style-type: none"> <li>• Level 2 Strategic Uncertainty</li> <li>• Complex-Static</li> <li>• Moderately low perceived uncertainty</li> </ul> |
|                       | Dynamic | <ul style="list-style-type: none"> <li>• Level 3 Strategic Uncertainty</li> <li>• Simple-Dynamic</li> <li>• Moderately high perceived uncertainty</li> </ul> | <ul style="list-style-type: none"> <li>• Level 4 Strategic Uncertainty</li> <li>• Complex-Dynamic</li> <li>• high perceived uncertainty</li> </ul>          |

Source : Duncan, R. B. 1972. Characteristics of organizational environments and perceived environmental uncertainty. *Administrative science Quarterly*, 17: 320

1) Level One: Low Strategic Uncertainty (Simple-Static State)

I first consider the environment that is precise enough for strategy development for organizations. In this stage, the organizations will easily narrow the domain of strategic direction for the entities. Duncan (1972) argued that little uncertainty was expected to exist in this stage. The number of factors and components in the environment the executive should consider in this stage are relatively small and similar.

For example, as an executive of a big-chain hospital, you try to assess the market entry by one small hospital. Since the organization has been faced with a similar situation on several occasions with new entrant, information about its new competitor is already known. In this case, strategic uncertainty due to new market entry is low and the hospital easily narrow the domain of strategic direction for the organization.

2) Level Two: Moderately Low Strategic Uncertainty (Complex-Static State)

At this level, the uncertainty can be described as one of a few alternate outcomes, and analysis of the environment does not allow the executive to identify which outcome would occur (Courtney et al., 1999). Therefore, the executive would try to increase the probability that a favored industry scenario will occur. However, Duncan (1972) argued that, like the level one uncertainty, the rate of change in the sectors of the environment should be very slow, therefore the factors and the components in the environment would remain basically the same.

Industries faced with major regulatory changes are prone to show this type of strategic uncertainty (Courtney et al., 1999). In the healthcare industry, hospital executives have been faced with major regulatory changes. One of the most remarkable changes was the introduction of Medicare's prospective payment system (PPS) in 1983. Unlike the fee-for-service payment system, the PPS setup the fixed payment level for hospital services, and hospitals are responsible for any cost above the price limit (Lee & Alexander, 1999).

Before the legislation, hospital executives acknowledged the possible outcomes of the PPS, however, they were not sure which outcome would occur as a result of the legislation. In addition, there was no clear indication whether or not the PPS was going

to be passed and how quickly it would be implemented if it were passed. Therefore, executives were not able to implement any courses of actions – i.e., the reduction of hospital beds.

### 3) Level Three: Moderately High Strategic Uncertainty (Simple-Dynamic State)

At level three, only a range of potential futures can be identified. Predicting the market penetration rate range, i.e. from 10% to 50%, is a good example of level three uncertainty. Duncan (1972) argued that this state is almost identical to level one because it is simple in its complexity dimension. However, its dynamic nature leads higher rate of changes in the sectors of the environment. Therefore, components and factors in this state of the environment are in a continual process of change.

Healthcare organizations entering new markets often face level three uncertainty. For example, after the Balanced Budget Act (BBA) in 1997, federal government allowed Medicare beneficiaries to buy commercial health insurance coverage, called Medicare + Choice(M+C) program. Many private managed care organizations (MCOs) have decided to enter this new market. In this case, the MCOs would be only possible to predict the range of the market penetration rate because of the dynamic natures in the sectors of environment – i.e., changes of reimbursement rate set by government.

### 4) Level four: High Strategic Uncertainty (Complex-Dynamic State)

The uncertainty at level four is virtually impossible to predict (Courtney et al., 1999). It is difficult to predict all the relevant variables that will define strategic uncertainty in different sectors of the environment. Duncan (1972) argued this true ambiguity is due to the dynamic and complex dimensions of strategic uncertainty in the environment.

In the healthcare industry, the emergence of telemedicine business should provide an example of level four uncertainty. Healthcare organizations are confronting multiple uncertainties concerning technology, demand, and the relationship between hardware and content providers (complex environment). They also have difficulty in deciding where and how to compete in the emerging consumer telemedicine market because the future is so unpredictable that no plausible range of scenarios can be identified (dynamic environment).



### III. The Stages of Executive Scanning Process in Healthcare Organizations

In this section, I describe the stages of executive scanning process in healthcare organizations. Although it is focused on healthcare organizations, it could be applied to any industrial settings. The following ESP provides the framework to help each organization develop efficient scanning system, and it is shown in Figure 1.

