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## Environmental Scanning--The Impact of the Stakeholder Concept

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### ABSTRACT

This paper discusses the advantages of the use of the stakeholder framework as a basis for focusing an organization's environmental scanning effort. Arising from the discussion, a contingency model for environmental scanning is developed to relate the focus and method used for environmental scanning to the dynamism of the environment and the power of the stakeholder relative to the organization. Steps for implementing the environmental scanning system are then discussed.

Increasing environmental turbulence in the 1950's led practicing managers and theoreticians to the realization that organizations could no longer be regarded as closed systems--organizations had to be regarded as open systems. The open system concept of organizations necessarily led to the inclusion of environmental considerations in the planning process. In so doing, strategic planning came into being (Ansoff & Thanheiser, 1978). The mere fact that environmental considerations had to be included in the planning process necessitated the development of a process whereby information about the environment could be collected, analyzed, and acted upon. The concept of environmental scanning thus came into being.

But concepts are paper tigers--it is practice that counts. Aguilar (1967) recognized four modes of environmental scanning--undirected viewing, conditioned viewing, informal search, and formal search. This did not help the manager to determine what to scan, nor how to scan it. And some eleven years later, Pfeffer remarked that "... the allusion to the environment is frequently pro forma and seldom follows up the open systems perspective with anything

remotely useful from a managerial or theoretical perspective... Scanning systems face two problems: (1) how to register needed information, and (2) how to act upon the information," (Pfeffer & Salancik, 1978).

King overcame these problems to some extent by analyzing the type of information needed for strategic planning in order to derive some sort of focus for the scanner (King & Cleland, 1978). Thus, he identified six environmental information sub-systems--the image, the customer, the potential customer, the competitive information, the regulatory information, and the critical intelligence information sub-systems. However the focus and the method to be used in the environmental scanning process were still ill-defined. Subsequently, Fahey developed a typology of scanning processes based on the impetus for scanning (Fahey, King, Vadake, 1981). Thus crisis initiated scanning gave rise to irregular scanning. Scanning initiated by the need for problem solving was to be done on a periodic basis, while scanning for opportunity finding and problem avoidance was to be done continuously. Clearly at this juncture there is still no method of

focusing the environmental scanning process, nor are there guidelines for determining which scanning process is the most suitable, given a set of conditions. However Fahey's approach lays the foundation for further development (Fahey, King, Vadake, 1981).

This paper aims at showing how the stakeholder framework may be used as a basis for focusing the organization's scanning effort. By combining this framework with the concepts of environmental dynamism and inter-organizational power, guidelines for the choice of scanning process will be suggested. These in turn will lead to several propositions on which future research could be based.

## THE STAKEHOLDER MODEL

The theory underlying development of the stakeholder model has already been discussed (Mendelow, 1981). Briefly, the stakeholder model arises from considerations relating to organizational effectiveness--a state toward which organizations have to strive to assure their continued survival. Following Hofer and Schendel (1978), effectiveness is viewed as the ratio of actual outputs of the organization to the outputs desired from it. On the basis that stakeholders are "those who depend on the organization for the realization of some of their goals, and in turn, the organization depends on them in some way for the full realization of its goals" (Mitroff & Mason, 1980), it is clear that it is the organization's stakeholders who judge its effectiveness. It is thus of vital importance for an organization to determine the outputs required by its stakeholders. This is achieved by environmental scanning. Following Ackoff (1974), Mitroff and Mason (1980), and Ross and Goodfellow (1980), an organization's stakeholders may be categorized into Shareholders, Government, Customers, Suppliers, Lenders, Employees, Society, and Competitors. Their relation-

ship to the organization is shown diagrammatically in Figure 1.

In every case barring that of the competitors, the stakeholders make contributions to the organization in return for the organization's inducements, i.e., their relationship to the organization is of a symbiotic nature. For example, employees contribute their labor in return for wages and working conditions. In contrast to this, the relationship of the competitors is a commensal one (MacMillan, 1978)--the competitors are competing with the organization not only for market share but for the contributions of its stakeholders.

