

The Role of Hierarchical Level and Functional Area in Environmental Scanning Behaviour among Indian Executives

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ABSTRACT: *In order to survive and sustain in today's turbulent business environment an organisation needs to explore opportunities and avoid threats constantly. Organisations succeed or fail due to the strategies formulated by its decision makers. Executives working in organisations possess unique perceptions regarding the events occurring in the business environment and they exhibit varied scanning behaviours. This uniqueness is reflected in their decisions and strategies. Therefore, it becomes imperative for managers to incorporate effective environmental scanning in their strategic management efforts. This paper examined the relationship of hierarchical level and functional area with the environmental perceptions and scanning behaviour of executives. Results suggest that a significant relationship existed between hierarchical level and importance of general environment, between hierarchical level and complexity of task environment and between functional area and importance of general environment. Neither of these two variables demonstrated a significant relationship with other variables of environmental scanning and scanning behaviour.*

Keywords: *Environmental Perceptions, Environmental Scanning, Scanning Behaviour, Hierarchical Level, Functional Area, Executives*

I. INTRODUCTION

Organisations are social entities that work in tandem with the society that they are a part of. Organisations rely on nature for resources such as land and on people for labour, capital and entrepreneurship. Thus the interaction between an organisation and the environment is continuous and never ending. A third type of interaction occurs when certain events occur in the environment that may have an impact on the organisational survival and success in the short-term or in the long-term. This interaction may or may not be required by the organisation and instead it is presented to the organisation. The organisations which are able to respond to it effectively are the organisations that survive, succeed and grow. Managing the core as well as unprecedented interactions of businesses gives rise to the need of Strategic Management of organisations as Strategy lies at the core of any activity undertaken with clear objectives and expected outcomes. So it becomes imperative for a business organisation to accord great importance to Strategic Management. Strategic Management, as a process, is crucial to the survival and growth of an organisation. It chalks out plans at every level in the organisation to realise pre determined specific goals as well as the broader Mission & Vision of the Organisation. Thus, it is essential to achieve and maintain a competitive advantage over other players. In this context, Environmental Scanning serves as the focal point through which the whole process of strategic management should be carried out. The purpose of this paper is to describe the concept of environmental scanning, to highlight its importance and to examine the relationships it has with the hierarchical level and functional area of executives responsible for it. This paper, which represents a part of the results of a broader study, has its theoretical foundations in a host of studies described in Sections 1.2 and 1.3. Thereafter, the research methodology is described and the results are discussed.

II. THEORETICAL FOUNDATIONS

1.II.1 Business Environment

Bourgeois (1985) classified the business environmental factors into *general* and *task*. General business environmental factors affect the organization indirectly and include political, legal, economic, social,

demographic, environmental and technological areas. Task factors have a direct impact on the organisation; examples include suppliers, competitors, and consumers. (Cook, 201

Morrison (1992) mentions three different environmental domains for scanning viz. The *task level* consisting of the organization as well as its customers; *the industry level* including all the organizations in the society, associated with the company. The third and the broadest in scope is the *macroeconomic level*, comprising of all the external sectors – such as political, economic, social, technological and environmental – which directly or indirectly influence the organization. Wheelen and Hunger (2010) categorized the business environment into external environment, further sub-divided into natural, societal and task environments and the internal environment including different components such as structure (chain of command), culture (beliefs, expectations, values) and internal resources (assets, skills, competencies, knowledge).

1.II.2 Business Environment Scanning and Perceptions

In his 1967 fundamental work, 'Scanning the Business Environment,' Harvard Professor Emeritus Francis Joseph Aguilar described environmental scanning as "...the activity of acquiring information... about events and relationships in a company's outside environment, the knowledge of which would assist top management in its task of charting the company's future course of action." (as quoted in Auster & Choo, 1993)

1.II.3 Scanning Behaviour

Scanning Behaviour consists of two factors: frequency by which the environmental sectors are scanned and the sources from which environmental information is obtained. Frequency of scanning has a direct effect on the amount of information an executive obtains from the environment (Hambrick, 1982). Scanning mode pertains to the source or medium through which managers learn about the environment. According to Aguilar (as cited in Elenkov, 1997) modes or information sources can be personal, impersonal, internal or external.

