

Roland Boettcher/Martin K. Weige
**Strategic Information Diagnosis
in the Global Organization**

Abstract

■ Internationally operating companies are increasingly forced to adopt a global orientation in managing their businesses. Informational processes that are necessary to achieve this perspective are far more complex than so far conceived. Growing interdependences between worldwide dispersed subsidiaries make the diagnosis of strategic issues a multipersonal and multidimensional process that increasingly cuts across intra-organizational boundaries.

■ This article proposes a model of strategic information diagnosis that integrates existing literature on strategic issue diagnosis, organizational learning and global management.

Key Results

■ This research delineates a framework for the identification of strategic issues in the context of worldwide operating businesses. Three key variables are emphasized which are considered most influential in supporting the diagnosis of strategic issues across country borders.

Authors

Roland Boettcher, Doctoral Assistant in Global Management at University of Dortmund, Germany.
Martin K. Weige, Professor of Management and Organization, University of Dortmund, Germany.

Manuscript received April 1993, revised November 1993.

Footnote

1. *Thomas A. Powers and Elizabeth A. Lee* report that the U.S.A. is increasingly competing against a number of other nations in the U.S.A. with many competing economies, including the BR countries (Brazil, Russia, India, China, and South Africa) and some to be added. These trends will certainly affect Japan.

2. In our Research Notes section, *Andrea S. Guba and Yvonne S. Lincoln* in a study about the construction of alternative criteria for the evaluation of entry decisions into New York State in the period 1975 to 1990.

3. Ourselves and the authors are honored in readers' reactions and request their active participation. Therefore, we would appreciate your opinions, comments, and reactions on the various topics above and the editorial programme of this Journal, either in the form of short papers or just letters suggesting changes or improvements.

KEAUS VACHARZINA

Global orientation in decision-making

The logic behind global management has been labelled with quite a variety of expressions, of which some differ in degrees, but most are synonymous. Among interested academics, the eighties were dominated by the debate about the concept that best represents the actual core idea of the emerged phenomenon of globalization. Based on the observation of globally homogenizing consumer preferences, authors like Levitt (1983) provocatively argued that globalization was synonymous to worldwide standardization of marketing and products. Due to scale economies arising out of large volume production of identical products, a global approach offers considerable competitive advantages in contrast to competitors that adopt a locally differentiated approach for each country. Prahalad and Doz (1987) have further developed Levitt's ideas in conceiving the logic of international management as balancing conflicting forces between global integration and local responsiveness.

Other contributors like Ohmae (1987) favoured the view that global companies have to be leading players in the world's key markets Japan, USA and Europe. Hamel and Prahalad (1985) emphasized the importance of global competition in pointing out the possibility for 'cross-subsidization' of resources between subsidiaries of companies that operate in similar countries. Kogut (1985) attributes the same notion to the operational flexibility that arises out of the possibility to serve markets from various production locations. For Porter (1986) a global strategy means configuring value-adding activities around the globe strategically. The permeability of country borders increasingly allows globally operating companies to locate activities, where they can be performed best from a worldwide perspective. This implies that all value-adding activities do not necessarily have to be performed at every location. In summary, all contributions to the global debate so far share the similarity that they emphasize opportunities which arise out of conceiving the world-market as an entity rather than as a conglomerate of otherwise independent country markets. The conclusion each researcher derives from this notion, however, is quite heterogeneous and often confusing (Ghoshal 1987).

This paper draws on an integrative approach in linking the logic of globalization to the process of decision-making in worldwide operating companies (Boettcher 1993). In our view the term global should be understood as a characteristic of the evaluation process that precedes decisions that have a potential impact on all operations. The analysis of major problems and decisions has to be conducted from a global, worldwide or total perspective. Regardless of content or result of the decision itself, we consider decisions as global when the evaluations that led to them incorporated the worldwide situation and efficiency of the business as a whole. Following Perlmutter's work (1969) on the geo-centric

perspective of headquarters executives, this conceptualization of the global logic abstracts from the above mentioned specific strategies and concepts which complete for acknowledgement and validity. Instead, it focuses on the decision-making process in general which makes mind-sets and attitudes of executives critical variables in implementing a global approach (Bartlett and Ghoshal 1992). This research is focused on information and communication processes that determine the global orientation of executives.

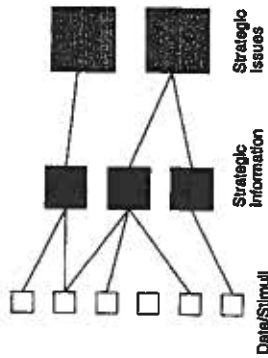
Strategic issues

The importance of informational processes as a key factor in implementing a global approach is based on unanimous consensus (Hedlund and Rolander 1990, Nonaka 1990, Bartlett and Ghoshal 1989, Prahalad and Doz 1987). Bartlett and Ghoshal derive at the conclusion that "perhaps the most difficult task is to coordinate the voluminous flow of strategic information and proprietary knowledge required to operate a transnational organization" (1989, pp. 170-171). Porter (1986, p. 31), on the other hand, emphasized the competitive advantages that arise out of a systematic accumulation of knowledge: "The ability to accumulate and transfer... knowledge among units is a potent advantage of the global competitor over domestic or country-centred competitors".

Both arguments exemplify that the informational content requires definition because not all available information can possibly be included in decision-making. Since the global orientation especially focuses on decisions that are of major importance, we will concentrate on strategic information.

