

Managerial (In)attention to Competitive Threats

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ABSTRACT We integrate the Attention Based View of the firm and Regulatory Focus Theory to propose a model of managerial (in)attention that explains why appeals by middle managers for top managers to attend to specific threats of emerging rivals go unheeded. By acknowledging that different regulatory foci are elicited by different structural positions within the firm, we suggest that these differences in regulatory foci influence the allocation of attention to competitive intelligence warning of an emerging threat. We conclude by discussing how top managers might better evaluate whether threats of emerging rivals are worthy of deeper consideration.

INTRODUCTION

Competitive intelligence (CI) involves detecting threats to the organization's current and future interests (Heuer, 1999; Schneier, 2006) and is therefore integral to many top managers' strategizing. For example, shaping and reorganizing its CI operations was a crucial step for IBM to turn around its business after its \$14 billion losses in the years 1991 to 1993 (Behnke and Slayton, 1998). Similarly, establishing CI operations was a key for Xerox in halting its diminishing market share and earnings in the late 1970s and early 1980s (Vezmar, 1996). Sophisticated CI programs are also core capabilities of Microsoft, Intel, Merck, Sun Microsystems, and other major players (Prescott, 2001). Despite its importance, CI has received limited attention by management scholars, with the little research that has been done evolving along two distinct and somewhat segregated research streams.

The first stream has described the collection (Thietart and Vivas, 1981; Young, 1989), communication (Thietart and Vivas, 1981), and analysis (Ghoshal and Westney, 1991) of information within an organization's GI activities, but has insufficiently studied how managerial attention is allocated to these processes. For example, Ghoshal and Westney (1991) found that results of competitor analyses by CI units are used for a variety of different managerial decisions and planning, but they do not study how this information is attended to by top managers in making these decisions and plans. Sammon et al.

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(1984) described the steps of the CI process as collecting, organizing, and using information but do not address the processes by which managerial attention comes to be focused on making sense of these specific environmental stimuli. Further, Prescott and Smith (1987) presented a framework for competitive analysis which suggests how competitive information is efficiently transformed into recommendations for organizational action. Their framework, however, does not address whether top managers heed these recommendations and, therefore, does not offer an explanation for why top managers may ignore these recommendations.

Meanwhile, a second stream of CI literature has focused on competitive actions while neglecting the nature of available information that may inform this action and the role of uncertainty in the decision making process. For instance, Ghen (1996) suggested that perceived market commonality and resource similarity (as outcomes of CI activities) determine whether top managers will attack rivals, but he does not include the assessment of competitive information that leads to the determination of market commonality and resource similarity. Moreover, research focusing on how top managers cognitively transform environmental stimuli into the intention to act has also neglected the uncertainty surrounding the information generated from these stimuli (Dutton and Duncan, 1987; Dutton and Jackson, 1987; Porac and Thomas, 1990, 1994; Zajac and Bazerman, 1991). Although these literatures have made important contributions, neither offer an explanation for why top managers differ in the extent to which they attend to emerging threats.

Using an Attention-Based View (ABV) (Ocasio, 1997), this article seeks to bridge this gap by explaining heterogeneity in managers' attention to threats from emerging rivals. ABV proposes that firm rules, resources, and social relationships regulate and control the distribution and allocation of issues, answers, and decision makers into specific activities, Communications, and procedures (Ocasio, 1997). This structural distribution of attention then determines the particular context in which decision makers find themselves (Ocasio, 1997). In turn, this situated attention determines the issues and answers upon which decision-makers focus. Thus, ABV suggests that decision makers operating in sub-units at the boundaries of the organization notice information that is relevant to their particular organizational function or task domain and that this pool of information is then used by top management to make decisions determining the organization's actions.

This has two important implications. First, a middle manager typically has functional or regional responsibilities that differ from other middle managers and these differences include responsibility for protecting the organization from competitor attacks. For instance, Wooldridge and Floyd (1990) point out that, because middle managers are often earliest to recognize strategic problems and opportunities, their contribution to the strategy process is vital (Pascale, 1984). Although there is likely to be considerable variability across firms in their use of competitive intelligence and in who is responsible for it, we label as the *manager of competitive intelligence on threats (CIT manager)* 'the middle manager who has the most responsibility within his or her firm for noticing emerging threats to his or her firm at the time the threat emerges'. We acknowledge that CI can be used for reasons other than noticing threats, e.g. noticing strategic opportunities (Davison, 2001; Rouach and Santi, 2001). However, we focus on threat detection because it has been relatively neglected by the CI literature, despite its importance to

organizational survival (Schneier, 2006). Second, although ABV effectively demonstrates that organizational actions are largely a function of how decision makers allocate their attention, it does not explain why the threats noticed by CIT managers often go unheeded by top managers. That is, detection of threats by CIT managers is not synonymous with top managers attending to those threats. Top managers, as all people, have limited attention (Kahneman et al., 1992; Simon, 1947), and there are many calls upon that attention. Gifford (1998, p. 1) uses the following analogy to describe the challenge that top managers face in the allocation of their limited attention:

Imagine a juggler on the 'Ed Sullivan Show' who is rewarded according to the number of plates she can spin on the tips of long sticks on a table. The plates are the targets of attention and the juggler allocates limited attention between respinning old plates and setting up new plates. Assume that there is an unlimited supply of plates and sticks (and table top). As soon as one plate is spinning, she can set up another one. However, as she continues to set up additional spinning plates, the first one starts to wobble, threatening to fall. The choice the juggler faces is to either continue to set up new plates or to go back and try to respin old plates.

The amount of attention that a top manager allocates to a specific emerging threat is consistent with the cognitive effort that he or she allocates to continued consideration (spinning) of that emerging threat (specific plate) alongside other internal and external considerations (the spinning of other plates). With considerable attention allocated to the emerging threat, the threat remains under consideration and can inform managerial choices and actions (Fiol and Huff, 1992; Gavetti and Levinthal, 2000; Huff, 1990), but with only minimal attention allocated, there is the risk that the threat can disappear from the top manager's picture of the firm's environment (plate falls) leading to strategic myopia (Shepherd et al., 2007). Therefore, in this article, we consider the extent of a top manager's attention allocated to an emerging threat in terms of the cognitive effort that he or she expends on its continued consideration.

Compared to the CIT manager, top managers must decide how to allocate scarce resources among competing investment alternatives, some of which are protective in nature and some of which are productive in nature. What may be a salient and a seemingly obvious choice if considered in isolation — i.e. a 'minor' investment to prevent a 'major' disaster, may not be as salient and obvious when considered within a portfolio of investment possibilities. Even those threats identified as most important by the CIT manager, and therefore considered the most valuable use of resources for the purpose of protecting the organization, must compete with investment opportunities for extending or enhancing the productive capabilities of the organization. Therefore, despite a CIT manager's perpetual state of vigilance to threats, top managers operating at the broader organizational level may not share this self-regulatory state, and even if they do, they may not experience it at the same intensity. Consequently, this can produce dramatically different evaluations of intelligence.

