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ORGANIZATIONAL ACTIONS IN RESPONSE TO THREATS AND OPPORTUNITIES

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This study tests a model where threats and opportunities lead directly to different organizational actions, and compares it to a model where organizational characteristics moderate organizational actions in response to threats and opportunities. To better understand these effects, we differentiate the dimensions of threat and opportunity associated with the threat-rigidity hypothesis from the dimensions associated with prospect theory. In this study, threats had the main and moderated effects predicted from the literature, but opportunities did not.

[76 words]

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Organizational adaptations to environmental changes are strongly influenced by the interpretations executives make of the environmental changes (Daft & Weick, 1984; Hambrick & Mason, 1984; Thomas, Clark & Gioia, 1993). Because the effectiveness of organizations is influenced by the degree of fit between organizations and their environments (Doty, Glick & Huber, 1993; Miles & Snow, 1978;), it is important that organizational adaptations be appropriate for the environmental changes. Because environmental changes are often ambiguous (Ford & Baucus, 1987; Pfeffer & Salancik, 1978) interpretations of environmental changes play a large part in the future actions and the continuing effectiveness of the organization.

Specifically, executives' perceptions seem to influence their organization's actions as the executives filter and interpret incoming information and make decisions based on those interpretations (Hambrick & Mason, 1984; Starbuck & Milliken, 1988; Thomas et al., 1993). Executives appear to categorize many environmental changes as being either threats or opportunities (Dutton & Jackson, 1987; Fredrickson, 1985; Jackson & Dutton, 1988). These categorizations may influence executive reactions to environmental changes, and consequently influence organizational actions (Dutton & Jackson, 1987; Thomas et al., 1993). In the study reported here, we attempt to explicate and empirically assess the linkage between executive perceptions of threats and opportunities and subsequent organizational actions, a topic that scholars have suggested needing further empirical examination (Ocasio, 1995; Sitkin & Pablo, 1992; Thomas et al., 1993).

A parsimonious and prevalent argument holds that executives' perceptions of environmental threats and opportunities have consistent effects on actions regardless of the organizational context (Dutton & Jackson, 1987; Staw, Sandelands & Dutton, 1981; Thomas

et al., 1993). This parsimonious argument, however, oversimplifies the empirically demonstrated multi-dimensionality of threats and opportunities. (cf. Jackson & Dutton, 1988; Thomas et al., 1993). Moreover, this argument fails to recognize that two substantive bodies of knowledge -- prospect theory (Kahneman & Tversky, 1979) and the threat-rigidity hypothesis (Staw et al., 1981) -- have been associated with examining the influence of threats and opportunities on organizations, using arguments that vary considerably in their underlying logic. Although a very few researchers have integrated these two theories into their multi-dimensional conceptual models examining the effects of threats and opportunities on organizational actions (cf. Ocasio, 1995), to the best of our knowledge, no empirical test of such a model has been reported to date. We add to this body of knowledge through investigating a model that integrates prospect theory and the threat-rigidity hypothesis, and explicitly considers the influence of the various dimensions of threats and opportunities on organizational actions. In doing so we test whether this more elaborate representation of 'threat' and 'opportunity' results in a more accurate and valid model of the influence of executive perceptions of environmental changes on organizational action.

However, even this model may be too simple for such a complex topic. Some researchers argue, for example, that it is a combination of top management interpretations of the environment and organizational characteristics that jointly influences organizational actions undertaken in response to environmental changes (Corner, Kinicki & Keats, 1994; Dutton & Duncan, 1987). For example, organizations' past experiences -- retained in their routines -- and the availability of organizational slack resources are both likely to influence organizational actions (Greve, 1998; Lant & Mezias, 1992). Further, because individuals are responsible for initiating and implementing these routines, and sanctioning the use of resources, it may be that organizational routines and resources interact with executives' perceptual processes to influence organizational actions (March, 1981). While a number of

researchers have addressed the separate effects of executive interpretations of the environment (cf. Thomas et al., 1993) and organizational routines (cf. Amburgey & Miner, 1992) and resources (cf. Nohria & Gulati, 1996) on organizational actions, greater understanding is needed of models that combine these factors (Corner et al., 1994; Dutton & Duncan, 1987; Thomas & McDaniel, 1990; Wiseman & Bromiley, 1998).

In this paper, we investigate the direct influence of perceived environmental threats and opportunities on organizational actions. Further, we argue that an organization's strategic type, which represents its prevailing routines (Ansoff, 1965; Miles & Snow, 1978), and slack resources will each influence organizational action. Finally, we examine the influence of the interaction between these organizational characteristics and executives' perceptions on organizational actions. Through this richer explanation and empirical assessment of the processes linking interpretations and actions, we attempt to contribute to a greater understanding of organizational actions in response to threats and opportunities.

ANTECEDENTS TO ORGANIZATIONAL ACTIONS

An important dimension along which domains for organizational actions are differentiated is whether they are directed at the internal or the external environment of the organization (Cook, Shortell, Conrad & Morrisey, 1983; D'Aveni & MacMillan, 1990; Tushman & Romanelli, 1985). Externally directed actions, which are aimed more at modifying the environment (e.g., developing a new market niche or altering regulatory legislation), may require managers to operate in domains where they have less control than within their organizations. These actions may involve the use of substantial resources without any guarantee of returns, and may lead to agreements with external bodies that constrain future actions by organizations (Cook et al., 1983; Dutton & Jackson, 1987; Pfeffer & Salancik, 1978; Thompson, 1967). Thus, externally directed actions are often deemed less desirable than internally directed actions because they are generally riskier and more difficult

to implement (Dutton & Jackson, 1987).

In contrast, internally directed actions, which are aimed more at adapting the organization to the pressures of the environment (e.g., modifying organizational structure or setting up an interdepartmental committee), are often favored by executives because they are generally less risky and easier to implement and control than are externally directed actions (Cook et al., 1983; Dutton & Jackson, 1987; Pfeffer & Salancik, 1978).

Whether organizational actions are directed at the external environment or are directed internally determines which stakeholders (e.g., customers, employees, competitors) and -- more broadly -- which elements of the economy or society are most affected. Thus, the predictive power of economic or social theories that take into account organizational actions will be influenced by whether organizational actions are internally or externally directed. In the context of our concern with the relationship between environmental events and organizational actions, such theories may focus on (1) the determinants of what environmental changes or events are noticed by organizations, (2) the likelihood of organizations taking action in response to these events, and (3) the nature or directionality of organizational action in response to environmental events, *conditional* on organizational actions having taken place. Due to the availability of field sites, the cooperation of key informants, and our own resources, we chose to address the third of these questions. We therefore did not include in our analysis any observations where organizations failed to take action. Our results and conclusions regarding organizational responses to environmental events may thus be generalized only to those situations where organizations act rather than choose not to act.

We note that while an organization may simultaneously take internally and externally directed actions in response to an environmental event, we examine whether the prevalence of each type of action varies with specific characteristics of the situation.

Organizational Responses to Threats and Opportunities

Threats and opportunities are two categories that have been found to be salient in executive decision-making (Jackson & Dutton, 1988). Both have a sense of urgency and difficulty, and are associated with large stakes. They are thus likely to evoke some form of organizational action. However, in other respects, the two phenomena are significantly different. Threats involve a "*negative* situation in which *loss* is likely and over which one has relatively *little control*," while opportunities imply a "*positive* situation in which *gain* is likely and over which one has a fair amount of *control*" (Dutton & Jackson, 1987: 80). Although three dimensions were initially proposed to characterize threats and opportunities, empirical work does not support a clear differentiation of the negative versus positive dimension from the loss versus gain dimension (Thomas & McDaniel, 1990; Thomas et al., 1993). Thus, we consider these dimensions together as a single dimension labeled *likely loss* versus *likely gain*. Consistent with the above researchers, the second dimension is treated separately and labeled *control reducing* versus *control enhancing*.

