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The Impact of Organizational Capabilities, Environmental Uncertainties, and Generic Strategies on Crisis Readiness: An Empirical Examination of Retail Professionals

William Crandall

University of North Carolina at Pembroke

John A. Parnell

University of North Carolina at Pembroke

Maria Nathan

Lynchburg College

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The Impact of Organizational Capabilities, Environmental Uncertainties, and Generic Strategies on Crisis Readiness: An Empirical Examination of Retail Professionals

William “Rick” Crandall, University of North Carolina at Pembroke

John A. Parnell, University of North Carolina at Pembroke

Maria Nathan, Lynchburg College

***Abstract:** This paper examined the factors—organizational capabilities, environmental uncertainties, and generic strategies—that potentially contribute to an organization’s crisis readiness. A survey of 277 retail professionals indicated that those companies that display a high level of crisis readiness follow a differentiation generic strategy and had higher levels of supply chain capabilities. Companies that pursued a cost leadership generic strategy displayed lower levels of crisis readiness. Implications for researchers and managers are offered.*

INTRODUCTION

What strategic factors influence an organization’s crisis readiness? The fact that some organizations are more prepared for a crisis than others has been apparent in the crisis management literature for many years. Pearson and Mitroff (1993) were among the first organizational researchers to address this conundrum, suggesting that many crises were human-induced and as such, could be avoided in many instances. Indeed, since 1994, the Institute for Crisis Management, a crisis research firm out of Louisville, Kentucky has been tracking crises sources and has concluded that the majority of organizational crises are human-induced. In a recent study, the Institute found that 51% of all reported crises originated with management while 31% were caused by employees (Institute for Crisis Management, 2009). Examples of human-induced crises include corporate scandals, workplace violence, sexual harassment, workplace accidents, and white-collar crime.

What is less developed in the crisis management literature however, is an analysis of the strategic factors that contribute to an organization’s crisis readiness. In this paper, we define crisis readiness as “the readiness to cope with the uncertainty caused by a crisis” (Rousaki & Alcott 2007: 28). Such a construct is relatively new in the literature and offers a way to assess an organization’s proactive posture in preparing for future crisis events regardless of origin. The factors that influence crisis readiness can offer insights on how organizations survey their internal and external environments in preparation for prospective unfortunate events.

In this paper, we examine the internal and external factors that influence crisis readiness. We take a strategic management perspective in that we seek to understand a firm’s organizational capabilities, environmental uncertainties, and generic strategies and how they influence its crisis readiness. We begin with an overview of the crisis readiness concept, the posture of preparation that organizations must take to anticipate crisis events. We then consider three strategic areas in every organization’s strategic planning process: the organization’s capabilities, the environmental uncertainty that it faces, and its choice of business strategy. We hypothesize that these three areas have a direct influence on its crisis readiness tendencies. Finally, we test our assertions and offer implications for researchers and managers in relation to our findings.

REVIEW

Crisis Readiness

Crisis readiness is a sub-area of the broader discipline of crisis management. A crisis refers to an unpredictable event that can threaten the organization and its stakeholders. Moreover, it can seriously threaten the organization's performance (Coombs, 2007). As such, crisis events are low-probability, high-impact events that are often unexpected (Barton, 2008; Pearson & Clair, 1998). How an organization responds to a crisis can dramatically affect its reputation, financial performance, and ultimately, its survival (Coombs & Holladay, 2006).

Pearson and Mitroff (1993) were the first to offer an academic conceptualization of what this construct involves. Their term, crisis preparedness, focused on the two phases of signal detection and preparation/prevention. First, signal detection refers to looking for the cues that can lead to and cause a crisis. They also note that in many cases, "organizations not only ignore such signals, but may actually exert considerable efforts to block them" (Pearson & Mitroff, 1993: 52). Hence, crisis preparedness involves being cognizant to those events or conditions that can cause a crisis to occur in the first place. Second, preparation/prevention involved seeking to do everything possible to prevent a crisis, and mitigating the ones that do occur. In practical terms, this step necessitates the formation of the crisis management team (CMT) and the subsequent, crisis management plan. The charge of the CMT is to lead the organization in planning and implementing its crisis management plan as well as managing a crisis should one occur. After a crisis, the CMT should lead debriefing sessions and promote the learning process that must take place after a crisis (Kovoo-Misra & Nathan, 2000; Lalonde, 2007). Indeed, if learning does not take place, a similar or worse crisis could occur to the organization in the future.