To address this potential for incongruence in self-regulatory states among organizational decision makers, we augment ABV with Regulatory Focus Theory (RFT) (Higgins, 1997, 1998) from the self-regulation literature. RFT proposes that attention

can be delineated as either (1) promotion-focused, which concerns the benefits of achieving success and the costs of not achieving success, or (2) prevention-focused, which concerns the costs of failure and the benefits of avoiding failure (Higgins, 1997). Concerned primarily with success, promotion focus tends to be 'approach-oriented', whereas prevention focus, with its emphasis on failure, tends to be 'avoidance-oriented'. These foci of attention are prompted by one's motive (e.g. whether it is targeted at fulfilling nurturance needs [promotion] or security needs [prevention]), the nature of one's goals (e.g. whether they represent aspirations [promotion] or obligations [prevention]), or the framing of one's situation (e.g. whether one is confronting a gain [promotion] or loss scenario [prevention]) (Higgins, 1997, 1998; Higgins et al., 2001).^[1]

We propose that, because of differences in roles and responsibilities between specialized organizational managers (such as CIT managers) and top managers, significant differences exist in the nature and salience of their motives. Drawing from social psychology (e.g. Camacho et al., 2003; Cesario et al., 2004; Higgins, 2002), we explain why differences in the nature and salience of motives are likely to evoke different regulatory orientations. In turn, these regulatory orientations influence the amount of attention the various organizational actors allocate to issues.

In doing so, this paper offers four primary contributions. First, the literature on CI has described the process by which an individual collects, analyses, and communicates information about an emerging threat (Ghoshal and Westney, 1991; Thietart and Vivas, 1981; Young, 1989). In this paper we explain why some organizational members allocate more attention to noticing emerging threats. Second, an implicit assumption of many studies in the CI literature is that, once an emerging threat is noticed by an organizational member, the top manager will attend to it sufficiently. We help explain why middle managers' assessments and recommendations based on CI may go unheeded by top management. Third, much research on the processing or acting on CI has focused on a single entity (e.g. Porac and Thomas, 1990; Stephan et al., 2003; Zajac and Bazerman, 1991). In our model, we capture the differences across middle managers within an organization and between middle managers and top managers in both their regulatory foci and their allocation of attention, and we investigate how these differences impact the generation and use of CI. Finally, although research on regulatory focus has grown considerably, studies in an organizational setting are still quite rare. We concentrate on the regulatory focus of individuals in different organizational roles, the interactions of these individuals, and how their interdependent regulatory foci impact (in)attention to emerging threats.

The remainder of the paper proceeds as follows. First, we introduce RFT to delineate between promotion focus and prevention focus and explore the influence of specialization by structural position in determining the allocation of attention among organizational decision makers. Second, we explain why CIT managers are likely to experience high levels of prevention focus and why the strength of this prevention focus increases both the likelihood that they will notice an emerging threat and that their requests of top management to attend to them will be heeded. Third, we explain not only why investing attentional resources requires top managers to evaluate opportunities as well as threats but also why the more motivationally balanced nature of this task is likely to cause top

managers to experience less prevention focus and more promotion focus than GIT managers. Finally, we examine some of the implications of the model for future research and practice.

MANAGERS' REGULATORY FOCUS AND ATTENTION

Organizational Influences on a Manager's Regulatory Focus

Consistent with a number of scholars of organization theory (e.g. Barnard, 1938; March and Simon, 1958), we employ an 'open-rational' systems view of organizations and their managers.^[2] Open systems (be they organizations or individuals) have two primary self-regulatory sub-systems in operation: nurturance and security (Carver and Scheier, 1998; Higgins, 2002). The systemic need for *nurturance* manifests as approach-oriented goals such as developing, growing, and promoting. For managers of profit-seeking firms, these may take the form of attempts to increase market share or revenues (McMullen et al., 2006). In other words, nurturance is concerned with the manager's self-directed attempts to expand the scope, status, or influence of his or her organization within the greater systemic environment (Shapiro and Schwartz, 2000). To use a sports analogy, a nurturance emphasis is like focusing on offence. Accordingly, new information encountered during goal pursuit is interpreted through this 'approach-oriented' lens as presenting either an opportunity that facilitates or a threat that obstructs advancement of some managerial goal intended to fulfil the need to nurture the organization.

In contrast, the systemic need for *security* manifests in avoidance-oriented goals and objectives. In competitive markets, these may take the form of managers' attempts to protect market share or revenues from existing or emerging rivals (McMullen et al., 2006). Consequently, security is concerned with adaptive attempts to prevent diminishment of the organization's scope, status, or influence by conforming to the demands of the greater systemic environment (Shapiro and Schwartz, 2000). Returning to our sports analogy, security emphasis is like focusing on defence. Accordingly, new information encountered during goal pursuit is interpreted by the manager through his or her 'avoidance-oriented' lens as presenting either an opportunity that facilitates or a threat that obstructs advancement of some goal intended to fulfil a need for the organization's security.

Emphasis on ensuring the organization's nurturance or security is likely to activate distinct self-regulatory systems known as regulatory focus (Higgins, 1997, 2002). Regulatory Focus Theory posits that, at any given point in time, individuals may engage in self-regulation with a promotion focus or a prevention focus (Brockner et al., 2004; Wu et al., 2008).

Nuturant social regulation engenders a *promotion focus*, 'in which self-regulation is concerned with the presence and absence of positive outcomes, with advancement, aspirations, and accomplishments'. When experiencing promotion focus, managerial attention is predominantly allocated to maximal goals, such as maximizing the 'return' in a risk-return dilemma. Accordingly, individuals experiencing promotion focus tend: (1) to employ strategic means that seek to ensure the attainment of hits (true-positives) and seek to ensure against misses (false-negatives) (Crowe and Higgins, 1997); (2) to

notice and recall information relevant to success (Higgins and Tykocinski, 1992); (3) to attend to such emotions as happiness and dejection that are related to the successful versus unsuccessful achievement of positive outcomes (Higgins et al., 1997); and (4) to adopt interpersonal strategies oriented towards promoting desired outcomes (Higgins et al., 1994).

Security social regulation engenders a *prevention focus*, 'in which self-regulation is concerned with the absence and presence of negative outcomes, with protection, safety, and responsibilities' (Higgins, 2002). Prevention focus (elicited by security needs, loss scenarios, or a sense of duty) emphasizes minimal goals, such as minimizing the 'risk' of a risk-return dilemma. Accordingly, individuals experiencing prevention focus tend: (1) to employ strategic means that seek to ensure correct rejections (true-negatives) and to ensure against false alarms (false-positives) (Crowe and Higgins, 1997); (2) to notice and recall information related to the avoidance of failure (Higgins and Tykocinski, 1992); (3) to be more sensitive to emotions such as quiescence and anxiety that are related to the successful or unsuccessful avoidance of negative outcomes (Higgins et al., 1997); and (4) to adopt interpersonal strategies oriented towards preventing negative outcomes (Higgins et al., 1994).

