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ARE VIETNAMESE BUSINESSES READY FOR A CRISIS? AN ANALYSIS OF CRISIS READINESS AMONG VIETNAMESE BUSINESSES

ABSTRACT

Crisis management is a management function that tries to mitigate the impact of crisis events when they occur in a business or organization. Since crises are inevitable, it is important that businesses and organizations have crisis management plans ready for the eventuality of a crisis. Little has been written about crisis in emerging nations. As such, this exploratory study investigates the perceptions and experiences of Vietnamese managers regarding crisis preparedness. The results indicate that a majority of the organizations do not have formal crisis management plans. The results of this study suggest that crisis planning at both the organizational and individual level are needed among Vietnamese businesses.

Key Words: Crisis management, Readiness, Leadership, Crisis plan, Vietnam, Structured Equation Modeling

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INTRODUCTION

Lessons learned from experience has demonstrated that a crisis can occur with little or no warning, anywhere, and at any time. Organizational crises are bound to happen. They can disrupt business continuity and undue demands on valuable resources. Successful crisis management can lessen the negative impact of these events on the organization (Simbo, 1993). Organizational awareness and proper crisis preparation can go a long way in mitigating the negative effects of a crisis. Crisis management (CM) and readiness seek to help organizations deal with unfortunate and catastrophic events. As Fink (2000) has reported, over time, a crisis looms on the horizon of every organization. One wrong management decision, even the smallest one, can be the cause of a serious organizational crisis.

CM is presently an important aspect of contemporary business. A company's knowledge and readiness or anticipation of a potential crisis are critical for the prevention and successful crisis management during and after a crisis occurs (Bilic, Pivevic and Cevra, 2017). Routinely, businesses and organizational managers are confronted with one type of crisis or another. Every day somewhere in the world, managers have to deal with risks including natural disasters, technological crises, workplace violence, organizational misdeeds (i.e., fraud, embezzlement), and accidents (Spillan, 2003). Crises are menacing incidents that come with uncertainty and require immediate attention. Historically, business managers have indicated that the occurrence of crises demonstrates that businesses are vulnerable to the turmoil a crisis may produce. As a result, businesses and organizations can become substantially disrupted by the effects of the crisis.

Crises are disruptive events that frequently affect the continuity of a business or organization's daily activities. Worldwide interconnectedness of contemporary businesses has increased dramatically the chances of a crisis occurring. The inevitability of crises requires that managers possess not only knowledge about the crisis but also readiness plans that can be quickly implemented when the crisis occurs. These plans need to be part of the overall strategic plan for the business's operation. Crisis preparedness is a key managerial issue, but it is often considered a challenging aspect to organize and implement (Meijerink, 2015). Even though preventing crises in companies appears to be a fundamental managerial goal, it is impossible to eliminate crisis events (Mitroff, 2008). As such, it increases the pressure on managers to make company crisis preparedness planning a priority.

The importance of strategic preparation for crisis responses cannot be overemphasized. Clearly, organizations are likely to suffer less damage from the crises when they are better prepared strategically. According to Mitroff (2008), crisis-prepared organizations experience fewer crises, recover faster, and are more profitable than the cost-conscious, crisis-prone organizations. Darling (1994) contends that if managers accept the inevitability of a crisis in reality, then they not only respond to the crisis effectively but also find the opportunities that are contained in the crisis. The essence of CM is to plan for worst-case scenarios, and then seek to manage the crisis as best as possible. As the global business environment becomes more complex, with the continuous introduction of technology and the speed of information exchange, organizations will be confronting crises more frequently (Clearfield and Tilcsik, 2018). The manager's coping ability is of vital importance because crisis pressures can have a devastating impact on the organization (Kuklan, 1988).

This timely topic is of special interest to academics and practitioners because of the volatile environment that organizations face today. Indeed, to the three hurricanes Harvey, Irma, and Maria that hit the US in the fall of 2017, most managers recognize it as the ultimate business crisis as well. The mass shooting in Las Vegas and the electrical outage at the Hartsfield-Jackson International Airport in Atlanta on December in 2017, all have more vividly highlighted the importance of being prepared for a crisis. Some decision-makers have the mistaken idea, however, that they do not need to worry about a crisis because they have insurance to cover any losses or work interruption. Unfortunately, insurance does not always cover the entire cost of an unexpected crisis event. Moreover, insurance does not cover such intangible items as organizational reputation and client goodwill that has developed over the years.

As a developing country Vietnam is dealing with the turbulence of development. Business development means more potential for different types of crises to occur. Vietnam as other parts of the world is prone to such events as business and industrial accidents, natural disasters affecting business operations, Internet usage and outages along with public relations controversies. Vietnam is especially predisposed to natural disasters. All of these are examples of crises that have occurred or have the potential of occurring in Vietnam (Tuong-Minh, 2015; CFE-DM, 2018).

Therefore, the research question is whether Vietnamese businesses and organizations have crisis readiness arrangements established in their organizational structure to prevent

or manage a crisis? This exploratory study investigates the perceptions and experiences of Vietnamese managers' relation to the crisis. This study seeks to understand managers' perceptions of crisis readiness by surveying Vietnamese business decision-makers and asking them what potential crisis events are of the biggest concern as well as which events have occurred at their organization. This paper begins with a review of organizational crisis events. Next, the rationale for the study and its methodology are presented. Finally, the results and implications for managers Vietnamese businesses are offered.