In this paper, we will refer to this ability to be crisis prepared as the state of crisis readiness. We use the instrument developed by Rousaki and Alcott (2007) to measure this variable and hence, use their term, crisis readiness. The survey instrument is consistent with the concepts developed by Pearson and Mitroff (1993). The instrument questions appear in Table 1 at the end of this paper.

Organizational Capabilities

Organizational capabilities refer to what an organization does well. In this study, we examine marketing, supply chain, technology, and management capabilities. Each of these is addressed below, followed by corresponding hypotheses.

Marketing capabilities. These capabilities reflect the ability of the firm to develop products and services that appeal to prospective customers. The firm must also market its products and services via effective promotion, pricing, and placement (i.e., distribution). Such an endeavor involves a thorough knowledge of the customer, a process that requires pre-planning and resources.

From a crisis management perspective, it is important to understand what "might" go wrong with the customer. Among retail chains, crises that could occur in this regard include the delivery of a product that is of poor quality or even defective. Once in the hands of the customer, a crisis may commence. The result could be negative publicity or worse, a consumer boycott. Marketing capabilities involve anticipating such events and doing what is necessary to alleviate the concerns of the customer and the general public so that a crisis does not commence.

Hypothesis 1a – Firms that display high levels of marketing capabilities will engage in more crisis readiness activity.

Supply chain capabilities. These capabilities address the ability of the firm to engage in meaningful working relationships with members of its supply chain. Managing the supply chain is a difficult task, even when activities are running well. Unfortunately, unforeseen crises can hinder the smooth operation of the supply chain and consequently, supply chain risk is a growing concern (Ganguly & Guin, 2007). For supply chain managers, a crisis is an event that can create a large-scale disruption to a company's supply resources. As a result, the company is then unable to meet the commitments it has made to its customers (Zsidisin, Ragatz, & Melanyk, 2005). Examples of crises that can disrupt the supply chain include major weather events, earthquakes, floods, transportation accidents, power outages, fires involving production and/or warehouse facilities, labor strikes, or wars.

Hypothesis 1b – Firms that display high levels of supply chain capabilities will engage in more crisis readiness activity.

Technological capabilities. Technological capabilities can also lead to the occurrence of crisis related accidents in the workplace. For example, Perrow (1999) maintained that certain types of technological configurations can lead to what he called a "normal accident." Such accidents can occur when there is a high level of interdependence among departments in a production facility. Perrow referred to this situation as tight coupling. Technologies that create both complexity and tight coupling can create a major crisis due to user errors. User errors of this sort are inevitable in certain industries such as in chemical or nuclear power plants (Choo, 2008).

Retail chains rely on information technology to communicate and manage their processes back and forth with their field units. A malfunction in such a system will create a crisis which can hinder information exchange and the smooth running of the company. As firms rely more on technology, their vulnerability to a technological crisis increases.

Hypothesis 1c – Firms that display high levels of technological capabilities will engage in more crisis readiness activity.

Management capabilities. Management capabilities refer to the firm's ability to address uncertainties in the market, as well as internal problems that can appear in the organization. In short, a firm that possesses strong management capabilities shows a proactive posture in the way it runs its business.

Retailers must have the capability of anticipating the market in terms of customer desires for new and innovative products and services. Likewise, the smooth operation of the organization depends on its ability to possess a strong human resource and information system. Crisis readiness also becomes part of this equation, as a sudden crisis event can launch a company into strong disfavor with its customers and the local community.

Hypothesis 1d – Firms that display high levels of management capabilities will engage in more crisis readiness activity.

Environmental Uncertainties

Environmental uncertainties are external forces the firm must confront within its industry. In this study, we examined three areas of uncertainty: market, technological, and competitive uncertainties. Each of these is described next along with their corresponding hypotheses.

Market uncertainty. Satisfying the needs and desires of customers in the retail industry can be a daunting task. A mistake with a customer or market segment can cause a crisis for the firm. The crisis management literature is growing with examples of consumer related crises (Barton, 2008; Coombs,

2006; Crandall, Parnell, & Spillan, 2010; Hartley, 1993) ranging from simple dissatisfaction to wide-spread consumer boycotts.