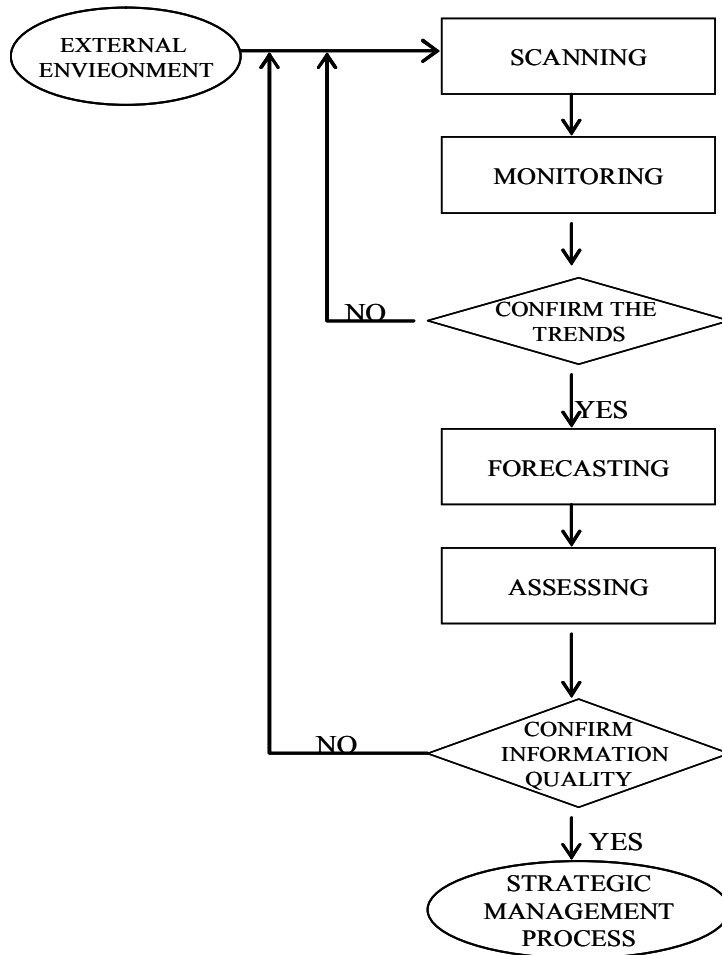


Fig. 1. The ESP Protocol for Healthcare Executive Scanning

## 1. Scanning

The scanning phase serves as organization's 'filter' on the external world. Throughout the scanning phase, unorganized information in the external world is categorized through the filtering process (Ginter et al., 2002). Categorizing the information is a starting point of systematic scanning activity, and it facilitates the next three scanning phases: monitoring, forecasting, and assessing. In this phase, executive scanning system should be designed to meet such demands.

There are two types of external environments that healthcare organizations are faced with: context-free and context-specific environment. The context-free environment is outside of the healthcare environment boundary, but the members of the environment often provide information that could be used in the healthcare industry. For example, a new material developed by one manufacturing company could be used in developing advanced medical equipment, and a decision whether or not to buy this equipment could affect the organizations' competitive advantages. The context-specific environment is about any environmental changes within the healthcare industry such as hospital mergers.

Each external environmental category is further classified into general and task environments. The general environment has great influence on organizations, but it is hardly controllable by organizations. These include political/legal, economic, and socio-cultural sectors. The task environment includes sectors that have direct transactions with organizations such as consumers/patients, competitors, suppliers, and technology (Elenkov, 1997).

The scanning phase should help executives classify information faster and more accurately. For example, it should provide the list of any environmental changes on each external world with brief explanations, as well as the choice of information categories at the bottom of each item on the list so that executives can easily assign each item into appropriate categories (see Table 2).

In addition, the scanning phase should provide the sources of information. Identifying information sources is important because it is often closely related to assessing information quality. By verifying sources of information, executives are able to assess the reliability of

<Table 2> An Example of Output Scanning Phase

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|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Emergence of new population group<br/>(Brief explanation)</li> <li>- Source: Washington Post, 5/15/2007</li> </ul> |   |
| CF<br>Political ✓<br>Socio-cultural<br>Competitors ✓<br>Technology  | CS<br>Economic<br>Consumers/patients<br>Suppliers |

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Note : 1. CF : Context- free environment  
 2. CS : Context-specific environment

information identified through the scanning phase.