### Stakeholder Power (Mendelow, forthcoming)

MacMillan (1978) points out that power provides its possessor with the ability to restructure situations. This ability may arise from several sources.

### Possession of Resources

The fact that stakeholders may possess resources which organizations may require, gives them power over the organization. This power arises from the fact that stakeholders may refrain from supplying the organization with much needed resources.

- Laborers resort to strike action. Where the organization does not have the ability to employ replacements, and where the costs of lost production are prohibitive, the laborers are in a powerful position to assert their demands for increased inducements in return for their contribution.

### The Dictation of Alternatives

In the last example, the reservation was made that the organization would not have

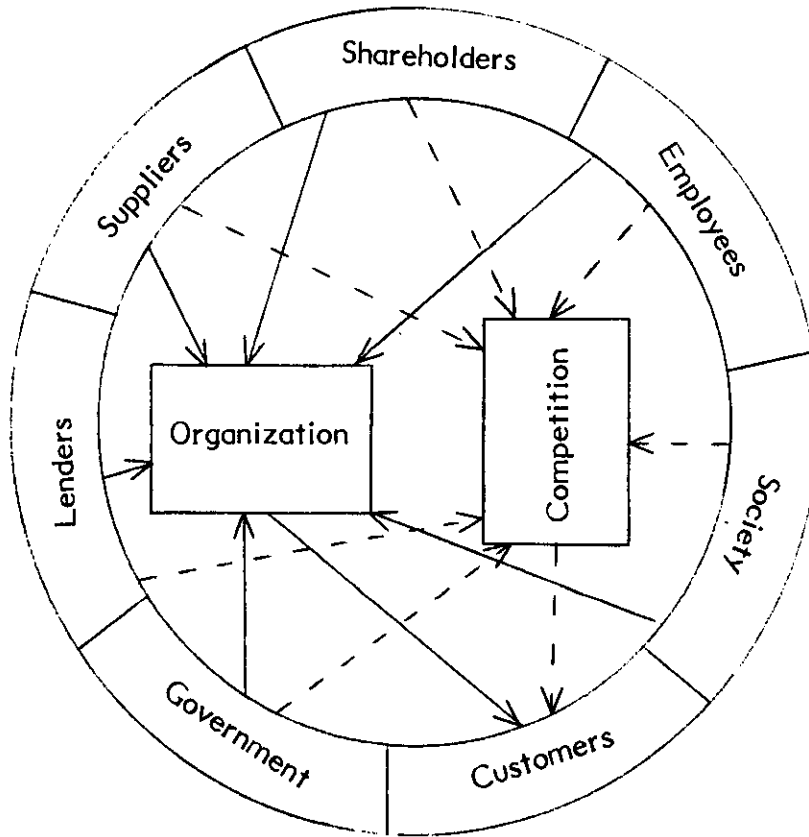


Figure 1. Relationship Between the Organization and Its Stakeholders--The Stakeholder Model

the ability to employ replacements. Had this not been the case, the laborers would have lost their power base. The organization would have been able to employ alternative resources. Hence the use of picket lines to prevent employees from entering their employer's premises is an attempt by the strikers to reinforce their power base by reducing the alternatives open to the organization.

In a similar manner the sole supplier derives power from the fact that the organization does not have any alternative source of supply. It should be clear by now that power is situation specific. Should a substitute source of supply become available, the originally powerful sole supplier loses the power base.

### Authority

Authority is the right to enforce obedience. Clearly the power of government and regulatory agencies is derived from their authority. Authority may also be accorded to an industrial body to enforce standards, to which those organizations comprising the industry must adhere.

### Influence

A basis of power may be derived through the use of influence. Thus, an organization may decide to have one of its executives appointed to the industrial body governing its industry. This would enable the executive to influence the industrial body to pass legislation which may favor his organization's position. Yet a further example could be the ecological lobby's use of influence over senators and congressmen to use their power, rooted in authority, to pass anti-pollution legislation.