Attempts to understand organizational responses to threats and opportunities have drawn on bodies of research that lead to conflicting conclusions. One line of argument, associated with the threat-rigidity hypothesis (Ocasio, 1995; Staw et al., 1981), suggests that executives faced with threats perceive that they have little control over the situation and face the risk of a negative outcome. In order to offset these negative perceptions, executives are likely to respond in domains over which there is greater organizational control. Further, perceptions of threat can intensify concerns about efficiency (Staw et al., 1981) and, in this way also, focus attention on issues internal to the organization, such as cost cutting and budget tightening (Thomas et al., 1993). Finally, since events seen as threats make the riskiness of the situation more salient, executives may respond to them with risk averse behavior (Sitkin & Pablo, 1992). These arguments suggest that executives are likely to

respond to perceived threats in the environment by initiating internally directed actions because they perceive such actions to be associated with higher levels of control and lower levels of risk than are externally directed actions (Dutton & Jackson, 1987). Conversely, opportunities are argued to be associated with a greater sense of control (Jackson & Dutton, 1988; Taylor, 1989) and are more likely to make salient the potential gains rather than the risks involved (March & Shapira, 1987). Thus, executives faced with opportunities may initiate actions that might otherwise be perceived as too risky (Thomas et al., 1993), such as actions directed at the external environment (Dutton & Jackson, 1987).

The second body of research, associated with prospect theory (Kahneman & Tversky, 1979), appears to contradict this reasoning. Prospect theory proposes that individuals in favorable conditions are risk averse because they feel they have more to lose than to gain. Conversely, individuals who are in unfavorable circumstances are risk seeking because they feel they have little to lose. Thus, executives facing threats may be expected to be risk seeking, while executives facing opportunities may be expected to be risk averse (Fiegenbaum & Thomas, 1988; Wiseman & Gomez-Mejia, 1998). Assuming that externally directed actions generally entail greater risk than internally directed actions due to the reasons outlined earlier, prospect theory leads us to expect organizations facing threats to respond with externally directed actions, while organizations facing opportunities respond with internally directed actions. For example, when the environment is benevolent, organizations may have little reason to intrude into the environment (Child, 1984), while organizations facing hostile environments may intrude more in order to search for information or attempt to manipulate the environment (Daft & Weick, 1984).

These contradictory arguments can be resolved by examining each model with regard to the relevant dimension of threat. As Ocasio comments, “the experimental results of prospect theory deal with the consideration of objectively risky but well-specified

alternatives, while threat-rigidity deals with the failure to consider alternative responses that are not well understood, whose outcome is highly ambiguous, and for which a probability distribution is not well-defined" (1995: 297). He clearly links threat-rigidity with uncertainty and uncontrollability, and prospect theory with loss.

A review of prospect theory, both in its original formulation (Kahneman & Tversky, 1979) and in its application to the domain of organizational actions (Fiegenbaum & Thomas, 1988; Greve, 1998; Wiseman & Gomez-Mejia, 1998), shows a focus on events directly related to the loss or gain of tangible resources, rather than to the reduction or enhancement of control. Therefore, consistent with prospect theory and our earlier arguments, we suggest that likely losses are related to risk-seeking externally directed actions, while likely gains are related to risk-averse internally directed actions.

The arguments made by authors advocating the threat-rigidity model, however, are not as clear. Staw et al. (1981) describe a threat as a situation that is potentially negative for the relevant entity. However, neither they, nor many of the studies they cite to bolster their arguments at the organizational level, differentiate between the various dimensions of threat (cf. Bozeman & Slusher, 1979; Pfeffer & Leblebici, 1973). Other studies cited by Staw et al. (1981) focus exclusively on the control reducing dimension of threats. For instance, in describing the reactions of governmental bodies to national threats, Holsti (1971) and Paige (1972) emphasize the elements of surprise, novelty, and the potential reduction of control over the right to act in accordance with important values as the core dimensions of threat.

Rubin (1977), in her study of universities facing budget cuts found that uncertainty resulting from the potential loss of resources resulted in riskier decisions and expanded requests for and use of information from outside agencies. Uncertainty resulting from the chaotic and uncontrollable processes associated with budget allocation, however, resulted in universities having to make the same internal allocation decision over and over. This suggests

that an internal focus results from events perceived as uncontrollable rather than from events perceived as potential losses. Thomas et al. (1993) found control reducing threats to be negatively related to product and service changes, while likely loss and product and service changes were positively (but not significantly) related. Finally, Mone, McKinley, and Barker (1998), commenting on the opposing predictions of prospect theory and the threat-rigidity hypothesis regarding organizational responses to decline, suggest that effects relating to threat-rigidity will be manifested when the causes of decline are perceived as uncontrollable.

Based on the above arguments, we hypothesize that ***organizational actions are more likely to be internally directed in response to control reducing threats, while they are more likely to be externally directed in response to control enhancing opportunities*** (Hypothesis 1a). Furthermore, ***organizational actions are more likely to be externally directed in response to threats of likely loss, while they are more likely to be internally directed in response to opportunities for likely gain*** (Hypothesis 1b).

We note that the unit of analysis for this and all subsequent hypotheses is neither the organization nor the threat or opportunity, but rather it is the action undertaken by the organization. This seems to be appropriate as organizations carry out multiple internally and externally directed actions, each of which may be prompted by different threats and opportunities. Our model is summarized in Figure 1.

Insert Figure 1 about here

Impact of Strategic Type and Slack Resources

Organizational responses to an event may also be influenced by their routines (Lant & Mezias, 1992; March, 1981), and slack resources (Meyer, 1982). The literature on strategic types (Ansoff, 1965; Miles & Snow, 1978; Smith, Grimm, Gannon & Chen, 1991) stresses that distinctive routines are associated with various strategic types. Slack resources are important in providing organizations capabilities to act in ways that are not possible for other

organizations poorer in resources (Cyert & March, 1963; Meyer, 1982). Moreover, variation in the use of organizational routines and slack may be influenced by perceptions of the event (Meyer, 1982). For example, executives who perceive threats are more likely to act in those domains where the organization is habituated to act based on the ongoing routines and resources of the organization (Ocasio, 1995; Staw et al., 1981). Thus, the effect of threats and opportunities on organizational actions may be moderated by contextual characteristics such as strategic type and slack. We explore these arguments to provide a richer understanding of what leads organizations to take internally rather than externally directed actions.

Effect of strategic type. Although Miles and Snow (1978) described four strategic types, we focus here on two of them, prospectors (emphasizing product/market development) and defenders (emphasizing domain defense). Both types have a clearly focused strategy and capture the idea that organizations possess strategic momentum, such that they develop routines around past successful actions and continue to act according to these routines (Amburgey & Miner, 1992). Since reactors do not have a clearly focused strategy, and analyzers fall along the continuum between prospectors and defenders (Doty et al., 1993), these two types are not explicitly included in our model.

Organizations that emphasize a strategy of developing new markets and providing unique products and/or services are more likely to routinely take externally rather than internally directed actions (Miles, 1982; Thomas & McDaniel, 1990). The effectiveness of a product/market development strategy depends to a large extent on controlling or modifying the external environment (Miles & Snow, 1978; Smith et al., 1991). In contrast, organizations with strategies focused on domain defense are more likely to act within the organization on a routine basis in order to become more efficient through standardizing organizational processes. Thus, we hypothesize that ***the greater an organization's strategic emphasis on product/market development rather than domain defense, the greater will be the likelihood***

of externally rather than internally directed actions (Hypothesis 2a).

