THE STRUCTURING OF ORGANIZATIONAL ATTENTION
AND THE ENACTMENT OF ECONOMIC ADVERSITY:
A RECONCILIATION OF THEORIES OF FAILURE-
INDUCED CHANGE AND THREAT-RIGIDITY

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Abstract

This paper presents a theoretical examination of how organizational attention structures enact economic adversity. The theory explicitly links the cognitive psychology that underlies risk-seeking behavior and threat-rigidity with the social groupings and cultural logic that structure thinking and decision-making in organizations. Economic adversity leads to neither generalized failure-induced change nor to generalized threat-rigidity. Adversity induces problemistic search and modular forms of organizational change, which are biased by the organization's dominant responses as structured by group integration, formal information systems, core cultural rules, past organizational experiences, and mimetic isomorphism.
INTRODUCTION

The effects of economic adversity on stability and change in organizations constitute a major unexplained paradox facing organizational theory (Singh, 1986; Boeker and Goodstein, 1991; McKinley, 1993). Two contradictory ideas — failure-induced change and threat-rigidity — have both found theoretical and empirical support. Early adaptationist theories of organizational decision-making (March and Simon, 1958; Cyert and March, 1963) posit that failure to meet the organization's aspiration levels leads to failure-induced organizational change, problemistic search, and organizational learning. More recent theories have extended this argument, postulating that while successful organizations often ignore changes in their environments, failures of economic performance lead to corrective managerial action and structural change (Kiesler and Sproull, 1982; Tushman and Romanelli, 1985). The contrary view is held by theories of threat-rigidity (Staw, Sandelands, and Dutton, 1981), which argue that adversity leads to restrictions in information processing, constriction in control, and increased rigidity, rather than change, in organizations.

Both theories of failure-induced change and theories of threat-rigidity focus on the effects of adversity on the process of organizational attention and decision-making. Yet researchers and theorists in both traditions fail to address or explain the contradictory predictions of the alternative theory. At the level of individual cognition, the findings of prospect theory (Kahneman and Tversky 1979, 1984) lend support to the view that failure to meet a level of aspiration leads to risk-seeking under adversity and increased change. Prospect theory and theories of failure-induced change argue that attention will be focused on the resolution of adversity, and that risk-seeking behavior will result. In the March-Simon-Cyert formulation, organizational change is
associated with an "optimal level of stress" (March and Simon, 1958), with "stress" meant as the discrepancy between the level of aspiration and the level of achievement. Organizations are seen as less likely to change when performance met or exceeded aspiration levels. Performance below aspiration levels leads to an expanded focus of organizational attention by searching for new organizational programs or operating procedures (March and Simon, 1958; Cyert and March, 1963). Economic adversity leads to increased organizational change, adaptation, and learning.

But cognitive explanations do not, however, uniformly support the view that organizations are more likely to change under conditions of adversity. Theories of threat-rigidity argue that information processing will be restricted and individual, group, and organizational attention will be focused on well-learned, dominant responses. Staw, Sandelands, and Dutton (1981) argue that under conditions of adversity, a general threat-rigidity effect can be observed in individual, group, and organizational behavior. Threat, defined as impending loss or cost to the entity, results in restriction in information used by decision-makers, and in constriction of control. The former leads to increased attention to internal hypotheses and beliefs, and prior experiences and expectations; the latter to an increased centralization of authority, more extensive formalization, and greater standardization of procedures. The combined effects of restriction in information processing and constriction in control are to increase rigidity in organizational decisions, augment the tendency toward well-learned or dominant responses, and to decrease organizational change.

The contradiction between theories of failure-induced change and theories of threat-rigidity remains unresolved for it constitutes, for the most part, an unjoined debate. The current status of research is that the two different theories are applied to explain different domains of organizational behaviors or outcomes and little attempt is made to integrate them or to resolve
the contradictions. Theories of failure-induced change have been invoked to explain a wide variety of organizational phenomena, linking poor or declining economic performance to executive succession (Allen and Panian, 1982; Salancik and Pfeffer, 1980), selection of outsiders as CEOs (Dalton and Kesner, 1985; Helmich and Brown, 1972), strategic adaptation (Chandler, 1962), changes in board composition (Boeker and Goodstein, 1991), increased R&D expenditures (Antonelli, 1989), and membership in an R&D consortia (Bolton, 1993). The experimental findings, at the individual level, by prospect theory (Kahneman and Tversky, 1984) of risk-seeking under losses and risk-aversion under gains, have been invoked by organization and strategy researchers (Singh, 1986; Jemison, 1987; Fiegenbaum and Thomas, 1988; Bromiley, 1991) to explain the statistical results, at the macro-organizational level, that low-performing firms undertake objectively risk-seeking behavior (Bowman, 1982), the so-called risk/return paradox. These results are in the tradition of the earlier March-Simon-Cyert theories of organizational decision-making, which imply greater stability when performance exceeds aspiration levels, and greater change (and risk-seeking) under adversity.

Alternatively, the threat-rigidity thesis has played a central role in studies of organizational-level responses to financial and economic decline (Greenhalgh, 1983; Cameron, Kim, and Whetten, 1987; D'Aveni, 1989; Sutton and D'Aunno, 1989), and in studies of how past successes have led firms to fail to adapt to changes in the current environment (Starbuck, Greve, and Hedberg, 1978; Nystrom and Starbuck, 1984). Organizations facing performance problems were found to limit the number of information sources consulted and to restrict attention to potential solutions in ways that augmented inertial tendencies (D'Aveni and MacMillan, 1990). Contrary to theories of failure-induced change and of risk-seeking under adversity, studies on
threat-rigidity and organizational decline argue that adversity leads to restrictions in
organizational cognition, more stable, conservative behavior, and to a decreased likelihood of
organizational change and adaptation.

Although organizational researchers can invoke, *ex post*, theories of threat-rigidity to
explain stability and decline, or theories of failure-induced change to explain change and
risk-seeking behavior, this usage is unsatisfactory. Empirical attempts to adjudicate between the
two sets of theories (Singh, 1986; Boeker and Goodstein, 1991) are also limited if they do not
clearly account for the existence of the two phenomena. The boundary conditions under which
change or threat-rigidity are to be expected remain unspecified, limiting the capacity of the
theories to predict outcomes or to explain fully why either outcome occurs in any particular
instance. This paper seeks a resolution to the conflicting predictions by directly confronting the
paradox posed by both theories. While both theories of failure-induced change and threat-rigidity
are based on cognitive conceptions of organizations, many, if not most empirical treatments
analyze the effects of economic adversity on stability and change in organizations as a behavioral
response to an objective stimulus.

Organizations are subject to a continuous flow of resources to and from their
environments. Loss of customers, new competitors, decreased revenues, competence-destroying
technological innovations, employee strikes, loss of suppliers, increased costs, government
regulations, recessions, exchange rate fluctuations are but some of the examples to which
organizations are constantly at risk and which could result in a potential loss or cost of concrete
resources. But while any resulting economic losses can affect organizational outcomes
independent of the organization's perceptions and cognitive frames, the organization's response is
shaped by how the organization pays attention to its environment, how economic stimuli are channeled into organizational decision processes, and how adversity is enacted by the organization. The effects of economic adversity on organizational actions, as distinguished from organizational outcomes, are shaped by the organization’s enactment of its environment (Weick, 1979; Pfeffer and Salancik, 1978), and by the allocation of attention out of which organizational decisions and actions arise (Simon, 1947; March and Simon, 1958; Cyert and March, 1963; March and Olsen, 1976; Weick, 1979). The structuring and allocation of attention in organizations is both a cognitive process, shaped by individual cognition and information processing (Kahneman, 1973; Neisser, 1976; Holyak and Gordon, 1984), organizational cultures (Schein, 1985; Martin, 1992), interpretive frames (Daft and Weick, 1984; Dutton and Dukerich, 1991), and institutionalized rules and procedures (Meyer and Rowan, 1978; DiMaggio and Powell, 1983; Powell and DiMaggio, 1991) and a social process, shaped by the division of labor (Simon, 1947; March and Simon, 1958), group formations (Douglas, 1986), social identities (Tajfel, 1982; White, 1992) and political coalitions (March, 1962, Cyert and March, 1963).