1.II.4 Hierarchical Level

Previous researches did not establish a strong relationship between Hierarchical Level and scanning activities. (Kefalas & Schoderbeck, 1973; Hambrick 1981) Hierarchical Level was operationalised as a self-reported measure. The categories were: Lower Management, Middle Management and Top Management.

1.II.5 Functional Area

Kefalas & Schoderbeck (1973) found extensive scanning of the market sector by executives of all functions. However, no statistical significance was demonstrated. Hambrick (1981) also found limited support for this hypothesis, only in case of output scanning and accounting/finance function. Five Functional area categories were defined for this study. These include: Human Resources (HR), Production/Operations, Finance, Marketing and General Management.

III. REVIEW OF LITERATURE

Kefalas & Schoderbek (1973) examined the relationship between external environment characteristics and organizational information-acquisition behaviors. Two industries were selected, namely, Farm Equipment and Meat Packing Industry. The external environments of the two industries were classified into stable and dynamic. While data for objective criterion was collected through secondary sources, data for subjective criterion was collected through personal interviews and questionnaires filled by 14 top executives of the six companies (3 from each industry). The farm machinery industry was classified as functioning within a dynamic environment, whereas the meatpacking industry worked within a stable environment. Data regarding scanning activities was collected through a scanning questionnaire from 40 executives of these six companies who occupied different hierarchical positions and functional specializations. It was found that executives in dynamic environment spent more time in acquiring external information than executives in stable environment. Executives in upper levels devoted more time to scanning than executives in lower levels. Market Sector was found out to be the most important in terms of time spent for scanning followed by the technology sector. Marketing and R&D executives focused on their own sectors while finance; accounting and corporate planning executives focused on government and external growth sectors. Also, documented sources of information were preferred more in comparison to human sources.

Hambrick (1981) carried out an empirical study using responses of 195 executives from three service industries-colleges, general hospitals and life insurance firms to study the existence of any association between executives' hierarchical level and his/her scanning activity and executives' functional area and his/her scanning activity. Questionnaire was used as the research instrument and Correlation was used as the data analysis tool. The study found a limited relationship between hierarchical level and scanning activities with positive relationship existing between the two in case of colleges only. It was also found that functional area was a

limited predictor of scanning activity. The relationship was positive in case of accounting/finance function and scanning in throughput sector.

Daft et al. (1988) examined the data collected from 50 CEOs through personal interviews. Descriptive analysis, Scheffe's multiple range tests and correlation analysis were applied. It was found that customer, economic and competition sectors had greater strategic uncertainty than technological, regulatory and sociocultural sectors. The analysis indicated that strategic uncertainty is a predictor of the frequency with which top executives scanned sectors. The higher the uncertainty in the environmental sectors, the more frequently top executives relied on personal modes within and outside the organization. Chief executive scanning in higher-performing firms was characterized by more frequent scanning and by careful customization of scanning to perceived strategic uncertainty compared to lower-performing firms.

Preble et al. (1988) directed their study on environmental assessment activities of multinational firms headquartered in US. The final sample size was 95 and questionnaire was used for data collection. The data analysis yielded that more than one half of the sample respondent firms were conducting in-house international environment scanning and it was found that most respondents rated economic domain as high in importance with regards to other sectors like competitive, political, legal and technological. Internal sources of information were preferred to external sources and a formal system of environmental scanning was in place in more than one-half of the respondent firms. Expert opinion and trend extrapolation were more popular as forecasting techniques in comparison to scenario analysis and computer simulations.

Stewart et al. (2008) conducted a study to explore scanning behaviour of entrepreneurial firms in the context of two countries-India and US. Survey approach was used and the final sample for the study was 46 entrepreneurs in the United States and 57 entrepreneurs in India. The results indicated that Indian and US entrepreneurs show similar scanning behaviour. It was found that Indian entrepreneurs scanned more frequently than their US contemporaries. Both Indian and US entrepreneurs ranked task sectors (competitors, technology, and customers) highest in perceived strategic uncertainty. It was found that entrepreneurs in both the countries scanned more often when they perceived high rates of change in the environment. The results showed that scanning is significantly higher among entrepreneurs in the US and India when accessibility is high.