Joint effect of strategic type and control reducing threats. Organizations are likely to fall back on well known routines and procedures when faced with control reducing events that induce threat-rigidity (Ocasio, 1995; Staw et al., 1981). In other words, when faced with a control reducing environmental threat, organizations emphasizing either strategy are even more likely to respond with familiar, well-known patterns, but the direction of the responses will vary with the strategy emphasized. For example, when faced with a control reducing environmental event, organizations that emphasize a product/market development strategy are even more likely to pursue externally directed actions, such as opening new market niches, building stronger customer relations or offering new services. Thus, we hypothesize that ***organizational actions are more likely to be externally (rather than internally) directed in response to control reducing threats to the extent that the organization's strategy emphasizes product/market development rather than domain defense*** (Hypothesis 2b).

Joint effect of strategic type and control enhancing opportunities. The threat-rigidity hypothesis suggests two possibilities for the joint effects of control enhancing opportunities and strategic type. One is based on the idea that opportunities allow organizations to go beyond their usual routines (Fox-Wolfgramm, Boal, & Hunt, 1998; Staw et al., 1981). For example, new products are often opportunistically developed independent of an organization's existing strategy (Dougherty, 1990). Thus, we would not expect any interaction between strategic type and control enhancing opportunities effects based on this argument.

A second possibility is based on the idea that control enhancing opportunities can not be pursued equally by all organizations. For example, Dougherty and Hardy's (1996) work suggests that organizations will be able to act externally to exploit a control enhancing opportunity only if they have a routine in place to do so. Such routines, as might be found in

organizations emphasizing a product/market development strategy, give an organization greater abilities to realize an opportunity (Dougherty & Hardy, 1996). Without such routines in place, organizations necessarily spend time and effort on internal activities (such as putting a team together to assess or champion the opportunity) and consequently often lose support from senior managers before getting around to acting on the opportunity (Dougherty & Hardy, 1996). In effect, organizations emphasizing a product/market development strategy will be more likely than organizations emphasizing domain defense to act externally in response to a control enhancing opportunity.

Since the argument associated with the first possibility leads to a null hypothesis for the interaction, we test the alternate argument. Thus, we hypothesize that ***organizational actions are more likely to be externally (rather than internally) directed in response to control enhancing opportunities to the extent that the organization's strategy emphasizes product/market development rather than domain defense*** (Hypothesis 2c).

Joint effect of strategic type and likely losses and gains. Prospect theory, both in its original formulation (Kahneman & Tversky, 1979) and in the organizational literature (Fiegenbaum & Thomas, 1988; Greve, 1998), suggests an effect for likely gains and losses that is independent of contextual variables such as organizational strategy. This suggests null hypotheses for the interactions between likely gains and losses, and strategic type.

A second possibility is based on the idea that an organization's strategic type affects their ability to pursue internally or externally directed actions consistent with environmental imperatives. As argued above, prospect theory suggests that organizations facing likely losses are more likely to engage in risk-seeking behavior (Ocasio, 1995) and engage in externally directed actions. This effect is accentuated for organizations that emphasize product/market development strategy because their routines enable them to see greater meaning in such an action and enable them to act in the required manner (Dougherty & Hardy, 1996). For

organizations emphasizing domain defense, a potential loss may lead to consideration of externally directed actions, but the lack of enabling routines will reduce the likelihood of such action. For similar reasons, a likely gain is more likely to stimulate internal actions among organizations emphasizing domain defense rather than product market/development.

Again, since our initial arguments lead to null interaction hypotheses, we test the alternate hypotheses: ***Organizational actions are more likely to be externally (rather than internally) directed in response to threats of likely loss to the extent that the organization's strategy emphasizes product/market development rather than domain defense*** (Hypothesis 2d)**.** Moreover, ***organizational actions are more likely to be internally (rather than externally) directed in response to opportunities for likely gain to the extent that the organization's strategy emphasizes domain defense rather than product/market development*** (Hypothesis 2e).

Effect of slack resources. Researchers typically classify slack resources as either available or unavailable for discretionary use (Mone et al., 1998; Smith et al., 1991; Wiseman & Bromiley, 1996). Available slack resources are slack resources that are immediately available to the organization to support initiatives. Unavailable slack resources are those embedded in the organization's cost structure or otherwise committed, and thus not available for discretionary use (Mone et al., 1998). We focus on available slack due to its logical link with organizational adaptiveness (Nohria & Gulati, 1996).

Having more slack resources provides organizations with greater flexibility to implement required actions (Cyert & March, 1963). Following Dutton and Duncan's (1987) logic, we reason that the greater the amount of slack, the more an organization is likely to be able to understand and influence the external environment (cf. Bourgeois, 1981; Sharfman & Dean, 1997; Smith et al., 1991). For instance, based on the resource-dependence perspective (Pfeffer & Salancik, 1978), Richardson (1990) demonstrates that the formation of directional

interlocks among corporate boards (an externally directed action) is a consequence of corporate profitability (a correlate of slack). Slack also allows for a relaxation of controls and can lead to actions associated with greater uncertainty and risk (Nohria & Gulati, 1996; Singh, 1986). Thus, organizations with greater slack resources may engage in externally directed actions such as introducing new products or entering new markets (Moses, 1992). Conversely, since internally directed actions generally require less slack (Cook et al., 1983), organizations with lower levels of slack may tend to adapt through internally directed actions. Thus, we hypothesize that ***the higher the level of organizational slack, the greater will be the likelihood of external rather than internal actions*** (Hypothesis 3a).

Joint effect of slack resources and control reducing threats. Slack resources enable key executives to implement their decisions (Cyert & March, 1963; Greve, 1998; Meyer, 1982). Thus, the effects associated with both threat-rigidity and prospect theory will be magnified in organizations with higher levels of slack, due to the greater feasibility of implementing the decisions dictated by the logic of these two models.

When organizations face a reduction of control, they are more likely to take internally rather than externally directed actions because there is a greater sense of control in the internal domain. Organizations possessing higher levels of slack are likely to focus even more on internal processes to give the appearance that the threat is being countered. These organizations are likely to act mainly in their internal comfort zone without directly engaging the threat because of their perceived inability to counter uncontrollable events (Mone et al., 1998). Organizations with more slack can also wait out the threat without substantial damage to themselves due to the cushion provided by slack (Dutton & Duncan, 1987; Langley, 1989; Meyer, 1982; Starbuck et al., 1978). Organizations with less slack, however, may not have the resources to create this appearance of control.

Organizations lacking slack resources may be more sensitive to changing environmental conditions (D'Aveni & MacMillan, 1990; Starbuck, Greve & Hedburg, 1978). When faced with a control reducing threat, they may extrude into the external environment and engage in problemistic search (Cyert & March, 1963; Levinthal & March, 1993). Such organizations also lack the resources necessary to wait out the threat, and perceive a greater need to adapt to each threat (Dutton & Duncan, 1987). While lower slack reduces capabilities for change, we believe that in order to survive, organizations with lower slack will experience a sense of urgency from control reducing threats. This urgency will influence them to engage in external action in order to survive. For example, Haveman (1992) and Kraatz (1998) describe situations where organizations facing uncontrollable changes in their environment, and lacking slack due to poor past performance, engage in risky external actions such as diversifying and entering new markets. Following these arguments, we suggest that ***organizational actions are more likely to be internally (rather than externally) directed in response to control reducing threats to the extent that the organization has more slack*** (Hypothesis 3b).