This paper will confront the paradox posed by conflicting theories of organizational change under economic adversity by going beyond a stimulus-response model, and examining the complex social and cognitive processes by which stimuli get attended to, and organizational responses and actions get constructed. I propose a multilevel approach to studying the effects of economic adversity on the rate and direction of organizational stability and change, positing that economic adversity is enacted through the social construction of mental models by participants in group decision-making, and is regulated by the institutional logic of the organization’s cultural system. This approach views organizational responses to environmental events not as behavioral
responses to objective stimuli, but as organizational constructions structured by organizational
attention and the enactment of economic adversity.

INDIVIDUAL INFORMATION PROCESSING AND THE ENACTMENT OF
ECONOMIC ADVERSITY

At the level of individual decision-making, economic adversity is enacted and attention is
allocated through the application of schemas in the construction of mental models. Following
Holyoak and Gordon (1984), this paper will use a framework for individual information
processing that builds on two concepts: schemas and mental models. All information and
decision-making is processed through the construction of mental models (Holland, Holyoak,
Nisbett, and Thagard, 1986). Mental models are in turn constructed through the use and
adaptation of existing schemas. Although the concepts of schemas and mental models are often
used interchangeably, I use them to describe two distinct phenomena. Schemas are used to
describe structures of generic knowledge, stored in memory (Rumelhart, 1984). Schemas
represent our knowledge about rules, concepts, categories, events, goals, skills, social situations,
actions, people, groups, etc. Schemas contain the network of interrelationships between their
constituent parts, are embedded within one another, and represent knowledge at all levels of
abstraction. Mental models are working, integrated representations of goals, data, inferences, and
plans, which serve to interpret and attend to environmental stimuli, permit inferences, make
decisions, and guide behavior (Holyoak and Gordon, 1984). Mental models utilize schemas to
interpret environmental stimuli, draw inferences that explain the causes and effects of those
stimuli, and permit mental simulations of the outcomes of alternative plans of action or scenarios.
Schemas serve the functions of theories (Rumelhart, 1984) and are actively used in the
construction of mental models; mental models can be in turn compared to multivariate statistical or econometric models (Piore, 1992) where theories are applied to data to make inferences, and the simulation of alternative policy scenarios are made. The construction of mental models creates opportunities for revising existing schemas, in a process of accommodation, as their goodness of fit to data is being processed (Rumelhart, 1984).

An important function of mental models, which remains underexplored, is to focus attention on the data or environmental stimuli which is included in the model, and to restrict attention to all others. The construction of mental models, and cognitive process in general, are goal or task driven (Holland, Holyoak, Nisbett, and Thagard, 1986). The incorporation of data into the mental model will be driven by the goals or tasks at hand, existing schemas, and the ability to integrate the goals, data, schemas, and plans of action into a consistent model. For any given set of environmental stimuli, mental models will differ in the amount and variety of data, schemas, and alternative plans of action that are incorporated into the model. For example, the mental model of a driver going to work, will attend to less environmental stimuli, will incorporate more route-specific schemas, and will consider less alternative plans of action than that of a tourist with her family along the same route. The tourist is concerned with enjoying the scenery, attends to numerous sights and landmarks along the route, and gives attention to alternative plans or where to stop, where to turn, and where to go, yet lacks specific schemas of the route (except for those developed from reading a map, an act which may require constant attention).

**Assumption 1:** Economic adversity is enacted through the application of schemas which serve to identify and interpret the existence of adversity.

The effects of economic performance on decision-making can be examined through its effects on the construction of mental models that selectively attend to environmental stimuli, draw
inferences on their causes, and select which alternative plans or solutions to consider. Economic adversity, defined as the perception of loss or threat to the entity, cannot be determined through an "objective" measure of performance, but is enacted through the application of schemas which determine which measures of performance are important, and which levels of poor economic performance or which external events constitute a threat to the status and survival of the individual, her referent group, or the organizations in which she works.

Assumption 2. Economic adversity increases the attention and effort allocated to understanding and resolving adversity.

Adversity is associated with increased arousal and psychological drive, increased motivation to adopt and pursue a task or goal, and increased allocation of effort to information processing (Kahneman, 1973) associated with that task. Adversity will therefore increase the effort and attention allocated to the construction of mental models that address and resolve the problem of economic adversity. This implies that, as long as economic adversity is perceived as such, individuals will be motivated to address the problem of adversity, and will search for solutions to address the perceived loss or threat.

Assumption 3. The enactment of economic adversity serves to frame problems as a loss and to invoke risk-seeking behavior.

To the extent that economic adversity is perceived to threaten the current status or survival of the individual or entity, the schemas used to address the source of adversity will categorize it as a loss, rather than as an opportunity (Dutton and Jackson, 1987). Following prospect theory (Kahneman and Tversky, 1984), individuals will be risk-seeking in the evaluation of available plans or solutions to deal with the sources of adversity. Note that the effects of adversity described in Assumptions 2 and 3, are by themselves likely to lead to an increase in the
rate of search for and adoption of solutions. Any rigidity in response resulting from adversity is
due neither to a deficit of motivation, nor a tendency for risk-averse behavior. To account for
rigidity in behavior, we must look instead to a failure of understanding, and to an inability to
change existing schemas in ways that make new forms of understanding likely.

Assumption 4. Economic adversity causes a narrowing of attention to environmental
stimuli.

The increased arousal resulting from adversity leads to narrowing of attention to wide
cues in the environment to the detriment of peripheral cues, and decreased ability to discriminate
among relevant stimuli (Staw, Sandelands, and Dutton, 1981). The construction of mental models
will thereby focus on the dominant aspects of the situation, as defined by the existing schemas, at
the expense of other stimuli. The form in which economic adversity is enacted will define the
relevant performance criteria that will receive increased attention, with decreased attention to
other performance measures, and decreased ability to determine which measures, and which
external events, may be relevant to the resolution of adversity.

Assumption 5. Economic adversity increases reliance on well-learned, readily available
schemas for inference and response and the construction of mental models.

Economic adversity leads to increased reliance on readily-available internal hypothesis
about the identity of stimulus objects, less flexibility in the choice of solution methods, decreased
tolerance for ambiguity, and an increased tendency toward emitting well-learned, dominant
responses (Staw, Sandelands, and Dutton, 1981). Under conditions of adversity, the hypotheses
and plans utilized in the construction of mental models will be less flexible and more focused on
applying existing knowledge contained in well-learned schemas. There will be less likelihood that
existing schemas will be rejected or transformed. Search efforts will be concentrated not on the
creation of new schemas, but on drawing upon already created schemas and applying them in understanding and resolving the problem of adversity. The consideration of alternative solutions will be limited to those that are well-scripted, or in the absence of specific scripts, to those consistent with the perceived stimuli, and which are contained in readily available schemas.

If we continue the analogy with econometric models, the effects of economic adversity on the construction of mental models can be compared to the construction of reduced-form models that limit the number of dependent variables under consideration, simplify causal relationships and limit the independent variables to those previously considered to be most important. Reduced-form models are simpler in form than expanded structural-equation models, and as long as the underlying structure has not changed, prove to be highly efficient for predicting behavior and guiding action. But like in the case of reduced form models, simplified mental models that focus on well-learned schemas prove deficient when the environment changes, and when past understanding and past solutions no longer hold.