Cancellier, Junior and Rossetto (2014) aimed their study to analyse the relationship between environmental information scanning, strategic behaviour and performance of 61 car dealer companies. The questionnaire used in the study adopted the strategic behaviour typology of Miles and Snow (1978). The sample obtained comprised of three out of four types of strategic behaviour, which enabled the analysis of differences among the groups. It was found that the scanning of information was more associated with organisational performance than to the strategy measured specific typology. Overall, the client sector was the most frequently scanned sector and the internal personal sources had a higher frequency followed by written external, external personal and internal written. The results suggested that prospectors reported higher frequency in the scanning of the external environment, thereby showing that, the relationship with the environment changes according to the type of strategic behaviour.

Two key research questions emerge:

1. Is there an association between an executive's hierarchical level and his/her environmental perceptions and scanning behaviour?
2. Is there an association between an executive's functional area and his/her environmental perceptions and scanning behaviour?

IV. RESEARCH METHODOLOGY

1.4.1 Research Instrument:

For the purpose of the present study, *Business environment* forms the overall surroundings encompassing an organisation. It is further divided into *external* and *internal* environments. External environment consists of the environmental forces outside the organisation; Internal environment is made up of forces working within the organisation. External Environment is further subdivided into *General* and *Task* environments. For this study, General Environment consisted of the following six sectors:

- Political
- Legal
- Economic
- Social
- Cultural
- Technological

The task environment consisted of the following four sectors:

- Customers

- Competitors
- Resources used by the Organisation
- Suppliers

The Internal Environment consisted of the following ten dimensions:

- Mission & Vision of your Organisation
- Organisational Structure of the Organisation
- Human Resource Practices
- Management Style
- Organisational Culture
- Financial Resources Management
- Supply Chain Management
- Internal systems and processes
- Marketing Management
- Innovation Level in Organisation

Environmental Scanning involves the bifurcation of environment into relevant sectors, collecting data pertinent to these sectors and predicting changes in important variables in those sectors. (Preble *et al.*,1988) Environmental Scanning is important for the decision making of organisations as environments cause uncertainty. This uncertainty is caused due to certain *Environmental Characteristics* that are perceived by the executives. These include: Impact, Importance, Rate of Change and Complexity. *Scanning Behaviour* may be defined as employing one of the many available ways to gather information about the business environment and thus includes, *Scanning Frequency*, which in simple terms can be defined as the occurrence of the act of scanning and *Scanning Sources* which refer to the various media adopted by executives to gather information about the environment. Four types of scanning sources were used- Personal, Impersonal External and Internal (Daft *et al.*, 1988)

A Questionnaire comprising of 4 sections was used as the research instrument for the survey. Section A enlisted questions relating to demographic profile of the respondents; Section B included questions pertaining to environmental perceptions measured on a five-point Likert Scale ranging from 1(very low), 2 (low), 3 (medium), 4(high), 5(very high). The questions measuring impact comprised of 79 items, 60 for general environment and 19 for task environment. For importance, rate of change and complexity, the questions related to 6 sectors of general environment and 4 sectors of task environment. Section C consisted of questions regarding overall scanning frequency and scanning frequency using personal external, impersonal external, personal internal and impersonal internal sources of information measured on a five-point Likert scale ranging from 1(less than once a year), 2 (few times a year), 3 (monthly), 4 (weekly), 5(daily), following the works of Daft *et al.* 1988. Personal External Sources included *Customers, Competitors, Business/Professional Associates, Government Officials, Industry & Trade Associations, Conferences & Seminars*. Impersonal External Sources included *Newspapers & Periodicals, Government Publications, Broadcast Media*. Personal Internal Sources included *Board Members, Superior Managers, Subordinate Managers*. Impersonal Internal Sources included *Internal Memos, Internal Reports and Studies, Management Information System (MIS)*.

The Questionnaire was pre-tested using responses from target population members as well subject and management experts. Suggested changes were duly incorporated and the questionnaire was revised for better understanding and accurate responses.

1.4.2 Sample Description:

Out of an initial sample of 1000 respondents, a final sample of 805 executives was found to be useable, resulting in a response rate of 80.5%. Quota Sampling on the basis of gender was used to seek adequate representation of both male and female workforce. In the final sample, the number of male respondents was 550 and the number of female respondents was 300. Self-reported designation categories and functional areas led to the following sample, as exhibited in Tables 1.1 and 1.2.

