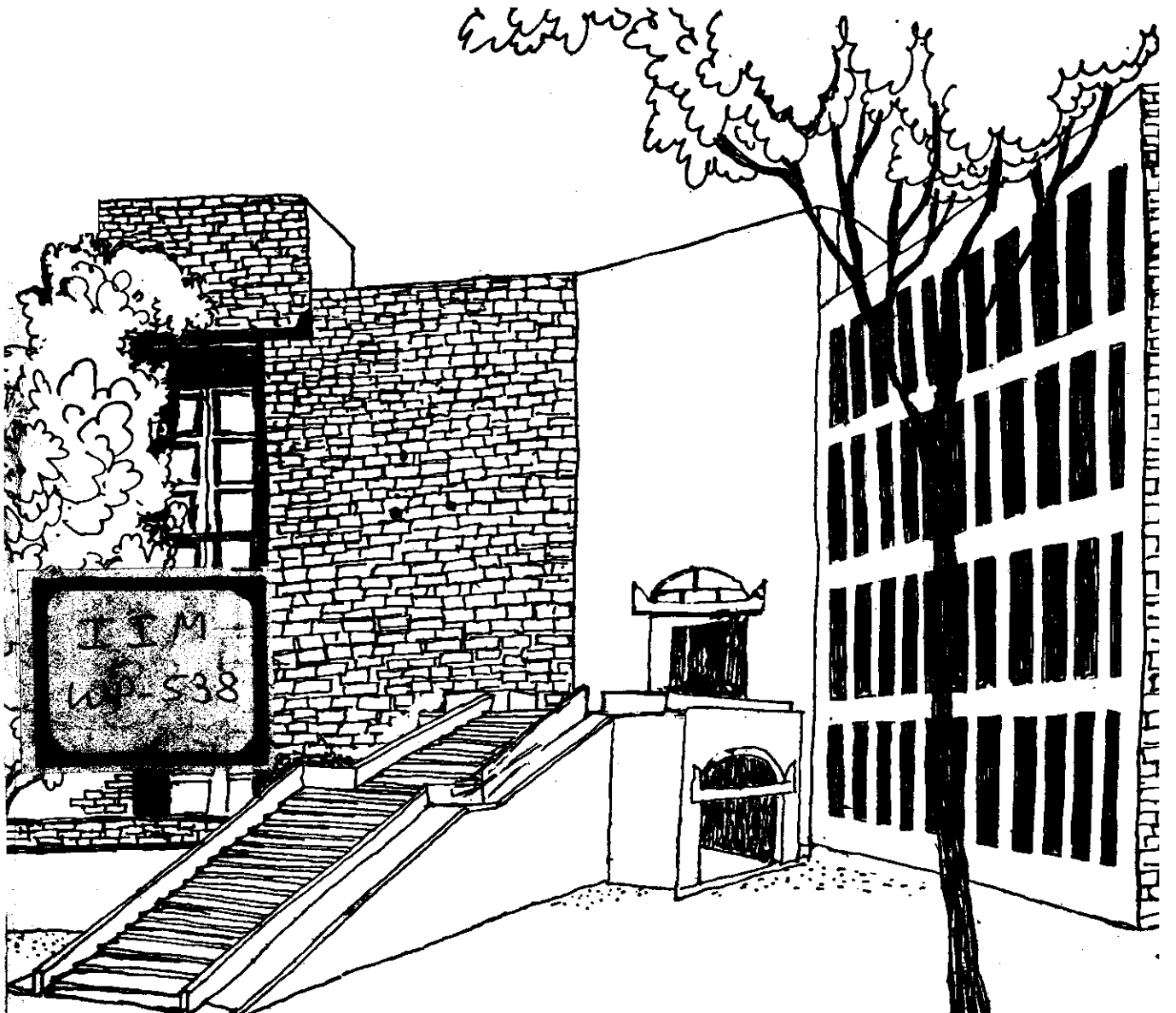


Working Paper



PRACTICE OF ENVIRONMENTAL SCANNING IN
LARGE PRIVATE CORPORATIONS IN INDIA

By

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W P No. 538

November 1984

The main objective of the working paper series of the IIMA is to help faculty members to test out their research findings at the pre-publication stage.

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AHMEDABAD-380015
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PRACTICE OF ENVIRONMENTAL SCANNING
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Prescriptive Model of Environmental Scanning:

The prescriptive model of environmental scanning, presented in the literature¹, divides the task of environmental scanning for strategy formulation and implementation into five inter-linked sub-tasks, namely, identification, collection, forecasting, interpretation and communication. In the first task the environmental scanner is required to choose that subset of environmental factors from a universe of factors, suggested by the literature on scanning and the company's experience, which is relevant for his company. It is necessary to decide this 'focus zone'² because given the time, cost and benefit considerations it is not advisable to examine each and every aspect of the environment. The next step is to develop systems and procedures for acquiring the information by selecting the sources and ways of collecting the information. The acquired information is to be used to forecast and interpret the developments with a view to identifying the threats and opportunities.

* The author gratefully acknowledges the financial grant received from the Research and Publications Committee of the Institute for completing the study and the statistical assistance of Mrs. G. Subbayamma. He thanks his colleague Prof. Shekhar Chaudhuri for his comments on various aspects of the study.

Various tools and techniques³ have been suggested to forecast and interpret the data. This assessment of the environment has to be communicated to the management through various methods like special notes, formal meetings, inhouse publications, etc. It has been recognised⁴ that environmental scanning is an all pervasive activity and that every manager is an environmental scanner in his own right and formal organisational arrangements be made to size up the amorphous situations and, direct and coordinate this activity. Depending on the process of execution of these tasks, certain modes of scanning like irregular, regular or continuous scanning or primitive, adhoc, reactive and proactive scanning have been identified.⁵

In sum, the framework of prescriptive model with common set of questions could be presented as follows.