According to the focus of research, strategic information have been defined in various ways in literature. The most prominent is to label those information as strategic, that have a major impact on strategy formulation and corresponding planning activities (Aguilar 1967). Based on Andrew's model (1971), strategy formulation derives out of the analysis of information that focuses on internal strengths and weaknesses and external threats and opportunities. This definition of strategic information is limited to the situation in the stage of strategy formulation (Ansoff 1984, p. 18) and leaves emerging developments outside the planning cycle disregarded (Camillus and Datta 1991). The field of "Strategic Issue Management" (Ansoff 1980) therefore more appropriately conceives important information regardless of their possible application as strategic issues: "Strategic issues are developments or trends emerging from an organization's internal or external environment that are perceived to have the potential to significantly affect the organization's strategy, performance, or survival" (Ottens-

Figure 1. The Composition of Global Strategic Issues



meyer and Dutton 1989, p. 204). In contrast to the traditional rationale, the term 'strategic' as part of this definition is associated with the assumed importance of the consequences for the organization in general (Mintzberg et al. 1976) and not only to the process of strategy formulation.

An important idiosyncrasy of the global context is that strategic issues possibly consist of multiple, but isolated information from different countries (Bartlett and Ghoshal 1989, p. 128). The attack of a global competitor as a strategic issue might, for instance, only become evident when information about his different local activities are linked together, like in the case of a cross-subidization strategy. In order to capture all relevant developments, which in the light of global competition is considered as *indispensable* (Bartlett and Ghoshal 1989, Porter 1986), it is not sufficient to exclusively focus on strategic issues. In the traditional view a strategic issue inherently bears the relevance for the organization and usually relies on single or obviously connected information. The global context, in contrast, requires to include single strategic information, which relevance is assumed but which consequences are not yet fully anticipated or understood (Figure 1). Strategic Information in turn go back to data or stimuli, which are processed from the external or internal environment.

Strategic Information Generation in the Global Organization

The rationale of the global orientation implies that management of an internationally operating business must be inclined to identify and treat strategic issues systematically on a global scale. To evaluate decisions from a global perspective therefore requires a systematic effort to collect and/or integrate relevant information from different locations.

In regard to the identification of important developments, strategic management literature suggests to determine the information needs of the organization by identifying critical factors which effect the success of the business (Rockart 1979). This may be supported, for example, by analytical expertise from theory, the executives subjective information needs, historical experiences, etc.

Once the information needs of the organization are determined, the strategic information system collects, processes and analyses the required data and disseminates it accordingly (Prescott and Smith 1989). Since these models always assume that the internal situation of the organization is familiar to all decision-makers, strategic information or intelligence systems almost entirely focus on external information.

For the global organization these simplistic premises have to be challenged, because the global context in regard to two critical factors – complexity and dynamism – considerably differs from the traditional setting which most models tacitly assume.

Complexity

A globally operating business is usually dispersed across multiple locations. From a global perspective, processes in each location contribute a part to the total regardless of whether the value-chain elements are completely concentrated at these locations or whether single specialized elements are dispersed (Porter 1986). Focused on information and knowledge, a consequence of the dispersion of activities is that executives of the topmanagement and in subsidiaries do not automatically have a comprehensive knowledge of the internal and external situation of the global organization (Nonaka 1988) which comprises of dispersed locations. If strategic issues consist of information from different locations, it is possible, and often likely, that the importance of a single information is not immediately evident because the holder of the information – due to the complexity of the total system – lacks other information that contribute to the same issue (Fuld 1985). In regard to the often quoted information overload of executives, it is apparent that a far-reaching collection and dissemination of information is not a promising solution to this problem (Farid 1990). As Montgomery and Weinberg (1979, p. 44) express it: "The problem is not to generate data, but to determine what information is relevant and actionable".

Dynamism

Each of the subsidiaries of a global organization operates in an unique local environment and is therefore subject to special internal and external dynamic

factors. Intelligence systems that are based on pre-defined categories of collecting data therefore always bear the risk of processing outdated information, since information needs, by the time they were set, usually only reflect perceptions that are based on the past and present situation. "Information systems often tether organizations to yesterdays perceptions" (Hedberg and Jönsson 1978, p. 48). In case of competitive analysis, which Hamel and Prahalad (1989, p. 64) persuasively compare with a snapshot out of a driving car, this results in an endless game of imitating and reacting. From an analytical perspective, information needs of organizations which operate in dynamic environments cannot be set in advance because the definition of static information categories fails to incorporate information about novel and emerging developments.

In conclusion, the idiosyncratic situation of global business can be summarized in that the identification of strategic issues is assumably a multipersonal (Witensky 1967) and multidimensional process which requires the exchange of information to gain a complete picture of the total. Administrative efforts to systematically generate a comprehensive view are limited by the complexity of the global organization and dynamism of internal and external processes. The collective process of interpreting organizational issues is a major concern of the recently intensified research on organizational learning.