Table 1.1

		No. of Executives
Designation	Lower Mgmt	212
	Middle Mgmt	301
	Top Mgmt	292
Total		805

Table 1.2

		No. Of Executives
Functional Area	HR	57
	Production/Op r	80
	Finance	156
	Marketing	324
	Gen Mgmt	188
Total		805

1.4.3 Data Analysis Tool & Research Hypothesis

This study used chi-square test for independence as one of the data analysis tools. The chi-square test of association determines whether two categorical variables appear to be associated, in the sense that they exhibit a tendency for their respective values to co-occur in some pattern. The research hypotheses of the study are as follows:

H_{01a-028a}: There is no association between hierarchical level and variables of environmental perceptions and scanning behaviour.

H_{01b-028b}: There is no association between hierarchical level and variables of environmental perceptions and scanning behaviour.

RESULTS

1.4.4 Hierarchical Level and Environmental Perceptions and Scanning Behaviour: The chi-square results for testing association between Hierarchical Level and environmental perception variables and scanning behaviour variables are described in Table 1.3

Table 1.3

Variable	Null Hypothesis	Chi-Square Value	Significance	p-value
Hierarchical Level & Impact of Political Sector	Accepted	.154	Insignificant	.926
Hierarchical Level & Impact of Legal Sector	Accepted	.525	Insignificant	.769
Hierarchical Level & Impact of Economic Sector	Accepted	2.151	Insignificant	.341
Hierarchical Level & Impact of Social Sector	Accepted	1.531	Insignificant	.465
Hierarchical Level & Impact of Cultural Sector	Accepted	3.938	Insignificant	.140

Hierarchical Level & Impact of Technological Sector	Accepted	2.732	Insignificant	.255
Hierarchical Level & Impact of Customers Sector	Accepted	.235	Insignificant	.889
Hierarchical Level & Impact of Competitors Sector	Accepted	1.653	Insignificant	.438
Hierarchical Level & Impact of Resources Sector	Accepted	.346	Insignificant	.841
Hierarchical Level & Impact of Suppliers Sector	Accepted	3.520	Insignificant	.172
Hierarchical Level & Importance of General Environment	Rejected	73.642	Significant	.000
Hierarchical Level & Importance of Task Environment	Accepted	.779	Insignificant	.677
Hierarchical Level & Rate of Change of General Environment	Accepted	2.312	Insignificant	.315
Hierarchical Level & Rate of Change of Task Environment	Accepted	.854	Insignificant	.652
Hierarchical Level & Complexity of General Environment	Accepted	3.915	Insignificant	.141
Hierarchical Level & Complexity of Task Environment	Rejected	7.853	Significant	.020
Hierarchical Level & Frequency of Scanning of General Environment	Accepted	1.643	Insignificant	.440
Hierarchical Level & Frequency of Scanning of Task Environment	Accepted	.731	Insignificant	.694
Hierarchical Level & Frequency of Scanning of General Environment using Personal External Sources	Accepted	1.913	Insignificant	.384
Hierarchical Level & Frequency of Scanning of Task Environment using Personal External Sources	Accepted	1.862	Insignificant	.394
Hierarchical Level & Frequency of Scanning of General Environment using Impersonal External Sources	Accepted	1.886	Insignificant	.390
Hierarchical Level & Frequency of Scanning of Task Environment using Impersonal External Sources	Accepted	1.886	Insignificant	.390
Hierarchical Level & Frequency of Scanning of General Environment using Personal Internal Sources	Accepted	1.913	Insignificant	.384
Hierarchical Level & Frequency of Scanning of Task Environment using Personal Internal Sources	Accepted	.015	Insignificant	.993
Hierarchical Level & Frequency of Scanning of General Environment using Impersonal Internal Sources	Accepted	.854	Insignificant	.652
Hierarchical Level & Frequency of Scanning of Task Environment using Impersonal Internal Sources	Accepted	1.031	Insignificant	.597
Hierarchical Level & Importance of Internal Environment	Accepted	.376	Insignificant	.829
Hierarchical Level & Frequency of Scanning of Internal Environment	Accepted	1.863	Insignificant	.394

As can be seen from Table 1.3,

The chi-square test revealed a significant relationship between Hierarchical Level and Importance of General Environment, $\chi^2(2, N=805) = 73.642, p=0.000$ (at 0.05 level of significance)

The chi-square test revealed a significant relationship between Hierarchical Level and Complexity of Task Environment, $\chi^2(2, N=805) = 7.853, p=0.020$. (at 0.05 level of significance)

1.4.5 Functional Area and Environmental Perceptions and Scanning Behaviour: The chi-square results for testing association between Functional Area and Environmental perception variables and Scanning behaviour variables are described in Table 1.4.