Key Tasks in Environmental Scanning and Appraisal
and Associated Questions

Questions	Why (Rationale)	What (Content)	How (Process) Technique	Who (Structure) People	When (Timing)	Where Geographical level
Key tasks						
Identification						
Collection						
Forecasting						
Interpretation						
Communication						

Practice of Environmental Scanning:

Hand in hand with the prescriptive literature there is a growing body of practice literature.⁶ Surveys and indepth case studies have been conducted to find out how corporations actually scan and how effectively are the scanning units functioning. The contexts of these studies have been the developed countries, which have reached a certain stage of sophistication in information storage, retrieval, processing and dissemination. Facilities like the computerised common data bank, consulting services are readily available. There is greater scope for the free play of market forces and governmental intervention is limited. In contrast, the developing countries are characterised by restrictions on the free play of market forces and greater regulations. The practice of scanning in these countries in terms of the answers to the various queries in the prescriptive model could be different.

The relevance the corporations attach to the various environmental factors, the ways of collection and the sources of information, the constraints faced could be different.

With this discussion in mind we report in this paper the findings of a research study aimed at understanding the environmental scanning practices of large private corporations in India, which has adopted the planned mode of development. The private corporations in this country operate in a mixed

economy and within a framework of incentives and regulations put forth by the government. This framework of incentives and disincentives is aimed at motivating and controlling the behaviour of private corporate sector to achieve the plan targets and objectives. The questions research sought to answer were

* What is the level of relevance attached by these corporations to the various environmental factors?

* What are the sources of information on these factors and how is the information collected? Do these sources and ways vary with the relevance of environmental factors and with the environmental factors themselves?

* What are the major constraints faced by these companies in scanning and appraising the external environment?

* Are there significant differences in the scanning practices of multinational and domestic companies operating in India?

* How does the practice in India compare with that of other countries reported in the literature?

Methodology:

Based on a survey of the literature and the experience of the author in developing an environmental scanning system for a large multi-product multi-unit organisation, a list of environment factors likely to be of concern to corporations operating in India was prepared and grouped into following broad categories.

<u>Environmental Category</u>	<u>Total number of factors included</u>
* Central Government Policies	29
* State Government Policies	7
* Central and State Government Projects and Programmes	16
* Market factors	18
Of which - Relating to the customer	6
- Relating to the competitor	8
- Relating to the product	4
* Input factors	9
* Socio-Political factors	12
* Legal factors	2
* General Economic and Technological factors	15
* International factors	14
	<hr/> 122

A category of other factors was included to enable the respondents to add factors not already included in the questionnaire.

The respondents were asked to rate each of the factors included in the questionnaire as most relevant, relevant, less relevant and irrelevant.

Similarly a list of likely sources and ways of collecting the environmental information was prepared. The respondents were asked to tick the sources and ways of collecting information on the most relevant, relevant and less relevant factors belonging to each of the above categories. The sources and ways included in the study are given in Annexure 1.

Three open ended questions soliciting information on who did the scanning, how was the scanned information reported and how was the information used were added to complete the scope of the study.

Responses to the questionnaire were received from 18 domestic and 6 multinational companies. These companies are among the top 200 corporations in India.

Their industrial affiliation is given below:

<u>Industries</u>	<u>No. of respondents</u>
Cement	2
Chemicals	4
Fertilisers	3
Paper	2
Textiles	2
Engineering	2
Cycles	1
Commercial vehicles	1
Cables	1
Electricity	1
Tubes	1
Industrial Gases and Plants	1
	<hr/> 21
Highly Diversified Companies	3
	<hr/> 24

Based on the responses received, an average relevance score for each environmental factor was computed by assigning the following weightages.

Most Relevant	=	3
Relevant	=	2
Less Relevant	=	1
Irrelevant	=	0

The average relevance score for each factor was used to computer the average relevance score for each environmental category as a whole. The factors and categories were ranked on the basis of these relevance scores.

The various sources and ways of collecting the environmental information were ranked on the according to the frequency of occurrence 'as used' by the respondents.

As the analysis proceeded, separate treatment of legal factors was found to be redundant as they were found to be represented in the list of regulatory factors. Similarly the category of other factors was also dropped as there was not any worthwhile information included in the category by the respondents.

We discuss below the findings of our study.

Findings:

Annexure 2A and 2B present the list of top twenty five and bottom five environmental factors respectively for the domestic and multinational companies. Tables 1 and 2 present the representation of the environmental categories in the top twenty five list and the ranking of environmental categories in order of their average relevance scores respectively.

From Annexure 2A we note that 16 factors belonging to inputs government programmes and projects and regulating environmental categories are common to both domestic and multinational companies. The factors not found in the list of domestic companies but found in the multinationals list are related to infrastructure, markets and general economic environment. But such a list of exclusive factors for domestic companies includes more regulatory policies such as corporation tax policies, policies of protection and subsidies, control of monopolies and restrictive trade and state government's taxation policies. One may say that domestic companies are more worried about regulatory environment than multinationals. This is also reflected in Table 1. From table 1 we note that the representation of environmental categories is more skewed in favour of regulatory environment for domestic companies. For multinationals it is in favour of market factors. The second highest representation is that of market factors in case of domestic companies. It is equally distributed over input and regulatory factors in case of multinational companies. What is more significant is the total absence of socio-political and international factors. The domestic company list does not include even general economic factors.

From Annexure 2B we note that the socio-political factors have been relegated to the last place.

Relatively speaking, the multinational list is more broad based and futuristic than domestic companies. One of the implications of this is that the scanning would also be broadbased and futuristic. The strategies developed therefrom would be opportunity centred. On the contrary the domestic company strategy would be regulation centred. Since this kind of an implication comes contrary to general expectations further evidence needs to be collected before making a conclusive statement. We have not attempted this within the scope of present study.