Organizational Learning

The implicit logic of a large part of literature on organizational learning (Dixon 1992, Shrivastava 1983) relies on the contention, that organizational learning exceeds the sum of individual learning processes and thus provides additional benefit to the organization, e.g. in terms of innovations, synergies or efficiency. Thus, the assessment, interpretation and evaluation of organizational issues is not conceived as an isolated process that merely unfolds separately for each individual. Instead, each organization is believed to have a rather unique knowledge base which results from collective learning processes and the internal exchange of information. The communication of information is seen as the actual connecting link between individual and organizational learning. Following the definition of Duncan and Weiss (1979, p. 84) we want to understand organizational learning as "... the process within the organization by which knowledge about action-outcome relationships and the effect of the environment on these relationships is developed". We favour the definition of Duncan and Weiss because the authors do not narrowly relate learning only to actions, adaption or changes (Argyris and Schön 1978, Cyert and March 1963) but view learning from a broader perspective as adding knowledge to the organization.

Table 1. Two Perspectives on Organizational Learning

Systems-Structural Perspective	vs.	Interpretive Perspective
The organization is a system of transmitting data.	vs.	The organization is a system for given meaning to data.
Amount, frequency, direction, physical characteristics of messages.	vs.	Purpose, meaning of symbols, sense making of participants.
The environment is objective and can be learned through data acquisition.	vs.	The environment is equivocal and is learned through shared definition and enactment.
Organizations learn by acquiring data; rational analysis and new behaviour is then directed by top decision makers.	vs.	Organizations learn by discussion and shared interpretation of events, changing assumptions, and trial and error.
Understanding leads to action.	vs.	Action leads to understanding.

Source: [Daft and Huber 1987, p. 9].

In contrast to other conceptions, this defines learning without implicitly connecting it to a predefined purpose. Organizational knowledge in general is composed of information concerning organizational decisions and activities and is based on a broad consensus among organizational actors. It takes the unique interdependences of organizational processes into account (Duncan and Weiss 1979, p. 85-87). Drawing on an extensive review of organizational learning related literature, Daft and Huber (1987, p. 5) identified two perspectives of the phenomenon which they term the systems-structural and the interpretive perspective on organizational learning (Table 1).

The systems-structural perspective can be described as a more analytical approach to organizational learning. "Information is treated as if it were a tangible good that is transported in containers called messages" (Daft and Huber 1987, p. 8). Acquiring information falls in two categories, the institutionalized and deliberate investigation and research of problems and opportunities ("scanning") and the undirected "surveillance" which is not fixed to a specific target (Montgomery and Weinberg 1979). Both forms can be conducted by a number of organizational actors: by intelligence units or environmental scanning departments (Ghoshal and Westney 1991, Lenz and Engledow 1986), by "boundary spanners" at the interface of the organization and the environment (e.g. subsidiary executives) (Jemison 1984, Tushman and Scanlan 1981) or by leading decision-makers (Daft et al. 1988, Hambrick 1982, Keegan 1974). A special characteristic of the systems-structural perspective on organizational learning is that the information is tacitly clear to everybody which implicitly implies that the information carries its distinct interpretation in itself. This assumption has to be challenged in the light of the analysis unfolded above.

The interpretive perspective, in contrast, considers information about organizational issues as complex, divergent and ambiguous. The interpretation and perceptions of different managers in regard to specific issues is typically quite heterogeneous. The equivocality or organizational information is reduced through organizational learning which evolves between involved executives through communication and interaction (Nonaka 1990). "Ambiguity precipitates discussion and the exchange of views rather than the collection of additional data" (Daft and Huber 1987, p. 8). A great variety of communication links and interaction and distinctly enhances the probability that superficially unrelated information fall together and that overlapping connections are identified (Montgomery and Weinberg 1979, p. 51).

For the purpose of the paper we follow Daft and Huber in their conclusion that the two perspectives on organizational learning must be seen complementary rather than exclusive: "To fully understand organizational learning, one must view the organization as a structure both for acquiring and distributing data and for interpreting and sharing meaning" (Daft and Huber 1987, p. 10).

Transferred to the initial problem of securing a far-reaching informational support of global oriented executives, this implies that prescribed efforts to meet this task as part of information systems have to be complemented by structures and means that support the ad-hoc and informal transfer of strategic information between possibly involved managers.

In the previous chapter we have argued that strategic information can be dispersed and that the identification of strategic issues requires to link dispersed strategic information together. The described limits of analytical information processing in a global context has shown that it is not sufficient to exclusively treat strategic information diagnosis as an information system design factor. The diagnosis of strategic issues is rather an organizational process, which relies on the adequate behaviour of organizational actors. Given this, the analytical lens through which the process of strategic information diagnosis is investigated, must be amplified by behavioural aspects of those global executives, which are regularly involved in strategic decision-making processes. The diagnosis of strategic issues by global executives will therefore be analyzed in more depth in the following chapter.

Strategic Issue Diagnosis

In most of research on strategy formulation, the preceding phase of diagnosing relevant strategic issues has been largely neglected. An obvious reason for this deficit is that the identification and interpretation of emerging developments is

an implicit and cognitive process which occurs in the mind-sets of individuals. The process of diagnosis is thus far more difficult to study than a given set of options in most analytical decision models (Dutton et al. 1983). Despite the given individuality of the diagnosis process, literature nevertheless provides some evidence that enhances insight and basic conceptualization of strategic issue diagnosis.