Satisfying the customer also means conducting a smooth product recall when one is warranted. In China, retailers that carried Proctor & Gamble's SK-II line of cosmetics found themselves in a crisis during the summer of 2006. P&G reluctantly recalled its products after alleged impurities were found in this high-end cosmetic, which coincidentally was produced in Japan. To be eligible for a refund, consumers were required to return the product to the store of purchase with no less than one-third of the product remaining, complete and sign a form acknowledging that the product was of good quality, and wait several weeks for a refund to be processed (Guan, 2006).

The crisis took a dramatic turn on September 21, 2006 when hundreds of Shanghai women sought refunds at P&G's specified locations. Tempers flared when the women, who had been waiting in long lines, were told that their refunds would take three weeks to process. Later that same day, an angry group of consumers kicked down the front door of P&G's Shanghai office. In a frenzied response, some of the local retailers began offering immediate cash refunds to customers after P&G suspended its refund program (Crandall, Parnell, & Spillan, 2010). What should have been a smooth, systematic recall and refund procedure had quickly escalated into a crisis.

Hypothesis 2a – Firms that operate in environments with high market uncertainty will engage in more crisis readiness activity.

Technological uncertainty. The technological environment includes scientific improvements and innovations that can create both opportunities and threats for businesses. The speed of technological change varies considerably from one industry to another. As a result, technology affects a firm's operations as well as its manufacturing of products and services in different ways, depending on the industry in question.

Companies use advances in technology such as in computer systems, robotics, and other forms of manufacturing equipment to perform their operating tasks at lower costs and with less labor. However, technological forces not only create cost savings for firms, but can also be a source of crises. Such technological forces can shut down existing businesses and even entire industries by shifting demand from one product to another. Examples abound of such changes and include the movement from vacuum tubes to transistors, from steam locomotives to diesel and electric train engines, from fountain pens to ballpoint pens, from piston operating propeller airplanes to jets, and from typewriters to computers (Wright, Kroll, & Parnell, 1998).

Because technology can bring with it a host of uncertainties for the organization, it behooves management to engage in a higher level of crisis preparedness to avert potential crises that could occur due to technology.

Hypothesis 2b – Firms that operate in environments with high technical uncertainty will engage in more crisis readiness activity.

Competitive uncertainty. Retail stores operate in an industry with high degrees of competition. A mistake or crisis can cause a company to lose market share rapidly to a competitor. Over an extended period of time, a company may eventually give up enough revenue that it must exit the market altogether. The presence of Wal-Mart has caused the demise of many small companies because of the high level of competitive rivalry in this industry (Fishman, 2006).

Hypothesis 2c – Firms that operate in environments with high competitive uncertainty will engage in more crisis readiness activity.

Generic Strategies

Organizations employ strategies at the firm, business, and functional levels. At the business or competitive level, they craft strategies intended to translate their resources and capabilities into competitive advantage, and ultimately superior performance (Parnell, 2008). Business strategy typologies are frameworks that identify broad or generic competitive strategies utilized by businesses. Typologies have been developed to identify strategic types across industries (Zahra & Covin, 1993). A number of generic strategy typologies have been proposed (Parnell, O'Regan, & Ghobadian, 2006; Veett, Ghobadian, and Gallear, 2009).¹ Generic strategies developed by Porter (1980, 1985) and Miles & Snow (1978, 1986) have received much scholarly attention.

According to Porter's (1980, 1985) framework, a business can pursue superior performance by establishing either a cost leadership position (i.e., competing on the basis of lowering its operating costs across the organization) or by differentiating its products and services from those of its rivals. Further, either of these generic strategies may be pursued by focusing efforts on a given market niche as opposed to seeking to reach customers across an entire industry.

An interesting dilemma arises when a business attempts to combine a low cost and a differentiation simultaneously. Porter maintains that such a strategy is not conducive to high performance over the long term and results in an organization being "stuck in the middle" (Porter, 1980: 41). This notion has received both qualified support (Dess & Davis, 1984; Hambrick, 1982; Hawes & Crittendon, 1984) and challenges from a number of scholars (Buzzell & Wiersema, 1981; Hill, 1988; Murray, 1988; Parnell, 1997; Wright, 1987). Whereas Porter maintains that low cost and differentiation strategies are incompatible, those in the "combination strategy school" have argued that businesses that combine the two strategies may create synergies that can overcome any tradeoffs that may be associated with the combination. In this study, we will look at Porter's original three generic strategies and their association with crisis readiness. We do not consider these approaches to be mutually exclusive, however (Jusoh & Parnell, 2008).