Figure 1 incorporates the first five assumptions into a model of how individual-level information processing and decision-making shapes the enactment of economic adversity. The model allows us to reconcile, at the individual level, the findings of prospect theory with those of threat-rigidity. Adversity leads to increased search behavior, but search that is less flexible and more focused on central environmental stimuli and more dependent on well-known schemas. The enactment of adversity creates cognitive and motivational forces that narrow the attention of individuals toward the construction of mental models which concentrate on the resolution of adversity and which manifests itself as risk-seeking behavior. The narrowing of attention leads to the exclusion of peripheral environmental stimuli and the invocation of well-learned schemas. It
Figure 1

Individual Information Processing and the Enactment of Economic Adversity

Schemas for Identification and Interpretation

Enactment of Economic Adversity

Increased Attention and Effort

Adversity Framed as a Loss

Narrowing of Attention

Use of Available Schemas

Threat- Rigidity and Failure-Induced Change
should be noted that the experimental results of prospect theory deal with the consideration of objectively risky, but well-specified alternatives, while threat-rigidity in search deals with the failure to consider alternative responses that are not well understood, whose outcome is highly ambiguous, and for which a probability distribution of outcomes is not well-defined. Individuals may have less tolerance for ambiguity under adversity, but this reduced tolerance at the same time some form of response is called for, will lead to increased adoption of objectively risky, but well-known alternatives. The tendency for loss aversion, the restriction of information processing, and the reduced quality of decision-making under adversity may in fact lead to a subjective underestimation of the risks involved in the selection of previously experienced responses.

Also note that the increased reliance on available schemas in the enactment of economic adversity need not imply a failure to respond to the perceived threat or loss. Rigidity of response entails decreased flexibility in the use of available schemas, but such schemas may themselves provide readily-available responses that entail organizational change. For example, scapegoating (Gamson and Scotch, 1964; Boeker, 1992) is a typical response to economic adversity, which implies the application of a simple schema for explaining and responding to adversity. But scapegoating results in changes in management and executive leadership, both a form of organizational change and a precursor to subsequent change.

The examination of the effects of individual-level information processing on the enactment of economic adversity is a necessary, but not sufficient step in reconciling the conflicting predictions of theories of failure-induced organizational change and threat-rigidity. The allocation of attention in organizational decision-making is shaped not just by the individual psychology of attention, but by the influence of group, organizational, and supra-organizational forces on the
structuring of attention. First, while framing, narrowing of attention, and construction of mental models are cognitive processes that occur at the level of individual psychology, cognition and thinking are social processes (Durkheim, 1965; Douglas, 1986) that are shaped by the social groupings, organizations, and institutions in which the thinking takes place. Legitimized social groups provide the classifications for thinking and decision-making (Douglas, 1986) structure social identities (Tajfel, 1982; Hogg and Abrams, 1988), and provide a logic of appropriateness (March and Olsen, 1989) by which schemas for interpreting and responding to environmental circumstances are generated and get invoked.

Second, cognitive perspectives on organizational actions must take into account that organizations are not unitary actors, but are comprised of individuals with diverse interests, schemas, and experiences. Individual behavior is shaped not just by narrow self-interests, but by his or her social and group identifications (Tajfel, 1982; Hogg and Abrams, 1988). While individuals bring their identities, interests, and schemas into the organization, these identities, interests, and schemas are themselves shaped by their experience in the organization and its subunits. Individuals are affected by the social influence of group members, by their attention to group members with higher status and political power, and by the extent to which their organizational experience leads them to develop and maintain social identities as members of the organization and its subgroups. Organizational and group influence on individual information processing help determine what stimuli to pay attention to, what schemas to use in thinking, and what potential plans to consider. Individual decision-making in groups and organizations is shaped not just by individual interests and cognitions, but by group cohesiveness and social integration (O'Reilly, Caldwell, and Barnett, 1989), the structure of participation (Cohen,
March, and Olsen, 1972; March and Olsen, 1976), the structure of organizational activities (Stinchcombe, 1968), and the formation of political coalitions (March, 1962; Cyert and March, 1963). Individual decision-making in organizations results from the tension between the interests, identities, and cognitions that the individual brings to the organization, and the interests, identities, and cognitions that are invoked by individual participation in organizational activities.

Third, organizations develop a set of structures, processes, and routines that deal with cognitive limitations of individuals in information processing and decision-making, and which provide a set of decision premises (Simon, 1947), organizational identifications (March and Simon, 1958), and rules and routines (Cyert and March, 1963; Nelson and Winter, 1982; March and Olsen, 1989) which shape organizational memory (March and Simon, 1958; Walsh and Ungson, 1991) and decision-making. These structures, processes, and routines are structured at the level of the organization, and these structures are themselves expressive of institutional isomorphism at the level of the organizational field (DiMaggio and Powell, 1983), and of the "rationalizing myths" of modern society (Meyer and Rowan, 1977, Meyer, Boli, and Thomas, 1987). The effects of economic adversity on organizational decision-making must therefore look to the effects not just at the individual level of cognition, but at the social and cognitive structures at the group, organizational, and supra-organizational levels.

THE STRUCTURE OF ORGANIZATIONAL GROUPS AND
THE STRUCTURING OF ORGANIZATIONAL ATTENTION

Decision-making and information processing in organizations is neither a solitary activity undertaken by isolated individuals nor a communal process in which all organizational members participate equally. Decision-making and information processing in organizations takes place in
groups, whether they be top management groups, formal organizational subunits, temporary
task-performing groups, or informal social groupings. Group activities alter the normative and
informational social influence of other group members (Deutsch and Gerard, 1955), trigger distinct
social identities (Sherif, et al. 1961; Hogg and Abrams, 1988) through which motivations,
interests, values, and beliefs get defined, and alter the subject, content, flow, and definition of the
situations to which group members get exposed (Lewin, 1952, Stinchcombe, 1968). Group
activities in organizations shape the creation and invocation of schemas for attending, interpreting,
and responding to the diverse situations and environmental stimuli faced by the organization.
Consequently, understanding how attention in organizations is structured under economic
adversity requires that we conceptualize how organizational activities are structured into diverse
groups, how these diverse groups structure the attention of organizational members, and how the
tensions between individual interests, identities, and beliefs and group-level attention focus get
resolved.

Group processes in organizations provide mechanisms for both differentiating and
integrating the focus of attention of organizational members. The differentiation of organizational
attention is shaped by the division of labor in the organization (March and Simon, 1958), as
members of organizational subunits selectively attend to the various subenvironments faced by the
organization (Lawrence and Lorsch, 1967). The division of labor in organizations differentiates
the foci of attention of individuals through the production and utilization of specialized repertoires
of schemas for attending to distinct components of the environment. In complex, hierarchical
organizations top management serves as a primary mechanism for integrating the diverse
environmental concerns of the organization and for coordinating the utilization of specialized
repertoires of action invoked by the specialized subunits. While the myriad formal and informal social groupings in organizations can all potentially shape the attention focus of individuals, I will concentrate in this paper on two distinct forms that are particularly critical to the differentiation and integration of attention structures in organizations: organizational subunits, and top management groups.

Assumption 6. Complex organizations are constituted by subassemblies of organizational subunits which develop their own distinct social identities, specialized foci of attention, and, specialized schemas for interpreting and responding to their respective subenvironments.

Complex organizations are characterized by subassemblies of organizational subunits, with each subunit dedicated to specialized tasks in the division of labor (Weber, 1978; March and Simon, 1958: Simon, 1962). The division of labor in complex organizations affects the information received and processed by individuals in organizations contributing to selective exposure to environmental stimuli, differentiated subgoals, specialized focus of attention, and the production and reinforcement of social identification of organizational members with the subgoals of the organizational subunits (March and Simon, 1958). Diverse organizational subunits develop a differentiated set of information filters, communication channels and strategies to deal with their respective subenvironments (Henderson and Clark, 1990). These specialized repertoires of action and communications are embedded in a set of schemas for enacting responses to environmental stimuli. The specialized focus of attention of organizational subunits is a key link between the individual and the cultural beliefs and values that get into his consciousness (Stinchcombe, 1968). Goals, interests, norms, and categorizations of individuals are shaped by the structuring of organizational activities into subunits and the distinct social identifications that result from those subunits.
Assumption 7. In complex, hierarchical organizations, top management groups serve to integrate the differentiated foci of attention of the diverse organizational subunits.