Executives are constantly bombarded with a vast amount of data and stimuli that compete for their attention. In regard to their limited capacity to process all data, individuals react in perceiving data only very selectively. For instance, they unconsciously tend to ignore data and stimuli that point at conflicts or dissonance (Cyert and March 1963, Festinger 1957) and react to threats more often than to opportunities (Cowan 1986, Nutt 1984). Strategic options are typically uncertain, complex and novel (Mintzberg et al. 1976) because they combine data about the external environment and the internal situation and are thus especially subject to divergent interpretation. This heterogeneity of perceptions offers the organization a rich pool of subjective interpretations of events and developments and is increasingly recognized as a potential source of advantages for MNCs (Nonaka 1990, Daft and Huber 1987).

In general, individuals favourably process data that add to existing and formerly perceived data and therefore fits into their familiar cognitive maps. These cognitive structures are interpretive schemes by which individuals perceive reality. Cognitive abilities enable human beings to aggregate perceived data into categories and to sort these into cause-effect relationships. "The interpretive lens of a cognitive map selects aspects of an issue as important, ignores others, and links them to certain actions and consequences" (Dutton et al. 1983, p. 311).

The conscious attention to data and stimuli together with their processing through the cognitive structure, transfers data into information, which is then interpreted in regard to its value. Attention and identification do not necessarily follow a sequential pattern. Sometimes data are not consciously perceived until their intensity exceeds a critical limit (Mintzberg et al. 1976), in other cases the data is perceived because it adds new aspects to a long analyzed issue, etc..

The diagnosis of an issue usually unfolds over time and is not restricted to a precise period or point in time (Dutton et al. 1983). It is dynamic in nature, in that new data and information that emerge, can significantly influence former interpretations. An individual typically only judges an issue after following it for a time and cognitively testing the validity of his perceptions. Dutton and Duncan (1987) call the sum of issues that executives currently follow, the Strategic Issue Array (SIA).

Since individuals have divergent and heterogeneous cognitive structures, it is obvious that SIA's of executives can differ considerably in content, perceived urgency and feasibility, political interests, etc. (Dutton and Duncan 1987).

However, these tendencies are limited through the convergent influence of the joint management task.

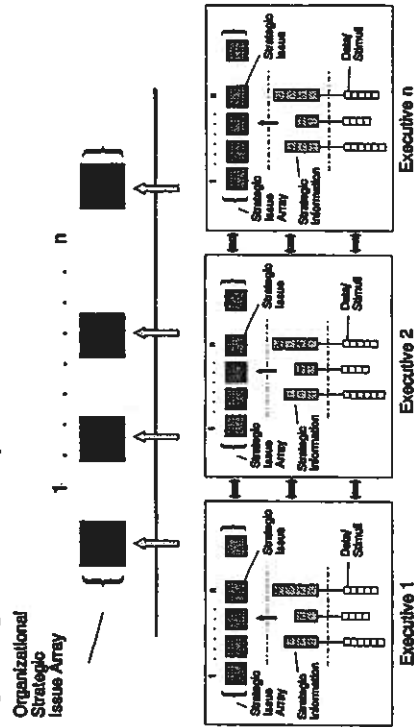
In analogy to the SIA of individual executives the Organizational SIA (OSIA) contains all issues which are jointly conceived as an issue which deserves close attention or treatment from the leading coalition of the business (typically the management team of the business). The notion of the OSIA draws on March and Olsen's (1976) "garbage can model" of strategic decision making in complex organizations.

March and Olsen conceive organizational decision-making not strictly following and analytical pattern but as "an outcome or an interpretation of several relatively independent "streams" within an organization" (March and Olsen 1976, p. 26). In detail these streams are problems, solutions, choice opportunities and participants, who forward perceptions of problems and expected solutions to choice opportunities. Organizational choices are thus conceived as a confluence of streams that are imaginary dumped into a garbage can. According to March and Olsen (1976) organizational choices within the garbage can model typically follow the phases of identifying relevant streams, bargaining of coalitions and compromises, convincing less active participants and operationalizing the solution in more detail.

The garbage can model thus provides the basis to understand strategic decision-making processes as emerging of individually perceived strategic issues which are communicated among members of the leading coalition. The latter is the medium in which individual managers introduce strategic issues, which they personally prioritize. If their perception is shared by the majority of the members of the coalition, it becomes an OSIA. "Organizational interpretation is formally defined as the process of translating events and developing shared understanding and conceptual schemes among members of upper management." (Daft and Weick 1984, p. 285). Figure 2 illustrates the outlined argumentation of organizational issue interpretation.

The starting point of strategic information diagnosis is the attention of data by an individual executive. The cumulation of data and stimuli from the external environment and/or the internal situation exceeds an attention limit (e.g. competitor changes distributor in country x) and is by that way identified by the focal manager. In identifying a critical issue or information, the individual links new data and stimuli to other cognitively available, but not necessarily related, data (Two years ago the competitor changed to a world leading marketing agency in country y, without apparent change of the until then successful market approach). The process of data interpretation is not sequential, systematic or unidirectional, it is rather recursive (Dutton et al. 1983, p. 312). The input of data is thus interpreted and leads to new strategic information or issues, supersedes earlier interpretations or is simply taken notice of. If the focal manager has gained certainty about the strategic character of an information (A competitive

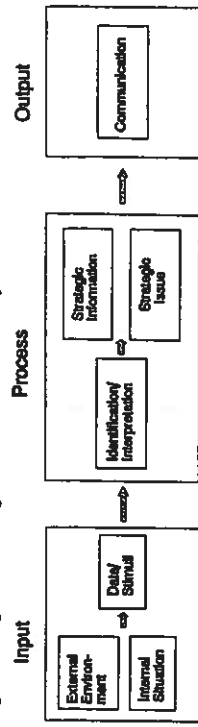
Figure 2. Organizational Issue Interpretation



attack is assumed), he is either likely to monitor it in future, eventually accompanied by seeking further supportive information (Questioning the salesforce in regard to conspicuous actions of the competitor. Result: Competitor has meanwhile started a global promotion scheme, has decreased prices and gained a considerable portion of market share), or he communicates his observation to an appropriate address within the organization. This itself can again have the primary intention to gain further support. Figure 3 illustrates the diagnosis process on the level of global executives.