This principle of self-regulation known as regulatory focus provides the basis for our explanation of why middle managers can facilitate as well as encumber top managers' attention to emerging threats from rivals. Our model represents three organizational managers — the top manager, the organizational manager most responsible for competitive intelligence on threats (GIT manager), and other organizational middle managers. Whether a CIT manager notices a threat and subsequently communicates that information to the top manager depends on his or her regulatory focus. The need to ensure the organization's security evokes prevention focus in the CIT manager, making him or her more likely to notice emerging threats than decision makers whose functions consist of addressing organizational needs of a different nature or intensity. When vigilant in their prevention focus or when past attacks are highly salient, CIT managers will become more likely to recommend organizational action to top management. However, the extent to which a top manager attends to the threatening information raised by the CIT manager depends on the intensity of the top manager's prevention focus, which is partially influenced by the regulatory foci of the various managers (the CIT manager and other middle managers) with whom the top manager interacts. Over and above any direct priming effect on the top manager's regulatory focus, the extent to which the top manager attends to a particular threat depends on the degree of fit between the nature and intensity of the top manager's regulatory state and that of the CIT manager. Finally, the top manager's allocation of attention is influenced by recommendations from middle managers other than the CIT manager.

REGULATORY FOCUS AND MANAGERS WITHIN THE ORGANIZATION

Regulatory Focus and Managerial Functions

Simon (1947) argued that the firm's economic and social structures create, channel, and distribute the attention of decision-makers into discrete processes and that decisions arise

from the complex interactions among these discrete attentional processes. Building on these notions of attention in the context of organizational decision making, Ocasio (1997) offers an Attention Based View (ABV) of the firm in which firms are viewed as systems of structurally distributed attention. ABV defines attention as encompassing, '... the noticing, encoding, interpreting, and focusing of time and effort by organization decision-makers on both (1) *issues*; the available repertoire of categories for making sense of the environment: problems, opportunities, and threats; and (2) *answers*; the available repertoire of action alternatives: proposals, routines, projects, programmes, and procedures' (Ocasio, 1997, p. 189).

Because firms are bounded in their capacity to attend to environmental stimuli that impinge upon any particular situation, their decision makers selectively notice, interpret, and bring into conscious consideration the aspects of their environment that they consider relevant to the successful fulfilment of their organizational function (March and Simon, 1958; Ocasio, 1997; White, 1992). As a result, 'attentional processes of individual and group decision-makers are distributed throughout the multiple functions that take place in organizations, *with different foci of attention in each local procedure, communication, or activity*' (Ocasio, 1997, p. 191; emphasis added). Accordingly, whether and how top managers adapt their organizations to the environment depends significantly on whether middle managers within particular organizational functions notice the environmental stimuli that communicate the need for organizational action (Lawrence and Lorsch, 1967).

Consider the issue of security, for example. 'Security is a ... system of individual countermeasures and the interactions between them' (Schneier, 2006, p. 49). These individual countermeasures are informed by CI. The primary role of a CIT manager is the detection of threats (Schneier, 2006). Schneier (2006, p. 20) defines a threat as '... a potential way an attacker can attack a system', adding that attackers can 'execute many different attacks, and the same attack can be executed by many different types of attackers'. Thus, '[a]n attacker plus a series of potential attacks, all with the same goal, is a threat' (Schneier, 2006, p. 78). Given that CIT managers are tasked with security and the detection of organizational threats, the need for security should be highly salient to them, ensuring that those individuals with CIT as their functional responsibility will predominantly experience a prevention focus.^[3] Consider this in contrast to employees from the marketing department assigned the task of developing new products or markets — such activities tend to be nurturance-oriented and therefore more likely to elicit promotion focus from employees on a regular basis.

Therefore, because their function is to ensure the organization's security, CIT managers are likely to experience a heightened state of prevention focus. Higgins (2002) suggested that this prevention focus influences the individual actor's perception of value through three mechanisms: (1) *outcome value*, which is produced when the consequences of a decision are relevant to the regulatory orientation of the decision maker; (2) *value from fit*, which is produced when goal pursuit means suit the regulatory orientation of the decision maker; and (3) *value from proper means*, which is produced when goal pursuit means are in agreement with established rules and normative principles. We now consider each of these in turn.

CIT's Prevention Focus and Determinations of Value

Outcome value and threat detection. The psychology literature (e.g. Allport, 1955; Bargh, 1982; Bruner, 1957) has shown that individuals appraise objects and events in the world efficiently whenever the outcomes from those objects and events are relevant to their personal concerns. One of the dimensions along which this has been demonstrated is relevance to one's self-regulatory orientation (e.g. Bettman and Sujan, 1987; Maheswaren and Sternthal, 1990). For instance, Bettman and Sujan (1987) found that participants who were exposed to either creativity words or reliability words as a means of activating a creativity or reliability orientation preferred either a product with creativity features or a product with reliability features, respectively, depending on which features were more relevant to their momentary orientation. Likewise, researchers have shown that when lower order goals or agendas, such as task goals or daily pursuits, support higher order and relatively chronic goals, such as life or organizational purposes (as outcomes), they become more meaningful (e.g. Beach, 1990; Harackiewicz and Sansone, 1991; Sansone and Harackiewicz, 1996) and more likely to be noticed by individuals because of their regulatory relevance.

Safer (1998) tested this proposed relationship of regulatory relevance and found that decision makers in a promotion focus treated differences between products in luxuriousness or innovativeness as more important in their decision than differences in protectiveness or reliability. The reverse was true for decision makers in a prevention focus. Extending this logic to managerial attention suggests that decision makers in a state of prevention focus will treat prevention-relevant outcomes, such as threats to the organization, as more important in their information processing than promotion-relevant outcomes, such as opportunities for the organization, whereas the reverse will be the case for decision makers in a state of promotion focus. Consequently, organizational actors high in prevention focus, such as CIT managers, are likely to be more attentive to threatening stimuli in the environment.

Attention is a limited resource (Kahneman et al., 1992; Simon, 1947) and must be allocated to specific aspects of the environment to form a perception of that environment (Rensink, 2000; Rensink et al., 1997; Shepherd et al., 2007). Only attended stimuli inform perception (Rensink, 2002). Managers' attention is guided by issues and answers that are important to them and/or to their organization (Ocasio, 1997). The salience of these issues elicits regulatory focus, which indicates importance and, thus, guides the allocation of focused attention. Given the uncertainty surrounding emerging threats and the organizational environments in which they are likely to arise, managers' regulatory focus appears especially influential in the early detection of threats. Thus,

Proposition 1: The stronger a CIT manager's prevention focus, the more likely that he or she will notice an emerging threat.

