

IMPORTANT DIMENSIONS OF STRATEGIC ISSUES: SEPARATING THE WHEAT FROM THE CHAFF*

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ABSTRACT

Decision-makers in organizations use dimensions implicitly or explicitly to sort strategic issues. This article compares the dimensions implied by three literatures and dimensions generated by an empirical study. While some similarities are identified, there are striking differences between what the literature assumes and what dimensions decision-makers in the NY/NJ Port Authority use to sort issues. Implications for theories of decision-making and interpretation in organizations are discussed.

INTRODUCTION

Organizational decision-makers are continuously bombarded by issues that potentially could affect current and future performance. For example, Delta Airlines and IBM have been singled out for their outstanding past performances and their exemplary mode of management (Peters and Waterman, 1982). Yet, decision-makers in both organizations currently face issues, emanating from their internal and external environments, suggesting that past modes of operating may no longer fit their current competitive contexts. At the same time, these decision-makers must select issues that are worthy of attention in the traditional domains of technology, economic conditions, social and political developments, human resource concerns, *etc.* This process requires that decision-makers must be capable of sorting the wheat from the chaff in the field of issues facing them.

When decision-makers sort one issue from another they apply implicit meanings to organizational issues. For example, classification of a demographic trend as important or unimportant, certain or uncertain, economic or political or some combination of attributes imbues that trend with an interpretation. This

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interpretation, in turn, becomes an important input into the diagnosis process from which strategic choices flow. A focus on issue sorting can be seen as an attempt at a better-understanding of strategic issue diagnosis. Researchers interested in strategic issue diagnosis (SID) consider how interpretations of issues at the very early stages of strategic decision-making delimit and constrain subsequent information collection, evaluation and choice (Dutton *et al.*, 1983; Mintzberg *et al.*, 1976). The SID perspective highlights the issue as the relevant unit of analysis for tracing how individual and collective interpretations relate to organizational-level actions. For example, some researchers have argued that interpretations of issues as threats or opportunities systematically affect the magnitude and type of strategic change (Dutton and Jackson, 1987).

Research on SID is an example of the emerging interest in decision-maker cognitions and their relationship to organization action (*e.g.* Chaffee, 1985; Schwenck, 1984; Sims and Gioia, 1986). This literature is built on an assumption that understanding action in organizations depends on knowing how people interpret the organizational world around them. Some researchers have focused on the interpretation of tasks (Kulick, 1987; Salancik and Pfeffer, 1978), others on the interpretation of individuals (Feldman, 1981; Lord, Foti and Devader, 1984), competitors (Hodgkinson and Johnson, 1987; Porac and Thomas, 1987) or successful organizations (Walton, 1986). This article is uniquely focused on the interpretation of strategic issues.

Strategic issues are defined as events, developments or trends that are perceived by decision-makers as having the potential to affect their organization's performance (Ansoff, 1965). Top-level managers in organizations are exposed to more issues than they could possibly resolve. Strategic issues are typically ambiguous, and may be defined in multiple ways. Also, they are rarely encountered in isolation from other issues, making their partitioning and definition largely an interpretive task. This article is concerned with *describing* how decision-makers represent and distinguish among strategic issues and thereby impose meaning on organizational issues. The specific research question is: what are the dimensions that decision-makers employ to understand these kinds of issues? We assume that these dimensions are important as they direct decision-makers' attention. These directives, in turn, affect which issues are acted upon in organizations (*e.g.* Dutton and Duncan, 1987; Keisler and Sproull, 1982; Lyles and Mitroff, 1980).

An interest in attributes that decision-makers use to sort issues presupposes a particular view of decision-makers' behaviour. It presents decision-makers as 'issue jugglers', who attend to multiple issues at one point in time. However, even though several issues are given attention simultaneously, a decision-maker's information processing capacity is limited. As a result, decision-makers have to sort issues implicitly or explicitly, choosing to juggle some issues, while dropping others. This article first reviews a diverse set of literatures that have directly or indirectly discussed how issues command the attention of individuals in organizations. Second, the attributes for differentiating strategic issues are explored using a methodology that makes explicit a person's understanding of issue content. The literature review and empirical analysis provide a foundation for identifying the range and importance of different attributes used by decision-makers to recognize, distinguish, and sort strategic issues. The article concludes

with a discussion of implications for theories of organization and strategic management.

A VIEW FROM THE LITERATURE

Three different literatures encompassing some 30 articles or books have discussed or made assumptions about the dimensions that decision-makers employ to define strategic issues: environmental scanning, issues management, and issue formulation and diagnosis.