Joint effect of slack resources and control enhancing opportunities. Opportunities often lead organizations to act in new ways in new situations (Jackson & Dutton, 1988). Higher levels of slack may buffer organizations from uncertainty and cause a relaxation of controls regarding new projects (Nohria & Gulati, 1996). Therefore, slack may enable even more risky actions in response to control enhancing opportunities. In effect, organizations with more slack may act externally to exploit environmental opportunities that would otherwise be ignored due to a perceived lack of control. In organizations lacking slack, opportunities may give rise to internal political actions aimed at commanding a share of their meager resources (Cyert & March, 1963), rather than at successfully exploiting the opportunity (Dougherty & Hardy, 1996). Thus, we hypothesize that ***organizational actions***

are more likely to be externally (rather than internally) directed in response to control enhancing opportunities to the extent that the organization has more slack (Hypothesis 3c).

Joint effect of slack resources and likely losses. It follows from prospect theory that likely losses may lead organizations to take riskier externally directed actions. Higher levels of slack resources may give firms the freedom to do so (March, 1981; Wiseman & Gomez-Mejia, 1998). This argument is consistent with research on organizational decline, which suggests that organizations will respond to decline with externally directed actions if their top managers believe they have the resources to deal with the causes of decline (cf. Mone et al., 1998). In contrast, firms lacking slack resources may respond to likely losses with internally directed actions aimed at improving the efficiency of the organization, because these responses are cheaper to implement (Cook et al., 1983), and may reassure constituents that the situation is not desperate (Salancik & Meindl, 1984). Thus, we hypothesize that ***organizational actions are more likely to be externally (rather than internally) directed in response to threats of likely loss to the extent that the organization has more slack*** (Hypothesis 3d).

Joint effect of slack resources and likely gains. Firms faced with the prospect of a likely gain will tend to be risk averse (Fiegenbaum & Thomas, 1988). Opportunities for gain often involve new ideas and new technologies and are naturally associated with a degree of uncertainty (Nutt, 1984). The possession of higher levels of slack may allow organizations to forgo opportunities for gain and their associated uncertainty. In other words, organizations with slack can afford to be risk averse, whereas organizations without slack may decide that the risk associated with gaining resources is necessary. This is consistent with Wiseman and Gomez-Mejia's (1998) argument that good performances in the recent past – a correlate of slack (Cyert & March, 1963; Singh, 1986) -- may accentuate the tendency of firms to be risk averse (i.e. act internally) in a gain context. Thus, we hypothesize that ***organizational actions***

are more likely to be internally (rather than externally) directed in response to opportunities for likely gain to the extent that the organization has more slack (Hypothesis 3e).

Control Variables

Organization size is generally thought to induce organizational inertia, and thus reduce the likelihood that the organization can undertake substantial change (Lant & Mezias, 1992; Tushman & Romanelli, 1985). Since external actions involve greater change than internal actions, larger organizations may be more likely to act internally. On the other hand, larger organizations may tend to act externally as they have more influence over the environment. Either way, we control for organization size, due to its possible influence on the directionality of organizational actions. We control for *organizational age* for similar reasons.

High levels of *environmental competitiveness* may increase an organization's focus on efficiency (Singh, 1986), suggesting an inward focus in terms of decision making. Alternately, strong competitive pressure may drive an organization to actively search externally for new ways to maintain its competitive position (Nohria & Gulati, 1996), suggesting an external focus in terms of decision making. Both arguments suggest the need to control for the influence of competitive pressure on organizational action.

Greve (1998) suggests that organizational performance relative to aspiration levels may influence organizational actions. Drawing on Quinn and Rohrbaugh (1983), we controlled for the degree to which an organization was perceived by key personnel to meet aspirations with regard to *cost effectiveness*, *quality effectiveness*, *human resource effectiveness*, and *efficiency* of production personnel. Consistent with Greve's (1998) arguments, for each organization, we considered aspirations relative to both the performance of referent organizations as well as to past performance levels of the relevant organization.

METHOD

Data Collection

The data on organizational actions reported here were collected from top executives in 117 diverse organizations. Such a diverse set is appropriate for testing our hypotheses because the hypotheses are assumed to be applicable across different organizational settings. Specifically, data were collected from manufacturing organizations, health care organizations, and other service organizations in 10 different states. The median number of full time equivalent employees was 553, with a range from 17 to 6000. All organizations were either independent businesses or largely autonomous divisions of larger businesses. Each organization served an external market rather than its parent organization, had primary responsibility for its strategy and design, and included at least two managerial levels.

As mentioned earlier, the focus of this study is on the directionality of organizational action, conditional on action having been taken. Accordingly, in each organization, the top executive was interviewed regarding changes associated with the organization within the previous six-month period (in order to elicit information about organizational actions) and the events that led to these changes (in order to elicit information about environmental events that precipitated these actions). All 11 interviewers either possessed or were obtaining Ph.D. degrees in organization science. A uniform protocol was followed throughout all the interviews. Four or five interviews per organization were conducted at six-month intervals. The choice of a six-month period between interviews was a judgment call that was meant to give adequate time for important changes to take place, but short enough to minimize problems in recalling important changes (cf. Glick, Huber, Miller, Doty, & Sutcliffe, 1990). After recounting the recent important changes associated with the organization, the executive was asked to identify the six most important. They were then probed concerning the antecedents of these most important changes. The organizational changes were categorized

into organizational actions (either internal or external) and non-actions, with only the actions retained for analysis. The events antecedent to these actions were categorized into whether they represented changes in the environment or within the organization, and then the former were further categorized into the various dimensions of threats and opportunities (see details of content coding below). As noted earlier, the unit of analysis is the action undertaken by the organization.

In order to reduce common-method bias, data on organizational characteristics were collected with a survey mailed one month after the third interview. For all of the data collected on organizational changes, antecedents to those changes, and organizational characteristics, the top executive was treated as a key informant (Glick et al., 1990).

Dependent Variable

The dependent variable is the direction (external or internal) of an organizational action taken in response to an event in the organization's external environment. The development of this variable proceeded as follows. All changes associated with the organization, as reported by the top executive, were coded by the interviewer into one of twelve categories (Glick et al., 1990). The changes were also coded by an MBA student trained in the use of the categories for reliability. The inter-rater reliability between the interviewers and the student was .67 (Cohen's κ). In cases of disagreement, a third coder (a Ph.D. student in organizational science also trained in the use of the categories) resolved the discrepancy. We followed researchers such as D'Aveni and MacMillan (1990), Huber et al., (1993) and Pfeffer and Salancik (1978) in separating these categories into internally versus externally directed actions. Two of the twelve categories were ***externally directed organizational actions***: (1) changes in externally directed strategy such as changes in products, markets, and relations with outsiders such as competitors or regulators; and (2) changes in the way the organization interacts with clients, customers and parent organization,

such as soliciting orders by phone. Eight of the twelve categories were ***internally directed organizational actions***: (1) changes in the organization's internally directed goals, philosophy or culture, such as the decision to focus on human resource development; (2) changes in staffing levels or specific personnel; (3) changes in the way an organization produces products or services, such as a change in equipment; (4) changes in administrative procedures, such as changing control systems; (5) addition or elimination of an organizational unit; (6) changes in internal coordination or communication procedures, such as introducing e-mail; (7) changes in responsibilities or resources of top managers; (8) changes in responsibilities or resources at other levels in the organization. These ten categories of changes captured all of the changes that were actions taken by the organization in response to changes in the external environment. The two remaining change categories, (1) changes in performance and (2) changes in the organization's external environment, were excluded because they were not actions undertaken by the organization.