CRISIS MANAGEMENT IN VIETNAM

Vietnam is located in the south-eastern part of Asia. It has a population of over 94 million people with a per capita GDP of USD 6,296. Vietnam has a stable government, located in a strategic geographic location, with high economic growth and an abundance of resources. Its population is young and energetic is one of the fastest-growing economies in the world (Global Edge, 2018). It is a developing country that has attracted a lot of attention because of its fertile environment for economic development and rank 70th as ease of doing business (The World Bank, 2019). While business development is brisk, Vietnam has not yet reached a level of development that allows it to have a physical nor a business infrastructure that can easily prevent crises from happening (OECD, 2018).

However, there are many pitfalls in the risk management approaches of Vietnam enterprises. Essentially, Vietnam and its businesses do not have a formal, standardized process for risk assessment, reporting, and management. This set of circumstances creates vulnerability (Tuong-Minh, 2015). Additionally, Vietnam and the businesses operating there take a short-term goal approach rather than looking at the big picture. This tactic creates limited planning and opens the companies and the country to threats that could be easily avoided with proper planning and thoughtful management (Yvanovich, 2013).

Along with all countries of the world, Vietnam is not exempt from a crisis. In 2003, the Avian Influenza (AI) virus hit Vietnam. This crisis caused the death of 16 people and infected 57 of the 64 provinces around the country. It also created a major risk communication concern among the Vietnam populace. The uncertainty among the consuming public caused major concern about poultry consumption. The AI crisis had a profound impact on the Vietnam poultry market both in supply and demand (Fiquire, and Fournier, 2008).

Government crisis differs from corporate crisis in both nature and scope. The government is always under public scrutiny. It has a duty to report decisions and actions to the country's citizens. This task requires a high level of responsibility and delicate communication skills. A crisis in this sector can encounter a degree of both public and media scrutiny that far exceeds the normal corporate crisis and can lead to a loss of public trust with the government agency involved in the incidents. In 2013-2014, Vietnam faced various crisis situations such as violation of medical ethics in hospitals, vaccine frauds and an outbreak of measles. While all of these incidents were resolvable, the Minister of Health created a major crisis by not acknowledging their existence nor intervening in the resolution of these problems. The Minister of Health's poor CM skills, denial of any crisis or incidents and lack of crisis communication skills created a major issue of trust in the minds of the populace. This occurred because Vietnam's Minister of Health denied and did not act on serious medical and ethical crises that were happening around the country.

Once the trust in an organization is lost it is very difficult to restore it. That is what happened in this case. Another crisis example that grew out of control occurred in May of 2016. Thousands of people marched in the streets to protest against the contamination of hundreds of kilometres of Ha Tinh Province coastline. Formosa Plastics steel plants created the incident when they made a huge number of errors. For example, Formosa Plastics failed to provide structural fire production and the isolation of equipment. The Vietnamese authorities needlessly turned the situation into a major public crisis. The issue elevated the concern about how prepared and fit major Vietnamese companies are at managing disasters and crises (Pownall, 2016). The incident emerged from people complaining on Facebook about dead and rotting fish and shrimp in early April. Formosa Plastics initially said nothing. Then a debate ensued among Vietnamese fishermen and Formosa Steel about whether fishing or making steel was more important. In the initial stages of the debate, the Vietnamese government defended the company with the statement that there was no proof of the discharge. Both the Vietnamese government and the Formosa Plastic Steel realized their wrongdoing and recognized how powerful the digital world with the Internet, Facebook, and other social media can be in exposing the glaring company or government errors. It is clear from this case that very few Vietnamese organizations have any experience in having to defend or manage their reputation among public citizens (Pownall, 2016).

From a crisis and disaster management point of view, Vietnam is one of the most vulnerable countries (North Dame Research, 2019) in East Asia and the Pacific Rim.

Droughts, severe storms, floods have caused significant damage producing substantial economic and human costs. According to scientist's climate change is projected to increase the impact of these disasters especially their timing, frequency, severity, and intensity (World Bank Group, 2017). With the abovementioned discussion in mind, we turn to the theoretical framework for this study.

THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

Historically, organizational crises were usually thought of as important but isolated events affecting primarily large organizations. However, experience has demonstrated that, eventually, all organizations will in some way be affected by a crisis situation, and non-profits are not excluded. Fink's (1986) and Offer's (1998) analyses of crisis preparedness among business and organizations indicates that 50% of all organizations hit by a crisis will not survive if they do not have an adequate business recovery plan in place. Pedone (1997) presents an especially pessimistic observation. He claims that 90% of organizations without a disaster recovery plan may fail within two years of a disaster. Thus, the relevant questions asked concerning management and crisis planning do not focus on whether or not a crisis will occur, but rather what kind of crisis is possible and when the crisis will occur (Caponigro, 2000; Kruse, 1993). Unfortunately, too many organizations wait for too long before developing a crisis management plan (CMP). Very few managers provide a solid reason as to why their organization did not develop a CMP. According to the Price Waterhouse report in 2004, 65% of the CEOs had experienced at least one crisis in the past three years. More than 50% had gone through a crisis during that time. 15% indicated they had suffered five or more crises in the last three years (Skramstad and Michel, 2017). There is a mounting recognition in the management literature that CM is an important function of management. Unfortunately, many organizations have not acted on this recognition with the implementation of contingency planning (Spillan, Parnell and de Mayola, 2011).