It is important to note that the consequences which are drawn from emerging issues are not subject to the argumentation presented in this paper. Drawing on organizational learning and strategic issue diagnosis literature, we conceive the communication of strategic issues and strategic information as the actual

Figure 3. Diagnosis of Strategic Information and Issues by Global Executives



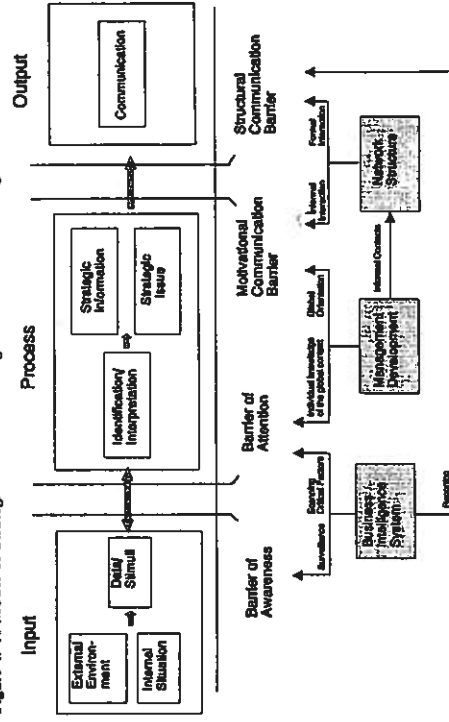
process output. At this point we would once again like to emphasize that the global context makes it absolutely essential that not only strategic issue but also strategic information (which relevance is assumed but which consequences are not yet fully anticipated or understood) have to be included. Therefore, strategic issues as well as strategic information have to be intensely communicated within the organization. Given this, the fact that subsidiary managers are equally integrated in this analysis derives out of the understanding that a global orientation is required in all crucial decision-making processes, either in headquarters or in subsidiaries. The pivotal role of subsidiary executives in the global management process, especially with regard to information generation, has extensively been pointed out (Nonaka 1990, Bartlett and Ghoshal 1989, Doz and Prahalad 1988). The outlined limits of formal information processing together with unpredictability of all interdependences within the global organization (Doz and Prahalad 1991) further support our argument that the evaluation of the relevance of information, yet accompanied by administrative guidelines, has to be conceived as a decentralized process.

A Model of Strategic Information Diagnosis in Global Organization

The diagnosis model presented in Figure 3 describes the identification and interpretation of strategic information by global executives. The preceding chapters exemplified that this process only evolves in the described idealistic pattern because of several implicit assumptions. We will therefore revoke these assumptions successively and interpret them as barriers which have to be exceeded to secure a successful diagnosis process. In detail these implicit assumptions are:

- (1) Data and stimuli that add to a strategic information or issue have to come into the area of awareness of the focal manager. The Barrier of Awareness therefore refers to the potential availability of data.
- (2) Although data may be within the area of awareness, they still have to be actively recognised by the individual. We refer to this stage as the Barrier of Attention. If data and stimuli are consciously noticed, they will be cognitively processed and may add to former strategic information or issues, or constitute new ones (Dutton et al. 1983).
- (3) A manager who has identified a strategic information or issue is willingly and committed to communicate it to those parts of the organization which might be influenced by the focal information or issue (Motivational Communication Barrier).

Figure 4. A Model of Strategic Information Diagnosis in the Global Organization



(4) Even if the manager is committed to pass the information, he may fail to do so, if it proves difficult to actually communicate it to another part of the organization (Structural Communication Barrier). The focal manager needs access to structural barriers to transfer the information or issue.

These four barriers to successful diagnosis of strategic information are the cornerstones of our model of strategic information diagnosis which we propose in this paper (Figure 4). Above we pointed out that a formal and prescribed approach to capture strategic issues systematically can, in regard to the barriers and other outlined aspects, not fully meet the requirements of the global orientation. Thus, once the barriers are identified, the managerial priority has to focus on how to best limit their effect by most adequately designing organizational structure and administrative tools and systems. In our model we propose Business Intelligence Systems (BIS), Management Development (MD) and Network Structures as most promising instruments to support the diagnosis of strategic information in the global organization. The selection and compilation of this set derived from the previous analysis of organizational learning and the strategic issue literature. BIS and MD represent the systems-structural and the interpretive perspective on organizational learning, which complementary promise the best support of learning and communication processes (Daft and Huber 1987). The network provides the structural framework, within which processes emerge.

Business Intelligence Systems (Roche 1992, p. 84-108, Ghoshal and Westney 1989) are administrative systems, which have the prime task to bring relevant data to the awareness of executives. As mentioned, these systems tend to focus entirely on external data which they monitor (surveillance) in form of relevant categories. By this, they bring only data from these categories to the awareness of involved managers. Novel and unique data, which is mostly unstructured and verbal, as well as data about the internal situation is usually neglected. The categories of former relevant data do nevertheless provide useful indication, which type of data could be relevant to the rest of the organization (or to the headquarters if set up by the central business intelligence unit (BIU)) and may therefore support recognition of data in these areas significantly.