The literature on environmental scanning, written primarily for strategic planning practitioners, examines how decision-makers identify and monitor issues emanating from external environments. The closely related management literature on issues management has also emerged to help managers deal with external environments. However, this literature is targeted toward managers concerned with social issues and corporate responsibility as opposed to strategic planners. In addition, issues management is concerned with the active design of responses to issues rather than simply their detection and evaluation. Finally, the issue formulation and diagnosis literature pertains to conceptual and empirical work focusing on the early stages of decision-making where stimuli for decisions are first recognized, formulated and diagnosed. While theorists working in this area have tended to use 'problem' as the label for the trigger to decision processes, we are choosing to use the more general term 'issue' to include the interpretation of opportunities as well as problems.

Our search of these three literatures identified 26 dimensions that differentiate strategic issues. The dimensions fall into four different classes. First, a broad class of 16 dimensions describes the *analytic characteristics* of issues, such as their significance, their stage in life cycles, and their specificity. A second class of three dimensions pertains to an *issue's content* and describes the nature of the issue, such as its geographical referent (*i.e.*, whether it is international, national or regional). The distinction between analytic and content dimensions closely parallels the distinction made by Cobb and Elder (1972) between analytic and substantive criteria. Analytic criteria describe dimensions which can be used to order issues in their relation to one another (*e.g.*, by their duration, by their impact, by their interconnectedness). whereas content dimensions describe classifications of issues into discrete groups. A third class of four dimensions distinguishes issues by assessing the actions they mandate. Perceptions of the certainty and amount of pay-off from action taken on an issue are examples of such *issue action* dimensions. Finally, a class of three issue dimensions describes *characteristics of an issue's source* – the person or people who initiate or promote the issue – such as a source's influence, the level of attachment to the issue, and so on. The presence of dimensions in this class suggests that an issue can not be separated from the person or people who identify or promote it. These four classes serve to organize the full range of issue attributes in the literature.

Sampling the Literature

We reviewed the literature and identified a representative sample of works in each area that would allow two types of generalization. First, what dimensions

were most commonly employed by authors in each of these areas to differentiate between issues? Answers to this question reveal whether each literature makes unique assumptions about important issue dimensions. Second, what were the most commonly mentioned dimensions that writers in these areas collectively assumed individuals employed to differentiate between issues? Answers to this question reveal the implicit psychological model of what drives decision-makers' attention. Although the purpose was to draw conclusions about dimensions important for distinguishing strategic issues, no works were excluded for their failure to mention strategic as opposed to operational issues. For each literature key words describing the area were identified. Any article or book published between 1976 and 1987 containing these key words was included in the 'population' of published sources in each area.^[1] A random sample of ten sources was selected from each population, and all dimensions mentioned in these sources as affecting the identification, sorting or diagnosing of issues were noted. A summary of the findings is presented in table I.

For the environmental scanning literature, two issue dimensions were mentioned in at least half of the ten sources: an issue's immediacy or time horizon and its content (*i.e.*, whether the issue was a political, technical, economic or social issue). An issue's novelty or predictability was mentioned slightly less often (30 per cent). Notably absent were dimensions that related to an issue's source or to action taken on the issue. Overall, the smallest number of dimensions were mentioned in this literature (12 as compared with 15 in issues management, and 19 in issue formulation). This indicates that writers in this literature believe that a more limited set of criteria are important in scanning, monitoring, forecasting and assessing an organization's environment (Fahey and Narayanan, 1986). Understandably, the locus of an issue – whether it is an external or internal issue – and its controllability were overlooked in this literature. However, this was the only literature that mentioned an issue's interconnections with other issues and its pervasiveness or scope.

Issues management research is distinct from the scanning literature in both its historical roots and its greater concern with the active design of issue-related responses. This latter focus is evidenced by the greater number of dimensions concerning issue action cited in this literature. In four sources, the amount of pay-off from issue action was mentioned as a criterion for differentiating between issues, whereas this dimension was ignored in the other two literatures. Issue immediacy was mentioned very frequently (70 per cent), revealing this literature's historical concern with mapping the time-line for an issue and judging the urgency of issue action. The magnitude of impact of issue was mentioned in half of the sources. The locus of an issue (40 per cent) and its type (40 per cent) were also frequently-raised dimensions for sorting issues identified in the process of issues management.

The formulation and diagnosis literature draws heavily on sources from organization behaviour, business policy, cognitive psychology and operations management. This eclectic parentage may account for the greater diversity of criteria identified in this literature when compared with the previous two. The most frequently mentioned issue dimensions were an issue's magnitude of impact (60 per cent), immediacy (50 per cent), and certainty (40 per cent). Although this literature rarely discusses an issue's content or action considerations, issue