The differentiation of organizational activities serves to specialize attention into distinct aspects of the organization's environment, but this creates problems of integrating and coordinating the activities of the organization (Lawrence and Lorsch, 1967). The hierarchic structure of complex organizations provides a formal mechanism for integration through vertical control of differentiated activities (Simon, 1947). Given the restricted focus of attention of the various subunits in the organization to the environment, top management groups (Hambrick and Mason, 1984; Hambrick, 1993) serve as a primary mechanism for coordinating organizational attention to the diverse environmental contingencies faced by the organization.¹

The goals, interests, norms, and categorizations that characterize and constitute the social identification of group members provide a set of schemas from which mental models can be constructed. The degree to which individual interests and schemas prevail over shared interests and beliefs is contingent on the degree of cohesiveness of decision-making groups and the strength of group identities. An analysis of information processing and decision-making in groups must therefore take into account both the commonalities of interests and identities among group members as well as their differences. Groups vary in their level and degree of cohesiveness and social identification of their members with the group, and in the degree of existing or latent conflicts between group values, as defined by dominant political coalitions, and those of its individual members. Consequently, the effects of adversity on group decision-making will be

¹ In organizations constituted by tightly-coupled subassemblies, such as those characteristic of Japanese "lean" production systems (Womack, Jones, and Roos, 1990), lower-level mechanism for integration, such as product design teams, are commonly used to integrate both work activities and routine responses to environmental contingencies. Under such technological systems, organizational attention is less differentiated than in more loosely coupled systems. More direct coupling of organizational subunits will decrease the identification of organizational members with their subunits relative to the organization as a whole. A full examination of how tightly-coupled vs. loosely-coupled organizations differ in their structuring of organizational attention and in the enactment of economic adversity is an important issue that awaits further investigation.
contingent on the degree of cohesiveness and the strength of social identity of group members, and on the extent to which the perceived threat or loss has differential impacts on the interests of individual group members versus. those of the existing group and its dominant political coalition.

Assumption 8. For highly-cohesive groups, economic adversity will lead to increased stability in the dominant political coalition. For more fragmented groups with low levels of cohesiveness or social integration, economic adversity will change the structure of participation, increase group turnover, and lead to changes in the composition of the dominant political coalition.

The threat-rigidity hypothesis argues that economic adversity triggers a centralization of authority in decision-making and constriction of control (Staw, Sandelands, and Dutton, 1981) leading to reduction and centralization of participation in decision-making (Hermann, 1963). But exceptions have been found to the centralization effect under adversity (Gladstein and Reilly, 1985; Argote, Turner, and Fichman, 1989) suggesting that centralization of participation is itself contingent on the past experience of the decision-making group. Staw, Sandelands, and Dutton (1981) themselves suggest that adversity may lead to the strengthening of strong links within organizations and the dissolution of weak links, consistent with the observed dominant-response effect at the individual level (Zajonc, 1965). Janis (1972) argued that the centralization of authority and participation experienced in the group-think phenomena is a function of group cohesiveness. Group cohesiveness and social integration measure the strengths of links between group members that directly impacts the level of group participation and individual turnover.\(^2\)

Social integration or “the degree to which an individual is psychologically linked to others in a group” (O’Reilly, Caldwell, and Barnett, 1989) is closely linked to cohesiveness, or “the degree to which members in the group are attracted to each other” (Shaw, 1971). O’Reilly, Caldwell, and

\(^2\) For the purpose of this paper cohesiveness and social integration are used interchangeably.
Barnett (1989) found that social integration moderated the effects of group heterogeneity and led to lower levels of individual turnover.

While the attention of members of organizational subunits is heavily structured by division of labor, the attention of members of top management teams is more heavily influenced by the tension between their individual orientations and those of the subunits they identify with, and the cohesiveness and social integration of the group. Past organizational history and experience shapes the degree of group cohesiveness among members of the dominant political coalition, and establishes the degree to which group membership is likely to remain stable and the power of the top management group is likely to endure. A group’s cohesiveness is shaped by its common social identities, similar demographic characteristics, and shared objectives and experience. The stability of a dominant coalition is dependent on the relative absence of countervailing forces that limit a group’s power. Past failures, conflicting goals and values, fragmentation in the sources of power, and diversity in origins, identities, and experience are all examples of forces that may serve to weaken group cohesiveness and identification and threaten the stability of a dominant political coalition.

**Assumption 9. Economic adversity will increase interpersonal and intergroup conflict to the extent that the effects of economic adversity are perceived to have differential impacts on the resources and status positions of diverse individuals and subunits in the organization.**

Economic adversity itself generates pressures for group conflict to the extent that it generates competition for resources and status in the organization. The identification of individuals in organizations to the organization as a whole, to specific organizational subunits, or to individual interests will be shaped by the extent to which the threat or loss to the organization is perceived as a shared fate by all organizational members, or alternatively as an occasion for
competition for status, resources, and positions between individuals and organizational subunits. While the emergence of organizational threats can generate supraordinate goals and pressures for cooperation, competition for resources generates intergroup rivalry for resources (Sherif, et. al., 1961). Of particular importance here is the structure of rewards and positions and the nature of internal labor markets in the organization. If economic adversity is perceived to result in differential rewards, positions, and job retention, this is likely to generate increased level of conflict between individuals and groups in the organizations. Similarly if economic adversity is likely to threaten the distribution of status and resources between the diverse organizational subunits, greater intergroup competition and conflict is likely to result.

THE STRUCTURE OF PARTICIPATION, THE INSTITUTIONAL LOGIC, AND THE STRUCTURING OF ORGANIZATIONAL ATTENTION

Organizations continuously face a plethora of situations and stimuli resulting both from organizational actions and those of individuals within the organization, and from the interplay of the organization and its members with other individuals and organizations in its environment. Organizations are bounded in their capacity to assimilate, interpret, evaluate and/or respond to these overabundant stimuli and are selective in their attention and inattention to the myriad situations that it faces and to the range of alternative solutions and responses that it considers. The bounded capabilities of organizations are conditioned by the limited knowledge, skills (Nelson and Winter, 1982), and information-processing capabilities of individuals (Simon, 1955), and by the limited capabilities of organizations to integrate individual knowledge and skills, and to coordinate individual thoughts and actions. While individuals process information and make decisions through the application of schemas and the construction of mental models, organizations
structure the participation of individuals in organizational decision-making and regulate the allocation of schemas that individuals employ for perceiving, interpreting, and responding to diverse situations (March and Olsen, 1976). The structuring of organizational attention is shaped by the structure of social relations and by the logic inherent in the organization's cultural system. Consequently, an examination of how organizations selectively attend to internal and external stimuli requires that we consider how the organization's social structure and cultural systems both facilitate and constrain the consideration of alternative schemas for inference and response.

Assumption 10: Organizational choices are constructed from the repertoires of schemas available in organizational memory as enacted by participants in organizational decision-making and as regulated by the institutional logic of the cultural system.

At the organizational level mental models are socially constructed from those schemas available in organizational memory as governed by both the social structure of participation and by the systems of rules contained in the cultural system. Organizational memory refers to stored skills and knowledge from an organization's history that can be brought to bear on present actions and decisions (Walsh and Ungson, 1991). Organizations possess a repertoire of schemas in organizational memory that can deal with a wide variety of situations and which are invoked by organizational participants in the construction of mental models. This repertoire is encoded in standard operating procedures, organizational programs and routines, formal systems of information and control, structures and roles, stories and myths, and in the individual and group experience of organizational members. Organizational members have stored in memory possible solutions to problems that have been encountered in the past, both by the organizations and by other entities in its environment. Organization-specific experiences as well as normative and mimetic institutional processes (DiMaggio and Powell, 1983) help shape available alternatives.
These organizational repertoires are used not just in the case of routine situations or standard operating procedures, but are applied to novel situations by seeking analogies or areas of commonality with past situations in the construction of mental models. For example, economic downturns are often responded to by seeking solutions from past recessions. U.S. corporations commonly attend to economic downturns by temporary layoffs of their workers. The component parts of such solutions can also be invoked, and new organizational programs are produced by combining components parts of solutions stored in organizational memory.