Since BIS usually delegate responsibilities to acquire information in form of scanning critical factors to subsidiaries executives (Ghoshal and Kim 1986), they also significantly affect their barrier of attention. If these data are processed by a central BIU, the reporting procedure may also be an adequate channel to communicate strategic issues or information to this unit which is then responsible for appropriate dissemination.

In regard to the idiosyncratic complexity of the global organization, we had to revoke the assumption that all executive have sufficient knowledge of the internal situation at all locations. The ability of executives to evaluate the relevance of information for other locations hinges on their specific or assumed knowledge about the internal situation in other locations. In this respect, the outlined recursiveness between attending data consciously and identification has an important impact on the barrier of attention. The arising question is to what extent the BIS are able to create this knowledge by supplying executives with appropriate information about the internal situation at other locations.

Apart from the BIS as a purely administrative system, management has a second powerful tool to reduce the barrier of attention by enabling executives to generate a comprehensive picture of the organization within the Management Development (MD) program. Here, instruments like frequent visits and job-rotation between locations (e.g. exchange of junior executives) provide the opportunity to gain personal knowledge of many locations, which later significantly enhances the ability to evaluate the relevance of information for other locations (Gregersen and Stewart Black 1992, Edström and Galbraith 1977). MD-programs provide a second key possibility to influence the diagnosis process of strategic information and issues in that they have the potential to influence and thus form the cognitive structure and the orientation of executives (Bolt 1989, Nilsson 1987). In this respect the global orientation encompasses the motivation to think in global terms and thus includes the commitment to identify and communicate information or issues which might be of crucial importance for other locations or the organization as a whole. Another crucial factor which has so far been largely neglected, is the adaptation of performance evaluation

systems to the requirements of a global organization (Bartlett and Ghoshal 1989). Extrinsic incentives schemes, which are coupled to local profits, for example, have an important impact on attempts to advocate the global orientation of executives. In all, we hypothesize that the more executives achieve a global orientation the lower is their motivational communication barrier (Bartlett and Ghoshal 1989).

MD programs further provide the possibility to support especially those executives who possess, apart from other attitudes and capabilities, interpersonal and communicative skills. These facilitate the ability to tie multiple informal connections and relationships within the organization and build up an informal network of contacts (Bartlett and Ghoshal 1989, Tichy and Fombrun 1979). Frequent interactions within these informal networks also engender commitment to communicate an information or issue, since the addressee is known personally. By communicating across organizational and national boundaries, these persons are important linking mechanisms (Tushman and Scanlan 1981) for the integrated global organization (Hedlund and Rolander 1990, Bartlett and Ghoshal 1989).

Networks can comprise of various connections, interactions and relationships (Boettcher et al. 1993, Monge and Eisenberg 1987, Tichy and Fombrun 1979). In regard to the increasingly quoted inadequacies of analysing internally operating organizations in purely structural terms (Bartlett and Ghoshal 1991, 1989), research emphasizes the need to conceive complex organizations as networks of formal and informal relationships and interactions (Boettcher and Paul 1993, Doz and Prahalad 1991). Formal interactions can be pursued, for instance, by planning meetings and coordination groups, etc., which provide numerous opportunities to exchange views, perceptions on strategic issues and information. Informal interactions differ from formal interactions by that the latter are explicitly intended by management. Formal interactions can thus be conceived as the prescribed communication structure whereas informal interactions represent emergent communication processes (Krone et al. 1987).

Summary

Based on global management literature the diagnosis of strategic information in globally dispersed organization has been identified as a largely neglected, but extremely relevant field of inquiry. Based on existing Strategic Issue Diagnosis and Organizational Learning literature a model of strategic information diagnosis in the global organization was developed. Barriers to the ideal type process

model were identified. In a last step, we proposed administrative and organizational design parameters which promise to reduce the barriers and thus support the diagnosis of strategic information.