Table 1.4

Variable	Null Hypothesis	Chi-Square Value	Significance	p-value
Functional Area & Impact of Political Sector	Accepted	1.999	Insignificant	.736
Functional Area & Impact of Legal Sector	Accepted	1.762	Insignificant	.779
Functional Area & Impact of Economic Sector	Accepted	2.505	Insignificant	.644
Functional Area & Impact of Social Sector	Accepted	5.656	Insignificant	.226
Functional Area & Impact of Cultural Sector	Accepted	5.815	Insignificant	.213
Functional Area & Impact of Technological Sector	Accepted	4.144	Insignificant	.387
Functional Area & Impact of Customers Sector	Accepted	.393	Insignificant	.983
Functional Area & Impact of Competitors Sector	Accepted	.783	Insignificant	.941
Functional Area & Impact of Resources Sector	Accepted	1.245	Insignificant	.871
Functional Area & Impact of Suppliers Sector	Accepted	.230	Insignificant	.994
Functional Area & Importance of General Environment	Rejected	118.395	Significant	.000
Functional Area & Importance of Task Environment	Accepted	1.898	Insignificant	.754
Functional Area & Rate of Change of General Environment	Accepted	1.872	Insignificant	.759
Functional Area & Rate of Change of Task Environment	Accepted	1.673	Insignificant	.796
Functional Area & Complexity of General Environment	Accepted	1.858	Insignificant	.762
Functional Area & Complexity of Task Environment	Accepted	2.354	Insignificant	.671
Functional Area & Frequency of Scanning of General Environment	Accepted	1.604	Insignificant	.808
Functional Area & Frequency of Scanning of Task Environment	Accepted	3.604	Insignificant	.462
Functional Area & Frequency of Scanning of General Environment using Personal External Sources	Accepted	1.011	Insignificant	.908
Functional Area & Frequency of Scanning of Task Environment using Personal External Sources	Accepted	1.595	Insignificant	.810
Functional Area & Frequency of Scanning of General Environment using Impersonal External Sources	Accepted	3.574	Insignificant	.467
Functional Area & Frequency of Scanning of Task Environment using Impersonal External Sources	Accepted	3.574	Insignificant	.467
Functional Area & Frequency of	Accepted	1.011	Insignificant	.908

Scanning of General Environment using Personal Internal Sources				
Functional Area & Frequency of Scanning of Task Environment using Personal Internal Sources	Accepted	1.103	Insignificant	.894
Functional Area & Frequency of Scanning of General Environment using Impersonal Internal Sources	Accepted	1.673	Insignificant	.796
Functional Area & Frequency of Scanning of Task Environment using Impersonal Internal Sources	Accepted	1.769	Insignificant	.778
Functional Area & Importance of Internal Environment	Accepted	.703	Insignificant	.951
Functional Area & Frequency of Scanning of Internal Environment	Accepted	1.412	Insignificant	.842

As can be seen from Table 1.4,

The chi-square test revealed a significant relationship between Functional Area and Importance of General Environment, $\chi^2(4, N=805) = 118.395, p=0.000$. (at 0.05 level of significance)

DISCUSSION

As the results indicate, both hierarchical level and functional area were found to have statistically significant association with Importance of General Environment. The general environment comprised of items related to political, legal, economic, social, cultural and technological sectors. The routine character of the general environment as well as the understandable dimensions may be regarded as the plausible explanation for this perception of the Indian executives. Importance of General environment was found to have a relationship with the functional area of the executives implying that functional area has an impact on the perception of general environment. Hierarchical level was also found to have a statistically significant association with Complexity of Task Environment. However, no statistically significant association was found to exist between functional area and complexity of task environment. The scanning of task environment may be confined to specific individuals who are assigned with this job and therefore no association was found between hierarchical level and environmental perceptions and scanning behaviour of executives or between functional area and environmental perceptions and scanning behavior of executives.

CONCLUSION

The aforementioned literature highlights the fact that Environmental Scanning forms the backbone of strategic management process by contributing the most important resource needed---Information. Decisions taken on the basis of incomplete information can often disrupt the functioning of an organisation and hence it is very important for organisations to invest in this otherwise ignored management function. Efforts must be made to make executives aware regarding the importance of scanning task environment so as to incorporate the results of overall scanning in the growth of organisations.

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