There is a real issue of denial among many executives. They have not considered it a priority. Only when the crisis has occurred, and the damage is done are they concerned about a crisis. It is after the crisis that executives begin to think about how to prepare for the inevitable and allocate resources to establish CM preparation structures (Spillan, Parnell and de Mayola, 2011). The denial and failure to prepare for a crisis can have an irreversible

impact on an organization. Some managers believe, wrongly, that since they have insurance, their concerns about loss and business disruption will be resolved with the insurance protection. This is a very wrong attitude and an ineffective way to think about crisis preparedness (Crandall, McCartney and Ziemnowicz, 1999). While CM literature is quite robust about the whys, how, and what to do's regarding CM in large companies in developed countries, scant literature exists on how managers deal with this topic in developing or emerging nations (Spillan, Parnell and de Mayalo, 2011).

An interesting question emerges during the discussion of CM. Why is there more concern for crisis events in some organizations compared to others? Is the crisis event the catalyst for concern, or is it merely a consequence of having a management team that considers planning for crisis events to be an integral part of the business's strategy? An assortment of management literature indicates that organizations naturally reactive concerning potential future crises (e.g., Mitroff, Pauchant, and Shrivastava, 1989; Pearson and Mitroff, 1993; Penrose, 2000, Shrivastava, 1993). The crisis event may be the only incentive for a business to initiate the planning process to prevent another occurrence of the same or similar events. Even though no organization is exempt from being threatened by some form of a major crisis, those showing heightened awareness and concern for crisis events may establish CM teams. The occurrence of a crisis or crises generally prompts an organization to form a crisis management plan and a team to implement the plan. A crisis event(s) may also be the stimulus necessary to force organizations to prepare for potential future crisis events. The post-September 11 management activity among many organizations has demonstrated that this approach is part of their strategic decision making (Spillan, Parnell and de Mayolo, 2003). This thinking leads to an important question about management's concern for a crisis event. Is it the formation of the CM team or the occurrence of the event that causes managers to be concerned? A CM plan does not need to precede an event. It can be created without an event occurring. A crisis event could occur, and the organization may still not establish a team.

This study suggests that it is the independent crisis event that generates concern among managers not the formation of the crisis team. The rationale for the development of a crisis team can be very simple and explained in two ways: 1) The crisis may cause the organization to react to the event(s) and implement damage control and corrective action. The event(s) will create a process of organizational learning causing management to develop contingency plans that set forth actions that can either prevent or respond to a future crisis

event; 2) An organizational development process that focuses on continual improvement can recognize the organizational vulnerability and begin cultivating a culture that focuses on crisis planning which leads to the establishment of a CM team. There are essentially two ways for managers to view a crisis. They can ignore the warning signs and react to the crisis when it occurs, or they can prepare themselves to prevent or manage a crisis. The former decision has undefined outcomes while the latter provides many more opportunities to manage the crisis. It may even avert the crisis altogether.

Figure 1 illustrates and summarizes the decision-making phases and intervention stages that managers are involved in the CM process. The process is circular in structure and has feedback mechanisms throughout. The feedback mechanism allows the managers to become proactive or reactive in their decision-making. In the proactive stage, the managers have already anticipated some form of crisis. At this stage, managers have completed a risk assessment or vulnerability analysis. They have developed a plan to deal with crises' eventuality.

Figure 1. Crisis management process – two possible paths
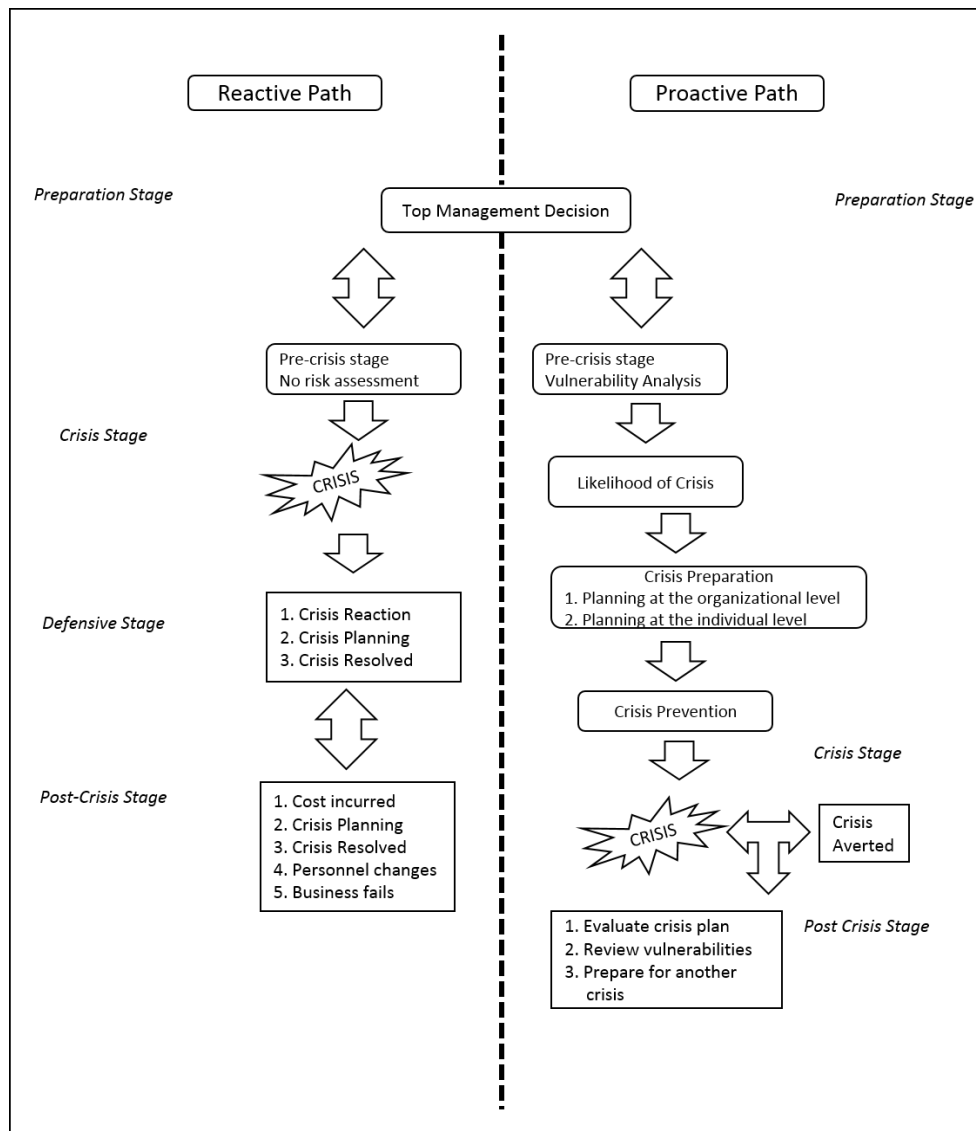
Source: Adapted from Spillan (2003)