From the ranking of environmental categories on the basis of overall category average, we can observe that the ranking schemes are not very different. The rank correlation coefficient is 0.83. However the following differences are worthnoting. Marketing environment occupies the top position in the ranking scheme of multinationals. This is followed by the input environment. Reverse is the position for domestic companies. Even within the marketing environment, multinationals consider product and competitor related environmental categories to be of greater relevance than is the case for domestic companies. The state government policies occupy widely different positions in the ranking schemes of the two categories of the two companies. Domestic companies regard it as nextⁱⁿ importance to central government policies while multinationals relegate it to the seventh position. The socio-political and environ-

mental categories occupy the lowest places. Lower relevance scores of international environmental factors reflect the low priority given to internationalise their business and the inward looking growth strategies of these companies.

In a developing country, one would expect the companies to give high importance to socio-political factors, because they could be changing rapidly with development and affecting the strategies and performance of these companies. They could also be throwing up opportunities for expansion and diversification. The following explanations for the low perceived relevance of socio-political environment are plausible.

The companies perceive that developments in these factors do not affect the performance of these companies directly. Their influence would be felt indirectly through changes in the top twenty five factors. For example, changes in the political environment like changes in the ministry or election of a new political party to power, may bring about a change in the licensing or monopolies and restrictive trade practices policies. It is the change in latter that is more relevant to the companies than the former per se.

The other reason could be that, these factors change so infrequently that these factors do not deserve to be given high ranking. The alternative view could be that the companies have taken a myopic view of the environmental scanning process

and have tended to concentrate on immediately affecting operating environment. One of the consequences of this could be that the companies fail to notice the changes in the less relevant factors and get caught unawares by the opportunities and threats arising out of these changes. There might be a crisis strategic response or loss of competitive advantage. This point, however, needs to be verified empirically. As this could be a topic for separate study, we are not elaborating this point further.

Studies of Aguilar, Collings and Wall have also attempted to find out the relative importance of the various environmental categories. The classification of categories is not as detailed as ours. They consider four broad categories namely, market environment, supplier environment, general environment and others. The ranking of these categories as reported in Glueck⁷ is as follows.

<u>Category</u>	<u>Ranking</u>		
	Aguilar's study	Colling's study	Wall's study
Market Environment	1	1	1
Supplier Environment	2	3	2
General Environment	3	4	3
Others	4	2	-

When we compare these findings with our study, we note that the ranking scheme for multinational companies is akin to that reported by Aguilar and Wall. Market environment occupies the top most position in their case followed by input environment.

Sources:

Annexure 3 presents the top six sources of information for various environmental and relevance categories. The ranking is based on the frequency of occurrence of a source as used by the respondents to collect the information. It may be noted from the annexure that the kind of sources and their ranking have varied from one environmental category to the other and from one relevance category to the other. This is an indication of the selectivity exercised by the corporations in their choice of sources. However, there is a preponderance of published sources over the unpublished ones. This could be because the published sources are easily accessible, periodic and verifiable. This indicates their preference for convenience and verifiability.

Table 3 presents the frequency of appearance of the various sources in the top six positions across all environmental categories. The table shows that newspapers and periodicals are the most used sources of information for obtaining information on all factors. This could be due to the width and variety of coverage, easy availability and lower cost. The next most used sources for most relevant and relevant environmental categories is the reports of industry associations. In one sense, the industry associations could be looked upon as the environmental scanners for the industry

as a whole. As voluntary organisations interested in the health of the industry, they scan and communicate the developments in all categories of environment. This dependence on industry associations also amounts to secondary scanning by these companies, i.e. scanning the scanned information. Here again, the preference is for convenience and economy. There also underlies the supposition that the association knows best what developments might affect the industries performance. Next in line are the published government reports. The table also shows that non-routine, unpublished and verbal sources of information like friends and personal contacts, consultants, bankers and exhibitions are preferred as sources of less relevant factors.

In contrast to the dependence of domestic companies primarily on published information, the multinationals have tended to supplement this information with incompany studies and information obtained from customers. Incompany studies represent the initiative of the company to obtain information on factors, which may not be available through published sources. The number of common sources between domestic and multinational companies is the highest for customer related market factors. Some of the common sources are specific to environmental or relevance categories like published government reports for all input factors, relevant and less relevant government policies, and all socio-political factors.

Incompany studies are common for most relevant market factors, and general economic factors. The sources used by both multinational and domestic companies to collect information on less relevant factors belonging to input, state government policies, central and state government projects are the same. But the sources used for other less relevant environmental factors are different. Multinationals have relied on consultants, bankers, government officials and exhibitions more than domestic companies.

Table 4 presents a ranking of the above sources in order of frequency of occurrence in table 3, and table 5 the ranking of sources by US companies derived from Jains study.⁸

The ranking scheme is most closely related for the most relevant factors ($r = 0.86$). The matching of ranks is not that high for the less relevant factors.

It may be noted from these tables that companies in both the countries place newspapers, periodicals, and publications of Industry associations at a higher level than other sources of information. Excepting the position of incompany studies the ranking scheme of sources for most relevant factor is not different between domestic and multinational companies. The noticeable difference is in the ranking of consultants as sources of environmental information. US companies have accorded the fourth position to this source. While it does

not figure in the top six sources for most relevant environmental factors in India. This is true for both multinational and domestic companies. However, the domestic companies accord fifth position to the source in obtaining environmental information on relevant factor. Multinationals accord the last position. The situation is reverse for less relevant environmental factors, with multinationals placing it as the second most referred source.

Perhaps, the differences in the ranking of consultants is reflective of the nature of consulting services offered in the two country. May be the environment related consulting service has developed better in USA than in India. The other possible reason could be the preference of Indian companies for incompany studies, because of considerations of secrecy, cost and flexibility.