Information can be obtained through either directly from people or indirectly from publications such as newspapers and journals in either inside or outside of organizations. Examples of direct sources include experts and patients, and executives frequently rely on the direct sources of information.

## 2. Monitoring and Forecasting

The monitoring phase in the scanning process is more focused and systematic than the scanning phase. Executives track specific environmental trends and accumulate relevant information on database through the monitoring phase. Then, executives confirm or disprove these trends. If they perceive that the trends are strategically important for their organizations, the scanning process is moved to forecasting phase to predict the trends. Otherwise, executives would disprove the trends if they have less understanding about the trends and no further scanning phases are followed.

Consider a scenario in which healthcare executives are attempting to identify a new population group through the scanning phase. In the monitoring phase, executives collect information in relation to this group (i.e., size of population, consumption patterns, and

their socio-economic details). Based on accumulated information, executives decide whether or not this new population group is future consumers for the organization. Once they perceive the new population group is important for organizations, the forecasting phase is followed.

Next, forecasting phase is an extension of monitoring phase, and even more focused than monitoring phase (Fahey and Naraynan, 1986). Here, executives predict future directions of environmental changes confirmed in the monitoring phase. As in the previous example, if the trend is confirmed in the monitoring process, executives should predict the growth rate of new population over the next ten years.

To effectively support monitoring and forecasting phases of environmental scanning, for instance, it should provide links to relevant websites so that executives can easily track the specific environmental trends in details. In the example above, the system can provide the link with the website of the U.S Census Bureau to collect information on the new population group to confirm or disprove the trends, as well as predict the future directions of the trend (see Table 3).

<Table 3> An Example of Output of Monitoring and Forecasting Phases

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Context-free Environment                             <ul style="list-style-type: none"> <li>- General Environment                                     <ul style="list-style-type: none"> <li>•Political/Legal</li> <li>•Economic</li> <li>•Socio-cultural</li> </ul> </li> <li>- CFSC-1: Emergence of New Population Group                                     <ul style="list-style-type: none"> <li><i>Relevant links: <u>U.S Census bureau</u></i><br/><i><a href="http://www.census.gov/">http://www.census.gov/</a></i></li> </ul> </li> <li>- Task Environment                                     <ul style="list-style-type: none"> <li>•Consumers/Patients</li> <li>•Competitors</li> <li>•Suppliers</li> <li>•Technology</li> </ul> </li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Context-specific Environment                             <ul style="list-style-type: none"> <li>- General Environment                                     <ul style="list-style-type: none"> <li>•Political/Legal</li> <li>•Economic</li> <li>•Socio-cultural</li> </ul> </li> <li>- Task Environment                                     <ul style="list-style-type: none"> <li>•Consumers/Patients</li> <li>•Competitors</li> <li>•Suppliers</li> <li>•Technology</li> </ul> </li> </ul> </li> </ul> |
|--|---|

Note : CFSC-1 : Issue No.1 of Socio-cultural sector in Context- free environment

### 3. Assessing

As a final step of the scanning process, executives assess current and future environmental change for their strategic management process (SMP). As previously described, due to its unsystematic nature, it is difficult to provide comprehensive support for the assessment phase of scanning. In the past, executive scanning have failed due to the lack of comprehensive support for the assessment phase (Ginter et al., 2002).

In this paper, I suggest one possible type of comprehensive supports for the assessing phase by classifying the strategic uncertainty of each environmental issue into different levels. The rationale for classification is to systematically organize the perceptions of executives on environmental issues. Previous section of the paper provided the details of each of four levels of strategic uncertainty.

First, executives rate the level of strategic uncertainty for each environmental issue identified through the previous three phases of scanning process. Then, executives rate the strategic importance of environmental issues in each environmental sector. Next, based on uncertainty level and strategic importance, executives assess the strategic priority of the issues in each environmental sector. Finally, executives label each environmental issue as either opportunities or threats to the organizations.

<Table 4> An Example of Output of Assessing Phase

|                        | Environment<br>al Issues   | Level of<br>Uncertainty | Strategic<br>Importance | Strategic<br>Priority | Opportunities<br>or,<br>Threats |             |
|------------------------|--|-------------------------|-------------------------|-----------------------|---------------------------------|-------------|
| General<br>Environment | - Political<br>- Economic<br>- Socio-<br>Cultural                        | CFSC-1                  | 3                       | 5                     | 1                               | Opportunity |
| Task<br>Environment    | - Consumers/<br>Patients<br>- Competitors<br>- Suppliers<br>- Technology |                         |                         |                       |                                 |             |

Table 4 provides an example of output of assessment phase. First, an executive assess the level of uncertainty they perceive on the emergence of new population group is moderately high (level 3 for CFSC-1 on Table 4). Then, based on a five point Likert-scale (1 = very unimportant to 5 = very important), he or she rates the CFSC-1 as a strategically very important issue. In next step, based on the level of uncertainty and strategic importance, an executive prioritizes the issues in the each environmental sector. On Table 4, executives decide the emergence of new population group as a number one priority for the organization. Finally, the executives decide that the emergence of new population group is an opportunity for the organization.