In the reactive stage, the decisions about planning take place during and after the crisis event has already occurred. The decision-making is *ad hoc* which sustains the uncertainty among business staff and stakeholders as to whether the crisis will be resolved successfully. The consequences of each management decision are significant. The managers

have to weigh the difference between the investments in planning for a crisis versus the losses that result from failure to plan for a crisis. This decision is integrally linked to an understanding of the types of crises that exist. For the purpose of this study, we are concentrating on the circled portion of the decision-making diagram. It is within this structure that crisis readiness is accentuated, and resources are allocated.

Likelihood risk of crisis in an organization and crisis preparation at the organizational and individual level

Organizational management textbooks and the popular press are full of case studies of all sizes that have failed because of their inability to manage a crisis. The challenge then is to convince business and organizational managers about the importance of crisis preparation at the organizational and individual levels in order to establish proper CMPs.

Crisis management plans are documents, processes, and activities that outline how the organization responds to crisis events. The plan's comprehensiveness will vary depending on the business and the industry's size. However, it should include at least the respective CM team members and their phone numbers, other important and emergency phone numbers, team member responsibilities, the location of the command centre, and strategies for managing worst-case scenarios.

There are several reasons why organizations fail to develop crisis management teams or plan even though crises have occurred or continue to occur. First, some organizations are short-term oriented. Their management concerns do not extend beyond six months to a year. Their strategy in this situation relates to cost-benefit. If the incident is such that its monetary impact is less than the cost to allocate resources to prevent or mitigate it in the future, then managers do not deal with it. Second, some organizations live by the mentality of "we managed our way through this crisis, we can do it again in the future" or "the incident is a one-time occurrence and will not happen again" (Fink, 2000), and see no need for a CM team or plan. Third, some organizations literally do not have the awareness of crisis events or CM. They are so involved in the day-to-day issues that CM does not have a priority on their agenda. Finally, some organizations are overtly arrogant and in denial of a crisis in the making or of its potential (Barton, 2001). They believe that there is a slim chance of an event occurring, they do not have the resources to devote to the crisis management function and therefore there is no need for developing a CM team or plan.

The purpose of the crisis management team is to plan for potential crisis events and to manage those events should they occur. Whether the team consists of key representatives

of the organization's operations, public relations, and accounting or just the owner and an employee or family member, it is imperative that some type of team thinks about the possible crises that could confront the business. If the team is new, it is advisable to bring in a consultant knowledgeable in crisis management issues to help with the planning process. The size of the team depends on the particular organization, though one suggestion is to keep the team under 10 members (Barton, 1993).

Numerous books, articles, and consultants are now available to assist organizations in the formation and training of their crisis management teams. At a minimum, the team should meet at least twice a year and work on developing a crisis management plan. This plan outlines how the organization will respond to a crisis and who will be in charge.

An important step in developing the crisis management plan is to identify worst-case scenarios or possible disasters that could strike an organization's particular establishment. For example, an airline would plan for an air disaster while a cruise ship line would prepare for an emergency at sea. A periodic vulnerability analysis or audit is a critical part of this planning activity. At some point, the CM team and plan should be tested. A common method of testing includes the simulation of an actual crisis, the activation of the CM team, and the planning of how to manage the crisis. It is recommended that mock disasters be held as soon as possible after the CMP is in place so that modifications can be made before a real crisis occurs.

Whether it is a simulated disaster or a real one, the lessons learned will be instrumental in improving aspects of the CMP. Everything is local, meaning most of the issues of crisis management exist at the staff or employee level. Without workers' involvement, it is almost impossible to detect, respond and recover from a crisis. Preparation for the crisis through training and development of organizational employees is critical to mitigating the damages and losses that occur when a crisis occurs (Elsubbaugh, Fildes and Rose, 2004). Since people are at the core of any organizational operation, they are the ones who can recognize the symptoms of a potential crisis or identify the vulnerabilities that may be evident. When employees know that a potential crisis may occur and that they and the entire organization can suffer substantially, then they are motivated to begin CMP and crisis readiness. Actual crisis experience and study of other organization's crisis can motivate workers to initiate crisis readiness preparations so that they can avoid any untoward impact by an unanticipated crisis. The old saying "I'd rather be safe than sorry" is applicable here.