References

- Aguilar, F.J., *Scanning the Business Environment*. New York, London: MacMillan, 1967.
- Andrews, K.R., *The Concept of Corporate Strategy*. Homewood: Dow-Jones-Irwin, 1971.
- Ansoff, H.I., *Implementing Strategic Management*. New York, NY: Prentice Hall, 1984.
- Ansoff, H.I., Strategic Issue Management: *Strategic Management Journal*, 1, 1980, pp. 131-148.
- Argyris, C./Schön, D.A., *Organizational Learning: A Theory of Action Perspective*. Redding, Mass.: Addison Wesley, 1978.
- Bartlett, C.A./Ghoshal, S., *Managing Across Borders - The Transnational Solution*. Boston, Mass.: Harvard Business School Press, 1989.
- Bartlett, C.A./Ghoshal, S., Global Strategic Management: Impact on the new Frontiers of Strategy Research. *Strategic Management Journal*, 12, 1991, pp. 5-16.
- Bartlett, C.A./Ghoshal, S., What is a Global Manager? *Harvard Business Review*, 70(5), 1992, pp. 124-132.
- Boettcher, R., Die globale Orientierung als Quintessenz der Globalisierung. Unpublished Working Paper, Lehrstuhl für Unternehmensführung, University of Dortmund, 1993.
- Boettcher, R./Paul, T., Implementing the Intra-Organizational Network-Paradigm within the Global Organization - A Theory-Based Approach. Working Paper No. 15, Department of Management, University of Dortmund, 1993.
- Boettcher, R./Paul, T./Weige, M.K., A Network Perspective on Global Organization. Paper presented at the annual meeting of the Academy of Management, Atlanta, 1993.
- Bolt, J.E., *Executive Development*. New York: Harper & Row, 1989.
- Camillus, J.C./Datta, D.K., Managing Strategic Issues in a Turbulent Environment. *Long Range Planning*, 24(2), 1991, pp. 67-74.
- Cowan, D.A., Developing a Process Model of Problem Recognition. *Academy of Management Review*, 11, 1986, pp. 763-776.
- Cyert, R.M./March, J.G., *A Behavioral Theory of the Firm*. Englewood, New York: Prentice Hall, 1963.
- Daft, R./Sormunen, J./Parks, D., Chief Executive Scanning, Environmental Characteristics, and Company Performance: An Evaluate Study. *Strategic Management Journal*, 9(2), 1988, pp. 123-139.
- Daft, R.L./Huber, G. How Organizations learn: A communication Framework. In: Bacharach, S./D'Amato, N. (Eds.): *Research in Sociology of Organizations*, Vol. 5. Greenwich, CT: Jai Press, 1987, pp. 1-36.
- Daft, R.L./Weick, K.E., Towards a Model of Organizations as Interpretation Systems. *Academy of Management Review*, 9(2), 1984, pp. 284-295.
- Dixon, N.M., Organizational Learning: A Review of the Literature with Implications for HRD Professionals. *Human Resource Quarterly*, 3(1), 1992, pp. 29-49.
- Doz, Y.L./Prahalad, C.K., Managing DMNCs: A Search for a New Paradigm. *Strategic Management Journal*, 12, 1991, pp. 145-164.
- Doz, Y.L./Prahalad, C.K., Quality of Management: An Emerging Source of Global Competitive Advantage? In: Hood, N./Vahlne, J. (Eds.): *Strategies in Global Competition*. London: Croom Helm, 1988, pp. 345-369.
- Duncan, R./Weiss, A., Organizational Learning: Implications for Organizational Design. In: Staw, B.M. (Ed.): *Research in Organizational Behaviour*, Vol. 1. Greenwich: Jai Press, 1979, pp. 75-123.

- Dutton, J.E./Fahey, L./Narayanan, V.K., Towards Understanding Strategic Issue Diagnosis. *Strategic Management Journal*, 4, 1983, pp. 307-323.
- Dutton, J.E./Duncan, R.B., The Influence of the Strategic Planning Process on Strategic Change. *Strategic Management Journal*, 8, 1987, pp. 103-116.
- Edström, A./Galbraith, J.K., Transfer of Managers as a Coordination and Control Strategy in Multinational Organizations. *Administrative Science Quarterly*, 22(2), 1977, pp. 248-263.
- Fard, M., The Structure of the Corporate Intelligence System. In: Roukis, G.S. et al. (Eds.): *Global Corporate Intelligence*. Westport: Greenwood Publishing, 1990, pp. 123-135.
- Festinger, L., *The Theory of Cognitive Dissonance*. Stanford: Stanford University Press, 1957.
- Fuld, L.M., *Competitor Intelligence: How to Get It - How to use It*. New York: Wiley, 1985.
- Ghoshal, S., Global Strategy: An Organizing Framework. *Sloan Management Review*, 8, 1987, pp. 425-440.
- Ghoshal, S./Kim, S.M., Building effective Intelligence Systems for Competitive Advantage. *Sloan Management Review*, 28, 1986, pp. 49-58.
- Ghoshal, S./Westney, D.E., Organizing Competitor Analysis Systems. *Strategic Management Journal*, 12, 1991, pp. 17-31.
- Gregersen, H.B./Stewart Black, I., Antecedents to Commitment to a Parent Company and a Foreign Operation. *Advanced Management Journal*, 35(1), 1992, pp. 65-90.
- Hambrecht, D.C., Environmental Scanning and Organizational Strategy. *Strategic Management Journal*, 3, 1982, pp. 159-174.
- Hamel, G./Prahalad, C.K., Strategic Intent. *Harvard Business Review* 67(3), 1989, pp. 63-76.
- Hamel, G./Prahalad, C.K., Do you really have a Global Strategy? *Harvard Business Review*, 63(4), 1985, pp. 139-148.
- Hedberg, B./Jonsson, S., Designing Semi Confusing Information Systems for Organizations in Changing Environments. *Accounting, Organizations and Society*, 3, 1978, pp. 47-64.
- Hedlund, G./Rolander, D., Action in Hierarchies - New Approaches to Managing the MNC. In: Barlett, C.A. et al. (Eds.): *Managing the Global Firm*. New York, NY: Routledge, 1990, pp. 15-46.
- Jemison, D.B., The Importance of Boundary Spanning Roles in Strategic Decision-making. *Journal of Management Studies*, 21(2), 1984, pp. 131-152.
- Keegan, W.J., Multinational Scanning: A Study of Information Sources Utilized by Headquarters Executives in Multinational Companies. *Administrative Science Quarterly*, 19, 1974, pp. 411-421.
- Kogut, B., Designing Global Strategies: Profiting from Operational Flexibility. *Sloan Management Review*, 26(5), 1985, pp. 27-38.
- Krone, K.J./Jablin, E.M./Putman, L.L., Communication Theory and Organizational Communication: Multiple Perspectives. In: Jablin, E.M. (Eds.) *Handbook of Organizational Communication*. Beverly Hills, CA, 1987, pp. 18-40.
- Lenz, R.T./Engelberg, J.L., Environmental Analysis Units and Strategic Decision-making: A Field Study of selected "Leading Edge" Corporations. *Strategic Management Journal*, 7(1), 1986, pp. 69-89.
- Levitt, T., The Globalization of Markets. *Harvard Business Review*, 61(3), 1983, pp. 92-102.
- March, J.G./Olson, J.P., *Ambiguity and Choice in Organizations*. New York, NY: Oxford University Press, 1976.
- Martinez, J.L./Jarillo, J.C., The Evolution of Research on Coordination Mechanisms in Multinational Corporations. *Journal of International Business Studies*, 20(3), 1989, pp. 489-514.
- Mintzberg, H./Raischiani, D./Theoret, A., The Structure of "Unstructured" Decision Processes. *Administrative Science Quarterly*, 21, 1976, pp. 246-275.
- Monge, P.R./Eisenberg, E.M., Emergent Communication Networks. In: Jablin, E.M. et al. (Eds.): *Handbook of Organizational Communication*. Beverly Hills, CA, 1987, pp. 304-342.
- Montgomery, D.B./Weinberg, C.B., Towards Strategic Intelligence Systems. *Journal of Marketing*, 43, 1979, pp. 41-52.
- Nilsson, W.P., *Achieving Goals through Executive Development*. Redding, MA: Addison Wesley, 1987.