Table I. Summary of issue dimensions identified in three literatures

	<i>Environmental scanning</i>	<i>Issue management</i>	<i>Formulation diagnosis</i>
	<i>Number of mentions</i>		
<i>I. Analytic dimensions</i>			
Abstractness, concreteness	0	0	3
Age of issue, issue life cycle	3	2	0
Certainty, understanding, ambiguity	3	2	4
Complexity	0	0	1
Decision-maker's interests	0	1	0
Direction of impact: positive/negative	0	0	1
Divisiveness, level of conflict	0	0	1
Duration permanence, persistence, frequency	1	1	2
Locus: internal/external	1	4	1
Interconnectedness; inter-relatedness	2	0	0
Magnitude of impact	2	5	6
Novelty, predictability, non-routineness, familiarity, continuous	3	2	3
Pervasiveness, scope, specificity	0	2	2
Threat, opportunity, crisis	1	0	2
Time pressure, urgency, immediacy, long-term, short-term	5	7	5
Visibility	0	0	1
<i>II. Issue content</i>			
Geographical referent (<i>e.g.</i> international, national)	1	3	0
Type (<i>e.g.</i> social, economic, political, <i>etc.</i>)	5	4	1
Competitive forces	1	0	0
<i>III. Issue action</i>			
Amount of payoff from action	0	4	0
Certainty of payoff from action	0	1	0
Controllability	0	2	2
Feasibility	0	0	1
<i>IV. Issue source</i>			
Chosen versus externally induced, responsibility	0	0	2
Influence, strategic location	0	1	2
Personal attachment, relevance	0	0	1

formulation is the only literature mentioning characteristics of the source of an issue as being important. For example, Lyles and Mitroff (1980) noted that the social influence of an issue's source was an important factor in determining how strategic issues were formulated. The formulation literature raised a number of dimensions ignored in the other two areas. Of these dimensions, the most frequently mentioned were whether issues were abstract or concrete, threats or opportunities, and chosen by organizations or environmentally induced. A further six dimensions were considered only in single sources in

this area. Surprisingly, issue formulation was the only literature that did not consider an issue's age.

Summary

The brief literature review leads to several conclusions about the dimensions that researchers assume decision-makers employ to recognize, differentiate, and sort strategic issues. A variety of dimensions are considered important, ranging from the analytic aspects of an issue (*e.g.*, duration and significance) to content dimensions capturing the type of concern embedded in the issue, (*e.g.*, political, technical, economic and social). The literatures also suggest that dimensions concerning an issue's source and judgements about issue-related action may determine whether an issue is seen as distinct and of high priority. However, analytic characteristics are clearly the most prominent, being cited 72 per cent of the time. These are followed by dimensions related to content (13 per cent), action (9 per cent), and source (6 per cent). The five most frequently cited dimensions were an issue's immediacy (17), magnitude of impact (13), type (10), certainty (9) and novelty (8). These were followed by issue locus (6), age (5), duration (4), controllability (4) and pay-off from action taken (4). In contrast, dimensions such as an issue's complexity, direction of impact (positive or negative), divisiveness, visibility, level of decision-maker interest, certainty of pay-off, feasibility of action, and level of personal attachment were mentioned only once.

The dimensions over which there was most convergence represent attributes consistent with a rational view of how decision-makers sort issues. The rational view is typified by economic arguments suggesting that attention should be allocated to issues of highest cost (*e.g.*, Winter, 1980). An issue that is of large magnitude, is novel and uncertain, and has time pressure associated with it, represents a high-cost issue to decision-makers who face it. If not handled adequately, such an issue could create uncertainties and dependencies for an organization while undermining the potential legitimacy of the upper echelons. The only dimension that does not fit these rational criteria is an issue's type (political versus social versus economic, *etc.*). The importance of this criterion and its prominence in the environmental scanning and issues management literatures may be due to its institutionalization in formal planning systems, rather than its utility for sorting issues.

There are several shortcomings of the literature in terms of understanding decision-makers' sorting dimensions. First, most of the literature does not make explicit the logic for inferring why some dimensions are more important than others in slicing managerial attention. Second, the dimensions that are assumed to be important tend to be deduced from *a priori* assumptions about the nature of managerial attention that may have little empirical validation. Finally, it is unclear that the dimensions that are cited by the literature adequately capture the effect of organizational context on issue definitions.

The study that is described below attempts to overcome some of these limitations by applying a methodology that is uniquely suited to identifying systematically the implicit dimensions that decision-makers use in the field of strategic issues to sort the wheat from the chaff. More particularly, the objective of the empirical study was to (1) capture the dimensions that decision-makers employ to differentiate and categorize issues, without constraining them to dimensions that the literature

has determined are important; and (2) use a methodology that could capture how the organizational context was reflected in sorting criteria. The goal of the study was purely descriptive – that is, we wished to conduct an empirical study that would produce valid descriptions of the range and frequency of use of different issue dimensions by managers in a particular organizational setting. This description, in turn, could serve to validate or raise questions about the untested assumptions embedded in the literature about important issue dimensions.