Overall, a total of 328 actions undertaken by the 117 organizations were reported over the three - year period of the study. Respondents who failed to return completed questionnaires on organizational characteristics reduced the total number of useable organizational actions to 284 taken by 92 organizations. The organizations associated with the deleted observations did not differ from our final sample with regard to the median number of threats and opportunities encountered by the organization, and the median number of internal or external actions taken in response to these events. For purposes of analyses, these 284 organizational actions were dummy coded 1 for externally directed actions and coded 0 otherwise. Sixty-five of the changes (23%) were externally directed, while 219 (77%) were internally directed. The median number of internally directed actions per organization was 2, with a range of 0 to 5, and the median number of externally directed actions per organization was 0, with a range of 0 to 3. This low number of observations per

organization reflects our focus on important events that could be easily and accurately recalled. It also reduces the problem of non-independence among observations, although the problem does remain. We probed the extent of this problem by testing our model using only one action per organization, selected through systematic sampling. This left us with 92 observations from 92 firms. While three of our six theoretically relevant variables lost their significance due to the loss of power, the estimated standardized beta weights remained remarkably stable. We therefore concluded that our analysis was not significantly affected by problems related to non-independence of error terms.

Independent Variables

Threats and opportunities. For each of the actions that each executive identified as one of the six most important in the past six months, he or she was asked to recall the event or events that triggered the action. These 313 antecedent events were then coded by the same research team who coded the changes, but at a different point in time and without reference to the action coding data, in order to minimize the chance of spurious correlations between actions and their antecedents. Antecedent events were first coded as environmental events (our theoretical focus) or events and actions within the organization using the same coding scheme described above. The 246 environmental events were then coded as described below for the independent variables. The 67 antecedent events within the organization were coded as neutral on each of these variables.

Consistent with earlier research (Thomas et al., 1993; Thomas & McDaniel, 1990), we coded each antecedent event separately and independently with regard to whether they fell into the four theoretically relevant categories (control reducing / enhancing or likely loss / gain) of the two threat / opportunity variables. The coding was carried out by two independent raters (one of the interviewers and a Ph.D. student in organization science) using standardized coding instructions. The inter-rater reliability was .70 and .67 (Cohen's κ) for

two sets of codes.

An event was coded as a ***threat of likely loss*** when the organization stood to lose resources as a result of the event (such as a competitor launching a new product). An event was coded as an ***opportunity for likely gain*** when the organization stood to gain resources as a result of the event (such as a new market opening up for the organization). An event was coded as ***control reducing threat*** when an aspect of the environment became more controlling (e.g., a regulatory body issued a new regulation harmful to the organization). An event was coded as ***control enhancing opportunity*** when an aspect of the environment became less controlling (e.g., the power of a regulatory body was lessened through legislation). Our theoretical model suggests that threats and opportunities do not have opposing effects on organizational actions, particularly in the context of the hypothesized moderated relationships. Thus, gains and losses were coded as separate variables, as were control enhancing and control reducing events. The four dimensions of threat and opportunity, therefore, are represented by four separate dummy variables, each of which received an increment of 1 if the environmental event could be coded into the respective category, or were coded 0 otherwise. For example, the likely loss dimension is assigned a value of 1 when an antecedent is categorized as a likely loss, but assigned a value of 0 for likely gains and neutral changes.

Each organizational action could be associated with one or more antecedent events. When a given organizational action was associated with more than one antecedent in a particular threat or opportunity category, the variable representing that category was assigned a value equal to the total number of such antecedents. Our analyses examined whether the total number of antecedents in each category predicted the theoretically specified direction of organizational action. For each dimension, we include only two of our dummy variables in the regression model, as they provide complete information about a particular dimension, and

omit the third dummy variable - in both cases this is the neutral category - as it is redundant (see Kerlinger & Pedhazur, 1973).

An event was coded as neutral along the control enhancing / control reducing dimension if the control of the environment remained unchanged, or if the environmental change could not be clearly coded as either control enhancing or control reducing (e.g., a relationship with a collaborator continued beyond the original date). Similarly, we coded an event as neutral along the likely gain / likely loss dimension if the likelihood of gain or loss for the organization remained unchanged, or if the environmental change could not be clearly coded as a likely gain or a likely loss (e.g., a directive from the parent firm to standardize computer systems). The total number of control reducing events was 161, the total number of control enhancing events 60, the total number of likely losses was 105, and the total number of likely gains 80. There were 92 antecedents coded as neutral for the control reducing / enhancing dimension and 128 antecedents coded as neutral for the likely loss / gain dimension. Likely gains correlated only moderately with control enhancing events ($r = .51$) and likely losses correlated only moderately with control reducing events ($r = .56$) (see Table 1). These results support the idea that these are independent dimensions of threats and opportunities, and are consistent with results reported by Thomas et al. (1993) and Thomas and McDaniel (1990).

Insert Table 1 about here

Organizational characteristics. The informants used a seven-point five-item Likert-type scale to indicate the extent to which their organization emphasized a *product/market development strategy* rather than a domain defense strategy. Consistent with Thomas and McDaniel (1990) and Miles and Snow (1978), these items measure the extent to which organizations focus on developing market shares, and offering new rather than low cost products and services. A two item seven-point Likert-type scale measuring *slack resources*

focused on the extent to which the organization had easy access to resources. These scales are included in the Appendix.

Control variables. We collected data on *organization size* in terms of the organization's operating budget and in terms of the number of fulltime employees using single item questions, and included each of these measures, as well as their natural logarithms, in separate regression models. Only the number of fulltime employees proved to be significant, and was thus retained in the model. *Organization age* was measured with a single item question regarding the founding date of the organization. A two item seven-point Likert-type scale indicating the extent to which the organization operated in a competitive environment measured *environmental competitiveness*.

Performance relative to aspiration levels regarding *cost effectiveness*, *quality effectiveness*, *human resource effectiveness* and *efficiency* of production personnel was measured using seven-point Likert-type scales. For each dimension, one item measured the extent to which an organization performed at a desired level relative to referent organizations, while a second item measured the extent to which an organization performed at a desired level relative to its own past performance. Factor analyses and reliability analyses indicated that each of the above control variable scales is consistent with our theoretical expectations. The scales are included in the Appendix. Table 1 provides inter-item reliability for these scales, as well as other descriptive statistics.

RESULTS

All hypotheses were tested in three logistic regression models (see Table 2). Model 1 consists of all control variables. Model 2 tests all of our hypothesized main effects. It consists of the control reducing and likely loss dimensions of threat, the control enhancing and likely gain dimensions of opportunity, as well as product/market development strategy and slack resources. Model 3 is the full model, consisting of (i) the set of control variables in the first

model, (ii) the main effects in the second model related to executive perceptions (control reducing, likely loss, control enhancing, and likely gain) and organizational characteristics (product/market development strategy and slack resources), and (iii) the interaction terms between variables related to executive perceptions and organizational characteristics. Logistic regression was used due to the binary nature of the dependent variable. Centered data was used to minimize the multicollinearity often found between main effects and interaction terms (Jaccard, Turrisi & Wan, 1990).

Insert Table 2 about here

Model 1 tests for the net effect associated with control variables. Compared to a base rate of fifty percent, only sixty percent of the organizational actions were correctly classified as internal versus external (not significant). In contrast, the χ^2 goodness of fit estimates associated with both Model 2 (testing all hypothesized main effects) and Model 3 (testing all hypothesized interaction effects) were significant ($p < .05$ and $p < .01$ respectively). Model 2 correctly classified sixty nine percent of the organizational actions as internal versus external. Model 3 increased this to seventy four percent. The incremental χ^2 goodness-of-fit measure between models 2 and 3 was also significant ($p < .05$).