- Nonaka, I., Managing Globalization as a Self-Renewing Process: Experiences of Japanese MNCs. In Bartlett, C.A. et al. (Eds.), *Managing the Global Firm*. New York, NY: Routledge, 1990, pp. 69-94.
- Nonaka, I., Speeding Organizational Information Creation: Toward Middle up-down Management. *Sloan Management Review*, 30(1), 1988, pp. 57-73.
- Nutt, P.C., Types of Organizational Decisions. *Administrative Science Quarterly*, 29, 1984, pp. 414-450.
- Ohmae, K., The Triad World View. *Journal of Business Strategy*, 7(4), 1987, pp. 8-19.
- Ottensmeyer, E.J./Dutton, J.E., Interpreting Environments and Taking Action: Types and Characteristics of Strategic Issue Management Systems. In Snow, C.C. (Ed.), *Strategy, Organization Design and Human Resource Management*. Greenwich, CT: Jai Press, 1989, pp. 203-231.
- Petramuter, H.V., The Tortures Evaluation of the Multinational Corporation. *Columbia Journal of World Business*, 4, 1969, pp. 9-18.
- Porter, M.E., Competition in Global Industries: A Conceptual Framework. In Porter, M.E. (Ed.), *Competition in Global Industries*. Boston, Mass.: Harvard Business School Press, 1986, pp. 15-60.
- Prahalad, C.K./Doz, Y.L., *The Multinational Mission - Balancing Local Demands and Global Vision*. New York, NY: Free Press, 1987.
- Prescott, J.E./Smith, D.C., The largest Survey of leading-edge Competitor Intelligence Managers. *Planning Review*, 17(3), 1989, pp. 6-13.
- Roche, E.M., *Managing Information Technology in Multinational Corporations*. New York: Macmillan Publishing, 1992.
- Rockart, J.F., Chief Executives Define Their own Data Needs. *Harvard Business Review*, 57(2), 1979, pp. 81-93.
- Shrivastava, P., A Typology of Organizational Learning Systems. *Journal of Management Studies*, 20(1), 1983, pp. 7-28.
- Tichy, N./Fombrun, C., Network Analysis in Organizational Settings. *Human Relations*, 32, 1979, pp. 923-965.
- Tushman, M./Scanlan, T., Characteristics and External Orientations of Boundary Spanning Individuals. *Academy of Management Journal*, 24, 1981, pp. 83-98.
- Wilensky, H.L., *Organizational Intelligence: Knowledge and Policy in Government and Industry*. New York: Basic Books, 1967.

Neil Hood and David J. McArthur

The Evolution of Internationalisation Strategies in the European Electricity Industry

Abstract

- This paper analyses and evaluates the recent emergence of internationalisation strategies within a key utility sector in Europe, against a background of progressive deregulation and ownership change.
- The trends identified are set in the context of conceptual work in both utility economics and in the area of theory relating to internationalisation.
- Within this framework of change, the case of the UK is examined in greater detail since the recent liberalisation of the electricity industry in that country has led to a rapid growth in international investment interest.

Key Results

- The processes considered are still at a formative stage, but rapid change is predicted in Europe related to the existence of utilities within conglomerate organisational structures; positive public ownership attitudes towards internationalisation; multinational business experience and demand conditions.

Authors

Neil Hood, Professor of Business Policy and Director of Strathclyde International Business Unit (SIBU), Department of Marketing, Strathclyde Business School, University of Strathclyde, Glasgow, U.K.
David J. McArthur, Research Assistant, SIBU, Glasgow, U.K.

Manuscript received December 1992, revised May 1993.