The repertoires of actions available in organizational memory serve as tools, strategies, and kits for organizational response (Swidler, 1986) to a wide variety of situations. But the invocation and application of organizational schemas does not result from purely voluntaristic action by organizational members, but is itself structured by the social groups that participate in organizational decisions and by the rules and logic of the cultural system. Participation in organizational decision making affects both the placement in the organizational agenda of alternative courses of action and the choice among these alternatives. In the case of novel situations where the choice of actions and their results are ambiguous, organizational participants will have different interests and identities that will shape the choices to be made. In the case of strategic and organizational-wide decisions, the memory and experience of top management teams is most relevant given their greater participation in such decisions (Assumption 7).

Assumption 11: The structure of participation in organizational decision-making is generated by the division of labor and by the emergence of social groupings and political coalitions within the organization. Organizational decisions reflect the interests and identities of participants in organizational decision-making.

The structure of participation in organizational decision-making is critical to an understanding of how organizations respond to the numerous situations it faces. Who participates
in a decision process, how much time and attention she allocates to the decision, and who else is participating are critical determinants of the outcomes of organizational decision processes (Cohen, March, and Olsen, 1972; March and Olsen, 1976). Organizational participation is contingent on the formal and informal structures of the organization as conditioned by the division of labor, of emergent social groups and political coalitions, and is embedded in available organizational routines for responding to organizational situations.

Assumption 12: The institutional logic of the cultural system regulates the allocation of schemas for perceiving, interpreting, evaluating, and responding to situations.

While the structures of participation regulate the ways in which concrete individuals partake in organizational decisions and in which their interests and identities affect organizational choices, the rules for allocating schemas to situations — for deciding which problems get attended to, which solutions get considered, and which solutions get linked to which situations — operate with a considerable degree of autonomy from the participation of concrete individuals, and are reflective of the organization’s cultural system. The institutional logic (Jackall, 1988) is the system of rules, rewards, and sanctions derived from the multiple, contingent, and overlapping social identities both internal and external to the organization and the way these identities are structured within the organization. The institutional logic comprises both organizational conventions and highly institutionalized rules, practices, and procedures. Conventions refer to regularized rules, and social practices employed by organizations, and sustained by a convergence of means (Weick, 1979) of the diverse participants in organizational practices. Conventions and organizational routines are a form of truce (Nelson and Winter, 1982), in which the different interests and identities of the individuals and groups who participate in the convention cooperate in interlocked behaviors (Weick, 1979) as a result of a process of exchange, bargaining, and extrinsic
inducements. Conventions may become institutionalized to the extent that they become taken-for-granted, are sustained by a social identification with what the organization stands for, and become established through a logic of appropriateness (March and Olsen, 1989), in which its application becomes the natural way of thinking and doing.

The institutional logic of organization does not form a coherent cultural system, but reflects ambiguity, contradiction, and fragmentation (Jackall, 1988; Martin, 1992) consistent with the multiple and contingent social identities represented in the organization, the fuzzy boundaries and definitions of its system of rules and classifications, and the diverse situational contingencies that the organization continually faces. The conflict and contradictions contained within the logic are resolved through the organizational division of labor (March and Simon, 1958), bargaining and truce (Nelson and Winter, 1982), and by sequential attention to the diverse rules contained within the institutional logic (Cyert and March, 1963; March and Olsen, 1989). The fragmentation and contradictions contained within the logic provide potential sources of adaptability and change in the selection of organizational repertoires of action, and in responding to the myriad situations faced by the organization.

**Assumption 13: Prior adoption of a program in an organization increases its availability in organizational memory.**

While the institutional logic both enables and constrains the schemas and repertoires of action that are invoked by the organizations, it is not fully restrictive and allows for multiple alternatives to be considered. The selection among alternative schemas is conditioned by their availability in organizational memory. With the organizational adoption of a program of action, it becomes embedded in the memory of the organization and its members. In the event of a subsequent opportunity for organizational decision-making, the probability that the this type of
solution will be invoked by organizational participants is likely to increase. Organizational restructuring, strategic reorientations, and top management turnover are all examples of programs of action that when successfully adopted become more salient in organizational memory and increase the likelihood of subsequent adoption.

Institutional Effects, Culture, and Mimetic Processes. The repertoire of schemas in organizational memory relies not just on organizational-level experience, but on a broader set of practices, skills, and routines learned from the organization’s sector or field. The institutional logic of an organization is often incomplete, and organizations rely on the knowledge and experience of other organizations for responding to ambiguous situations. Organizations capture the past experience of other organizations and incorporate them into organizational memory (Levitt and March, 1988). In the case of ambiguity, organizations rely on and mimic the experience that other organizations are facing or have faced similar conditions (DiMaggio and Powell, 1983).

Assumption 14: Prior diffusion of a program of action in the organizational sector or field will increase its availability in organizational memory.

Prior diffusion of a plan of action in the organizational field increases the availability of the solution in organizational memory. Faced with decision-making opportunities, participants look not only to the organization’s own experience but to that of other organizations with which they are familiar. The wider and the more accepted the diffusion of a particular program of action, the greater the rate of adoption of the same type of program. Participants in boundary spanning roles play a critical role in this institutional diffusion of organizational solutions previously experienced by other organizations in the sector or field. For example, corporate directors may serve to
enhance organizational memory by bringing to bear the past choices and experience of other organizations to current decisions faced by the corporation.

**EFFECTS OF ECONOMIC ADVERSITY ON ORGANIZATIONAL STABILITY AND CHANGE**

The effects of economic adversity on organizational stability and change is shaped by the individual psychology of information processing and decision-making, the social and group psychology of organizational subunits and decision-making groups, the structure of social relations and the institutional logic of the cultural system, and isomorphic processes at the level of the organizational field. In previous sections I have successively examined these multilevel processes and have presented 14 assumptions on how they affect the structuring of organizational attention and the enactment of economic adversity. In this section, I will present a set of propositions, derived from the assumptions, that establish the boundary conditions under which economic adversity increases change and the conditions under which certain forms of rigidity result. Economic adversity, as enacted by participants in organizational decision-making, leads neither to a generalized change in all aspects of organization nor to a generalized rigidity in organizational response. The paradox of conflicting predictions of failure-induced change and threat-rigidity will be resolved by examining how the allocation of attention structures the process under which certain forms of organizational change are likely to increase and other types are likely to decrease.

The multilevel approach presented in this paper examines how the individual psychology of attention is shaped by the social grouping in which organizational decisions are made. The model of individual-level information processing and decision-making shown in Figure 1 will be
applied in the context of organizational subgroups and organizational level decision-making to
derive the propositions on the rate and direction of organizational change.

**Proposition 1:** Organizational subunits respond to perceived threats in their own respective subenvironments by increased reliance on specialized schemas and repertoires of action for inference, interpretation, and response.