STUDY

The study employed a methodology adapted from personal construct theory (Kelly, 1955) to identify the set of attributes used by decision-makers to differentiate strategic issues. The repertory grid technique is ideally suited to capture ‘native’ or implicit understandings about a particular meaning domain. For example, researchers have used this methodology to reveal implicit theories about competitors (Reger, 1987), about product relatedness (Ginzberg, 1987), and about successful and unsuccessful organizations (Walton, 1986).

Method: Organization and Respondents

The data reported in this study were collected from individuals employed full time by the Port Authority of New York and New Jersey (the PA). The PA has two departments concerned on a daily basis with identifying, diagnosing and responding to strategic issues. The Planning and Development department has responsibility for monitoring issues facing the PA that are generated through the annual strategic planning process. In contrast, the Public Affairs department is most sensitive to external strategic issues that are encountered in their ‘hands-on’ interactions with external constituencies. These interactions generally involve dealing with constituents’ concerns as they relate to the PA’s current operations as well as representing the PA’s position and concerns in prospective initiatives. Since one goal of the research was to capture all implicit attributes that individuals used for sorting issues in an organization, respondents from both departments were invited to participate in the study. Thirty-five individuals worked in these two departments and 29 agreed to participate. Interviews were conducted with 20 of the 22 individuals employed in the Planning and Development department and 9 of the 13 individuals employed in the Public Affairs department.

Identifying Strategic Issue Dimensions

Repertory grid techniques have been used as a methodology for identifying contents and structures of meaning in a variety of domains (Bannister and Mair, 1968; Dunn *et al.*, 1984; Slater, 1977; Walton, 1986). In the present research, the procedures were used to identify the range of attributes used to define the ‘meaning space’ for strategic issues and to determine the frequency of use of these attributes in a sample of strategic decision-makers at the PA. Three steps were used in determining the dimensions that decision-makers use to sort issues. The first two steps were performed by respondents in a single interview that lasted from one to three hours. The third step described the researchers’ task of classifying and aggregating data in interview protocols in a meaningful way

so as to derive conclusions about the content of issue dimensions and their frequency of use.

Step 1 involved each respondent *generating elements*, in this case strategic issues. Each respondent was asked to list the set of strategic issues that currently faced the PA. Strategic issues were defined by interviewers as 'developments, trends, or events which hinder or help the PA achieve its objectives'. The 29 respondents mentioned 279 strategic issues and the number of issues mentioned by each respondent varied from 3 to 19. Although we have clustered the 279 issues into 22 issue areas (see table II), for the purposes of the research reported here issues were not aggregated. Instead, each respondent made judgements only about strategic issues that he or she had identified. This subject of issues for each respondent formed the basis for the next step.

Table II. Major issue areas within three types of strategic issues

<i>External issues</i> (74) ^a	% ^b	<i>Interactive issues</i> (144)	%	<i>Internal issues</i> (41)	%
Rivalry	45	PA activities		Funds	41
Competition	24	Transportation services	83	Staffing	27
Economic changes	24	Infrastructure	27	Planning	21
Technology	17	Waterfront development	10	Morale/Productivity	10
International trade	14	PA independence	41	Culture	10
Political	14	Mission and role	37		
Public sector changes	14	PA relationships	31		
Social changes	14	Image	27		
Labour	10				
Hazardous materials	6				

^a Total number of issues mentioned falling into this category

^b Percentage of respondents mentioning an issue in the issue areas ($N = 29$)

In step 2, called *element comparison* (Dunn *et al.*, 1984; Dunn and Ginsberg, 1986), respondents compared issues in terms of their similarity with and distinctiveness from other issues. More specifically, the first five issues mentioned by each respondent were put onto separate index cards. These five issues were selected for more detailed investigation on the assumption that they were the most important because they were mentioned first – an assumption commonly made in ethnographic studies of meaning (*e.g.*, Spradley, 1979). Then, respondents systematically compared issues in each of five triads. For example, all respondents compared issues numbered 1, 2, and 5 as well as issues 2, 4, and 5. The composition of each triad was generated by the researchers using a table of random numbers. Thus, all respondents compared the same issues in terms of their order of mention, but the actual issues varied, depending on what issues were mentioned and in what order.

Respondents were asked to consider a set of three issues and to judge 'Which two issues are alike in some way that distinguishes them from the other issue?' and 'How is the third issue different from the other two?'. Through this systematic comparison process respondents elicited what this article calls 'attributes'. These attributes, based on respondents' own understanding of issues, were their descriptions of how the issues were similar to and different from each other. For example,

one respondent described two issues as similar because they were 'more far-reaching', and described the third as distinct because it was 'a finite area of consideration'. Descriptions of the attributes were taken down verbatim by the interviewer and all bases for similarity and difference were recorded. The attributes elicited through this comparative process formed the input for the next step.