Cost leadership generic strategy. A business pursuing a low-cost or cost leadership generic strategy seeks to produce and distribute its products or services at the lowest cost in the industry. In general, cost leadership is consistent with a de-emphasis on new products, unproven technologies, or other risk-laden operations (Porter, 1980). As such, organizations emphasizing a low-cost strategy may tend to allocate less time, energy, and resources in terms of crisis preparation.

Hypothesis 3a – Firms that engage in a cost leadership generic strategy will engage in less crisis readiness activity.

Differentiation generic strategy. A business pursuing a differentiation generic strategy seeks to distinguish its products or services from those of its competitors, thereby eliciting sales even if costs and prices are not relatively low. Differentiation tends to represent an ongoing challenge, as businesses seek to find new and creative ways to develop offerings that are perceived as different from others in the marketplace (Porter, 1980). Hence, differentiation infers some degree of risk-taking, as new ideas and approaches are not always successful. Differentiated businesses are willing to tolerate a number of failures if they are countered by corresponding and profitable successes. As such, a greater emphasis on differentiation should also be accompanied by increased crisis readiness.

¹ Typologies should not be confused with taxonomies. Both seek to categorize businesses in a given industry along strategic dimensions. Taxonomies are developed from empirical data, however, whereas typologies are conceptually based. Typologies are more concerned with delineating key strategic traits and assessing similarities and differences across strategic groups (see Venkatraman, 1989).

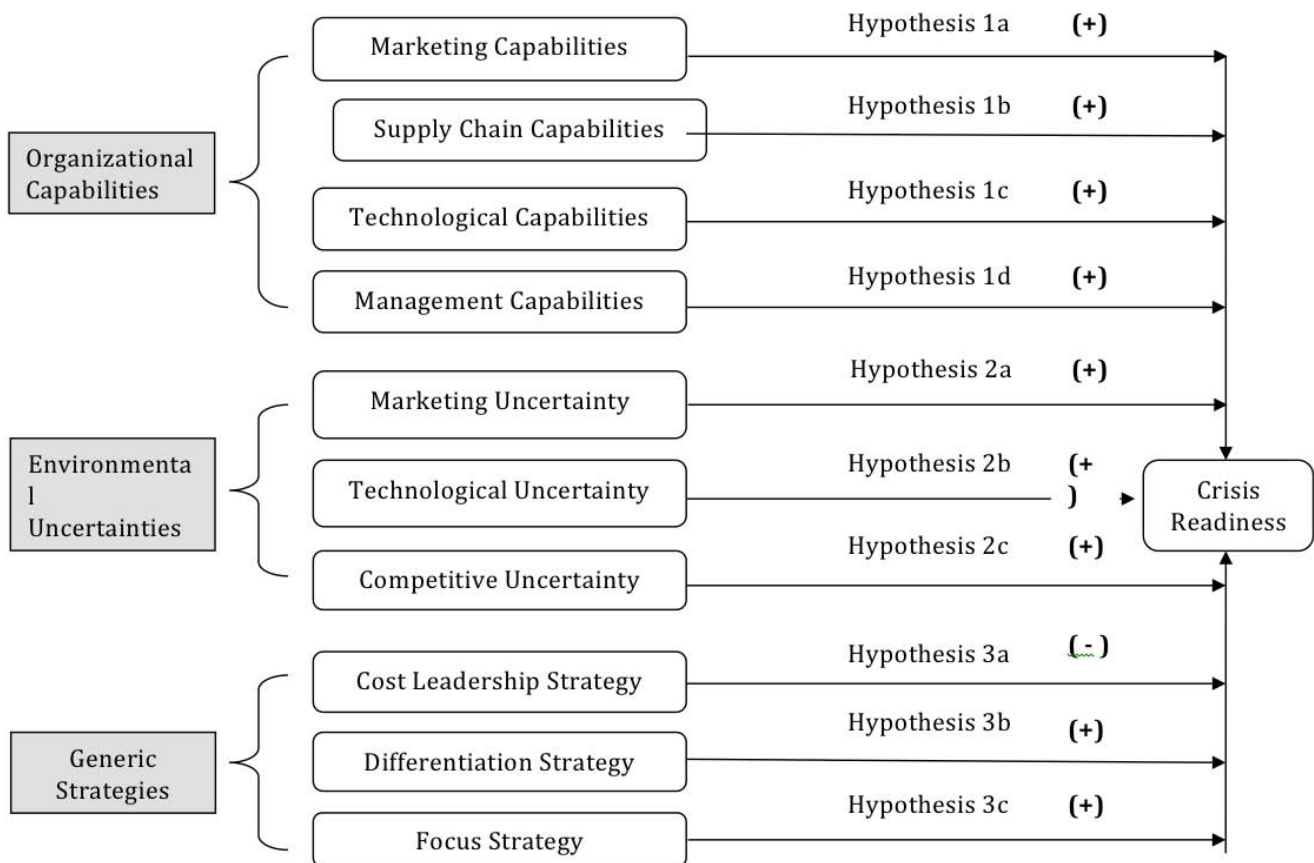
Hypothesis 3b – Firms that engage in a differentiation generic strategy will engage in more crisis readiness activity.