Constant organizational learning can provide an important mechanism for staff to increase their awareness and readiness for crises that may occur (Crandall, Parnell and Spillan, 2009).

These findings reveal a fundamental challenge in crisis planning: If a threat is not perceived to be forthcoming, then planning for it is not a priority. As such, we posit that:

H1a: Increased crisis likelihood will increase planning for crisis preparation at the individual level.

H1b: Increased crisis likelihood will increase planning for crisis preparation at the organization level.

Crisis prevention

Organizations are the vehicles that furnish the infrastructure for crises to occur. The interaction of people, equipment, technology, and other organizational variables creates an environment where a crisis of some type is inevitable. The type and scale of the crisis are unknown because many times the business type or industry can determine the type and intensity of the crisis. In our present-day environment organizations have to not only deal with internal threats but also external threats such as cyber-attacks that have a major impact on its clients. Good examples of organizations, which have been affected, are Target and Equifax. Tons of data was extracted from both of these organizations without their knowledge and/or permission. Businesses and organizations that are prepared are likely to successfully survive a crisis intact. There was a WannaCry cyber-attack in 2017 because of software vulnerability. Several companies withstood the ordeal because they had put in place the software patch that Microsoft had distributed. These companies were in a position to do this quickly because they were prepared not just for this particular event but for any changes that might affect their operating system (Butler, Menkes and Michel, 2017). Home Depot had a cyberattack in 2014 where 56 million credit and debit cards were stolen. The company had a plan in place that was able to eliminate the malware immediately and assure their customers that the threat was removed, and business could be transacted without problems (Butler, Menkes and Michel, 2017).

Many times, organizations establish rules, procedures and processes that employees ignore. Such actions as bribery, fraud, embezzlement, espionage, and arson are examples of how organizations are impacted by acts of organizational employees, competitors, or consultants. These examples are all motivators for the management of any organization to

establish a crisis management plan (CMP) that will operate before, during and after the crisis occurs. Because all of the crisis examples that are presented above can be introduced into an organization any time, it is essential that a business/and or organization establish a CMP to counteract the impending crisis or the occurrence of a crisis (Spillan and Hough, 2003). Also, the CMP provides employees a frame of reference for following crisis management procedures for reporting real and potential crises.

Employees are in day to day contact with the organization and business transactions. They see what is happening with each of these transactions. Within this environment, the employees are able to detect abnormalities and threats. Once the employee identifies a vulnerability, he/she needs a method or mechanism for reporting/communicating the threat to the management of the organization. One way to make sure employees are alert to vulnerability recognition is through crisis management training. One of the key elements of crisis management planning is learning or continuous improvement through crisis management education. To make an organization more crisis ready and alert to threats, managers need to institute periodic training sessions that create crisis management teams and introduces them to the ideas and processes of crisis planning. Crisis management training using seminars, and mock crisis sessions is an effective way of making the workforce or the individual worker ready to recognize a crisis and initiate a methodical intervention. Constant training and learning are at the core of crisis management planning. Knowing what to do and how to do it when a crisis occurs will contribute significantly to crisis prevention (Crandall, Parnell and Spillan, 2009; Mostafa et al., 2004). As such we can say that:

H2a: Increased planning for crisis preparation at the individual level is related to increase crisis prevention.

Without question, crises are prevented, and damages are reduced when an organization takes the correct management steps to make sure that there is a crisis management team and a crisis management plan ready to address any crisis that may emerge. To accomplish this task, proper leadership from top management is required. Clear direction as to who is in charge and what exactly they must do when a crisis of any kind arises must be established and understood by all employees on the crisis management team. With a flexible crisis management planning process and a trained crisis management team,

organizations can effectively and efficiently deal with just about any crisis that may emerge. Obviously, natural disasters are very difficult to deal with no matter how much planning is invested. However, natural disasters do not happen every day. Recognizing and employing the four functions of management, planning, organizing, leading and controlling is essential to crisis prevention from an organizational level. Leadership is the critical component necessary for an organization to prevent crises or at least be ready to deal with any crisis that it may encounter (Parnell, Koseoglu and Spillan, 2010). Crisis management starts before a crisis occurs, carries on during its occurrence, and remains in the planning process after the crisis has ended. The reason for establishing a crisis management plan is to a.) emphasize to workers what might occur if a crisis happens and b.) explain in detail how the event can be successfully managed.

The crisis plan strives to ensure that the people have the resources and leadership at hand to take control of the crisis as without delay in order to prevent or at least minimize the damage (Spillan, Parnell and de Mayolo, 2011). With this in mind, we can say that:

H2b: Increased planning for crisis preparation at the organizational level is related to crisis prevention.

With the preceding information about crises and crisis management as background, we now move on to completing the analysis and discussion of crisis readiness among Vietnamese businesses and organizations.

METHODOLOGY

Data collection

Data for this study were collected from managers in the Da Nang and Ho Chi Minh City the most populated city in Vietnam. Undergraduate students were trained to conduct the survey under the supervision of one of the authors. Due to the low interest in collaboration from the population of the study, the sampling procedure selected was non-probabilistic. The target population was managers working in the region with at least two subordinates. A total of 112 responses were completed.