## FOCUSING THE SCANNING EFFORT

### Key Stakeholders

It is insufficient merely to recognize that an organization's stakeholders may belong to one of eight categories. The key individual stakeholders have to be identified--identified in order to establish those stakeholders who possess a high degree of power over the organization. These are the stakeholders without whom the organization would cease to exist--the key employee, the sole supplier, the major customer. These are groups of people who are not replaceable. These are groups of people for whose goods or services there are no substitutes. Clearly, by undertaking this analysis, the subjects, on which the environmental scanning effort is to be focused, are defined.

But even more than focus is achieved. A clue is given as to which mode of scanning should be employed. Greater care has to be exercised in scanning those environments pertaining to the more powerful stakeholders, than would be the case in respect of the less powerful stakeholders. Care has to be taken to enable the organization to predict the impact which environmental events, surrounding the powerful stakeholders, will have. These impacts may be positive, in which case the organization is faced with an opportunity to reduce the power of the supplier, e.g., by finding a substitute raw material, thus reducing the power of the supplier. The organization is also faced with an opportunity to improve inducements to stakeholders for their contributions, thus placing the competitors at a disadvantage. Conversely, those impacts may be negative, in which case they would be considered a threat to the organization.

Clearly these considerations are of strategic importance to the organization. It is thus crucial to ensure that the organi-

zation's scanning efforts are concentrated, for the most part, on those stakeholders who wield the most power. The stakeholder model is clearly an effective basis on which to achieve focus for the scanning effort.

## THE DYNAMIC ENVIRONMENT

Now, the basis on which stakeholders possess power relative to an organization is liable to change depending on the impact which the stakeholder's environment has on the stakeholder's basis of power. It is thus necessary to incorporate a typology for the description of organizational environments.

But environmental scanning is aimed at collecting information about the organization's environment--information with the inherent property of reducing uncertainty, particularly with regard to the environment. Hence it would seem appropriate to use an uncertainty based typology in order to describe the organizational environment. Duncan's approach seems applicable (1972).

According to Duncan (1972), environmental uncertainty may be conceptualized along two dimensions:

1. simple - complex (homogeneous-heterogeneous)
2. static - dynamic (stable-unstable)

Both of these contribute to uncertainty, along with increasing complexity and dynamism. However, Keuning (1978) points out that empirical research has shown that environmental dynamism contributes significantly more to decision makers' perceived uncertainty of the environment, than does environmental complexity. Hence, the static-dynamic dimension is chosen as a basis for further discussion. It is axiomatic that closer attention would have to be paid to scanning the dynamic

elements of the organization's environment, than would have to be given to the static elements.

## CHOOSING A SCANNING PROCESS

At this point it has been shown that stakeholder power and the dynamism to which stakeholders are subject will influence the choice of the scanning process. This implies that a grid may be constructed using Power and Dynamism as the two axes. By subdividing each axis into two portions--high power and low power, dynamic and static--a matrix with four quadrants is obtained (see Figure 2). Stakeholders may thus be classified into one of the four quadrants. The task facing us now is the determination of the most suitable scanning process for each quadrant of the matrix.

### Static-low Power

Under these conditions the environment is changing slowly, and the impact of the changes is not very severe--the stakeholders falling into this category enjoy little power relative to the organization and they are thus unable to influence it materially. Moreover, the environment is static, implying that there is very little likelihood of the stakeholders in this category being able to alter their power base.

Under these circumstances the need for environmental scanning would appear to fall away, because of stakeholder weakness and high stability. Efforts put into environmental scanning of stakeholders in this quadrant would thus tend to be wasted. Little new information would come in and there would also be very little potential for stakeholders to materially influence the organization's operations.

D y n a m i s m

|                       |      | Dynamic             | Static             |
|-----------------------|------|---------------------|--------------------|
| P<br>o<br>w<br>e<br>r | HIGH | Continuous Scanning | Irregular Scanning |
|                       | LOW  | Periodic Scanning   | NIL                |

Figure 2. The Power Dynamism Matrix for Environmental Scanning

### Static-high Power

The stakeholders classified as falling into the top right quadrant of the matrix are in a powerful position relative to the organization. However, due to the static quality of their environment the bases from which they derive their power is changing very slowly.