Value from fit and threat evaluation. Once a threat is noticed, the CIT manager must then evaluate its expectancy-value while recognizing that these evaluations may depend on both the organization's response and the speed at which the response is enacted (Steel and Konig, 2006). Thus, an organizational threat is not evaluated in isolation, but

instead, in the context of a set of potential organizational remedies (March and Simon, 1958; Ocasio, 1997). Based on their monitoring of the environment, GIT managers must form a number of beliefs to arrive at the conclusion that an emerging threat is worthy of an organizational response. These include:

- that an emerging rival intends to harm the organization by doing X
- that the harm from X will cost the organization Y
- that by doing Z, the organization can prevent X
- that the cost of doing Z is currently less than the cost of Y
- that the cost of Y will continue to grow if the organization does not do Z now
- that, with delay, Z will either become ineffective or cost prohibitive.

In addition, because the specific organizational threat has typically not been faced before, each of these beliefs are formed under uncertainty. This means that each of the six beliefs identified above must be further qualified by CIT managers' assessments of how strongly they believe (i.e. how confident they are) in each of these conclusions.

The formation of (and the strength of) a belief on each of these six issues is likely to be influenced by regulatory fit. *Regulatory fit* occurs when a manager pursues a goal in a manner that sustains his or her regulatory orientation (Cesario et al., 2004, p. 389). Individuals value having a regulatory fit. Regulatory fit has been associated with motivational intensity during goal directed behaviour and positive feelings towards past, present, and future decisions (Cesario et al., 2004; Higgins, 2000). For example, independent of the outcomes, those decisions that represent greater regulatory fit not only receive more positive evaluations (Freitas and Higgins, 2002; Freitas et al., 2002) but also generate greater feelings of importance and 'correctness' (Camacho et al., 2003; Higgins et al., 2003).

Regulatory focus theory distinguishes between different means of goal attainment for the different foci (Crowe and Higgins, 1997; Higgins, 1997, 1998). Because prevention focus is concerned with safety and responsibility and the absence and presence of negative outcomes, the natural strategy for a prevention focus is vigilance avoidance means which ensure the absence of negative outcomes (e.g. ensure correct rejections; be careful) and ensure against the presence of negative outcomes (e.g. ensure against errors of commission; avoid mistakes). In contrast, because promotion focus is concerned with advancement and accomplishment and the presence and absence of positive outcomes, the natural strategy for promotion focus is eagerness approach means which ensure the presence of positive outcomes (ensure hits, look for means of advancement) and ensure against the absence of positive outcomes (ensure against errors of omission, do not close off possibilities).

An employer can determine the instrumental means used by an employee to pursue a goal independent of that employee's regulatory orientation, thereby influencing value from fit (Brockner and Higgins, 2001; Higgins, 2002). Therefore, because of their salient security motive and, consequently, highly activated prevention focus, CIT managers are more likely to rely on vigilance means than eagerness means to perform their functional task because such an approach is likely to provide greater regulatory fit and thus be more positively valued. For example, to avoid mistakes, the CIT manager may seek advice

from experts (Yaniv, 2004) and feedback from other group members (Sniezek and Henry, 1989) which improves the accuracy of his or her judgment, enhancing his or her ability to justify it to the top manager (Caldwell and O'Reilly, 1982). Finally, the CIT manager may try to keep recommendations consistent with previous organizational actions and organizational norms to facilitate justification and defer blame from others in case of an error (Spranca et al., 1991). Thus,

Proposition 2: The more intense a CIT manager's prevention focus, the more likely that he or she will use vigilance means to detect an emerging threat and use vigilance means to communicate that threat to the top manager.

Individuals may have poor regulatory fit because they have the wrong type of means, such as eagerness approach means for goal pursuit in a prevention focus or vice versa (vigilance avoidance means for goal pursuit in a promotion focus), but they may also have poor regulatory fit when they have the wrong level of means, such as having low vigilance during goal pursuit in a prevention focus rather than high vigilance. Therefore, to have regulatory fit, the means of goal attainment must be 'the right type and the right level' (Higgins, 2002, p. 183). For example, Idson et al. (2000a) found that the vigilance of individuals in a prevention focus is maintained by imagining a negative outcome (loss) but is reduced by imagining a positive outcome (non-loss), whereas the eagerness of individuals in a promotion focus is maintained by imagining a positive outcome (gain) but is reduced by imagining a negative outcome (non-gain) (see also Forster et al., 1998). Consequently, for negative outcomes, there is a higher regulatory fit for prevention focus than promotion focus (vigilance is maintained but eagerness is not), whereas for positive outcomes, there is a higher regulatory fit for promotion focus than a prevention focus (eagerness is maintained but vigilance is not). Thus, Gesario et al. (2004, p. 388) concluded: 'When a behavior, cognition, or strategic mean naturally sustains a given phenomenological state, it will not only be the dominant response tendency but will also have an additional experiential quality of value from fit (see Higgins, 2000, 2002)'.

Thus, a CIT manager who has noticed an emerging organizational threat will imagine two extreme possible results of communicating this threat to the top manager and recommending that he or she attend to it: (1) the top manager allocates considerable attention to the threat (e.g. positive outcome; 'non-loss'); or (2) the top manager allocates minimal attention to the threat (e.g. negative outcome; 'loss'). If this CIT manager is in an intensely prevention-focused state of vigilance, his state will be sustained, and he will experience higher regulatory fit when confronted with images of organizations failing to mitigate threats. For example, media coverage and high salience of prominent organizations which failed to mitigate threats (such as GM's failure to respond to Japanese auto manufacturers in the 1980s, or the US government in the case of 9/11) would provide images of negative, loss-oriented outcomes that enhance or sustain the regulatory fit experienced by CIT managers who are in a state of prevention focus and who are employing high levels of vigilance means. In contrast, CIT managers who are in a state of prevention focus but who are employing low levels of vigilance means would not experience as much regulatory fit from such negative, loss-oriented images. Salient examples of organizations that insufficiently responded to competitive threats will make

these CIT managers doubt, for instance, whether they are being vigilant enough - i.e. seeking and considering enough data on competitors and potential threats (Galdwell and O'Reilly, 1982), drawing on sufficient advice from experts (Yaniv, 2004), and relying sufficiently on feedback from other group members (Sniezek and Henry, 1989) to judge accurately a noticed threat and give appropriate and justifiable recommendations to the top manager. Thus, not only the right type, but also the right level of vigilance means is important to achieve regulatory fit for prevention-focused CIT managers.