The third and final step in determining the dimensions that decision-makers used to sort strategic issues involved two sub-steps: (1) distinguishing the multiple attributes used in some of the comparisons and (2) aggregating all the attributes into a manageable number of dimensions and classes. Both sub-steps used 'linguistic analyses'. The linguistic rules in these analyses were identical to those reported in Walton (1986) from an adaptation of earlier work by Rosenberg and Sedlack (1972) and Sank (1974). Although these rules are intended to 'minimize intrusions by researchers' notions in interpretation processes' (Walton, 1986, p. 684), obviously, some intrusion is inevitable.

The first sub-step – *distinguishing discrete attributes* – was necessary because many respondents mentioned multiple attributes in single judgements of similarities and differences. For example, one respondent indicated that two issues in a triad were similar because they 'were control imposed on us', 'had a higher impact', and 'impacted our ability to get things done'. To identify discrete attributes, two judges coded independently all attributes elicited from randomly selected nine respondents, according to the rules in Appendix A. Inter-rater reliability for these classifications was assessed by the degree of agreement between the two coders. Specifically, agreement was calculated on the number of discrete attributes derived from each description, yielding 85 per cent agreement on the derivation of discrete attributes and 74 per cent agreement on the label for each attribute. Different classifications were discussed until agreement was reached. When each coder understood the procedures fully, the remaining 20 interview protocols were coded in identical fashion. In total, 529 discrete attributes were identified using this procedure.

The second sub-step – *placing the attributes into dimensions* – used a classification scheme of 42 dimensions developed using the rules described in Part 2 of Appendix A. Each author utilized this scheme to classify independently the 529 attributes. Inter-rater reliability for classifying the 529 attributes into 42 dimensions was 87 per cent. The differences were discussed until agreement was reached. The results of this classification process are organized in table III in a way that complements the discussion of the literature review. The 42 dimensions were aggregated into three larger classes: analytic issue characteristics, issue content, and issue action. Table III presents the dimensions in each class in order of decreasing frequency of mention by respondents.

Results

Most of the dimensions that were mentioned by respondents fall into the class of analytic issue characteristics (45 per cent). Although 16 different dimensions were identified, four account for over 77 per cent of attributes mentioned in this class. The first, labelled the impact implication of an issue, refers to concerns about the impact the issue had on the organization. For example, 'affects everybody the same', 'issue not hurting anyone', and 'affects how well work can be

Table III. Frequency of mention of issue dimension

<i>Analytic issue characteristics</i>	<i>Classes of issue dimensions</i>				
	<i>Issue content</i>		<i>Issue action</i>		
		<i>Organization's operations</i>	130		
Magnitude of impact	67	Mission and role	43	Controllability	49
Locus of issue	55	Resources	31	Actionability	9
Implications of impact	37	Relationships	19	Capability	4
Causal relationships	25	Businesses	19	Discretionary	4
Duration	11	Facilities	9		
Opportunity	10	Changes	5		
Independence	9	Goals	2		
Centrality to org.	5	Operations	2		
Direction	4	<i>Organization's environment</i>	83		
Understandability	4	General environment	21		
Divisive	2	Regional	15		
Subjectivity	2	Political	14		
Flexibility	2	Governmental	13		
Stability	2	Labour	8		
Visibility	2	Competitive	6		
Clarity	2	National	4		
		Public policy	2		
		<i>Organization's processes</i>	12		
		Change	4		
		Survival	2		
		Technical	2		
		Values-related	2		
		Attitudinal	1		
		Rebuilding	1		
Total	238		225		66
Percentage	45		43		12

Based on a sample of 279 issues and 529 attributes generated by 29 respondents.

done' are all attributes that were placed in this dimension. The other three dimensions concerned an issue's magnitude, locus or origin, and causal relationships to other issues. These four dimensions reflect concerns with the direct or indirect implications of an issue for the organization.

Interestingly, a relatively large number of attributes (25 or 5 per cent) centred on the causal relationship between issues. For example, respondents frequently made statements like: 'these issues are alike because one causes the other'. The relative frequency with which attributes in this dimension were mentioned indicates that respondents considered causal relationships among issues a key component in sorting issues. This finding suggests that causal sense-making was an important element of sorting and discriminating strategic issues for the decision-makers in this organization.

Although analytic attributes were most frequent, a substantial proportion (43 per cent) of attributes described the specific content of issues. Of the 22 dimensions dealing with issue content, eight related to the organization's operations, six concerned organizational processes, and eight dealt with the organization's environment. Despite the size of this class, 59 per cent of the attributes mentioned

by respondents were captured in five dimensions concerning the organization's mission and role (43), its resources (31), its environment (21), its businesses (19), and its relationships with outside entities (19). For example, attributes such as 'involves ambiguity in our role', 'describes the institutional role of PA', and 'a large part of our mission' were classified as mission and role. Statements such as 'revenue issues', 'opens our budget to a grab bag' and 'involves capital allocations' illustrate the resource dimension. Examples of the business dimension include 'comments on specific businesses we are doing', 'related to the PA's businesses' and 'involves aviation uncertainty'. Apparently, the substantive content of issues is an important consideration for separating and grouping strategic issues, at least for the present sample. As can be seen, the most frequently mentioned content attributes are related to the organization's business or its environment, but not its internal processes.