This proposition follows from Assumption 1, 5, and 6. Organizational subunits are differentiated in their attention to the diverse features of organizational environments, and develop specialized schemas for interpreting and responding to their respective subenvironments (Assumption 6). At the subunit level, these specialized schemas are applied to enact economic adversity (Assumption 1). This results in increased use of well-learned repertoires of action for responding to the perceived environmental threat (Assumption 5). Many, if not most, potential threats to organizational resources are addressed at the level of organizational subunits. Specialized organizational subunits attend to such problems as loss of customers, increase in supplier costs, increase in accounts receivables, and government regulations, among others. The ability of organizational subunits to identify and respond to potential threats is dependent on the availability of specialized schemas that give meaning to the threats in the respective subenvironments. The identification of a perceived threat by the organizational subunit increases reliance on available repertoires of action for responding to these threats. Most “failure-induced organizational change” is of this nature. Cyert and March (1963) characterize this form of organizational response to environmental stimuli as “problemistic search.” The increased reliance by organizational subunits on available schemas for inference and response leads to “simple-minded, biased, localized search (Cyert and March, 1963)” for responding to adversity. Organizations decrease prices, increase R&D expenditures (Antonelli, 1989), layoff workers,
Problemistic search is a product of rigidity in organizational responses to adversity which results in routine forms of organizational change by organizational subunits. Problemistic search exemplifies both “risk-seeking behavior” and “threat-rigidity” as economic adversity increases the probability of adoption of well-learned dominant responses. Problemistic search, though routinized, often leads to restoration of economic performance and removal of the perceived threats from the organizational subenvironments. But the failure of problemistic search at the level of organizational subunits to remove environmental threats call may trigger the attention of top management groups. Formal information and control systems are established to monitor the environment and serve to enact economic adversity.

**Proposition 2: Economic adversity is enacted through the formal information and control systems as interpreted by participants in organizational decision-making.**

This proposition follows from Assumptions 1, 11, and 12. Formal organizations establish information and control systems to monitor their environment, obtain feedback on organizational actions and trigger organizational responses to environmental feedback. Information systems shape and embed the schemas available in organizational memory to evaluate and interpret such stimuli. Failures of economic performance must be enacted by available schemas (Assumption 1) and the invocation of theses schemas is regulated by the institutional logic (Assumption 12) for such failures to be enacted as economic adversity. The interpretation of the organization’s information systems will be made consistent with the interests and identities of participants in organizational decision-making (Assumption 11). Formal accounting systems play a critical role in the enactment of economic adversity, and in triggering intervention by members of the top management team. Accounting measures are rarely sufficient, by themselves, to permit...
identification of the underlying causes of decreases in economic performance in organization. The
dependence on accounting systems serves in fact to increase reliance on financial and cost control
measures to respond to deteriorations in performance (Starbuck, Greve, and Hedberg, 1978).
Accounting and management researchers have documented the failures of conventional financial
and managerial accounting systems to assist management in anticipating environmental threats,
and in providing clear links to managerial actions and responses (Johnson and Kaplan, 1987;
Eccles and Nohria, 1992).

Faced with economic adversity, top management groups can either constrain
decision-making to a core group of decision-makers, or open participation to others outside the
core, and turn the threat of economic adversity into an opportunity for forging new political
coalitions. The prior history, cohesiveness, and level of group identity will determine which of the
two paths will be taken. To the extent that the dominant political coalition is cohesive and stable
and its power well established, participation in organizational decision-making will become more
concentrated, and the interests and beliefs of the core dominant group will predominate. To the
extent that the cohesiveness of the dominant coalition is low, and the group identity weak,
economic adversity is likely to increase fragmentation in organizational decision-making, and to
foster changes in the dominant coalition.

Proposition 3: The effects of economic adversity on organization-level decisions depend
upon the social integration and cohesiveness of top management groups. (a) For strong and
cohesive decision-making groups, economic adversity will lead to organizational choices
that reflect the interests and identities of the dominant coalition. (b) For weak or
fragmented coalitions, economic adversity will restructure participation in decision-making
and reflect the interests and identities of newly emerging political coalitions.

This proposition follows from Assumptions 7, 8, and 11. At the organizational level, top
management groups serve to integrate the differentiated perspectives of the different
organizational subunits (Assumption 7). Economic adversity creates a bifurcation point, in which either the prevailing political structure will become strengthened and participation restricted, or alternatively, participation will become more fluid and new political coalitions will emerge. From Assumption 8, the organizational response to economic adversity affects participation and may lead to either greater concentration of control in the existing coalition or to greater fragmentation and political change, depending on the degree of cohesiveness and social integration of the dominant political coalition. If the former, organizational choices in response to adversity will reflect the interests and identities of the dominant coalition (Assumption 11), further strengthening its power. If the latter, group fragmentation will further weaken the power of the existing coalition, and leads to choices that favor the interests of new participants in the decision-making process and to an increased probability of emergence of new coalitions of power.

The hypothesized effects of adversity on participation in decision-making differ from those posited by the threat-rigidity thesis (Staw, Sandelands, and Dutton, 1981). Constriction of control and centralization of decision-making are seen in my formulation, not as general processes that affect all organizational decisions, but contingent on the prior strength of identity and cohesiveness of top management groups. The group-think phenomena (Janis, 1972) that underlies constriction of control in the threat-rigidity hypothesis does not equally apply to all decision-making groups, but is itself contingent on the level of group cohesiveness, the strengths of the group's social identity, and the stability of power within the group. At the top management level, the institutionalization of power of the CEO and top management groups is a precondition for centralization of control. If the power of the CEO is highly institutionalized, economic adversity will lead to greater entrenchment and a decrease in the rate of executive succession; for
more fragmented groups, economic adversity will lead to executive succession and changes in the composition of top management groups (Boeker, 1989, 1992; Ocasio, 1993).

**Proposition 4: Economic adversity increases the number of problem-solving decision opportunities and results in increased risk-seeking behavior.**

This proposition follows from Assumptions 2, 3, and 10. From Assumption 2, economic adversity leads to increased allocation of effort and attention to the interpretation and resolution of the problems of adversity. At the organizational level, problem-solving decision making is a taken-for-granted, highly institutionalized (Meyer and Rowan, 1977) characteristic of modern formal organizations, embedded in organizational memory, where perceived problems require organizational responses. The increased allocation of effort and attention to the problems of adversity will make use of available schemas for decision-making such as meetings, task forces, special projects, deadlines embedded in organizational memory (Assumption 10), and will lead to an increase in the number of problem-solving decision opportunities. Economic adversity creates a feedback effect on organizational actions that increases the number of decision opportunities designed for problem solving. This increase in decision-making opportunities is associated with the framing of decision-making in the domain of losses (Assumption 3). This results in risk-seeking behavior on the part of organizations, as evidenced by the risk-return paradox (Bowman, 1982; Bromiley, 1991).

Note that as in the discussion at the individual-level, risk-seeking behavior at the organizational level is seen to be consistent with a "threat-rigidity" response. For example, Starbuck, Greve, and Hedberg (1978) found that one of Sweden's most prestigious newspapers, Handelstidningen, when faced with economic adversity, responded by increased reliance on the newspaper's reputation for serious reporting about culture, business, and politics. They
strengthened the newspaper pages dealing with these areas, at the same time they ceased sports reporting, decreased crime reporting, and sold news and publishing equipment to obtain cash. For six years they continued with the same product strategy despite continued loss in readership. A rigid attention to the dominant responses of the organization was accompanied by a series of objectively risk-seeking organizational changes that were designed to cut costs and the spiraling losses. But after six years of continued losses, the once prestigious newspaper ceased all operations. Handelstidningen was rigid in its product strategy and in its numerous cost-cutting moves although these actions resulted in increased (objective) risks for the company.

**Proposition 5: Economic adversity concentrates problem-solving attention on the rapid resolution of problems associated with perceived threats, or losses, to the neglect of other factors or environmental stimuli.**

This proposition follows from Assumption 4 and Propositions 2 and 4. Economic adversity leads to a narrowing of attention to environmental stimuli (Assumption 4), which is biased toward the resolution of those problems associated with the perceived threat. Increased attention to the perceived threats is accompanied by a narrowing of information channels. The narrowing of attention, accompanied by framing of adversity as a loss and risk-seeking behavior, (Proposition 4) leads to increased reliance on problems associated with the perceived threat, and to decreased attention to other forms of organizational change. Accounting systems serve to enact economic adversity and to direct managerial attention toward financial measures and controls, and to decrease attention to nonfinancial measures and nonfinancial responses (Proposition 2). D’Aveni and MacMillan (1990) examined managerial communications of firms facing threat of bankruptcy and found decreased attention to environmental characteristics and increased focus on internal and cost characteristics. Starbuck, Greve, and Hedberg’s (1978) case studies of
Scandinavian companies confronted with adversity showed how top managers concentrated their attention on resolving the problems of adversity, but failed to attend to other environmental stimuli that affected outcomes. Handelstidningen's managers concentrated their attention on cost-cutting while ignoring environmental evidence that their readers were interested in both sports and crime coverage. Facit, a once successful manufacturer of business machines and office furnishings, when faced with threats from new computer products closed plants and attempted to reduce costs but failed to realize there was unfilled demand for its typewriter products.