Table 1. Characteristics of the Sample

	Frequency	Percentage
Industry		
Manufacturing	65	58.0
Services	47	42.0
Global Involvement		
Low	55	49.1
Moderate	32	28.5
High	25	22.3
Employee Number		
Less than 10	53	47.3
11-20	32	28.6
21-50	18	16.0
More than 50	9	8.0

Table 1 presents the characteristics of the respondents in the sample. The typical respondent had an average of over ten years of managerial 7 experience and almost five with his or her present organization. The average age of the 112 respondents was 37.4 years.

Measures and questionnaire development

To operationalize the constructs of our research model, we used scales adapted from relevant literature. With the information gathered from focus group interviews among nine managers from different industries, we modified the research scales to suit the context of our study. For survey instrument modification, the preliminary set of scale items was pretested with fifteen managers who are engaged with the risk management department of different companies. They were requested to complete the survey, recognize statements that were not applicable or confusing and identify any other issues with the questionnaire. Through the modification process, managers were asked to point out their level of agreement with twenty statements for crisis management scale on a five-point Likert scale (1 = strongly disagree and 5 strongly agree).

Based on a review of the crisis management literature the authors developed the managers' perceived likelihood scale that assesses the perceived likelihood of a crisis. This scale measures crisis likelihood based on five statements as follows: 1) Likelihood of a crisis event occurring relative to other organizations in the same industry; 2) Likelihood of crisis

event occurring in the geographical region, industry's; 3) Likelihood of crisis relative to my organization's industry; 4) The occurrence of the crisis in the organization relative to other organizations and; 5) The probability of a crisis occurring next year. in the near future.

In the second section of the questionnaire, in order to measure the relationships among constructs that are hypothesized to contribute to crisis prevention; crisis preparation at individual and organizational levels measured by 10 statements. Similar Likert scale measures in the first section of the questionnaire were used in the second section as well. A list of construct statements used in the questionnaire is displayed in Table 2.

Table 2. Measures of constructs

Crisis Likelihood (CL)	Crisis Preparation: Planning crisis at the organizational level (CPOL)
1. Relative to other organizations in my industry, the likelihood of a crisis event occurring in my organization is high.	1. In general, my organization is well prepared for a crisis event.
2. Relative to other organizations in my geographical region, the likelihood of a crisis event occurring in my organization is high.	2. Plans of action have been prepared for anticipated crisis events in my organization.
3. The industry in which my organization operates is prone to crises.	3. A crisis team has been appointed in my organization to manage a crisis event should one occur.
4. Crisis events are more common in my organization than in most organizations.	4. Crisis preparedness is discussed and/or reviewed periodically to ensure that plans are up-to-date.
5. It is unlikely that a crisis event will occur in my organization during the next year.	5. Preparation for crisis events is not a common topic of discussion among my organization's leaders.

Crisis Prevention (CP)	Crisis preparation: planning at the individual level (CPIL)
1. My organization has a mechanism in place to prevent crises from occurring.	1. My organization coordinates mock crisis disaster drills at least once a year.
2. Members of my organization are encouraged to look for warning signs that a crisis event could occur.	2. My organization has unannounced crisis drills to evaluate readiness for a crisis.
3. Managers in my organization are encouraged to act and allocate resources as needed to prevent a specific crisis event from occurring.	3. I know what to do if a crisis event occurs.
4. The leadership in my organization is willing to listen to anyone concerned that a crisis event could occur.	4. Most members of my organization know what to do if a crisis event occurs.
5. Most crisis events in organizations cannot be prevented.	5. Few if any members of my organization participate in regular crisis training.

In the third section of the questionnaire, we added items to measure demographic data, such as industry, global involvement (low, moderate, high) and the number of employees in the organization (less than 10, 11-20, 21-50, more than 50). The survey was translated into Vietnamese. To ensure the quality of the translation, we used a double translation and the survey was pre-tested.

RESULTS

Data from the 20-item instrument was first analyzed using exploratory factor analysis for the 112 responses from the company's managers. The statements, "Members of my organization are encouraged to look for warning signs that a crisis event could occur", "My organization coordinates mock crisis disaster drills at least once a year" and "Preparation for crisis events is not a common topic of discussion among my organization's leaders, had a low factor loading or serious cross-loadings issue and as a result, were dropped from the analysis. Coefficient alphas and item-to-total correlations were calculated again continually as part of the deletion (of items) process.

Validation of measurements

Table 3 describes the results of the factor analysis, eigenvalues and Cronbach's Alpha values of research variables. With the sample of 112 responses, the data was first tested using principal component factor analysis as the extraction method and Varimax as a technique of rotation. Table 3 depicts the loadings of crisis likelihood, crisis prevention, and crisis preparation planning at the organizational and individual levels. The emerged factors accounted for 87.67 percent of the common variance in the data. The internal consistency reliability of the variables was assessed by computing Cronbach's alphas. Cronbach Alpha values of each factor are as follows: crisis likelihood=0.918; crisis prevention=0.869; crisis preparation planning at the organizational level=0.862 and crisis preparation planning at the individual level=0.963. Cronbach's alpha values of all the factors were over 0.70, which is considered acceptable for processes (Nunally, 1978). Factor analysis on all 17 statements of the four scales taken together, revealed that each scale was evidently signified by a particular factor (eigenvalue > 1).