The final class of dimensions emerging in this study concerned issue-related action. Respondents mentioned 66 attributes (12 per cent) that related to prospects for action on an issue and these were classified as controllability, actionability, capability or discretionary. However, respondents were concerned mostly with the controllability of an issue in terms of whether effective action could be taken to resolve it (74 per cent). Examples of attributes of issues that were placed in the controllability dimension include 'directly affects our ability to control operations', 'we have more control over whether to respond' and 'we can influence'. At least in the PA, attributes relating to the organization's control or influence over an issue were important considerations for distinguishing among issues.

Overall, the 10 most frequently mentioned dimensions across the three classes accounted for 69 per cent of all attributes used by individuals in the PA. The analytic dimensions of issue magnitude, issue locus, implication of impact, and causal relationships among issues accounted for 35 per cent. The content-specific dimensions of the organization's mission and role, its resources, businesses, external relationships, and environment provided 25 per cent. The remaining 9 per cent was accounted for by the issue action dimension of controllability. Finally, noticeably absent in the dimensions mentioned by respondents were those related to an issue's source. Thus, in the PA at least, source considerations were not a salient factor in sorting issues. However, source might have had an effect indirectly through judgement about analytic features of an issue such as its magnitude of impact, about an issue's content, or about issue action such as controllability.

DISCUSSION AND CONCLUSION

At first glance, dimensions identified in the literature as important to how decision-makers sort issues overlap those uncovered in the empirical study. Indeed, 50 per cent of the 26 dimensions identified in the literature review emerged in the sample of PA respondents; 9 from 16 analytic issue characteristics, 2 from 3 issue content dimensions, 2 from 4 issue action dimensions, but no issue source dimensions. These 13 dimensions also accounted for 51 per cent of the frequency with which all attributes were mentioned over all respondents. However, these 13 dimensions exclude the one cited most frequently in the

literature – immediacy – as well as three other dimensions from the 10 cited most often by respondents. Moreover, they represent only 31 per cent of the 42 dimensions used by respondents to sort issues and provide only three of the 10 dimensions mentioned most frequently by the sample. Finally, marked differences in the relative importance of classes of dimensions emerged in the sample relative to the literature: issue content was about three times as prevalent in the sample, action was about the same in both, analytic characteristics were almost twice as prevalent in the literature, and source did not emerge in the sample at all. Because of these differences the dimensions identified in the three literatures have only limited utility for understanding the bases on which our respondents distinguished among strategic issues.

According to the literature, an issue's immediacy, or the amount of time pressure associated with it, should be the dominant consideration in sorting issues. However, this dimension was not even mentioned by our respondents. Although respondents did mention an issue's duration 11 times, this was more in the context of long-term versus short-term time horizons for the issue, where time pressure was more implicit than explicit. This finding is surprising given that studies of crisis perception have shown that time pressure or immediacy is a critical dimension for distinguishing these types of issues (*e.g.*, Hermann, 1963). Similarly, the age of an issue – whether it is early or late in its cycle – was not mentioned by respondents, but has been found to be a key factor in managers' judgements about whether to conduct additional issue analysis (Wartick and Christy, 1986). In the present study, the explicit focus on strategic as opposed to operational issues may have limited variance of issue immediacy and age, and reduced their frequency of mention. Alternatively, the existence of considerable slack resources in this organization may have decreased the prominence of these dimensions as bases for sorting issues. On the other hand, the exclusion of an issue's immediacy must be considered together with the exclusion of issue certainty and predictability. Earlier, we suggested that the dimensions cited most frequently in the literature (issue magnitude, immediacy, certainty, and predictability) were consistent with a rational view of how decision-makers sort issues. The absence of three of these dimensions in the present study brings into question the role of economic rationality as a basis for issue definition. Caution thus appears to be warranted when assuming that decision-makers sort issues on rational criteria.

Our respondents revealed that an issue's content provides the largest class of dimensions. Although the literature recognizes the importance of issue content, the types of content identified appear too general in scope and too limited in number to be useful. For instance, a recent study experimentally manipulated only four very general types of issue content (*i.e.*, economic, technical, political or social) and found that content had no effect on whether issues were given additional analysis (Wartick and Christy, 1986). However, the current study indicated that decision-makers' understanding of an issue's content was much more elaborate than these four types. Although type (technical, political and social) and geography (national and regional) were clearly mentioned by our respondents, the question of whether an issue concerned the core businesses of the organization, its mission or role, its resources, or its general environment was used much more frequently in issue definition. Dimensions such as these

indicate that the nature of an organization's operations and its environmental context may have greater relevance in identifying the content of strategic issues than whether an issue is simply economic, technical, political or social in nature.