**Proposition 6:** Economic adversity increases reliance on core cultural assumptions, values, and beliefs, as interpreted by participants in organizational decision-making, increases the rate of adoption of solutions that are consistent with the core cultural assumptions and decreases the rate of adoption of other forms of organizational change.

This proposition follows from Assumptions 5, 12, and Proposition 4. Economic adversity leads to increased reliance on dominant schemas for inference and response (Assumption 5). Core cultural assumptions, values, and beliefs provide a set of schemas, readily available in organizational memory (Walsh and Ungson, 1991) that constitute the dominant rules of the institutional system. Under conditions of economic adversity, participants in organizational decision-making will be regulated by the institutional logic of the cultural system (Assumption 12). Due to their centrality, taken-for-grantedness and highly institutionalized status, core cultural values, assumptions, and belief are more likely to be relied upon for interpreting economic adversity, and for evaluating alternative solutions. Solutions that are most consistent with core assumptions and values are more likely to be considered. Given risk-seeking behavior under conditions of economic adversity (Proposition 4), the rate of adoption of solutions consistent with core values and assumptions is likely to increase. But the increased reliance on dominant, readily
available schemas is likely to decrease those forms of organizational change which are less consistent with core cultural assumptions.

A key assumption of modern industrial corporations, in the U.S. and Western Europe, is that technological innovation and investment provides a source for achieving competitive advantage. Much of the evidence for failure-induced change relates to increased investments in research and development (Antonelli, 1989), or more recently in research and development consortia (1993). In the U.S. automobile industry, General Motors responded to increased threats from foreign competition through acquisitions of technology-based companies such as EDS and Hughes Aircraft, and increases in R&D expenditures as percent of sales from 3.0% in 1971 to 3.9% in 1980 and 4.8% in 1990. But for a long period, General Motors applied increased technology and automation to the mass production paradigm of manufacturing, without questioning the manufacturing and human resource principles that underlie mass production. Meanwhile, Toyota and other Japanese manufacturers had developed and adopted just-in-time, Kanban, and other forms of lean production system, with less automation and much higher levels of productivity (Womack, Jones, and Roos, 1990). General Motors responded to the threat of Japanese competition by massive investments in acquisitions and in new technologies, consistent with its core beliefs, but failed to respond with changes in its manufacturing principles or human resource practices that challenged core values and assumptions.

**Proposition 7: Economic adversity will increase the rate of adoption of organizational options or programs previously experienced, either by the organization or by other organizations in its field, and decrease the rate of adoption of other forms of organizational change.**

This proposition follows from Assumptions 5, 10, 13, and 14, and Proposition 4.

Economic adversity leads to increased reliance on available schemas (Assumption 5). Solutions
that have been experienced by an organization or other organizations in its field will be more readily available in organizational memory (Assumptions 13 and 14) and more likely to be invoked in the process of organizational decision-making (Assumption 10). Given risk-seeking behavior under conditions of economic adversity (Proposition 4), the rate of adoption of readily available solutions that have been experienced by the organization or by other organizations in its field is likely to increase. But the increased reliance on readily available solutions (Assumption 5) is likely to reduce the rate of other novel forms of organizational change that have yet to be experienced.

The results of Assumptions 13 and 14, and Proposition 7 combined imply that previous experience with a form of organizational change (e.g., organizational restructuring, strategic change, type of managerial succession) will have both a main effect on the rate of subsequent adoption as well as an interaction effect with economic adversity (i.e., a negative interaction effect of prior organizational and/or sectoral experience with economic performance). That is, prior adoption by either the organization or other organizations in its sector will increase the rate of subsequent adoption of the same type of program, and this rate of increase will be even greater under conditions of economic adversity. Both main and interaction effects are central tenets of my proposed theory which are subject to empirical verification.

Proposition 8. Economic adversity will increase the adoption of modular forms of organizational change that involve the selection, extension, and replication of repertoires of action at the level of organizational subunits and inhibit forms of organizational change that require reconfigurations among the activities of distinct subunits.

This proposition follows from Assumption 5, 9, and Proposition 1. Economic adversity will increase interpersonal and intergroup conflict to the extent that it is perceived to have differential impacts on diverse individuals and groups in the organization (Assumption 9). At the
same time, economic adversity leads to increased reliance on dominant schemas for inference, interpretation, and response (Assumption 5). Increased conflict coupled with narrowing of attention hinders the renegotiation of implicit and explicit contracts between individuals and groups in organizations. The quasi-resolution of conflict (Cyert and March, 1963) and underlying truce that characterizes organizational convention, routines, and standard operating procedures will be difficult to reconfigure under conditions of adversity and increased political behavior. New forms of cooperation between diverse interests are less likely to be formed if the individuals or groups perceive that adversity will lead to differential outcomes. This situation is heightened by the group identifications, and specialized schemas and repertoires of action adopted, under conditions of economic adversity, at the level of the organizational subunits (Assumption 1). Consequently, the adoption of schemas and repertoires of action for interpreting and responding to economic adversity will be contingent on the level of interpersonal and intergroup conflict generated by such schemas and on the degree of cooperation required for implementing the desired behavior. This implies that the selection, replication, and extension of organizational routines at the level of organizational subunits will be more likely to be adopted than other forms of organizational change that require reconfiguration or renegotiation of existing implicit and explicit agreements among diverse individual and group identities in the organization. This leads to a modularity of response under conditions of adversity.

The prevalence of modular forms of organizational change is associated with the failure of organizations to respond to competence-destroying architectural innovation (Henderson and Clark, 1990). In the case of product development, architectural innovation requires change in the technological reconfigurations among different technological components, and requires extensive
communication and collaboration among specialized subunits of the organization, which regularly attend to their own independent components and to the underlying relationship. Henderson (1992) argues that architectural knowledge is a pervasive issue in organizational transformation that extends to manufacturing, marketing, human resource management and the interrelationship between organizational practices. The prevalence of modular forms of organizational change has also been found in human resource practices (Kochan and McKersie, 1992) and in the adoption of manufacturing technologies at the plant level (MacDuffie and Krafcik, 1992). Modular forms of innovation are more readily adopted because they do not involve the renegotiation of explicit and tacit forms of collaboration between organizational members.

Proposition 9. Under economic adversity, organizational changes that require the reconfiguration of activities among organizational subunits will be contingent on the emergence of new political coalitions.

This follows from Propositions 3 and 8. The effects of economic adversity on the stability of political coalitions is contingent on the cohesiveness and social integration of the coalition at the time adversity is faced (Proposition 3). While for highly cohesive groups this leads to a constriction of control and greater concentration of power, for more fragmented groups, new political coalitions and a reconstitution of top management groups may result. The emergence of new political coalitions and top management groups provides opportunities for organizations to engage in reconfigurations that extend across the diverse activities of organizational subunits (Starbuck, Greve, and Hedberg, 1978; Tushman and Romanelli, 1985). The emergence of new political coalitions is a precondition for the organizational reconfigurations which require new forms of collaboration among the diverse individuals and organizational subunits of the organization. At the level of top management groups, organizational reconfigurations are more
likely with major change in the top management team, not just the CEO. At the level of
organizational subunits this may also require new coalitions and collaboration between diverse
groups, including different forms of cooperation between management and labor (Kochan and
McKersie, 1992).