Higgins (2000) also noted that individuals' (prospective) feelings about a choice that they might make will be more negative for an undesirable choice (framed in terms of losses) and more positive for a desirable choice (framed in terms of gains) when regulatory fit is higher. Thus, prevention focus is expected to have a stronger motivational effect than promotion focus in loss scenarios, whereas promotion focus is expected to have a stronger motivational effect than prevention focus in gain scenarios. This suggests that, for negative outcomes, the level of vigilance may be satisfactory to evoke motivational intensity from a manager in a prevention focus (because the negative outcome is framed as a loss), but the level of eagerness may be unsatisfactory to evoke motivational intensity from a manager in a promotion focus (because the negative outcome is framed as a non-gain). Because the role of GIT managers is to identify threats, they will be more likely to frame choices in terms of negative outcomes and to experience high levels of vigilance avoidance means while evaluating them. Thus,

Proposition 3: For a given level of threat, the more intense a CIT manager's prevention-focused state of vigilance, the stronger his or her appeal for the top manager to attend to the threat.

Value from proper means and threat response. Unlike value from fit, value from proper means concerns the relation of means to established rules or normative principles rather than the relation of means to the decision maker's regulatory orientation. That is, individuals value decisions more positively when those decisions are more justifiable (Pennington and Hastie, 1988; Tetlock, 1991; Tversky and Shafir, 1992). According to norm theory (Kahneman and Miller, 1986) and empirical research on regret, decisions become more justifiable as their consistency with others' expectations increases. 'Regret is a negative cognitively based emotion that we experience when realizing or imagining that our present situation would have been better, had we acted differently' (Zeelenberg and Pieters, 2004, p. 156). Regret theory has argued (Bell, 1982; Loomes and Sugden, 1982; Sage and White, 1983), and empirical research on regret has found that, given equally negative outcomes, people regret things they did more than things they failed to do (Kahneman and Tversky, 1982; Landman, 1987). Not only can decisions to act cause regret, but the anticipation of regret can influence current decision making (for a review, see Zeelenberg, 1999). The more abnormal the circumstance, the easier it is for individuals to construe alternatives that would have prevented the consequences, and these counterfactuals (imaginings of how things could have been different) lead to high levels of regret (Baron and Ritov, 1994; Gilovich and Medvec, 1995; Gilovich et al, 1995; Kahneman and Tversky, 1982; Landman, 1987). Normal circumstances present fewer counterfactuals and therefore less regret.

This link between normality and regret involves feelings of responsibility (for link between regret and responsibility see Connolly et al., 1997; Ordonez and Connolly, 2000; Zeelenberg et al., 1998, 2000). Sugden (1985) argued that regret from self-recrimination is more pronounced when the decision is perceived to be more unreasonable, inexplicable, or indefensible. In other words, regret is higher for more abnormal decisions (Zeelenberg et al., 2002).

Herd behaviour is an example of norm theory in the context of CI. Herd behaviour is when a top manager's attention and behaviour is influenced by the behaviour of others and is driven by the decision maker's willingness to conform to social or group norms and his or her unwillingness to depart from the herd, even in situations when it would be advantageous to do so (Banerjee, 1992; Choi, 1997). For example, research has shown that television companies imitate each other when introducing new programmes, although imitative programmes are less successful than differentiated introductions (Kennedy, 2002), and Rotheli (2001) showed that banks adjust their lending practices according to changes made by their competitors.

Although inaction is often perceived as more normal, which generates an anticipation of greater regret from action, norm theory does not preclude a bias towards action. Simply, when circumstances are such that action is perceived as more normal than inaction, norm theory predicts a bias towards action. For example, firefighters are supposed to act in the case of a fire. Similarly, CIT managers are supposed to protect the firm from competitor attacks. When they fail to act in these situations, they probably experience more regret and receive greater blame than do those who acted ineffectively (Zeelenberg et al., 2002). Negative prior outcomes can provide reasons for action that are consistent with norm theory: 'if after experiencing a negative outcome, one does not take action to prevent further losses, one would feel intense regret if these losses do occur (e.g. asking oneself, "why didn't I do anything"). However, if one did take action to prevent further losses but was unsuccessful, the regret will be less intense (e.g. saying to oneself "at least I tried")' (Zeelenberg et al., 2002, p. 315).

When an organization has faced recent and/or highly negative attacks from competitors, CIT managers may be expected to take even more preventative action than normal. For example, the high saliency and negative consequences of competitive attacks by Apple, Microsoft, Intel and others which cost IBM billions of US dollars made the company establish CI teams that interacted directly with a member of the top management team. The CIT managers were expected to do 'more than just format information into attractive charts'. They were required to invest additional effort to draw inferences from data and suggest outcomes that executives could consider and act upon, to show 'deeply felt commitment to the work', and to achieve 'measurable results against the competition' (Behnke and Slayton, 1998, p. 7). Thus, past attacks made CIT managers especially vigilant to the threat of emerging rivals because this is what was expected of them. As a result, CIT managers were 'sensitized' to information about an emerging competitive threat, leading them to encourage top managers to attend to the threat. Thus,

Proposition 4: For a given level of threat, the more salient (more recent and/or more negative) previous competitor attacks, the stronger the CIT manager's appeal for the top manager to attend to the threat.

From Middle Management to Top Management

As firms grow, organizational functions become more specialized and information becomes more structurally distributed (Ocasio, 1997). As a result, top managers become increasingly dependent upon intelligence acquired by various middle managers. Some of these, such as GIT managers, will be primarily concerned with the security needs of the organization and therefore highly prevention-focused. Others, such as R&D managers, may be primarily concerned with the nurturance needs of the organization and therefore highly promotion-focused. Still others may run the gamut exhibiting varying regulatory orientations to varying degrees as a function of the ever-changing nature of their organizational tasks. Regardless of whether threats are detected by CIT managers and brought to the attention of top management or whether top managers detect the threats themselves, top managers' decision making processes (in terms of what stimuli are noticed and how those stimuli are evaluated) will be subject to the influence of the motives that are salient to them. As top managers monitor their organizations' external and internal environments, they will experience varying levels of security and nurturance needs which will activate prevention focus and/or promotion focus to varying degrees.

Given the nature of their role and responsibilities within the organization, top managers must consider a broader array of organizational concerns than managers of specific functions, including CI threats. This prevents them from focusing exclusively on the fulfilment of any one motive, such as security, to the relative neglect of others, such as nurturance. This is not to say that multiple motives cannot be highly salient simultaneously but rather that the self-regulatory pride — subjective history of success with prevention-related vigilance (Grant and Higgins, 2003) — that comes from an intensely experienced need to fulfil a security motive while demonstrating little concern for fulfilment of nurturance needs is more likely to act as a stronger priming effect of prevention focus in GIT managers than in top managers. Because attention is limited (Kahneman et al., 1992), the competing organizational needs that must be considered by top managers likely weaken the salience of security needs such that the effects of prevention focus on attention and motivation will be weaker for top managers than they are for GIT managers. Thus,

Proposition 5: Compared to CIT managers, top managers will experience a weaker state of prevention focus and therefore less prevention-focused effects on attention and motivation.