The number of content dimensions identified in the present study and the frequency with which they were utilized have interesting implications for processes of interpreting issues. If content dimensions are so numerous and prominent, then experience or knowledge about the intrinsic substance of issues is needed if decision-makers are to fare well in issue interpretation. Persons lacking experience or knowledge about a content area may misunderstand how relevant issues are classified, and may be misunderstood or mistrusted when they interpret and communicate about such issues. Relying on the substance of issues as a basis for sorting them also implies that issues are less directly comparable, and must be judged nominally on whether they have a specific content. Finally, judging whether issues concern specific content may be just as important as judging their analytic characteristics, given that respondents mentioned content dimensions (43 per cent) almost as frequently as analytic characteristics (45 per cent).

Several other issue dimensions were more important in this study than was originally indicated by the literature review. Most striking is the emphasis on the locus of an issue (internal versus external). Locus was second in frequency in this study but only eighth in the literature. Moreover, this dimension has been found to influence information processing. Dukerich and Milliken (1987) experimentally manipulated whether an issue was internal or external and studied how this manipulation affects issue recall, rated importance, and information search behaviour. They found that internal issues were recalled more accurately and generated more information search than external issues, suggesting that the internal/external distinction has important behavioural implications.

Our data also reveal the greater utility of action dimensions for decision-makers than is suggested by the literature. Attributes relating to an individual's or organization's control *vis-à-vis* an issue were particularly salient in the results, being the third most frequently-cited dimension. This finding, when coupled with the absence of immediacy and ambiguity, suggests that the literature may be overplaying decision-makers' concerns about an issue's immediacy or uncertainty while underplaying decision-makers' concerns about their control. Alternatively, an issue's uncertainty may affect issue definition through its effect on judgements of controllability (*e.g.*, Dukerich and Milliken, 1987). Our results are consistent with claims that environmental mastery is a major motive driving behaviour (Rotter, 1966; White, 1959).

The last major difference between the literature and our data concerns links among issues. Dutton (1986) has argued that when an issue is related to other issues it gets more collective attention as relevant parties are able to understand the issue better and accept it more readily. However, issue interconnectedness is infrequently mentioned in the literature, with only 2 of 30 sources suggesting that it is an important determinant of whether an issue commands attention. Simple interconnections among issues were not very salient for our sample either since an issue's independence from other issues was mentioned only 9 times by respondents. However, the results shed new light on the type of interconnections that are important. In particular, the perceived causal relations between issues

were an important basis for forming issue clusters. Issues that are causally connected are cognitively bundled together. This result lends support to Kotter's (1982) finding that general managers are sensitive to issues that solve multiple problems simultaneously, employing a type of 'killing many birds with a single stone' rule of thumb in deciding in which issues to invest.

The differences in issue dimensions that are apparent between our empirical study and those identified in the literature suggest that the organizational context may affect what dimensions are salient to decision-makers in distinguishing among issues. Some authors have argued that organizational contexts affect how particular dimensions are judged (*e.g.*, Dutton and Duncan, 1987). For example, an organization's resource supply affects whether an issue is perceived to be urgent or feasible. Our findings are consistent with this argument. The NYNJ PA has dual allegiance to two state governments, and this may account for the prominence of dimensions such as mission and role, the locus of an issue, and potentially an issue's controllability. Although such dual allegiance raises questions about the generalizability of the findings, it also suggests that searches for universal dimensions of issues may be misguided. Instead, it may be far more important to examine organizational level variables, such as culture, structure, or technology, that make some dimensions salient to individual decision-makers, while making others obscure or irrelevant. Bower (1969) reached the same conclusion from a qualitative study of resource allocation decisions in his discussion of how top decision-makers create internal contexts:

'it shapes the purposive manager's definition of business problems by directing, delimiting and coloring his focus and perception; it determines the priorities which the various demands on him are given. Structural context has this role because it is the principle way in which the purposive manager learns about the goals of the corporation' (p. 73).

The fact that the salience of issue dimensions can vary across contexts has direct implications for models of strategic issue diagnosis and for practical models of alternative management in organizations. The results from this analysis suggest that models of strategic issue diagnosis should include these contextual influences. For example, models of SID must account for how organizational goals, values, and resources factor into how decision-makers imbue issues with meaning. For example, they should be able to account for why different organizations in the same competitive environment define events so differently. A good illustration of this difference occurred after the stock market crash in October 1987. Models of SID should be equipped to explain why some firms saw the crash as an unmatched opportunity to acquire undervalued assets, while other firms viewed the same event as an unprecedented threat to the American financial and investment system.