Hypothesis 1a stated that organizational actions are more likely to be internally directed in response to control reducing threats, while they are more likely to be externally directed in response to control enhancing opportunities. Control reducing threats was found to be significantly related to the directionality of organizational actions as hypothesized ($p < .01$), while control enhancing opportunities was not. Thus, Hypothesis 1a received partial support. Hypothesis 1b stated that organizational actions are more likely to be externally directed in response to threats of likely loss, while they are more likely to be internally directed in response to opportunities for likely gain. Threat of likely loss was found to be significantly related to the directionality of organizational actions as hypothesized ($p < .05$),

while threat of likely gains was not. Thus, Hypothesis 1b also received partial support. Hypothesis 2a stated that the greater an organization's strategic emphasis on product/market development rather than domain defense, the greater will be the likelihood of externally rather than internally directed actions. This hypothesis was supported ($p < .05$). Hypothesis 3a stated that the higher the level of organizational slack, the greater will be the likelihood of external rather than internal actions. Slack resources did not have any influence on organizational action in the main effects model (Model 2) or the full model (Model 3). Thus, Hypothesis 3a was not supported.

Model 3 reflects the more complex arguments associated with Hypotheses 2b through 2e, and 3b through 3e. Hypothesis 2b stated that organizational actions are more likely to be externally (rather than internally) directed in response to control reducing threats to the extent that the organization's strategy emphasizes product/market development rather than domain defense. The interaction term between control reducing threats and strategy was significant ($p < .05$), and in the specified direction, thus providing support for Hypothesis 2b. The interaction terms between strategy on one hand, and likely loss threat (H2c), control enhancing opportunity (H2d) and likely gain opportunity (H2e) on the other hand, were not significant, thus providing no support for Hypotheses 2c, 2d and 2e.

Hypothesis 3b stated that organizational actions are more likely to be internally (rather than externally) directed in response to control reducing threats to the extent that the organization has more slack. This hypothesis was strongly supported -- the interaction term between control reducing threats and slack resources was negatively related to external actions taken by organizations ($p < .01$). Hypothesis 3d stated that organizational actions are more likely to be externally (rather than internally) directed in response to threats of likely loss to the extent that the organization has more slack. This hypothesis was also strongly supported -- the interaction term between threat of likely loss and slack resources was

positively related to external actions taken by organizations ($p < .01$). The interaction terms between slack on one hand, and control enhancing opportunity (H3c) and likely gain (H3e) on the other hand, were not significant, thus providing no support for Hypotheses 3c and 3e.

DISCUSSION

Event categorization by top managers appears to influence the direction of organizational actions, particularly when events are categorized as threats. Our results show that control reducing threats lead to more conservative internally directed actions, and that likely losses lead to riskier externally directed actions. These results are consistent with the threat-rigidity hypothesis, which suggests that executives act in domains where the organization has greatest control when faced with a control reducing threat (Staw, et al., 1981), and also with prospect theory, which suggests that organizations faced with a loss will be risk seeking (Kahneman & Tversky, 1979). Thus, our data support the reasoning of Ocasio (1995) in differentiating the two dimensions of threat.

Theoretical support for the effects of opportunities was more equivocal, and our study did not find corresponding effects for the control enhancing and likely gain dimensions of opportunity. Perhaps organizational responses to opportunities are driven more by the unique features of the new ideas and technologies (Nutt, 1984) that enable organizations to exploit new situations (Jackson & Dutton, 1988). Since such exploitation of opportunities may involve both internally directed and externally directed actions, it may not be possible to predict the directionality of organizational actions based on the control enhancing or gain dimensions of opportunities. This lack of results for opportunities is not inconsistent with the original threat-rigidity model (Staw et al., 1981), which focuses more on effects related to threats than on those related to opportunities. Prospect theory, also suggests a stronger effect for threats than for opportunities (Kahneman & Tversky, 1979). Indeed, organizations may take no actions at all in response to likely gain opportunities, because this option is seen to be

the most risk averse. As we did not consider non-actions, it is left to future research to test whether opportunities lead organizations to take no action rather than to take riskier externally directed action. These arguments may also explain why a joint consideration of opportunities and organizational characteristics in the form of strategic type and slack failed to predict the directionality of organizational action.

Organizations placing greater strategic emphasis on product/market development rather than on domain defense are more likely to engage in externally rather than internally directed actions. This is not surprising, given the strong theoretical and empirical links between the strategic focus of organizations and their actions (Miles & Snow, 1978; Miles, 1982; Smith et al., 1991). Organizational slack, however, did not influence the direction of organizational action. It may be that available slack is used whenever needed to implement actions whose directionality is determined by other variables. Based on the work of Nohria and Gulati (1996), we also tested *post hoc* whether slack has a curvilinear relationship with the directionality of organizational action. Our data did not support this idea.

Strategic type moderates the relationship between control reducing threats and the direction of organizational action, and slack moderates the relationship between both dimensions of perceived threat and the direction of organizational action. These findings support the idea that executives' categorizations of environmental events as threats and opportunities, and organizational characteristics such as strategic type and slack resources, jointly influence organizational actions (Dutton & Duncan, 1987; March, 1981). Executives are responsible for choosing and implementing organizational strategy and sanctioning the use of resources. Their perceptions seem to influence their organization's actions.

Adherence to a product/market development strategy rather than a domain defense strategy seems to influence organizations facing control reducing threats to engage in externally directed actions. These results are consistent with predictions based on the threat-

rigidity model, that organizations faced with control reducing threats will tend to fall back on well learned strategies. However, organizational strategy did not moderate the relationship between the likely loss dimension of threat and organizational action. It appears that, consistent with prospect theory, likely losses influence organizations to take externally directed actions independent of organizational strategy.

An organization that emphasizes a product/market development strategy over domain defense is primarily interested in developing new market segments and increasing market share in target areas. These firms typically compete by taking control of attractive locations (Prescott & Visscher, 1977; Sinha & Noble, 1997). Environmental threats to control represent a direct challenge to this strategy. Thus, an external rather than an internal response, aimed at directly countering the threat, is more likely when an organization pursuing a product/market development strategy is threatened with lack of control in the external environment. The threat of losses in the pursuit of a product/market development strategy, however, is more acceptable (Miles & Snow, 1978). Thus, externally directed actions by such firms may be more strongly linked to lack of control than to likely losses.

These results are consistent with those presented by Thomas et al. (1993), who found that actions such as product and service changes are most likely to be taken by organizations which are both facing an uncontrollable event as well as having an external focus, while there is no parallel effect for organizations facing a potential loss. Interestingly, Thomas and McDaniel (1990) showed that strategy guides decision-makers to determine whether an issue is controllable or not, without much consideration of whether the outcome of an issue is more likely to be positive or negative, a gain or a loss. Our results suggest that these considerations are likely to influence the directionality of organizational actions.

As hypothesized, higher levels of slack increased the likelihood of an organization to act internally when it faced a control reducing threat. The possession of slack resources

allows organizations to wait out the threat without being substantially damaged in the process (Meyer, 1982; Starbuck et al., 1978). Thus, slack may free organizations to act internally where they have higher control, so that they can give the appearance that the threat is being countered instead of directly engaging the external threat through external action. This sort of behavior may be noted, for example, when the cause of organizational decline appears to be uncontrollable (Mone et al., 1998). Thus, the threat-rigidity response is facilitated by the presence of higher levels of slack resources.

When faced with a potential loss of resources, however, slack resources increased the probability of external actions. The organizational decline literature suggests that organizations with more slack are more likely than those with less slack to commit their available resources towards externally directed acts to mitigate potential losses to their resource base (Mone et al., 1998). In other words, the possession of slack may facilitate actions consistent with prospect theory, so that organizations respond externally to a likely loss. Organizations with low slack facing a likely loss may be more concerned with enhancing their short-term performance than with influencing the external environment.