Middle manager effects in the elicitation of top management's regulatory focus. Top managers' interactions with their various middle managers are likely to elicit prevention or promotion focus by acting as motivational feedback (Idson et al., 2000b). That is, repeated interactions that communicate that an organization's security is in jeopardy are likely to reinforce the importance of fulfilling that organizational need. If many such prevention-focused encounters occur, then the sheer quantity may elicit a prevention focus from the top manager. For example, Bill Mutell, head of Compaq's CI group, argued that communicating competitive threats to top managers would be fulfilled best if the group sat 'outside the CEO's door' and became indispensable to the top managers (Prescott,

2001). Similarly, John E. Pepper, former chairman and CEO of Procter & Gamble, emphasized that deep involvement of top managers in the CI process and 'tough, honest conversation' between the CI manager and top managers is necessary to raise the awareness of organizational threats (Pepper, 1999). However, fewer but more intense prevention-focused encounters may have a similar effect as frequent, less intense encounters (Forster et al., 1998). Thus,

Proposition 6: A top manager's state of regulatory focus will be influenced by the regulatory focus of the middle managers with whom he or she interacts. This effect will become stronger: (i) when the top manager encounters a greater proportion of middle managers exhibiting a specific focus (either a promotion focus or a prevention focus); or (ii) when the top manager interacts with middle managers who are experiencing extremely high levels of a specific focus (either a promotion focus or a prevention focus).

Regulatory Relevance and Regulatory Fit at the Top Management Level

Top managers do not receive their information exclusively from organizational members. They interact with external stakeholders and often conduct primary data collection of their own (Ansoff, 1979; Mintzberg, 1973). Therefore, top managers can be expected to experience the effects of regulatory relevance and regulatory fit on their decision making in much the same way that middle managers do. That is, value in relation to orientations can be created by the outcome satisfying the orientation need (relevance) or by the strategic process sustaining the orientation (fit) or its justifiability (proper means). However, unlike CIT managers, top managers must decide how to allocate limited attention among competing organizational concerns — i.e. those of a protective, prevention-focused nature and those of a productive, promotion-focused nature. Choosing between competing concerns is complicated by the varying levels of uncertainty and ambiguity that surround emerging threats and other organizational issues and answers, which in turn provides significant scope for the influence of regulatory orientation effects.

Because 'the purpose of intelligence is to illuminate the unknown', Heuer (1999) noted:

The circumstances under which accurate perception is most difficult are exactly the circumstances under which intelligence analysis is generally conducted — dealing with highly ambiguous situations on the basis of information that is processed incrementally under pressure for early judgment. This is a recipe for inaccurate perception, (p. 14)

Almost by definition, intelligence analysis deals with highly ambiguous situations. As previously noted, the greater the ambiguity of the stimuli, the greater the impact of expectations and pre-existing images on the perception of that stimuli. Thus, despite maximum striving for objectivity, the intelligence analyst's own preconceptions are likely to exert a greater impact on the analytical product than in other fields where an analyst is working with less ambiguous and less discordant information, (pp. 14–15)

Even though they often recognize that middle managers' perceptions are susceptible to motivational effects, many top managers become insulated from the external environment as their organizations grow in size and scope and find themselves increasingly dependent on others to provide information (Sanders and Carpenter, 1998). As a result, top managers must determine not only what to do given the considerable information that is available to them but also the extent to which they believe in the reliability of its source (Finkelstein and Hambrick, 1996).

One way in which top managers may form their beliefs regarding the reliability of information is by simply asking themselves how it makes them feel. For example, Cesario et al. (2004) suggested that feelings can convey information when 'a judgment is too complex to compute systematically and needs simplification or when a judgment naturally lends itself to relying on feelings, such as judgments of uncertainty' (p. 388). Thus, top managers may ask themselves, 'How do I feel about it?' In doing so, however, they become susceptible to the influence of pre-existing feelings that may be irrelevant for allocating attention given the judgment at hand. 'To the extent that (a) one cannot discriminate preexisting feeling from feelings about the target of judgment, (b) one perceives the feelings as appropriate to the judgment, and (c) one cannot attribute the existing feelings to another source, then these feelings will likely serve as relevant information in the construction of judgment' (Gesario et al., 2004, p. 388). This suggests that top managers who are experiencing a heightened state of prevention focus may find information to be more salient when the information satisfies the top managers' orientation needs (regulatory relevance) and/or is provided by specialized organization managers using prevention-focused vigilance means (regulatory fit). Thus,

Proposition 7: For a given level of threat, the greater the congruence between the top manager's state of prevention focus and the loss-oriented nature of the threat brought to his or her attention by the GIT manager, the greater the likelihood that the top manager will attend to the threat.

Proposition 8: For a given level of threat, the greater the congruence between the top manager's state of prevention focus and the vigilance means used by the CIT manager, the greater the likelihood that the top manager will attend to the threat.

Regulatory Orientations and Path Dependence

The emphasis on self-regulation in the above propositions may portray the top manager as capable of attending only to stimuli that reinforce his or her existing self-regulatory state (Kuvaas, 2002). Such perpetual reinforcement would lead to a path dependence in which prevention-focused tendencies would breed further prevention-focused tendencies until one suffered from strategic myopia and stagnation; or vice versa, promotion-focused tendencies would breed further promotion-focused tendencies until one became unfocused and overextended (March, 1991; Shapiro and Schwartz, 2000). Because environmental cues can capture attention directly without necessarily being filtered by existing schema (see, for example, the discussion in Shepherd et al. (2007) of the gist mechanism in pre-attentive information processing), information that is incongruent to

one's regulatory orientation is still noticeable. Moreover, it is likely to weaken one's self-regulatory state (e.g. Forster et al., 1998; Idson et al., 2000a). Thus, top managers are not imprisoned by the attentional or motivational effects of their regulatory orientations (Anderson and Nichols, 2007). If many individuals bring a threat to a top manager's attention, it will become increasingly likely that the threat will be noticed regardless of the top manager's regulatory orientation (Hambrick, 1981). However, our model suggests that the likelihood that a top manager will attend to this threat increases significantly whenever he or she is already in a prevention-focused state of vigilance.

The fact that more attention is being paid to a threat does not necessarily mean that the actual likelihood of the environmental stimulus is growing. This may be the perception, however, especially if top managers equate the importance of an issue with the number of times that they are prompted to attend to it. Therefore, if everyone around top management is discussing a particular threat, it may begin to acquire social legitimacy and importance. For example, top managers at IBM lead Virtual CI teams' consisting of a core of CI professionals and other middle managers from different units, which all interacted with the top manager and focused the top manager's attention to the threat (Behnke and Slayton, 1998). This is not to say that all sources of information are equal. Obviously, middle managers differ in their credibility and past reliability as well as in their prior relationships and influence with top managers. But as the number of people (managers and otherwise) discussing a threat grows, it does appear more likely: (1) that the top manager will notice and evaluate the threat to some degree (even if only to dismiss it as noise); and (2) that the expectancy of the threat will grow as a result of the social legitimacy it gains from so many managers mentioning it. Thus,

Proposition 9: For a given level of threat, the greater the number of middle managers presenting information about a particular threat stimulus to a top manager, the greater the likelihood that the top manager will attend to the threat regardless of his or her existing state of regulatory focus.