### Irregular Scanning

According to Fahey (Fahey, King, Vadake, 1981), irregular scanning is applicable when the organization has to react to a crisis initiated by slow changing events. In this case the scanning process may utilize techniques which base the projected impact of events on historical performance--the static environment implies that the past will repeat itself in the future. Thus, the methodology of irregular scanning is reliant principally on simple tools which primarily utilize environmental information of a historical nature (Fahey, King, Vadake, 1981).

The irregular scanning process is thus a simple approach, and as such, incurs low costs for the organization. However, any changes in the environment will have the effect of outdated environmental data gathered by the irregular scanning process. Thus, the process has to be repeated as and when environmental changes are detected. In addition, the horizon on which the irregular scanning process is based must necessarily be a very short one--the present has to be emphasized rather than the future. Clearly, irregular scanning takes place on an ad hoc basis.

### Dynamic-low Power

The dynamic environment is the principal cause for the need for stakeholders, occupying the lower left quadrant to be scanned more regularly than those classi-

fied as comprising the previously discussed two quadrants. The possibility to be considered here is the fact that the dynamic environment may lead to alteration of the bases from which stakeholders derive their power. This could result in the change in the stakeholder power relationship from a position of low to high power.

In this quadrant too, there exists the potential for entrepreneurial management. This arises because, by its nature, the dynamic environment presents opportunities, but the effect of missing opportunities or of failure (the latter always a possibility in entrepreneurial decisions) is not catastrophic for the organization due to the low power possessed by the stakeholders falling into this category. Clearly the periodic scanning process is applicable to stakeholders classified into the lower left quadrant.

### Periodic Scanning

Periodic scanning is a systematic attempt to scan the environment on a regular basis. As new data becomes available in relation to selected indicators or events, it is analyzed to determine its effect on the organization--stakeholder relationship. Fahey (Fahey, King, Vadake, 1981) points out that periodic scanning systems emphasize near term environmental changes, which give rise to the possibility of short term decision making.

It is clear that the process of periodic scanning is more costly to the organization. The fact that scanning is formalized means that specific resources, manpower and time, have to be allocated to the activity. Hence periodic scanning would be more costly than the irregular scanning process. Periodic scanning can thus not be indulged in without pre-examination of the benefits which will accrue as a result of its adoption.



## Dynamic-high Power

Stakeholders classified in this final quadrant, the top left, represent the most danger to the organization. It is they who are in a position of power in relation to the organization... It is to the demands of these stakeholders that the organization has to adjust in order to be sure of their continued contributions--failure to do so could bring the organization to its knees.

## Continuous Scanning

Under these circumstances, the organization has to avoid problems at all costs. It has to commence response to potential threats ahead of their fruition. Moreover, the organization has to continuously monitor the basis by which stakeholders in the dynamic-high power quadrant derive their power--this is done in order to find opportunities whereby stakeholder power may be reduced on the one hand, and on the other, to determine the best method of meeting possible inducements demanded by stakeholders in the future. To successfully achieve this, the organization has to monitor issues on a continuous basis.

An issue is a condition or pressure which, if it continues, will have a significant effect on the power of an organization's stakeholders (Mendelow, forthcoming). Thus, in order to identify issues successfully, an analysis has to be undertaken of the bases from which stakeholders derive their power. For example, two issues may be:

1. The progress of legislation aimed at regulating the organization's industry--an issue which would alter the basis of power derived by government and regulating agencies.
2. Emerging technology resulting in the availability of substitute raw

materials--this issue would tend to reduce the supplier's power base.

Issues may be categorized in various ways so as to further aid the scanning process. GE uses a framework which portrays issues as progressing from (1) societal expectations to (2) political issues, then to (3) legislated requirements, and finally to (4) punitive action. The consumer is an example of this--the need for product safety was first widely discussed, then politicians took up the cudgels of the consumer, making the need for product safety part of their election manifestos. Once elected, legislation pertaining to product safety was passed, and then, after an interim period during which manufacturers were given the opportunity to comply with legislated requirements, punitive action was taken against those who broke the law.