Ways of Collection:

Annexure 4 presents a ranking of the various ways of collecting the information based on frequency of occurrence 'as used' by the respondents. We may note that the variations in the ranking schemes are not significantly different across most relevant and relevant environmental factors. Nor are there appreciable differences between the two types of companies. However there are noticeable differences for less relevant factors.

Deliberate periodic search is the most used mode of collecting the information on all the most relevant environmental factors. This preference for deliberate periodic search strengthens the collection of information through published sources. Random search is the least used way for the most relevant factors. However, it dominates over other ways for collecting the information on less relevant factors.

This means that large Indian corporations have been judicious in their choice of the ways of collecting external information. The most relevant factors are scanned by periodically searching for the required information. The less relevant factors are randomly searched. Information on them is obtained through casual chats and informal meetings. This is consistent with the finding that these companies are dependent on non-routine and verbal sources for obtaining information on less relevant factors.

Responsibility for Scanning and Nature of Reporting:

All the companies reported that it was the responsibility of all managers in the company, especially the chief executive, directors on the Board, heads of functional departments like finance, marketing and legal affairs, manufacturing units, branches and liaison offices to collect and communicate developments in the environment with which they came in contact. Four multinationals and six domestic companies

reported the existence of separate organisational arrangements like corporate planning department (8 respondents), management services group (1 respondent) and market research department (1 respondent), with the responsibility for leading and coordinating the environmental scanning activities in the company. In addition, one domestic company reported that it had just started a formal scanning system. Jain's study⁹ has thrown up a similar evidence.

Indian experience is quite encouraging when compared with the finding of Fahey¹⁰ and King that out of 12 US corporations studied by them only two corporations had special organisational arrangements.

The respondents used a mix of modes to communicate the environmental information. The most used modes were special notes and formal meetings. Only one company reported that it communicated the environmental developments through inhouse publications. Another least used mode is making the reporting a part of the company's management information system. Only three companies used this mode.

Though communication of external information is the most crucial task in environmental scanning and appraisal, this is the most neglected dimension in environmental scanning research. Excepting Acquilar, we have not come across any studies that have addressed themselves to this issue.

Constraints in Scanning:

What constraints do companies face in scanning the environment? Following is the collective list of difficulties expressed by the sample companies in scanning the external environment.

- * Delay in the communication of information by concerned departments.
- * Non availability of information at the right time due to delays in publishing the information by government department.
- * Inconsistency in the reports received from different sources.
- * Reluctance of government officials to part with information.
- * Non-availability of proper sources.
- * Inability to keep with change.
- * Difficulty in determining the reliability.
- * Non amenability of certain qualitative information to statistical treatment.
- * Inability of managers in understanding and interpreting the trends.
- * Frustration of people entrusted with the job.

The difficulties expressed by these companies are similar to those rated as important by a majority of the US companies studied by Jain. ¹¹ We can note from this list that some of the constraints like non-availability of data at the right time,

inconsistency in data and nonamenability of certain qualitative information to statistical treatment are not within the control of the scanner. They arise either out of the limitations of the statistical techniques or the nature of statistical reporting system prevalent in the country. He cannot do much about them except hoping that certain favourable developments like revamping of statistical reporting systems of the economy by a new secretary or the development of a new techniques to incorporate qualitative information. The other kind of constraints like inability to distinguish the relevant from the irrelevant, delays in the communication of the information, frustration of the scanner, etc. are within the control of the company. Some of these internal constraints like slow communication would vanish as the company gains experience in scanning. Others like frustration need to be avoided by an appropriate choice of structure and regards and incentive systems. Frustration of people entrusted with scanning needs to be looked into more carefully. If the scanner is frustrated the quality and content of scanning would suffer. There would be delays in collecting, interpreting and communicating the environmental information, leading to missed opportunities and unnoticed threats. Probable reasons for his frustration could be lack of support from colleagues and superiors, better promotional opportunities elsewhere in the organisation or ineffective links between scanning and planning leading to little or non-use of information provided by the scanner. Studies need to be conducted to throw light on this aspect.

Conclusion:

This paper reported the findings of a study of the environmental scanning practices of 24 large Indian corporations. It may be noted from the above discussion that the corporations bear mixed characteristics of irregular and regular modes of scanning. We did not find a conclusive evidence of a marked difference between the scanning practices of these and practices of other companies reported in literature. Similarities were noticed in respect of ranking of environmental categories in order of relevance, choice of sources, difficulties experienced and special organisational arrangements.

The specific findings are,

- a) Developments in the input, marketing and regulatory environment are of primary concern to large Indian corporations. Developments in socio-political and international environment are accorded relatively lower importance.
- b) They are selective in their choice of sources and ways of collecting the information. The choice has varied with the level of relevance of an environmental category and the environmental category itself. By and large, there is preference for published sources of information and collecting the same through periodic deliberate search. In addition to newspapers and periodicals, reports of industry associations are considered to be a key source of information on developments in all categories of environment.

- c) The proportion of companies having special organisational arrangements to lead and coordinate the scanning activities is encouraging. Typical organisational arrangements have been to have special departments like corporate planning department, management services group and market research department.
- d) The most used ways of communicating the developments in the environment are formal meetings and special notes.
- e) The major constraints in scanning relate to consistency in multiple sources of information, delays in availability and communication of information and frustration of the people in charge of scanning.
- f) Several common characteristics were noticed with respect to the scanning practices of multinational and domestic companies. Out of the top twenty five environmental factors of concern to these categories of companies, 16 were common to both. The overall ranking pattern of environmental categories, sources of information on the most relevant and relevant environmental factors and ways of collecting information were not markedly different. However, there were difference in the environmental category occupying the top position, use of incompany studies and consultants in scanning. Multinationals in the sample companies can be said to be more broad based systematic and futuristic in scanning the environment.