**Table 3. Factors structures, loads, and reliabilities**

Scale Items	Factor Score	Percentage of Variance Explained	Eigenvalue	Cronbach's Alpha
Factor 1		18.43	5.234	0. 918
CL1	.774			
CL2	.749			
CL3	.689			
CL4	.785			
CL5	.738			
Factor 2		25.34	4.654	0.869
CP 1	.749			
CP 3	.772			
CP 4	.812			
CP 5	.750			
Factor 3		24.79	4.012	0.862
CPOL 1	.729			
CPOL 2	.774			
CPOL 3	.802			
CPOL 4	.702			
Factor 4		19.11	3.532	0.958
CPIL 2	.502			
CPIL 3	.810			
CPIL 4	.745			
CPIL 5	.761			

Discriminant validity was evaluated to confirm that constructs diverged from each other. According to Fornell and Larcker (1981), the square root of the average variance extracted should exceed the inter-construct correlations below and across them for adequate discriminant validity. Table 4 displays the square root of the average variance allocated between a construct and its items was greater than the correlations between the construct and any other construct in the model, fulfilling Fornell and Larcker's (1981) conditions for discriminant validity. The results, consequently, approve that our measurements confirmed satisfactory construct validity.

Table 4. Discriminant validity

	CL	CPIL	CPOL	CP
CL	**0.748**			
CPIL	0.453	**0.770**		
CPOL	0.700	0.586	**0.751**	
CP	0.559	0.515	0.564	**0.770**

Figure 2. Crisis readiness structural model
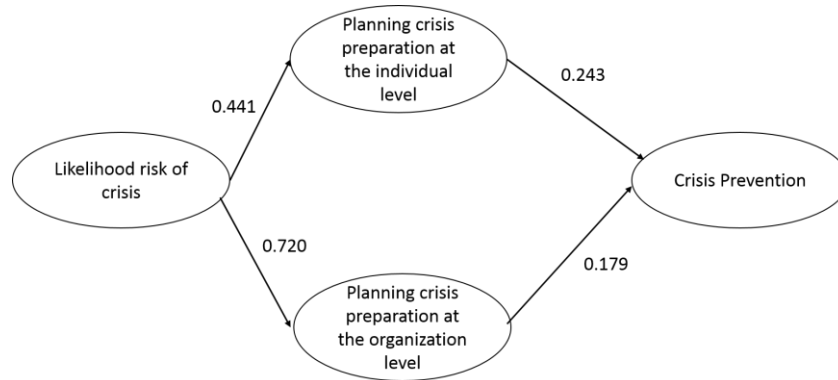
Analysis of the results

Figure 2 presents the Crisis Readiness Structural Model used in this study. We used structural equation modelling (SEM) in our data analysis, which can simultaneously examine the structural and measurement models (Bagozzi and Yi, 1989), also SEM presents a more comprehensive analysis for the inter-relationships in a model (Fornell and Bookstein 1982). Since it supports both exploratory and confirmatory factor analysis the variance based Partial Least Square (PLS) method was used in the analysis (Gefen et al., 2000). This technique can be applied to fairly small sample sizes like in our case (Fornell and Bookstein, 1982). The minimum sample size for PLS analysis has two criteria either 10 times the number of items for the most complex construct or 10 times the largest number of independent variables impacting a dependent variable (Chin, 1998; Gefen, Straub and Boudreau, 2000). In our research design, the most complex constructs (crisis likelihood) has five items and while the largest number of independent variables estimated for a dependent variable is only 4 (for crisis prevention).

The total sample size for this study was 112. Therefore, the sample sizes for this research is reasonably adequate for PLS estimation analysis employed in this paper for the general research model in this research model validity of the research measured by observing the structural paths and R2 rates (Chwelos, Benbasat and Dexter, 2001). Since PLS does not provide an overall goodness-of-fit index we check the results to satisfy the significance of the overall model as well.

Based on a summary of the results of model fit, we found that the conceptual model satisfies the criteria's of the maximum likelihood chi-square statistic, chi-square/degree of freedom ratio, the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the normed fit index (NFI), the Tucker-Lewis non-normed fit index (TLI), the root mean square error of approximation (RMSEA), and the comparative fit index (CFI). The chi-square statistic is used to evaluate the fit between the hypothesized statistical model and the actual data set. A significant chi-square statistic implies poor model fit. However, the chi-square statistic was employed only as a basis of comparison with the other fit indices in the current study because it is highly sensitive to sample size. Conventional interpretation for fit indices (GFI, AGFI, CFI, TLI, and NFI) is that values of .95 or greater indicate excellent correspondence between the hypothetical model and the actual data, and values between .85 and .90 indicate reasonable model fit (Browne and Cudeck, 1993; Hu and Bentler, 1999). The RMSEA assesses how well the model approximates the data by determining the lack of fit of the model to the sample covariance matrix, expressed as the discrepancy per degree of freedom. An RMSEA value of less than .05 is required to claim good fit, values around .08 indicate fair fit, and values approaching .10 indicate poor fit (Marsh, Balla, and MacDonald, 1988). Our results support, the measurement model had a very good fit. The GFI, AGFI, and CFI were confirmed a good fit with the research model.

Given the chi-square test's sensitivity to sample size, attention was focused on incremental fit measures, including normed fit index (NFI) = 0.897, root mean square error of approximation (RMSEA) = 0.056. Further, the Chi-square/ df ratio was well below the recommended level of 5.0 (Bollen, 1989), signifying a satisfactory model fit. Finally, all the cross-construct correlations were significantly different from 1.0 (tested via a Chi-square test with one degree of freedom when constraining the path to 1.0 rather than allowing free estimation), providing evidence of discriminate validity. Our research model displayed in Figure 2, according to the figure the paths from likelihood risk of crisis to planning crisis preparation at individual level and likelihood risk of crisis to planning crisis preparation at organizational level, then planning crisis preparation at individual level to crisis prevention, then planning crisis preparation at organizational level to crisis prevention should produce statistically path coefficients.