Another framework for categorizing issues is that used by Shell Oil. In their view, issues progress from strategic issues to emerging issues, and finally to current issues. The post-war baby boom may be used as an illustration of this. The swelling of teenage ranks could be forecast at least ten years ahead of the time that it actually occurred--a strategic issue. As the needs of the newly increased teenage ranks, comprising the consumer stakeholder category, became more defined the issue entered its emerging phase, and finally a current issue became the means of satisfying teenage needs.

Clearly issue management depends on the ability of the scanning unit to process a broad range of environmental information to determine the potential impact of diverse environmental trends on the bases of stakeholder power. This is a very expensive operation. Results are not often tangible. Indeed results can often be seen only in the long term.

## IMPLICATIONS ARISING FROM THE MODEL

This paper has shown that different types of environmental scanning processes are required to ensure that environmental scanning is effectively carried out. The mismatch of the scanning process to the type of the environment being scanned could at worst lead to the organization missing the detection of environmental developments vital to it. At best the mismatch could lead to the incurrence of excessive cost for the scanning efforts. Clearly the environmental scanning process can no longer remain an essentially informal and instinctive one. The environmental scanning process has to be formally incorporated into the organization's MIS to meet management's, particularly top management's, decision making needs. This requires a number of steps:

Step 1: Determine who the stakeholders are. The aim of this step is to develop a detailed list of the persons, organizations, and institutions which could influence the ability of the organization to realize its goals--a list of the organization's stakeholders. This can be achieved in several ways. The methods range from a simple list developed by a single manager based on a systems analytical approach, to a list developed by a series of working groups comprising the strategic apex of the organization. In every case, however, the stakeholders are identified in response to the question "who are the persons, organizations, and institutions which could influence the ability of the organization to realize its goals?" Generally, there should be at least one entry in each stakeholder category.

Step 2: Rate the power of each stakeholder. Each of the four sources of power discussed earlier in this paper--possession of resources, ability to dictate alternatives,

authority, and influence, may each be measured on a five point scale: 1 represents non-possession of resources, the inability to dictate alternatives; no authority and influence; 5 represents sole supply, the possession of resources, total authority, and the ability to dictate alternatives.

Proceeding in this way each stakeholder would obtain a power rating by either the individual or the group undertaking the analysis. It is then possible to split the stakeholders into high and low power categories depending on whether their power score is above or below the mean score for all the organization's stakeholders. This process positions each stakeholder in the vertical plane.

Step 3: Rate the Dynamism of each stakeholder. Duncan's view of the static-dynamic dimension provides a backdrop for the rating of the dynamism of each stakeholder (1972). Thus, the dynamism of each stakeholder is composed of two factors:

1. the frequency with which each stakeholder category is taken into consideration in decision making, and
2. the frequency with which factors, for example, technological and economic, are seen to influence the stakeholder's power base.

Both these factors may be measured on a five point scale--5 = always, through 1 = never. The dynamism of each stakeholder category is then the sum of these two scales. Each stakeholder would thus obtain a dynamism rating either by the individual or by the group undertaking the analysis. It is thus possible to split stakeholders into the dynamic and static categories depending on whether their dynamism score falls above or below the mean for all the organization's stakeholders. In this manner each stakeholder is positioned in the horizontal plane.

Step 4: Allocate responsibility for scanning developments relating to each stakeholder group. As a result of Steps 2 and 3, each stakeholder group is now positioned on the power-dynamism matrix. The environmental scanning method required for each stakeholder group is determined by the quadrant into which that group falls. Responsibility for scanning development applicable to each stakeholder group must now be allocated.

Thompson (1967) pointed out that boundary spanning jobs are necessary for environmental surveillance. Thus, it is possible to allocate the responsibility for environmental scanning to functional areas. These responsibilities would coincide with the stakeholders with which the functional area normally interacts. In practice, the environmental scanning responsibilities should be allocated participatively by the strategic apex of the organization. Moreover, in practice the scanning responsibility matrix would differ from the matrix shown in Figure 3, due to differences in the organization's structure, and in the stakeholders to be scanned. Furthermore, responsibility for scanning stakeholders in the static-low power quadrant need not be allocated at all for the reasons discussed earlier.