Focus generic strategy. A business pursuing a focus strategy—in conjunction with cost leadership, differentiation, or both—concentrates its efforts on satisfying the needs of a particular niche of the market instead of seeking to satisfy the broad requirements of a mass market. Such businesses are willing to forego opportunities that might exist across the market so that they can tailor their efforts to meet the more specific and exacting requirements of a particular subset (Porter, 1980). Hence, successful businesses adopting a focus approach must maintain high credibility among customers in the chosen niche. A crisis involving that particular niche can be devastating to the organization.

Hypothesis 3c – Firms that engage in a focus generic strategy will engage in more crisis readiness activity.

Figure 1 summarizes the hypothesized relationships between the independent variables aforementioned and the dependent variable, crisis readiness.

Figure 1
Hypothesized Relationships between the Study Variables and Crisis Readiness



METHODOLOGY

Sample

The survey instrument was administered to attendees at a retail trade show held in the United States in 2009. A total of 277 responses were received. All three management levels were represented in the sample. There were 35 non-managers (12.6%), 79 lower level managers (28.5%), 109 middle managers (39.4%), and 54 top managers (19.5%). There were more women (57.8%) than men (42.2%). The typical respondent had four years of management experience and five with the present organization.

Measures

Crisis readiness. This scale was developed and validated by Rousaki and Alcott (2007) and used to measure the dependent variable in the study. The eleven items in the instrument assess the internal functionality of the organization and serve as a proxy for crisis readiness. Each item was arranged on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Because this was a relatively new scale in the crisis literature, we assessed the construct validity of the instrument by performing a confirmatory factor analysis. The eleven items loaded neatly into a single component with an Eigenvalue of 7.74 which explained 70.4 percent of the variance. All eleven questions were retained in the study. The variable was calculated by summing the responses to the questions ($\alpha = .96$).

Organizational capabilities. The scales utilized in this study were previously employed by DeSarbo, Benedetto, Song, & Sinha (2005) and measured four areas of organizational capabilities: marketing, supply chain, technology, and management capabilities. The authors utilized the work of Conant, Mokwa, and Varadarajan (1990) for the marketing scale, and Day (1994) for the supply chain (termed market linking in the original study) and technology scales. DeSarbo and associates (2008) developed and validated their own scale to assess management capabilities. Sample items from the scale include “knowledge of customers” (marketing capabilities), “relationships with channel members” (supply chain capabilities), “ability of predicting technological changes in the industry” (technological capabilities), and “cost control capabilities” (management capabilities). The 24 items in the instrument were arranged on a 5-point Likert scale ranging from 1 (much worse) to 5 (much better). Alpha reliabilities for the four sub-scales were as follows: marketing capability = .94, supply chain capabilities = .89, technological capabilities = .93, and management capabilities = .89.