In combination, the above results support two components of the threat-rigidity model. Organizations facing control reducing threats tend either to focus inwards, or to fall back on well known strategies. They also support prospect theory -- organizations facing likely losses act in the riskier external domain. Slack resources appear to magnify the effects associated with both models through providing executives the resources necessary to implement the decisions predicated by these models. Opportunities do not seem to have a similar influence on the directionality of organizational action.

An alternate interpretation of these results is that organizations are more likely to act in the riskier external environment when faced with environmental events that threaten their distinctive capability or competence. In the case of organizations pursuing a product/market

development strategy, the competence of the organization lies in developing control over the external environment through building market share (Miles & Snow, 1978). Thus it reacts externally in order to deal with events that threaten to lower its control over the environment. In the case of organizations possessing higher levels of slack resources, events that potentially lead to a loss of resources may be seen as a greater threat than events that lead to a perceived lack of control. Therefore such organizations act externally to deal with events that are likely to lead to a loss of resources. In contrast, when organizations pursuing a product/market development strategy are faced with a likely loss, or when organizations that posses a high level of slack resources are faced with lack of control, these organizations may either not act in any consistent way to deal with such a threat (as in the former case), or may act internally in a safer domain (as in the latter case).

Limitations and directions for future research

While our theoretical model pertains to the interpretation of environmental events as threats and opportunities, we did not measure these interpretations directly. Rather, we made judgments concerning interpretations of environmental events based on the decision makers' descriptions of environmental events influencing their organization's actions. While environmental events are potentially ambiguous, the key decision makers' descriptions of the events typically gave us strong cues about their interpretations of the events as being either threats or opportunities. This undoubtedly contributed to a relatively straightforward categorization of the environmental events used as data points in this study, and enhanced the inter-rater reliability. Despite our overall confidence in the results, we felt that it was important to note this limitation so that readers would be careful to interpret our results based on our specific methodology. Future research may be directed at replicating our results using more direct measures of perceptions of threats and opportunities. It will be important, of course, for researchers using such measures to avoid allowing their methods to influence the

informant's interpretation of the events. We note that the assessment of organizational actions and their antecedents through interviews with key decision makers allows us to draw stronger conclusions regarding causality than would otherwise be possible. Since our sample of organizational actions and their antecedents were coded by raters who were unaware of which antecedent was linked to a particular organizational action, the chance of engendering a spurious correlation between these variables was minimized.

We were unable to test whether threats and opportunities of varying magnitudes had a differential impact on organizational action due to the categorical nature of our threat and opportunity variables. Perhaps our lack of results with regard to opportunities is related to our inability to discriminate between opportunities of varying magnitude. However, this explanation for our results would be of greater concern if our data consisted of opportunities of greatly varying magnitudes or those of minimal importance to the organization. Since our data included only those antecedents to change that were deemed by our informant to be of substantial importance to the organization, we feel that this problem is minimized.

A third limitation of this study is that we used strategic type as a proxy for the routines of the organization. While this is based on widely accepted theoretical arguments (Ansoff, 1965; Miles & Snow, 1978), it may be useful for future research to use a more direct measure of organizational routines in examining their influence on organizational actions in the context of environmental threats and opportunities.

Finally, as mentioned earlier, we focused on the directionality rather than the likelihood of organizational action. A broader treatment of the influence of event categorization on organizational actions would examine both of these issues and include an examination of when organizations are likely to take any action at all in response to an event. Since inaction by organizations to environmental events comes with its own set of risks and uncertainties, future research would benefit through including such instances in the model

and taking a broader look at this issue.

CONCLUSION

Two well established perspectives, the threat-rigidity hypothesis and prospect theory, make conflicting predictions about the direction of organizational responses to threats and opportunities. The study reported here attempted to disentangle and explicate these apparently opposing ideas about the directionality of organizational action by drawing on the different literatures linked to the loss and control reducing dimensions of threat and the gain and control enhancing dimensions of opportunity. Our model explaining organizational reactions to threats was enriched by considering two organizational characteristics, strategic type and slack resources, in conjunction with the perceived environmental threat faced by the organization. Future researchers may build more accurate models of organizational responses to threats and opportunities by incorporating this theory-based elaboration.

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APPENDIX

Product/market development strategy (1 = Not at all, 7 = To a great extent)

To what extent is your organization currently characterized by the development of new markets?

To what extent is your organization currently characterized by a strong entrepreneurial orientation?

To what extent is the strategy of your organization to develop new products and/or services?

To what extent is the strategy of your organization to provide unique products and/or services?

To what extent is the strategy of your organization to provide low cost products and/or services? (reverse coded)

Slack resources (1 = Not at all, 7 = To a great extent)

To what extent does your organization have difficulty obtaining sufficient funds to produce its products and/or services? (reverse coded)

To what extent does your organization have easy access to resources for growth and expansion?

Environmental competitiveness (1 = Not at all, 7 = To a great extent)

To what extent do other organizations attempt to capture your customers/clients?

To what extent does your organizations operate in a competitive environment?

Cost effectiveness (1 = Low, 7 = High)

Compared to what you would like it to be, the cost of producing your organization's products and/or services is…

Compared to other organizations in your industry, the cost of producing your organization's products and/or services is…

Quality effectiveness (1 = Low, 7 = High)

Compared to what you would like it to be, the quality of your organization's products and/or services is…

Compared to other organizations in your industry, the quality of your organization's products and/or services is…

Human resource effectiveness (1 = Low, 7 = High)

Compared to what you would like it to be, the job satisfaction of most employees in your organization is…

Compared to other organizations in your industry, the job satisfaction of most employees in your organization is…

Efficiency (1 = Low, 7 = High)

Compared to what you would like it to be, the quantity produced per employees in your organization is…

Compared to other organizations in your industry, the quantity produced per employees in your organization is…

TABLE 1
Means, Standard Deviations and Correlations

Variable	N	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10
1. Externally Directed Organizational Actions	284	0.23	0.42	---									
Threats													
2. Control Reducing	284	0.51	0.62	-.05[a]	---								
3. Likely Loss	284	0.34	0.57	.06	.56	---							
Opportunities													
4. Control Enhancing	284	0.19	0.44	.01	-.37	-.13	---						
5. Likely Gain	284	0.26	0.51	-.06	-.10	-.34	.51	---					
Strategic Type and Slack Resources													
6. Product/Market Development Strategy	284	4.26	1.21	.10	-.09	-.06	.06	.17	(.76)[b]				
7. Product/Market Development Strategy * Control Reducing	284	---	---	.10	.06	.00	-.08	.04	.34	---			
8. Product/Market Development Strategy * Control Enhancing	284	---	---	-.04	-.03	-.02	.05	-.05	.13	-.45	---		
9. Product/Market Development Strategy * Likely Loss	284	---	---	.07	.04	.04	-.04	-.05	.05	.31	-.12	---	
10. Product/Market Development Strategy * Likely Gain	284	---	---	-.14	.07	-.05	-.07	.20	.01	-.21	.37	-.32	---

[a] All correlations above .13 are significant at $p<.05$
[b] Numbers in parentheses indicate Cronbach's α.

TABLE 1
Means, Standard Deviations and Correlations (Cont.)