#### **4. Assessing Quality of Information**

Before executives take any strategic initiatives, it is necessary to assess the quality of the information they obtained through the entire scanning phases. The SMP discussed in this paper provides two feedback loops to verify the quality of information. The first verification process is performed after the monitoring phase, and next one is followed by the assessment phase of the scanning process.

The first feedback loop after the monitoring process is a pre-screening of information quality based on the intuition of executives, since information identified in this phase is often vague and ambiguous. Therefore, in the monitoring phase, executives only decide to confirm or disprove the trends of environmental change.

However, after the assessing phase, executives are able to assess the quality of information more systematically and objectively since they can get the details of each environmental trend. In this paper, I adopt the O'Brien's(1980) criteria to measure the quality of information. According to O'Brien(1980), quality of information is measured along the dimensions of time, content, and form. He suggests seven criteria to assess the quality of information.

They are:

1. *Timeliness(information is provided when it is needed)*
2. *Currency(updated information is provided)*

3. *Time period*(information can be provided about past, present, and future)
4. *Accuracy*(information is free from errors)
5. *Relevance*(information is related to the needs of users)
6. *Completeness*(all information that is needed is provided)
7. *Scope*(internal and external information are available)

Table 5 shows an example of information verification process. Executives are asked to rate the quality of information identified through the scanning process. On Table 5, executives are asked to rate the quality attributes of information on a seven-point Lickert-scale (i.e. 1 = very poor, 7 = very good). If the information were rated as ‘very poor’ for several quality attributes, it is necessary to reconsider the quality of the final output obtained through the scanning process. Sometimes, it might be necessary to re-run the entire scanning process (see Table 5).

<Table 5> An Example of Output of Information Verification Process

|               |        | Timeliness | Currency | Time Period | Accuracy | Relevance | Completeness | Scope | Confirm Or, Disprove |
|---------------|--------|------------|----------|-------------|----------|-----------|--------------|-------|----------------------|
| Opportunities | CFSC-1 | 7          | 6        | 5           | 6        | 7         | 7            | 7     | Confirm              |
| Threats       |        |            |          |             |          |           |              |       |                      |

## IV. Conclusion

I have attempted to improve the scanning process for healthcare executives on a continuous mode. There has been a deficiency on prior executive scanning process (ESP) resulting in frequent failures (Watson & Glover, 1990). This paper shows one possible solution to reduce the system failure by adding two dimensions in the ESP of healthcare

executives.

First, by incorporating strategic concepts in the protocol, the ESP here is designed to provide meaningful information for the strategic management process of organizations. Secondly, a protocol that specifies two feedback loops that assess the quality of information is added. The first loop is a 'pre-screening' of information, where executives assess the trends of environmental changes in the monitoring phase of scanning process. The next loop is included at the end of entire scanning process, and executives use it to verify the quality of information in detail.

One of the important roles of executives is to scan the external environment, and make information identified through scanning process meaningful to the strategic management process of their organizations. Throughout the adoption of executive scanning system (ESS), it is possible to support the entire scanning process. While the ESS protocol discussed in this paper has the potential to provide strong support for all phase of the scanning process, two broad recommendations seem warranted in the process of system development.

First, executives try to make quick decision in these days because environment is highly turbulent and rapidly changing. Unless firms can implement strategic action rapidly and successfully, their future is questionable. An executive scanning system must incorporate this dimension under the system architecture. The system should help executives to make quick decisions. For example, specially prepared information, such as competitive analyses can be made available, and quickly accessible in the system.

Second, the participation of executives in the process of system development is the key to build efficient and user-friendly executive system. However, due to the time limitation of executives, it is difficult to fully articulate the information needs of executives. One study found that the amount of face-to-face contact between ESS developers and users is one hour or less per week in the majority firms (Young & Watson, 1995). In this case, system developers might focus on information that they believe it is useful to executives. Getting executives to specify what they want is the number one concern in developing the system.



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