Environmental uncertainties. The scale utilized in the present study was developed and validated by DeSarbo and associates (2005) and measured three areas of environmental uncertainty: Market environment uncertainty, competitive environment uncertainty, and technological environment uncertainty. Sample items from the scale include “Our customers tend to look for new products all the time” (market uncertainty), “the technological changes in our industry are frequent”, (technological uncertainty), and “one hears of a new competitive move almost every day” (competitive uncertainty). The 18 items in the instrument were arranged on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Alpha reliabilities for the three sub-scales were as follows: market uncertainty = .77, technological uncertainty = .94, and competitive uncertainty = .81.

Generic Strategies. The generic strategy scales were developed by Zahra and Covin (1993) to categorize businesses along cost leadership, differentiation, and focus dimensions. Following the suggestions and subsequent validation by Luo and Zhao (2004), several items were amended to the scale. Sample items from the scale include “emphasis on finding ways to reduce costs” (cost leadership strategy), “targeting a clearly identified segment” (focus strategy), and “emphasis on new product

development” (differentiation strategy). The 16 items in the instrument were arranged on a 5-point Likert scale ranging from 1 (very low) to 5 (very high). Alpha reliabilities for the three sub-scales were as follows: cost leadership strategy = .73, differentiation strategy = .85, and focus strategy = .79.

RESULTS

Table 1 lists the means, standard deviations, scale reliabilities, and Pearson correlations for the study variables. Multicollinearity diagnostics were initiated as part of the regression analysis. The resulting variance inflation factors (VIFs) figures ranged from 1.12 to 2.58 while the tolerances levels ranged from .39 to .89. A general rule of thumb in detecting multicollinearity is that the VIF should not exceed 10 (Belsley, Kuh, & Welsch, 1980). A more conservative standard set forth by Fox (1991) dictates that a tolerance < .20 and a VIF > 4.0 is cause for concern. Using the more conservative standard, the study variables were not considered problematic with respect to multicollinearity.

Table 1
Means, Standard Deviations, Reliabilities, and Pearson Correlations for Study Variables (n = 277)

Study Variables	Means	Std. Dev.	Scale α	1	2	3	4	5	6	7	8	9	10
1. Crisis Readiness	34.94	11.27	.96										
2. Marketing Capabilities	20.71	6.69	.94	.36**									
3. Supply Chain Capabilities	19.80	5.07	.89	.36**	.20**								
4. Technological Capabilities	16.98	6.09	.93	.25**	.14*	.17**							
5. Management Capabilities	18.63	5.44	.89	.26**	.17**	.24**	ns						
6. Market Uncertainty	14.34	4.30	.77	.12*	ns	ns	ns	ns					
7. Technological Uncertainty	17.43	7.07	.94	.38**	.34**	ns	ns	.14*	.15*				
8. Competitive Uncertainty	18.97	5.56	.81	.15*	ns	.16**	ns	ns	.27**	.22**			
9. Cost Leadership Strategy	14.62	3.86	.73	.13*	ns	.24**	ns	.30**	.18**	.22**	.18**		
10. Differentiation Strategy	21.82	5.72	.85	.56**	.43**	.26**	.30**	.31**	.18**	.59**	.30**	.38**	
11. Focus Strategy	13.61	3.56	.79	.34**	.25**	.22**	ns	.12*	.20**	.32**	.15*	.25**	.55**

* p < .05

** p < .01

ns = not significant

HYPOTHESIS TESTING

To test the hypotheses, a regression analysis was conducted with crisis readiness as the dependent variable. The independent variables were entered all at one time, since at present, there is no known model or theory that predicts crisis readiness using the variables in this study. This method of variable insertion is generally recommended when no previous relationships are known to exist with the dependent variable under study. Table 2 lists the results of the regression analysis.

The overall model resulted in an F-Statistic of 18.46 and predicted 39% (adjusted $R^2 = .387$) of the variability in the dependent variable, crisis readiness. Of the organizational capabilities variables, supply

chain capabilities was the best predictor with a β of .24 ($p = .00$). The other organizational capability variables were not significant predictors.