## CONCLUSION

For organizations to remain effective during the 1980's, they will have to keep track of the changing criteria by which their stakeholders judge their effectiveness. In order to do this, an environmental scanning system, focusing on the organization's stakeholders, is required. This paper has suggested that a scanning system based on the power and dynamism of the stakeholders has to be developed. Such a system forms part of the organization's MIS. It must be recognized as such, and provision made for it in the IS plan. Moreover, the scanning process--irregular, periodic, or

continuous--to be adopted in respect of each stakeholder, has to be carefully determined, and cannot be left to happenstance.

## REFERENCES

- Ackoff, R. L. Redesigning the Future, Wiley, New York, New York, 1974.
- Aguilar, F. J. Scanning the Business Environment, MacMillan, New York, New York, 1967.
- Ansoff, H. I. and Thanheiser, H. T. Corporate Planning: A Comparative View of Evolution and Current Practice in the United States and Western Europe, European Institute for Advanced Studies in Management, Working Paper 78-10, 1978.
- Duncan, R. B. "Characteristics of Organizational Environments and Perceived Environmental Uncertainty," Administrative Science Quarterly, Volume 17, 1972, pp. 313-327.
- Fahey, L., King, W. R., and Vadake, K. N. "Environmental Scanning and Forecasting in Strategic Planning--The State of the Art," Long Range Planning, Volume 14, Number 1, February 1981.
- Hofer, C. W. and Schendel, D. E. Strategy Formulation: Analytical Concepts, West Publishing, St. Paul, Minnesota, 1978.
- King, W. R. and Cleland, D. I. Strategic Planning and Policy, Van Nostrand Reinhold, New York, New York, 1978.
- Keuning, D. The Phenomenon of Turbulence as a problem in Strategic Management: A Topology and an Elaboration, European Institute for Advanced Studies in Management, Working Paper 78-23, 1978.
- MacMillan, I. C. Strategy Formulation: Political Concepts, West Publishing, St. Paul, Minnesota, 1978.
- Mendelow, A. L. "The Stakeholder Approach to Organizational Effectiveness," Paper delivered at the Joint

- National Meeting of CORS, TIMS, ORSA, Toronto, Canada, May 1981.
- Mendelow, A. L. "Strategic Planning for Organizational Effectiveness--The Stakeholder Dimension," Long Range Planning, forthcoming.
- Mitroff, I. I. and Mason, R. O. "A Logic for Strategic Management," Human Systems Management, Volume 1, Number 1, 1980, pp. 115-126.
- Pfeffer, J. and Salancik, G. R. The External Control of Organizations--A Resource Dependence Perspective, Harper and Row, New York, New York, 1978.
- Ross, G. H. B. and Goodfellow, J. L. "A 'Fitness' Approach to Corporate Survival," The Business Quarterly, Autumn 1980, pp. 19-25.
- Thompson, J. D. Organizations in Action, McGraw-Hill, New York, New York, 1967.

|                         | <u>Shareholders</u> | <u>Lenders</u> | <u>Suppliers</u> | <u>Employees</u> | <u>Society</u> | <u>Government</u> | <u>Consumers</u> |
|-------------------------|---------------------|----------------|------------------|------------------|----------------|-------------------|------------------|
| Chief Executive Officer | R                   |                |                  |                  | C              | C                 |                  |
| Finance                 | C                   | R              |                  |                  |                |                   |                  |
| Purchasing              |                     |                | R                |                  |                |                   |                  |
| Personnel               |                     |                |                  | R                |                |                   |                  |
| Public Relations        |                     |                |                  |                  | R              | R                 |                  |
| Marketing               |                     |                |                  |                  |                |                   | R                |
| R & D                   |                     |                | C                |                  |                |                   | R                |
| Production              |                     |                | C                | C                |                |                   | C                |

R = Responsible

C = Contribute

Figure 3. The Scanning Responsibility Matrix