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Table 1

Representation of Environmental Categories in the Top

Twenty Five list

Environmental Category	No. of factors included	
	Domestic Companies	Multinational companies
Input factors	3	4
Market factors	7	9
Central Government Policies	10	5
State Government Policies	1	-
General Economic Factors	-	2
Central and State Governments' Programmes and Projects	4	5
International Factors	-	-
Socio-Political factors	-	-
Total	25	25

Table 2

Ranking of the Environmental Categories in the Indian
Context in order of Perceived Relevance

Environmental Category	Domestic companies (Rank)	Multinational companies (Rank)
Input factors	1 (2.28)	2 (2.33)
Market Factors*	2 (2.17)	1 (2.40)
Central Government Policies	3 (2.15)	3 (1.90)
State Government Policies	4 (1.88)	7 (1.53)
General Economic Factors	5 (1.70)	4 (1.83)
Central and State Government's Programmes and Projects	6 (1.68)	5 (1.77)
International Factors	7 (1.56)	6 (1.62)
Socio-Political Factors	8 (1.15)	8 (1.11)
Rank Correlation Co-efficient	= 0.83	

(Figures in the brackets are average relevance scores for the category as a whole)

The ranking of subcategories is as follows:

	<u>Domestic Companies</u>	<u>Multinational companies</u>
Customer Related	1 (2.24)	3 (2.36)
Product related	2 (2.17)	1 (2.44)
Competition related	3 (2.09)	2 (2.40)

Table 3

Frequency of Appearances in the First Six Sources (for all Environmental Factors)

Type of source	MOST RELEVANT			RELEVANT			LESS RELEVANT		
	Domestic	Multinational	Multinational	Domestic	Multinational	Multinational	Domestic	Multinational	Multinational
Newspapers	10	10	10	10	10	10	10	10	10
Periodicals	10	10	10	10	10	10	10	10	10
Professional Journals	10	5	5	10	5	5	9	9	2
Published Govt. Reports	8	8	8	10	9	9	9	9	5
Reports of Industry Associations	9	10	10	7	9	9	3	3	3
Company Studies	5	9	9	2	8	8	-	-	6
Friends and Personal contacts	2	3	3	4	5	5	8	8	4
Consultants	-	-	-	3	1	1	1	1	8
Bankers	2	1	1	2	2	2	3	3	8
Customers	2	6	6	1	3	3	3	3	4
Suppliers	1	1	1	1	7	7	6	6	6
Exhibitions	-	-	-	-	2	2	7	7	7
Government Officials	4	5	5	5	1	1	7	7	5

Table 4
Ranking of the Source of Information

Type of Source	Most Relevant		Relevant		Less Relevant	
	Domes- tic	Multi- national	Domes- tic	Multi- national	Domes- tic	Multi- national
Newspapers	1	1	1	1	1	1
Periodicals	1	1	1	1	1	1
Professional Journals	1	5	1	5	2	*
Published Govt. Reports	3	3	1	2	2	5
Reports of Industry Associations	2	1	2	2	6	7
Incompany Studies	4	2	5	3	*	4
Friends and Personal contacts	6	6	4	5	3	6
Consultants	*	*	5	8	7	2
Bankers	6	7	6	7	6	2
Customers	6	4	7	6	6	6
Suppliers	7	7	7	4	5	4
Exhibitions	*	*	*	7	4	3
Govt. Officials	5	5	3	8	4	5
Rank Correlation	0.86		0.79		0.66	

*These sources have not appeared even once in the top six sources.

Table 5

Ranking of Information Sources (Jain's Study)

<u>Information Source</u>	<u>Rank</u>
Daily Newspapers	1
Publications of Industry Groups	2
Business Periodicals	3
Future Consultants	4
Government Publications	5
Seminars and Conferences	6
Newsletters of Private Organisations	7
Academic Journals	8
Information from Professional Associations	8
Literary Publications	9

(Based on Table 8 of Jain's Study)

Foot Notes

1. See Aguilar (1,1967), Dixit M.R. and Rohit Prabhakar (7,1983), Glueck (8,1976) pp 46-71, Neubaur Fand Solomon N, (13,1977) and Thomas Phillip (16,1974)
2. See Glueck (op.cit.) p.69
3. See Dixit M.R. (6,1984), Rangarajan (14,1976), Chambers et.al. (2,1971) and Neubaur (op.cit.) for a discussion of the various tools and techniques.
4. See Aguilar (op.cit.), Thomas Phillip (op.cit.)
5. See Fahey and King (10,1977) and Jain Subhas (9,1984) for a discussion of the various classificatory schemes.
6. See Glueck (op.cit.), Fahey and King (10,1977), Fahey, King and Narayan (11,1981), Stubert Charles (15,1982), Thomas Phillip (16,1980) for the findings of the surveys of scanning practices in US.
7. See Glueck (op.cit.)
8. See Jain Subhas (op.cit.)
9. See Jain Subhas (op.cit.)
10. See King and Fahey (op.cit.)
11. See Jain Subhas (op.cit.)

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16. Thomas Phillip, "Environmental Scanning for Corporate Planning", Business Horizons, 1974, pp 27-38.
17. _____, "Environmental Scanning - The State of the Art", Long Range Planning, Vol.13, No.1, February 1980.
18. Wall, Jerry, "What is the competition doing you Need to Know" Harvard Business Review, Nov. - Dec. 1974.