Table 2
Results for Regression Analysis
Dependent Variable – Crisis Readiness

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Standard Error	Beta		
Organizational Capabilities					
Marketing Capabilities	.16	.09	.09	1.73	.09
Supply Chain Capabilities	.52	.11	.24	4.57	.00 ✓
Technological Capabilities	.13	.09	.07	1.43	.16
Management Capabilities	.17	.11	.08	1.62	.11
Environmental Uncertainties					
Market Uncertainty	.14	.13	.05	1.08	.28
Technological Uncertainty	.16	.10	.10	1.70	.09
Competitive Uncertainty	-.09	.10	-.05	-.88	.34
Generic Strategies					
Cost Leadership Strategy	-.43	.16	-.15	-2.77	.01 ✓
Differentiation Strategy	.79	.15	.40	5.31	.00 ✓
Focus Strategy	.07	.18	.02	.41	.69

N = 277

F - Statistic = 18.46

Adjusted R² = .39

Among the environmental uncertainties variables, no significant predictors were found in the analysis. However, two of the three generic strategies were found to be significant. Cost leadership, as hypothesized, had a negative (inverse) relationship with crisis readiness with a β of $-.15$ ($p = .00$). Differentiation was also a significant predictor with a β of $.40$ ($p = .00$). No relationship was found with the Focus strategy and crisis readiness.

In summary, full support was found for hypotheses 1b, 3a, and 3b. No support was found for the other hypotheses in this study.

DISCUSSION

In this section, we discuss the theoretical and managerial implications of this study. We then a look at the strengths, limitations, and future directions of this research.

Theoretical Implications

This study adds to the growing number of researchers in the field of crisis management who are dedicated to theory and model building. As such, this study identified predictors of a relatively new

construct in the field, crisis readiness. Specifically, an organization's supply chain capabilities positively influence its practice of being crisis prepared. That there is a linkage between supply chain competency and crisis readiness should not be surprising. Indeed, organizations today are well aware that their supply chains extend on an international level, and that events in areas as far away as China, can have a dramatic effect on the availability of supplies to the home country.

Surprisingly, the evidence linking environmental uncertainties with crisis readiness was not supported in the analysis. This finding could indicate that the strength of the other predictors found in this study overshadow the threat of environmental uncertainty. Perhaps it is the proactive stance of the firm that is more important to consider than the real (or perceived) threats of the environment when assessing an organization's crisis readiness.

As expected, generic strategy selection was linked to crisis readiness. The cost leadership strategy displayed a negative link with crisis readiness. This finding could be explained by the management stance that activities perceived to be non-essential, are also cost producing, and hence, should not be a viable part of firm strategy. As such, crisis management has been perceived by many managers as an unnecessary activity.

The differentiation strategy, as predicted, had a strong positive linkage with crisis readiness. This finding supports the notion that firms that choose to selectively differentiate their products and services carry that strategy over into other sub-areas of management. Firms that determine to pursue a crisis readiness strategy demonstrate a willingness to differentiate their infrastructure practices as well.

Finally, the focus strategy showed no relationship to crisis readiness. One explanation is that the focus strategy involves pursuing niche markets that may be perceived as being less vulnerable to crisis events, particularly in terms of competitive uncertainty. Another explanation is that firms that pursue niche markets are often smaller companies, and hence, not as well developed in terms of their crisis management sophistication.

Implications for Managers

The role of supply chain capabilities can have important linkages with crisis readiness. However, to see this linkage, one needs to understand the role of modern production practices such as JIT/Lean manufacturing. These practices utilize less inventory, both in terms of what is in the warehouse, and work-in-progress (WIP). As a result, more frequent deliveries are needed to the manufacturing facility. It is these facilities that supply retailers, and hence, interruptions in production lead to delays in merchandise reaching the store. "Specifically, today's lean supply chains are becoming increasingly – 'fragile' – that is, less able to deal with shocks and disruptions that can have a significant, if not catastrophic, impact on the firm" (Zsidisin, Ragatz, & Meinyk, 2005: 46). Because companies are carrying less inventory with little buffers, interruptions in the supply chain due to a crisis event can lead to production coming to a standstill.

Single sourcing is another practice in these lean practices. Unfortunately, when the main vendor is hit with a crisis, the companies it supplies will be impacted as well. The same is true with vendors who supply daily deliveries of product. An interruption in the delivery schedule can cause production to grind to a standstill. In a dramatic example of the impact of a crisis on a single supplier, consider the fire that took out the main production facilities of Philips Electronics in early 2000. Philips supplies radio-frequency chips (RFCs) to cellular phone makers. The crisis caused a \$400 million revenue loss for the telecommunications company, Ericsson, and eventually led to their leaving the cell phone industry altogether (Rice & Caniato, 2003).