Assuming that categorizing an issue is an important step in interpreting an issue, and issue action is related to interpretation, the initial sorting process can have effects that spill over into subsequent issue-related activity (Dutton and Jackson, 1987). Thus, clever decision-makers frame issues in ways that either capture or lose other decision-makers' attention. For example, in one study of the processing of 12 strategic issues in a single organization, it was observed

that decision-makers labelled issues as threats or opportunities, intentionally to activate or suppress issue-related involvement. (Dutton, 1988). If decision-makers wanted to encourage interest in an issue, they would call it an opportunity, if they wanted to dampen interest they would call it a threat. Clever framers of issues may also be sensitive to issue dimensions that have currency in a particular organizational context. For example in the NYNJ PA, issues that were perceived as mission-related, tended to capture more attention, while in another organization such content relevance might have little value.

The results of this study contribute to a very basic-level understanding of the content of managerial cognition. To date, much of the work on managerial cognition has focused on the structure of cognition, for example, examining abstract features such as complexity, stability, or the representation of managerial knowledge. For example, research on causal mapping and cognitive maps has looked at the structure of these beliefs in order to gain leverage on understanding how cognition relates to action (*e.g.*, Axelrod, 1976; Bougon, Weick and Binkhorst, 1977; Diffenbach, 1982; Ford and Hegarty, 1984). The study presented here suggests that understanding the context of these cognition *i.e.*, describing the meaning that decision-makers apply to issues may be equally important for understanding the links between cognition and individual or organizational action. For example, decision-makers' understanding of an issue as controllable or not may be the critical assessment in determining whether or not individuals will invest resources in an issue. In fact, it may be that issue attributes which carry with them implications for how an individual responds to an issue (*i.e.*, what Lakoff, 1987 calls interactional properties) may be the most critical defining features of categories that individuals use to classify events, developments or trends.

At the outset we argued that decision-makers must sort the wheat from the chaff in the field of potential issues. The literature review and empirical study only begin to address the question of how issues are sorted by decision-makers into active, passive, and monitored groups (Arrow, 1974). Although some progress was made in identifying the range of issue dimensions forming the basis for these sorting routines, the present study cannot address how the perception of these dimensions relates to allocating resources. Hence, an important item for future research is to test how perceptions of issue dimensions relate to the allocation of time, money, and priority to issues. Many of the sources reviewed make assumptions about theoretical relationships among issue dimensions, but no empirical tests have been conducted so far. Thus, another task for future research is to address how these various perceptions relate to each other. For example, understanding relationships between interpreting strategic issues and action requires that theory and research must uncover how perceptions of an issue's immediacy, magnitude, locus, controllability, and its relationship to other issues are associated with one another, and ultimately how they affect the allocation of resources in organizations. The results of the present study strongly indicate that the time has come for scholars in this area of research to sort the wheat from the chaff and to isolate those patterns of dimensions that are key in determining how issues find their way into organizational decision processes.

NOTES

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[1] A listing of all articles and books used as the population for each literature, and a listing of the randomly selected sample are available from the first author.

APPENDIX A.

RULES FOR LINGUISTIC ANALYSIS OF MANAGERS' DESCRIPTIONS
(ADAPTED FROM WALTON, 1986)

1. *Establishing Discrete Attributes.* Applying the following rules produced 529 discrete attributes such as regional, financial, facilities, revenue, causally related, and threat.

- (1) One-word responses were defined as discrete attributes.
- (2) For phrases, judgements were frequently necessary about whether phrases referred to a single attribute or could be divided into two or more attributes, each describing a different attribute.
 - (a) Phrases with attributes simply preceded or followed by a modifier or modifying phrase were coded as a single attribute (related to broader environment, application of PA's resources, less complex, less political).
 - (b) Phrases with parts that could stand alone as descriptions of different attributes were coded into different attributes (*e.g.*, impact autonomy and ability to get things done – autonomy and capability; causally related, cross-impact, application of resources – causal relations, cross-impact, resources).

2. *Forming Groups of Attributes into Dimensions.* Attributes containing the same basic word and judged as referring to the same attributes were classified into one dimension. Applying the following rules reduced 529 attributes into 42 dimensions.

- (1) Attributes containing different grammatical forms of a morpheme and conveying the same feature were grouped together (*e.g.*, within our control, control imposed on us, we can control).
- (2) Any adjective-modifying issue was included in the same dimension as the single word modifier (*e.g.*, short-term issue, short-term timing, long duration, and long-term were grouped into duration).
- (3) Attributes accompanying the following modifiers were placed in the same dimension as the unmodified attribute (*e.g.*, most, least, very, virtually, extremely, *etc.*).
- (4) Attributes judged as opposites, but containing the same morpheme meaning were put in the same dimension (*e.g.*, internal and external; broader and specific; need to respond and not responding).
- (5) Attributes containing different morphemes but conveying the same attribute were grouped together (*e.g.*, can influence, we can control, issue will be cast).

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