Annexure 1

Sources of Environmental Information

- * Newspapers
- * Periodicals
- * Professional Journals
- * Published Government Reports
- * Reports of Industry Associations
- * Incompany Studies
- * Friends and Personal Contacts
- * Consultants
- * Bankers
- * Customers
- * Suppliers
- * Government Officials
- * Exhibitions

Ways of Collecting the Information

- * Deliberate Periodic Search
- * Random Search
- * Directed Conversations
- * Casual Chat
- * Formal Meetings
- * Informal Meetings

Annexure 2A

Top Twenty Five Factors of Concern to Large Corporations

Domestic Companies		Multinationals	
Environmental Factor	Category	Environmental Factor	Category
Availability of Raw Material (2.89)	Inputs	Availability of Raw Material (3.0)	Input
Central and State Government's Thermal Power Project (2.83)	Central and State Government's Programmes and Projects.	Price of Raw Material (3.0)	- do -
Corporate Taxation Policy of Central Government (2.71)	Central Govt.'s Policy	Central and State Govt.'s Thermal Power Projects and Programmes (3.0)	Central and State Govt.'s Programmes and Projects.
Protection and Subsidy Policies (2.67)	- do -	Central Govt.'s Coal Mining Projects (3.0)	- do -
Central and State Govt.'s Hydro Power Projects (2.67)	Central and State Govt.'s Programmes and Projects	Central and State Govt.'s Hydro Power Projects and Programmes (2.92)	- do -
Price of Raw Material (2.67)	Inputs	Central Govt.'s Projects on Rail Transport (2.67)	- do -
Development of Substitute Raw Material (2.67)	- do -	Central Govt.'s Policy on Licensing (2.67)	Central Govt.'s Policy.
Central Govt.'s Policy regarding long term borrowings from public financial Institutions (2.67)	Central Govt.'s Policy	Central Govt.'s Policy on Import Substitution (2.67)	- do -
Central Govt.'s Policy on Interest Rate on Long Term Borrowing (2.61)	- do -	Central Govt.'s Policy on Interest Rate on Borrowings from Commercial Banks (2.67)	- do -

Annexure 2A (contd.)

Domestic Companies		Multinationals	
Environmental Factors	Category	Environmental Factor	Category
Policy regarding Conditions for Borrowing from Commercial Banks (2.61)	Central Govt.'s Policy	Performance of Electricity Boards (2.67)	Inputs
Policy regarding interest rate on borrowings from commercial banks (2.61)	- do -	Performance of Road Transport companies (2.67)	Inputs
Control of monopolies and Restrictive Practices Policies (2.61)	- do -	Customer's Buying Behaviour (2.67)	Customer Related Market Factors
Licensing Policy (2.56)	- do -	Customer's Income (2.67)	- do -
Performance of customers (2.53)	Market	Expansion and Diversification Plans of customers (2.67)	- do -
Competitor's Technology (2.5)	Competitor Related Market factors		
Central Govt.'s Policy Regarding Industrial Relations (2.44)	Central Govt.'s Policy	New Marketing Channels (2.67)	Product Related Market factors
State Govt.'s Taxation Policies (2.44)	State Govt.'s Policies	Central Govt.'s Policy on Industrial Relations (2.5)	Central Govt. Policy
Customer's Buying Behaviour (2.44)	Market	Central Govt.'s Policy on Borrowings from Commercial Banks (2.5)	- do -
New Substitutes (2.39)	Product Related Market factor	Customer's Performance (2.5)	Customer Related Market factors
Central Govt. Programmes and Projects Regarding Rail Transport (2.39)	Central Govt.'s Programmes and Projects	New Customers (2.5)	- do -

Annexure 2A (contd.)

Domestic Companies		Multinationals	
Environmental Factor	Category	Environmental Factor	Category
Central Govt. Policies regarding liberalisation of Imports (2.33)	Central Govt.'s Policy	New needs of customers (2.5)	Customer Related Market factors
New Customers (2.33)	Customer Related Market Factor	New Competitors (2.5)	Competitor related market factors
Competitor's Price (2.33)	Competitor Related market factor	Competitor's Technology (2.5)	- do -
New Competitors (2.33)	- do -	Central Govt.'s Nuclear Power Projects (2.5)	Central and State Govt. Programmes and Projects.
Central Govt.'s Programmes regarding nuclear project (2.31)	Central Govt.'s Programmes and Projects.	Agricultural Production (2.5) Industrial Production (2.5)	General Economic

(Figures in the brackets are the Average Relevance Scores)

Annexure 2B

Bottom Five Environmental Factors of Concern to
Large Corporations

DOMESTIC COMPANIES		MULTINATIONALS	
Environmental Factor	Category	Environmental Factor	Category
Election Results - Parliament (0.83)	Socio-political	Agricultural Credit Policy (0.83)	Central Govt.'s Policy
Customs and Religious Beliefs (0.61)	- do -	Election Results- State Assembly (0.83)	Socio-Political
Activities of Ruling Party Workers (0.56)	- do -	Transfer and Appointments of Local Governments Officials (0.83)	- do -
Activities of Opposition Party Workers (0.56)	- do -	Projects financed by World Bank (0.83)	International
Central and State Governments Programmes and Projects on Animal Husbandary (0.44)	Central Govt.'s Programmes and Projects	Customs and Religious Beliefs (0.33)	Socio-Political

Annexure 3 ** indicate they have same frequency

Top Six Sources

RELEVANCE CATEGORY	DOMESTIC	MOST RELEVANT	RELEVANT	LESS RELEVANT
Sample Category	Domestic	Multinational	Multinational	Multinational
Environmental category				
INPUT FACTORS	Report of Industry Associations *Newspapers *Suppliers **Periodicals **Professional journals **Published Govt. Reports *Incompany studies	*Newspapers Periodicals *Professional journals *Newspapers *Published Govt. Reports *Reports of Industry Assn. *Suppliers *Exhibitions	Periodicals *Professional journals *Newspapers *Published Govt. Reports *Incompany studies *Suppliers *Exhibitions	*Newspapers *Periodicals Published Govt. Reports **Friends & personal contacts **Govt. officials All other sources except Reports of Industry Assn. and Incompany studies

MARKET FACTORS	DOMESTIC	MOST RELEVANT	RELEVANT	LESS RELEVANT
Customer Related	Domestic	Multinational	Multinational	Multinational
Customer Related	Professional journals Newspapers Periodicals Incompany studies Friends & personal contacts Customers	*Incompany studies *Customers Newspapers Periodicals **Published Govt. Reports **Reports of Industry Associations	Newspapers Periodicals Published Govt. Reports Reports of Industry Assn. Incompany studies Suppliers Friends & personal contacts. *Govt. officials	Periodicals *Newspapers *Professional journals *Exhibitions **Published Govt. Reports **Friends & personal contacts **Govt. officials

Annexure 3 (contd.)