DISCUSSION

The ability of top managers to adapt their organizations to a changing environment depends on their ability to focus managerial attention on the appropriate issues and answers (Ocasio, 1997). The threat posed by emerging rivals is one such issue that cannot go ignored if top managers want their organizations to continue to thrive as well as survive. To avoid attacks, top managers often assign managers with the task of detecting threats before emerging rivals can inflict harm upon the organization. GIT managers are therefore motivated to ensure the security of the organization and are vigilant (in a state of heightened prevention focus) in doing so.

Owing to limited resources, top managers cannot attend equally to every threat that is brought to their attention by CIT managers. Although well informed about the particular threat that they are monitoring, these CIT managers remain relatively uninformed about other potential threats to the organization. If resources were unlimited, there would be no problem, as the top manager could focus on each and every threat noticed by organizational members. However, resources are limited, requiring that top

managers allocate attention to those deemed most costly if left unattended. Thus, top managers must choose to invest their attention and energy on diffusing some threats while allowing others to go without response and potentially grow. How is this done, especially when confronting highly uncertain threats, like those posed by emerging rivals? Under which conditions does an emerging threat demand the top manager's attention? And, when is a threat noticed by middle managers but not sufficiently attended to by top managers?

In this article, we have treated threats as new information that must be evaluated in a top manager's attempts to fulfil an organization's maximal and minimal goals. Maximal goals consist of objectives that are designed to nurture organizational growth and development, such as increasing market share, increasing sales, and/or enhancing the efficacy and productivity of its activities. Minimal goals, by contrast, consist of objectives that are designed to protect the organization's security, such as defending its current market share, reducing costs, and/or improving the efficiency of its activities. Threats, therefore, represent investment opportunities that must be evaluated as top managers pursue their maximal goal of extending the productive activities of the organization or their minimal goal of protecting the organization's existing activities. Consequently, top managers confronting a threat to security must decide whether investment in diffusion of the threat provides value to the organization by advancing the minimal goal *and* whether this expected return on that investment promises a better return than investment in alternative productive and/or protective activities.

There is a substantive difference between threat evaluation performed by individual managers with limited knowledge of the organizational landscape and threat evaluation performed by top managers of the organization who are supposedly privy to more information (Hambrick, 1981). Just as theorists face a trade-off between precision and comprehensiveness, so do top managers. The supposed comprehensiveness of top managerial decisions comes at the cost of top management's assuredness in the accuracy of the information obtained from their middle managers. Owing to limited attention, organizations rely on GIT managers to notice and bring the threat of emerging rivals to the attention of top management. In doing so, attention becomes a more abundant resource, enabling top management to monitor more of the environment than would otherwise be possible.

Expanding one's attention by relying on others, however, is not the same thing as simply having more attention. Reliance on others introduces doubt about the accuracy of information and about whether others' evaluations need to be discounted. That is, CIT managers evaluate threats in the isolation of a particular department's goals whereas top managers must evaluate the mitigation of a threat as one possible investment opportunity within a portfolio of organizational motives and concerns (Denison et al., 1996). As the needs, motives, and/or goals that one is seeking to fulfil change, so should the value of threat mitigation. Because middle and top management have different concerns, they are also likely to evaluate threats differently (Hambrick, 1981). Thus, distribution of attention does indeed expand attention, but it also introduces an epistemic problem in which top managers must ask, 'What exactly do I know and how well do I know it?' Doubt is amplified when dealing with emerging rivals because the information is obfuscated by uncertainty such that top managers cannot always turn to history for

verification of the information. Furthermore, regulatory foci and other socio-cognitive mindsets are at their most influential under conditions of uncertainty (McMullen et al., 2006). Thus, over and above the objective value of the information brought to top management's attention by CIT managers, regulatory focus helps to explain how compelling CI managers' recommendations are to top managers by recognizing that, in addition to its objective value, information has subjective value in terms of its regulatory relevance, regulatory fit, and justifiability.

Contributions

Our approach of integrating the attention-based view of the firm with regulatory focus theory to explain top managers' failure to attend to competitive intelligence about emerging threats has the potential to make at least four contributions to the literature. First, by explaining variance among individuals' likelihood to notice an organizational threat, we supplement CI research that has investigated how organizational members collect, analyse, and communicate information on competitors (Ghoshal and Westney, 1991; Thietart and Vivas, 1981; Young, 1989). Although it is known that the characteristics of individuals such as gender (Ibarra, 1992) and expertise (Cross and Sproull, 2004; Starbuck and Milliken, 1988) influence their information seeking behaviour and allocation of attention, the CI literature has largely neglected these individual differences. As an exception, Heuer (1999) argued that, particularly when little information is available, CIT managers may come to different interpretations and judgments about the same information because they rely on different mental models and beliefs. Our study extends this conclusion by suggesting that the regulatory focus and vigilance means used by CIT managers underlie the formation of these beliefs. Future CI studies can make important contributions by considering differences between CI managers in specific organizational positions within the organization. For example, Porac and Thomas (1990, p. 224) suggested that 'decision makers simplify the competitive environment by using a mental model of competitive groups'. How does the definition of these competitive groups depend on the position of the decision maker within the organization and his or her regulatory focus, use of vigilance means, and attention dedicated to organizational threats?

Second, our study offers an explanation of why some top managers are more attentive to a threat noticed by middle managers than other top managers. Our model suggests at least three reasons: (1) top managers may differ in their regulatory focus due to different organizational environments; (2) the saliency of past attacks influences the strength of the CIT manager's appeal to the top manager to attend to the threat; and (3) top managers receive recommendations from middle managers other than the CIT manager, which influences their attention to specific threats. Top managers in some organizations may be in a weaker state of prevention focus (or even in a state of promotion focus) and thus less attentive to threats communicated by CIT managers than top managers of other organizations who may be concurrently experiencing an intensely prevention-focused state. Thus, based on their regulatory focus, top managers are likely to differ in their judgment of information and the recommendations made to them by CIT managers.