CONCLUSIONS

The contradictions between theories of failure-induced change and theories of
threat-rigidity have remained so far unresolved. Past empirical research has invoked one or
another theory depending on which outcomes are observed, but this usage is unsatisfactory. This
paper develops a multilevel theory of the effects of economic adversity on individual, group, and
organizational decision-making that presents a theoretical resolution to the conflicting predictions.
A set of nine propositions are presented to explain the effects on organizational decision-making
processes and on the rate and direction of organizational change.

The principal thesis is that while economic adversity, as enacted by the organization,
induces problem-solving search and increases the quantity of organizational decisions, its effect on
the direction of organizational change is contingent on the social construction of mental models
by participants in organizational subunits, as regulated by the institutional logic of the cultural
system. The institutional logic is contained in the formal information systems, core cultural
assumptions, values, and beliefs, and in past history and experience in the organization and its
organizational field. Economic adversity leads to neither generalized failure-induced change nor to
generalized threat-rigidity. Economic adversity induces localized problemistic search biased along
the direction of the dominant schemas for inference and response. Economic adversity will
increase the adoption of those types of organizational change that (1) have been well-learned,
whether through prior organizational experience, or through institutional mimetic processes, (2) that are congruent with core assumptions and beliefs, as interpreted by organizational decision-makers, and, (3) that favor the interests and identities of participants in the decision-making process. Organizational changes that alter the structure of relationships along organizational subunits are less likely to the extent their implementation leads to intergroup rivalries. Contrary to the original threat-rigidity thesis, the effects of adversity on constriction in control are posited to hold only for organizations with highly stable and cohesive power structures. If organizational power is highly fragmented, economic adversity will lead to more fluid participation and provide opportunities for the formation of new political coalitions.

This paper presents a resolution to the paradox of conflicting theories and findings of threat-rigidity vs. failure-induced change through a theoretical synthesis and extension of the attention-based theory of organizations (Simon, 1947; March and Simon, 1958; Cyert and March, 1963; Stinchcombe, 1968; March and Olsen, 1976; Weick, 1979). A principal contribution of this paper is to link explicitly, through a revised model of the structuring of organizational attention, the individual cognitive psychology that underlies risk-seeking behavior and the threat-rigidity response with the social relations and cultural logic that structure thinking and decision-making in organizations. This paper extends the attention-based view, first, by incorporating, at the micro-level, recent formulations by cognitive psychologists on the role of schemas and mental models on information processing and decision-making. At the macro and organizational subunit level, it accounts for the effects of hierarchical structures on the differentiation of organizational attention (Lawrence and Lorch, 1967), which were present in the Simon (1947) and March and Simon (1958) formulations, but absent from many, if not most, later works. This paper explicitly
links the treatment of repertoires of action in organizational memory to a culturally-based logic of how the diverse schemas and repertoires are organized and invoked. Finally, the paper incorporates the findings of the new institutionalism (Powell and DiMaggio, 1991); attention is shaped not just by organizational-level culture and cognitions, but by the rules, cognitions, and isomorphic processes constituted at the level of the organizational field (DiMaggio and Powell, 1983).

The proposed solution to the theoretical paradox provides a set of guidelines to orient subsequent research and explain conflicting empirical findings and interpretations. First, it emphasizes the subjective nature of economic adversity, and the role of existing schemas, at the individual level, and of formal information systems, at the organizational level, in enacting poor economic performance as a potential loss or threat to the entity. While the enactment of adversity is implicit in both theories of failure-induced change and theories of threat-rigidity, it is not always recognized as such in empirical research. Formal information systems in for-profit organizations are dominated by short-term accounting and financial measures of performance. Economic adversity will be enacted by the organization to the extent that it is reflected in the existing information and control systems. Studies of the effects of threats to economic viability of an organization must distinguish between failures of enactment, in which the environmental threat (e.g., entry of new competitors) is not reflected in a timely manner in the formal systems of information, and failures of understanding. In the latter, organizations act in response to the perceived adversity, but the existing schemas embedded in the culture and organizational experience contribute to errors of inference, rigidities in applying cultural assumptions and beliefs, and an overreliance on past solutions.
Second, the theory highlights the predominance of problemistic search and routinized forms of organizational change as responses to economic adversity. Most forms of “failure-induced change” are routine, local, and biased (Cyert and March, 1963). Problemistic search is a result of both “risk-seeking behavior” and “threat-rigidity.” Under conditions of environmental stability reliance on local, routine change will lead to a resolution of perceived economic threats. But organizational failures may result if the organization is confronting non-routine changes in its environment and existing routines and repertoires of action do not lead to restoration of economic performance.

Third, threat-rigidity effects take the form of increased attention to isomorphic pressures at the level of the organizational field. Observed organizational responses to adversity often reflect the adoption of practices previously diffused throughout the organizational field. Under conditions of ambiguity and stress, organizations rely, not just on internal models of action, but on the experience of other organizations in its field for interpreting, and responding to environmental stimuli. Mimetic isomorphism biases the direction of organizational change under adversity toward forms of organizational solutions that have been previously adopted by other organizations. Business consultants and managerial researchers provide corporations with “best practices” which are adopted in response to economic adversity. Current examples include total quality management, business reengineering, benchmarking, team-based production and product development, and the networked organization. But fundamental innovation, which has not been experienced by other organizations, is less likely under conditions of economic adversity.

Fourth, the proposed theoretical reconciliation emphasizes the predominance of modular forms of organizational change, and the increased difficulties in undertaking organizational
reconfigurations under adversity. Problemistic search is most often conducted at the level of organizational subunits, and typically consists of the selection, extension, and replication of existing organizational conventions and routines. Changes in organizational and technological architectures that require reconfigurations among organizational subunits increase potential sources of conflict, and are less likely to be adopted. Changes in the dominant political coalitions are a precondition for forms of organizational change that require renegotiation of the implicit and explicit contracts between the diverse groups and individuals in organizations.

Finally, this paper highlights the rule-based nature of organizational change under adversity. Rules affect organizational responses both in terms of problemistic search and in the selection among alternative organizational conventions and routines. The institutional logic of the cultural system provides a set of core cultural rules, assumptions, norms, and values that guide which types of organizational solutions are appropriate and under what conditions. Not all forms of organizational change are equally likely. Earlier, I discussed the institutionalized nature of technological change, and its increased utilization under conditions of adversity. In the U.S., scapegoating is an organizational solution deeply embedded in core cultural assumptions about individual managerial responsibility and control (Jackall, 1988). While this increases the likelihood of CEO and executive succession under conditions of adversity, other forms of organizational change, such as employee participation in corporate governance, and flattening of managerial compensation violate core cultural assumptions and are less likely. In Japan, responses to economic adversity are regulated by different rules and cultural assumptions; employee layoffs, a dominant response in the U.S. for both cyclical and structural restructuring, is not considered appropriate by Japanese management.
Organizations experience political and cultural constraints on their actions at all times, not just under economic adversity. The theory proposes, however, that these effects become even stronger under conditions of adversity, as cognitive and motivational effects serve to narrow the focus of organizational attention, and as cohesive groups become more stable in their social and political structures. The increased focus and rigidity in response that results from economic adversity need not imply that a failure of understanding necessarily follows. To the extent that the environment remains fundamentally unaltered, increased focus and attention to past assumptions and solutions are likely to increase the organization’s abilities to improve its economic performance.

Staw, Sandelands, and Dutton (1981) argued that the threat-rigidity cycle was a short run effect, and that in the long run, organizations would be able to learn from failures that result from the adoption of well-learned responses. While organizations are likely to adopt other types of change in the long-run, the narrowing of attention and reliance on cultural assumptions and beliefs is likely to continue as long as economic adversity prevails. While a theory of organizational learning and cultural change is beyond the scope of this paper, my assumptions about the use of existing schemas embedded in the institutional logic imply that core cultural assumptions and beliefs are not easily changed. It is more likely that substantial organizational change results from changes in the political structure of participation, and from the emulation of solutions and practices adopted by other organizations in its field.
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