RELEVANCE CATEGORY	MOST RELEVANT	RELEVANT	LESS RELEVANT
Sample Category	Domestic	Multinational	Domestic
Environmental category	Domestic	Multinational	Multinational
MARKET FACTORS			
- Product Related	Professional journals Newspapers Periodicals Reports of Industry Assn. Incompany studies Customers	Incompany studies *Newspapers *Professional journals *Periodicals *Customers Reports of Industry Assn. Customers	Periodicals *Newspapers *Reports of Industry Assn. Published Govt. Report *Professional journals *Incompany studies *Friends *Consultants
MARKET FACTORS	Newspapers Professional journals Periodicals Incompany studies Reports of industry Assn. Published Govt. Reports	*Newspapers *Periodicals *Incompany studies *Reports of Industry Assn. *Professional journals *Published Govt. Reports *Friends & personal contacts, Consultants Bankers Exhibitions	Newspapers *Periodicals *Published Govt. reports *Incompany studies *Consultants *Bankers *Govt. officials
- Competitor Related	Newspapers Professional journals Periodicals Incompany studies Reports of industry Assn. Published Govt. Reports	*Newspapers *Periodicals *Professional journals *Published Govt. Reports **Suppliers *Customers *Friends *Consultants	*Newspapers *Periodicals *Published Govt. Reports *Incompany studies *Consultants *Bankers *Exhibitions *Govt. officials
MARKET FACTORS	Newspapers Professional journals Periodicals Incompany studies Reports of industry Assn. Published Govt. Reports	*Newspapers *Periodicals *Professional journals *Published Govt. Reports **Suppliers *Customers *Friends *Consultants	*Newspapers *Periodicals *Published Govt. Reports *Incompany studies *Consultants *Bankers *Exhibitions *Govt. officials

Annexure 3 (contd.)

RELEVANCE CATEGORY MOST RELEVANT RELEVANT LESS RELEVANT

Sample Category Domestic Multinational Domestic Multinational Domestic Multinational
 Environmental category

CENTRAL GOVT.

Report of Industry Assn. *Published Govt. Reports *Newspapers Periodicals Consultants
 Newspapers Published Govt. Reports *Periodicals *Newspapers *Suppliers
 Published Govt. Reports of Industry Assn. *Professional Journals *Newspapers *Periodicals
 Govt. Reports *Newspapers *Periodicals Govt. Reports of *Published Journals *Incompany
 *Periodicals *Periodicals *Periodicals Govt. Reports of *Govt. Reports of *Customers
 *Professional Journals *Incompany Bankers Govt. Reports of *Industry Assn. *Exhibitions
 al journals studies **Friends & Relatives, personal
 Govt. Officials **Govt. Officials cials contacts
 **Professional contacts
 al journals
 **Bankers

STATE GOVT.

Published Govt. Reports *Newspapers Periodicals Professional
 Govt. Reports Published *Newspapers Journals
 Newspapers Govt. Reports of Industry Assn. *Periodicals All other
 Reports of Industry Assn. *Govt. Reports of al journals sources except
 Industry Assn. *Govt. Reports of al journals Published Govt.
 Periodicals *Incompany *Govt. Reports of al journals Reports, Reports
 Professional *Govt. Officials Periodicals Industry Assn. of Industry Assn.
 al journals *Periodicals Professional *Govt. Reports of and Govt.
 Govt. Officials al journals officials Industry Assn. Officials
 ***Friends, Relatives & Suppliers
 Relatives & Personal contacts Exhibitions
 Personal contacts
 ***Bankers
 ***Customers

Annexure 3 (contd.)

RELEVANCE CATEGORY	MOST RELEVANT	RELEVANT	LESS RELEVANT
Sample Category	Domestic	Domestic	Domestic
Environmental category	Multinational	Multination	Multinational
GENERAL ECONOMIC FACTORS	<p>*Newspapers *Periodicals *Reports of Industry Assn. *Periodicals *Professional journals Bankers **Published Govt.Reports **Incompany studies</p>	<p>Published Govt.Reports *Newspapers *Periodicals **Profession- al journals **Reports of Industry Assn. studies Consultants personal contacts *Bankers *Customers *Suppliers</p>	<p>Published Govt.Reports *Newspapers *Periodicals *Reports of Industry Assn. **Profession- al journals **Friends & personal contacts **Exhibitions **Govt. officials</p>
CENTRAL AND STATE GOVT. PROJECTS AND PROGRAMMES	<p>Published Govt.Reports Newspapers Reports of Industry Assn. Periodicals *Profession- al Journals *Govt. officials</p>	<p>Newspapers Periodicals Published Govt.Reports Profession- al journals Reports of Industry Assn. and Govt. officials have the same score.</p>	<p>*Professional Journals *Reports of Industry Assn. *Friends & personal contacts *Consultants *Exhibitions All other sources have the same score.</p>

Annexure 3 (contd.)