Variable	N	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
11. Organizational Slack	284	3.96	1.55	-.03	.07	.06	.08	.12	.26	.11	.11	-.03	.07	(.76)[b]											
12. Organizational Slack * Control Reducing	284	---	---	.02	.29	.25	-.03	.12	.09	.43	-.19	.10	-.04	.24	---										
13. Organizational Slack * Control Enhancing		---	---	-.05	.02	.06	.17	-.05	.09	-.20	.36	-.01	.00	.23	-.43	---									
14. Organizational Slack * Likely Loss	284	---	---	.15	.26	.36	.02	-.06	-.03	.10	-.01	.27	-.08	.03	.53	-.16	---								
15. Organizational Slack * Likely Gain		---	---	.16	.13	-.07	-.09	.19	.06	-.03	-.01	-.07	.35	.13	-.19	.35	-.31	---							
Control Variables																									
16. Organization Size	284	1298	1532	-.01	.13	-.02	-.08	-.11	-.43	-.17	-.03	-.01	.04	-.09	-.03	-.02	.02	-.10	---						
17. Organization Age	284	50.60	34.04	.11	.05	-.01	.03	.05	-.16	-.03	-.01	-.05	-.06	-.21	.07	-.15	.13	-.11	.07	---					
18. Environmental Competitiveness	284	5.65	1.43	.02	.13	.07	-.02	.06	.18	.21	.03	.03	.03	.35	.14	.14	.00	.05	.18	-.11	(.75)				
19. Cost Effectiveness	284	4.67	1.24	.01	.04	.01	-.10	-.09	-.12	.03	-.09	.01	.00	-.16	-.07	-.07	.00	-.01	.30	.00	.16	(.66)			
20. Quality Effectiveness	284	5.21	1.21	.03	-.03	.05	.07	.08	.36	.16	.14	.09	.11	.12	.10	-.02	.03	.06	-.17	-.08	.00	-.06	(.86)		
21. Human Resource Effectiveness	284	4.81	0.96	.04	-.02	.04	.11	.04	.36	.15	.12	.02	.02	.04	-.02	.06	.01	-.08	.05	-.23	.07	.06	-.30	(.87)	
22. Efficiency	284	4.76	1.19	-.06	-.05	.09	.11	.07	.21	.14	.00	-.02	.03	.13	.12	.01	.03	.00	-.13	-.11	.06	-.26	.48	.32	(.83)

[a] All correlations above .13 are significant at $p<.05$
[b] Numbers in parentheses indicate Cronbach's α.

TABLE 2

Logistic Regression of the Directionality of Organizational Actions on Predictors[a]

Variable	Directionality of Organizational Actions[b]		
	Model 1	Model 2	Model 3
Control Variables			
Organization Size	-.03	.09	.13+
Organization Age	.11+	.11+	.07
Environmental Competitiveness	.03	.03	.04
Cost Effectiveness	-.01	-.05	-.08
Quality Effectiveness	.07	.05	.07
Human Resource Effectiveness	.09	.03	-.03
Efficiency	-.11+	-.14+	-.15+
Threats			
Control Reducing		-.25**	-.29**
Likely Loss		.21*	.22*
Opportunities			
Control Enhancing		-.01	.04
Likely Gain		-.05	.03
Strategic Type and Slack Resources			
Product/Market Development Strategy		.18*	.31*
Product/Market Development Strategy * Control Reducing			.23*
Product/Market Development Strategy * Control Enhancing			.16
Product/Market Development Strategy * Likely Loss			-.08
Product/Market Development Strategy * Likely Gain			-.12
Organizational Slack		-.06	-.03
Organizational Slack * Control Reducing			-.29**
Organizational Slack * Control Enhancing			-.13
Organizational Slack * Likely Loss			.26**
Organizational Slack * Likely Gain			-.09
N	284	284	284
d.f.	7	13	21
χ^2 Goodness of fit	7.1	22.3*	37.9**
$\Delta \chi^2$ Goodness of fit	---	15.2*	15.6*
Percentage of cases correctly classified	60	69	74

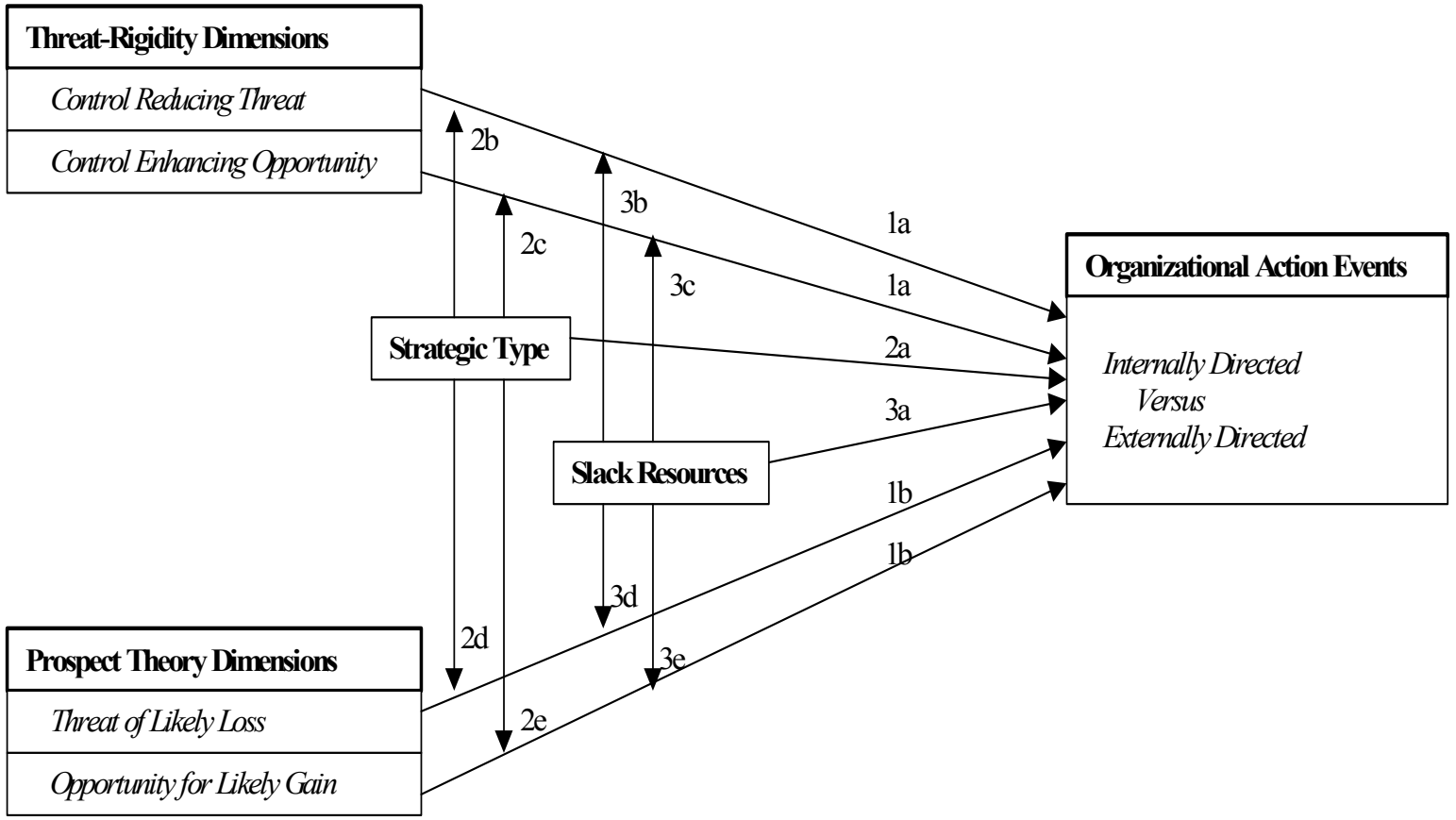
[a] Standardized logistic regression estimates reported.

[b] Positive sign indicates that external actions are predicted, negative sign on the coefficients indicates an internally directed action.

+ $p < .10$ * $p < .05$ ** $p < .01$

FIGURE 1

A Model of Organizational Actions in Response to Threats and Opportunities



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