This emphasis on judgment bridges the two streams of research that focus on data collection, analysis, and communication (Ghoshal and Westney, 1991; Prescott and Smith, 1987; Sammon et al., 1984; Thietart and Vivas, 1981; Young, 1989) on the one hand, and on competitive action (e.g. Chen, 1996) on the other hand. Although there is work on judgment in the general behavioural decision making literature (e.g. Kahneman et al., 1982), applications of this literature to the CI context have been limited. One exception is the study by Zajac and Bazerman (1991), who suggested that cognitive biases such as overconfidence or escalation of commitment lead decision makers to underestimate competitive threats in expansion and entry decisions. Further, Heuer (1999) identified situational logic, application of theory, historic comparison, and immersion in available data as means by which decision makers judge incomplete and uncertain data on competitors. Our focus on the manager's regulatory focus enables consideration of how the top manager's interactions with other organizational members (the CIT and other middle managers) impact their regulatory focus and judgment.

The saliency of past attacks against the organization likely influences the strength of the CIT manager's recommendation to the top manager that the threat be attended to. CIT managers of organizations that have suffered highly negative attacks in the past are likely to give stronger recommendations to mitigate emerging threats than CIT managers of other organizations. Scholars have described that CIT managers often draw on historical comparisons when analysing and judging threats (Heuer, 1999; May, 1973). These studies view historical comparisons more as a tool to supplement incomplete data for giving recommendations, whereas our model suggests that the consideration and saliency of past attacks imposes norms onto the CIT managers that focus their attention towards threatening stimuli and towards a stronger recommendation to the top manager. Interestingly, Heuer (1999) and May (1973) emphasized that considering past situations may be a dangerous strategy because it can lead to decisions to act that would have been appropriate in the past but that may not be appropriate in the current situation. Thus, it appears that saliency of past attacks enhances the likelihood that the top manager will attend to the threat but this attention may not necessarily be warranted under the current situation. Future research may shed greater light on this issue.

As a third contribution to the CI literature, we offer a model including interactions between top managers and CIT managers and between top managers and other middle managers. That is, as compared to existing studies, our model not only accounts for differences across individuals involved in the CI process (see above), but also suggests how these differences influence the use of CI on threats. Studies acknowledging the existence of different managerial levels in the CI process (Ghoshal and Westney, 1991; Heuer, 1999; Prescott and Smith, 1987) have focused on the exchange of information and the communication process but not analysed how the psychology and beliefs of top managers may be influenced by interactions with middle managers. Assuming that the state of prevention focus of a top manager is central to his or her attention to threats brought to light by a CIT manager, we argue that middle managers (including the CIT manager) can influence this attentional investment by modifying the regulatory focus of the top manager. This attentional view is consistent with models of social contagion such

as Social Impact Theory (Latane, 1996), Social Learning Theory (Bandura, 1991), Social Network Theory (e.g. Brass, 1984; Tichy, 1981), and the literature on irrational exuberance (e.g. Shiller, 2003).

Finally, we contribute to the literature on regulatory focus theory by broadening the range of its theoretical boundaries. The number of studies drawing on RFT has increased substantially over recent years. However, little work has investigated RFT in an organizational setting. One exception is the study by Brockner and Higgins (2001), who investigated the relationship between regulatory focus and the emotional experiences of employees at their work place. More recently, Kark and Van Dijk (2007) used RFT to investigate the motivation and leadership behaviour of managers. We extend RFT to the organizational context by explaining how and why middle managers notice information about the organizational environment (specifically threats) and the extent to which the top manager attends to this information. It appears that scholars can advance our understanding of top management decision making when they use RFT to study how regulatory states and the use of goal attainment means of organizational members influence top managers' attention to stimuli of potential strategic importance.

Future Empirical Research

The propositions of our model are testable. Regulatory foci of individuals can be manipulated in experimental settings (Higgins et al., 1997; Shah et al., 1998), and scholars can investigate individual decision making in field or laboratory experiments (Priem and Harrison, 1994). For example, one could confront CIT managers with hypothetical competitive situations to investigate how their regulatory foci influence the assessment of these situations, that is, whether the CIT managers perceive them as threats. These scenarios could be represented by a number of decision cues describing the size and density of competitors or the number and negative impact of past attacks, and the regulatory focus of the managers could be manipulated by portraying the competitive situations in a stronger or weaker prevention or promotion frame (see, e.g. Higgins et al., 1997). Similarly, top managers could be asked to assess hypothetical recommendations about organizational threats brought to them by CIT and other middle managers, where the frequency and strength of the recommendations varies across scenarios and the prevention or promotion framing is manipulated. We believe that these experimental studies will be useful for enhancing our understanding of the judgment about CI from managers in different functions of the organization and that the results will have implications for how and why attention is allocated to emerging threats.

Alternatively, our propositions may be tested in an organizational setting. Interviews and internal company documents (such as emails) can reveal whether the CIT manager noticed these threats and whether and how intensely they recommended to the top managers to react to these threats. Moreover, these data sources may also reveal if other middle managers warned the top managers about an emerging threat. For the most part, we have assumed that top managers are likely to heed the threats that are recommended by middle managers if they both notice and evaluate those threats as worthy of further attention. The possibility exists, however, that a top manager may choose to ignore a threat owing to incentive misalignment. That is, if managerial incentives are tied to the

short-term profitability of the firm, top management may choose to ignore middle managers' pleas to confront long-term threats for fear of having to incur expenses that damage current profitability. Comparing these variables across organizations, or within organizations across a series of threats, may advance our understanding on what determines the extent to which top managers attend to threats noticed by managers. This will have implications for both research and practice. We do realize, however, that such information is likely to be highly sensitive and may therefore be difficult to access.

CONCLUSION

The mitigation of emerging threats requires that managers attend to competitive intelligence. Thus, it is central to sustaining and enhancing organizational performance. Our model of managerial attention integrates different levels and functions of managers involved in the CI process and suggests how the psychological characteristics and interactions between these managers explains the extent to which a top manager attends to an emerging threat. We identify the regulatory focus of top managers as well as CIT and other middle managers as a central variable and suggest that middle managers can strengthen the prevention focus of top managers by drawing top managers' attention to the threat. The strength of these recommendations depends on the saliency of past attacks and the vigilance means used by the CIT manager.

NOTES

- [1] See Higgins (1997) for the relationship between Regulatory Focus Theory and Prospect Theory.
- [2] The open systems view places less emphasis on delineating formal structures from informal structures and greater emphasis on the importance of cultural-cognitive elements (e.g. conceptions, models, schemas, and scripts) used in the construction of organizations (Scott and Davis, 2007).
- [3] CI can also be used for noticing opportunities for growth. For example, Deschamps and Ranganath Nayak (1995) point out that, in addition to 'competitor's intelligence' which is concerned with detecting new industry entrants, CI also involves 'technological intelligence' which forecasts the costs and benefits of new technologies, and 'market intelligence', which focuses on identifying opportunities to meet the needs of current and future customers. CI managers who are assigned to market intelligence and charged primarily with noticing opportunities would be likely therefore to experience a heightened state of promotion focus. However, because of space limitations, we have constrained the scope of this paper to threat detection.

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