RELEVANCE CATEGORY	MOST RELEVANT		RELEVANT		LESS RELEVANT	
	Domestic	Multinational	Domestic	Multinational	Domestic	Multinational
Sample Category						
Environmental category						
INTERNATIONAL FACTORS	Newspapers Periodicals Professional journals Reports of Industry Assn. Bankers Published Govt. Reports Incompany studies	Newspapers Reports of Industry Assn. Periodicals *Professional journals *Published Govt. Reports *Incompany studies *Govt. officials	*Newspapers *Periodicals *Reports of Industry Assn. Published Govt. Reports **Professional journals **Bankers	*Newspapers *Periodicals *Published Govt. Reports **Report of Industry Assn. **Incompany studies **Friends & social contact **Exhibitions	*Newspapers *Periodicals **Published Govt. Reports **Professional journals **Friends & personal contacts **Customers **Suppliers	*Newspapers *Incompany studies Periodicals **Consultants **Bankers **Customers **Suppliers
SOCIO-POLITICAL FACTORS	Newspapers Periodicals Professional journals Reports of Industry Assn. Friends & personal contacts Published Govt. Reports Govt. Officials	Newspapers Periodicals Published Govt. Reports Govt. officials *Reports of Industry Assn. *Incompany studies *Friends & personal contacts *Customers	Newspapers *Periodicals *Published Govt. Report Professional journals **Friends & personal contacts **Consultants **Govt. officials	Reports of Industry Assn. *Periodicals *Newspapers *Published Govt. Reports *Incompany studies Suppliers	*Newspapers *Govt. officials **Periodicals **Published Govt. Reports **Friends & personal contacts **Suppliers **Exhibitions	*Newspapers *Periodicals *Published Govt. Reports Consultants *Bankers *Exhibitions

Environmental Category/ Ways of collection	Most Relevant		Relevant		Less Relevant	
	D	M	D	M	D	M
VIII Socio-Political Factors						
1. Deliberate Periodic search	2.5	1	5.5	3.5	2	4
2. Directed Conversation	2.5	2	1.5	3.5	6	4
3. Informal meetings	2.5	3.5	3.5	5.5	2	3
4. Random search	5.5	3.5	3.5	1.5	2	1
5. Formal meetings	2.5	5.5	5.5	5.5	4.5	2
6. Casual chat	5.5	5.5	1.5	1.5	4.5	4

Annexure 4

Ranking of Ways of Collection

D = Domestic
M = Multinational

Environmental category/ Ways of collection	Most Relevant Factors		Relevant Factors		Less Relevant Factors	
	D	M	D	M	D	M
I <u>Input Factors</u>						
1. Deliberate periodic search	1	1	4.5	4.5	5	5
2. Formal meetings	2	2	1	2	5	5
3. Directed Conversation	3	4	2	1	5	5
4. Informal meetings	4	4	3	4.5	1	3
5. Casual chat	5	6	4.5	4.5	2	2
6. Random search	6	4	6	4.5	3	1

II Market Factors

A. Customer Related

1. Deliberate periodic search	1	1	1	1	4.5	5.5
2. Directed Conversation	3	2	2.5	4	4.5	5.5
3. Formal meetings	2	3	3.5	4	6	4
4. Casual chat	4	6	3.5	4	2	2
5. Informal meetings	5	4.5	3.5	4	2	3
6. Random search	6	4.5	6	4	2	1

B. Product Related

1. Deliberate periodic search	1	1	2.5	1	5.5	5.5
2. Formal meetings	2	2	4	5	5.5	3.5
3. Directed Conversation	3	3	2.5	2.5	4	5.5
4. Informal meetings	4	4.5	1	5	1.5	3.5
5. Random search	5	4.5	5.5	5	1.5	1.5
6. Casual chat	6	6	5.5	2.5	3	1.5

Environmental Category/ Ways of collection	Most Relevant		Relevant		Less Relevant	
	D	M	D	M	D	M

II Market Factors

C. Competitor Related

1. Deliberate periodic search	1	1	2	2	5	5.5
2. Directed Conversation	3.5	3.5	1	2	5	5.5
3. Informal meetings	2	2	3.5	5.5	1.5	3.5
4. Formal meetings	3.5	5.5	6	5.5	1.5	3.5
5. Casual chat	6	3.5	3.5	4	3	1.5
6. Random search	5	5.5	5	2	5	1.5

III Central Govt. Policies

1. Deliberate periodic search	1	1	1	1	4.5	5
2. Directed Conversation	3	2	2	4	2.5	5
3. Formal meetings	2	3.5	3	6	6	5
4. Informal meetings	4	3.5	4	4	1	5
5. Casual chat	5	5	5	4	4.5	2
6. Random search	6	6	6	2	2.5	1

IV State Govt. Policies

1. Deliberate periodic search	1	1.5	2.5	1	3.5	4.5
2. Directed Conversation	3	3	4	2.5	3.5	4.5
3. Formal meetings	2	5	1	2.5	6	4.5
4. Informal meetings	4	1.5	2.5	5	1	4.5
5. Casual chat	5	5	5	5	3.5	1
6. Random search	6	5	6	5	3.5	2

Environmental Category/ Ways of collection	Most Relevant		Relevant		Less Relevant	
	D	M	D	M	D	M

V General Eco-tech
Factors

1. Deliberate periodic search	1	1	1	2.5	3	5.5
2. Formal meetings	2	3	3.5	6	5.5	2
3. Random search	3	3	6	2.5	1	1
4. Casual chat	4	5.5	3.5	5	3	3.5
5. Informal meetings	5.5	3	3.5	2.5	3	3.5
6. Directed Conversation	5.5	5.5	3.5	2.5	5.5	5.5

VI Central and State Govt.
Programmes & Projects

1. Deliberate periodic search	1	1	1	1	2.5	5
2. Formal meetings	2	2.5	2	4.5	5	5
3. Directed Conversation	3	4.5	5	2	5	5
4. Informal meetings	4	2.5	5	4.5	1	2.5
5. Random search	6	4.5	5	4.5	2.5	1
6. Casual chat	5	6	5	4.5	5	2.5

VII International Factors

1. Deliberate periodic search	1	1	3.5	2	3	5
2. Random search	2.5	2.5	5.5	5	1	1
3. Formal meetings	2.5	2.5	2	5	5.5	2.5
4. Directed Conversation	4	5	3.5	2	5.5	5
5. Informal meetings	5	5	1	2	3	5
6. Casual chat	6	5	5.5	5	3	2.5