Some companies that outsource a great deal of their processes are resorting back to multiple sourcing as a response to these types of potential crises. For example, Cisco, which outsources 95% of its production, has a comprehensive supply chain risk management plan in place. Included in the plan are directives to ensure that whenever possible, component parts for their products have two or more qualified sources (Harrington & O'Connor, 2009).

In terms of generic strategies, organizations that pursue a low-cost strategy must not lose sight of the need to remain "crisis ready". Our findings revealed that organizations following a cost leadership strategy, are not as engaged in crisis readiness. We do not believe this finding to be a good thing. Resources expended on crisis management, with its associated areas of crisis team formation, crisis plan formation, crisis vulnerability assessment, and crisis learning, should be viewed as an investment in the company's well-being, not an expense item to be whittled down to the smallest dollar amount possible.

Finally, crisis readiness should be fostered in any organization, regardless of the type of generic strategy being practiced. Unfortunately, a number of managers carry an "it can't happen to us" mentality in regards to the occurrence of a crisis (Barton, 2008; Crandall, Parnell, & Spillan, 2010; Nathan, 2000; Pearson & Mitroff, 1993). This type of thinking may be embedded in the culture of the organization and is often difficult to change (Roux-Dufort, 2000). Some managers may assume that crisis events are sensational occurrences that are very rare. Furthermore, when they do occur, they are assumed to always transpire at another organization (Lockwood, 2005). Indeed, some crises do fall in the category of being sensational, such as Hurricane Katrina or the 9/11 terrorist attacks. In actuality though, most crises are far less dramatic, but still powerful in terms of disrupting the daily operations of the firm. Examples of these include product recalls, industrial accidents, fires, and floods.

STRENGTHS, LIMITATIONS, AND FUTURE DIRECTIONS

The main strength of this study is that we provide an empirical glimpse into factors that relate to an organization's crisis readiness. Empirical studies and model building are a growing area in this relatively new discipline of crisis management. Traditionally, this field has focused more on case studies as a research tool. Future development of this field needs to supplement case studies with more rigorous empirical studies (Crandall, Parnell, & Spillan, 2010).

One limitation of the study was that from a company perspective, only organizational capabilities were included in the analysis. If one likens capabilities to an organization's strengths, then following strategic management protocol, the limitations or weaknesses (the W of the SWOT analysis) of the organization should also be evaluated. Hence, a determination of weaknesses could also indicate linkages with the organization's crisis readiness. For example, do organizations, upon knowing their weak areas, enhance their crisis readiness in those areas? Likewise, this study only focused on the T (threats) of the SWOT analysis. For example, an organization with an aggressive labor union would need to make special preparations in the face of an impending strike, should contract negotiations not go well (Crandall & Menefee, 1996).

Looking at the opportunities (the O in the SWOT analysis) could also provide useful linkages with crisis readiness. For example, do firms that aggressively pursue new opportunities, particularly in a global sense, build up their crisis readiness, as crisis management theory would recommend?

Another limitation of this present study was that it focused on a single (broad) industry, retailing. As such, the influence of cross-industry factors were minimized. Nonetheless, the generalizability of findings to other industry remains untested. Future studies that consider other industries, most notably manufacturing concerns, would be worthwhile.

CONCLUSION

In this study, we have offered an empirical basis for assigning variables that indicate a firm's crisis readiness. That crisis readiness is even a concept was recognized almost twenty years ago when Pearson & Mitroff (1993) coined the phrases – crisis prone and crisis prepared. We encourage those who have dedicated themselves to crisis management research to continue empirical studies which are so needed in this growing management field. Indeed, many case studies now exist in the literature on crisis management, but few empirical studies and model building projects are present.

For practitioners, two points of departure are offered. First, those companies that have supply chains that are linked worldwide need to understand the importance that crisis preparedness should take in their organizations. Lean supply chains are vulnerable to external shocks. A crisis in China, such as an earthquake, will affect the delivery of merchandise in retail stores in the United States, or Europe, or elsewhere. Secondly, companies that practice a cost leadership strategy do so to pass those savings on to their customers. This strategy in itself is not a bad thing. But neglecting crisis readiness could cause a real crisis to be more expensive and far reaching than it need be. When that occurs, the company will incur costs, and those costs may have to be passed on to the customer. Proactively planning before the crisis occurs can save money in the long-run.

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