All path coefficients of the hypothesized links are found significant. Therefore, hypotheses H1a, H1b, H2a and, H1b are supported (Table 5). All R2 of the endogenous constructs in the model satisfied the 10% benchmark accepted by Falk and Miller (1992). The results reveal that an increased likelihood of risk of the crisis has a significant impact

on planning crisis preparation at both individual and organizational levels. Similarly, planning crisis preparation at both individual and organizational levels has a significant impact on crisis prevention. Table 5 exhibits the t-values of path coefficients and recap our hypotheses testing results. If company managers estimate high crisis likelihood, they increase planning for crisis preparation both individual and organizational levels. If companies increase planning for crisis preparation both individual and organizational levels crisis prevention will increase within the company.

Table 5. Path coefficients of total effects of constructs and significance of estimated parameters

Hypothesis	Path in Model	Path Coefficient	t-value	Test Results
H₁ₐ	Likelihood risk of crisis → Planning crisis preparation at individual level	0.441	6.508	Hypothesis Supported
H₁ᵦ	Likelihood risk of crisis → Planning crisis preparation at organizational level	0.720	19.372	Hypothesis Supported
H₂ₐ	Planning crisis preparation at individual level → Crisis prevention	0.243	3.513	Hypothesis Supported
H₂ᵦ	Planning crisis preparation at organizational level → Crisis prevention	0.179	2.814	Hypothesis Supported

* Significance at 0.05

DISCUSSIONS

In brief, we posit that crisis prevention is influenced by planning for crisis preparation at the individual and organizational levels. Crisis preparation at the individual and organizational levels is depicted as the outcomes of the perceived likelihood of crisis (refer to Figure 2). We discuss each of the major links in the proposed model. Remarkably, the relationships captured in the model also tend to be the ones argued in the literature, but their influences have not been well recognized nor examined until now. Based on the analysis of the Vietnam crisis management data, our proposed model is approved. If a company's managers believe the likelihood risk of a crisis is higher, then crisis planning at the individual and organizational levels of the company significantly increases. Also, when crisis preparations at the individual and organizational levels are practiced, crisis prevention is significantly high as well. We can say planning for crisis preparation in both individual and organizational levels is very important, and they support crisis prevention in the companies.

Among manufacturing companies' managers see the likelihood risk of the crisis being higher than among service companies. For manufacturing companies, the likelihood of crisis is higher than among service companies and in manufacturing companies, crisis prevention is higher. However, the authors found no significant difference for both types (service and manufacturing) as they relate to crisis preparations at individual and organizational levels. From another perspective, if the companies have higher global involvement the likelihood of crisis is higher than a company of the same size (risk of crisis is high for bigger companies).

CONCLUSIONS

The aim of this study was to explore crisis readiness among Vietnamese businesses and organizations. To complete the study the authors investigated the perceptions and experiences of Vietnamese managers in relation to crisis events and crisis management. The results indicate that in general, Vietnamese mangers are not that concerned about crisis issues and therefore, few have crisis management plans or crisis management teams. One of the reasons for the absence of business or organizational crisis concern may be that they either label differently or report that they have experienced less crisis relative to other types of organizations. As a result, the perceived need to plan for a crisis is not as strong.

This study concludes that Vietnamese managers, like their other business counterparts, should adopt appropriate crisis management plans and procedures that can prevent a crisis or mitigate the impact of a crisis if it occurs. This includes the formation of a crisis management team, the identification of worst-case scenarios, the practicing of mock disasters, and the upgrading of these plans as needed. The daily crises that occur in the business world have alerted all managers to not only assess their vulnerability but develop plans that will reduce or eliminate the possibility of a crisis occurring.

The findings of this research have important managerial implications. When developing strategies for achieving organizational goals, managers need to think about the obstacles that will obstruct or constrain the achievement of those goals. Unanticipated or poorly managed crises become major obstructions and constraints.

The crisis management literature tends to be consistent in recommendations, regardless of the industry or organization in question. To prepare for a crisis, managers need to think about five major areas: 1) Assemble a crisis management team; 2) Plan for worst-case

scenarios; 3) Formulate a crisis management plan; 4) Test the plan, and 5) Upgrade and change as necessary.

Crisis readiness is front and center whether a manager likes it or not. All organizations must be ready for any unanticipated event or crisis. Crisis events are not germane to one geographic location. They occur all over the world, among any kind of business or organization. No business is immune to crisis. As such, it is critically important to have a proper plan and planning process established to make sure the organization is ready to deal with all dimensions (Hickman and Crandall, 1997). The bottom line is that proper leadership is essential for crisis management and crisis readiness to be efficient and effective. It is the leader or leaders of the organization who determine whether crisis readiness is a priority. There is a consequence to ignore or overlook crisis readiness planning. Leaders who discount the crisis management planning process do it at their own and the organizations' peril. Even in developing/emerging nations like Vietnam, to be successful managers in this environment need to respect and implement crisis management and crisis readiness preparation/planning measures. Being ready is the only alternative. Again, the old saying "I'd rather be safe than sorry". This old saying applies here.

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