

Exploring the interrelationship between Quality, Safety and HR within Crisis Management Framework

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Abstract

Purpose – The purpose of the paper is twofold. Firstly, it examines the interaction of quality, safety and crisis management (CM). Secondly, it explores the role an HR department can play in terms of CM.

Design/methodology/approach – The current consists of two parts: theoretical and empirical. The theoretical part follows the approach of an extended literature review. The empirical part illustrates the statistical analysis of the obtained data from Greek organizations that employ the largest number of employees, regardless of their business sector.

Findings – The statistical analysis allowed the authors to confirm their main research hypotheses. Firstly, it showed the interrelationship that exists between safety and quality and CM. Secondly, it presented the impact of this relationship to human resources and the vital role of HR department, in case of a crisis.

Practical implications – Organizations and their top management can review and redesign their crisis management procedures according to the findings of this survey, aiming to a fast recovery and return to normalcy.

Originality/value – Based on the literature review, there has been little research work to connect safety, quality, the level of CM familiarity and the role of HR department in times of a crisis. The added value of attaining this goal may become a motivation element for any organization and its top management to realize and continue in investing more in safety, quality and CM issues.

Keywords Quality, Safety, Total Quality Management, Crisis Management, Role, Human Resources, HR Department

Paper type Research paper

1. Introduction

It is a fact that in a daily basis, organizations worldwide deal with multiple disorders and unexpected events such as crises. A crisis can threaten the viability of an organization and poses serious dangers to its various structures; physical, financial and emotional (Pearson and Mitroff, 1993; Pearson, Kovoora-Misra, Clair and Mitroff, 1997). Crises may vary in magnitude and in type, from malicious rumor and defect products to natural disasters and terrorist attacks. “This array of types suggests the breadth of organizational vulnerabilities” (Pearson and Clair, 1998, p. 60). Yet, all crises share some common characteristic and elements; one of the most basic is that

they need immediate action and treatment. This is one of the main reasons why the field of crisis management has become a top priority for today's organizations.

It is a well-known fact that quality related issues, such as defect products have cost numerous piles of money to many organizations. Some illustrative examples of defective products that kept the international media busy for several weeks, suffered social outrage and ended the company that produced them or used them in a major crisis are as follows: the cases of the defective O-rings that led to the Challenger disaster of NASA in 1986, the bottles with abnormal traces of carcinogen benzene and the Perrier's recall of 70 million bottles of water products in 1990, the defective accelerators that led to Toyota's recall crisis in 2009 and the explosion of smartphone devices that led to the Samsung's Galaxy Note 7 Recall Crisis in 2016. Moreover, the organizations that did not have adequate safety measures and were complacent with some sort of safety led themselves to severe crises and, in several cases mega-crises. The Union Carbide and the Bhopal gas leak in 1984, the Exxon and the Exxon Valdez oil spill in 1989 and the FEMA and the Hurricane Katrina in 2005 are some of the distinctive examples that had cost the lives of hundreds of people and animals and caused unsustainable ecological damage.

Hence, it can be presumed that safety and quality may play a strategic role when it comes to crisis and crisis awareness. The HR department, with direct and constant interaction with the employees and being responsible for employees' safety and their wellbeing, can contribute into a high level of safety, quality and CM. This paper seeks to examine the interrelationship among safety, quality, crisis preparedness and the role of HR department in terms of crisis management. It attempts to explore whether the organizations with high consciousness of safety and quality management share a high level of familiarity with the field of crisis management. In particular organizations who continuously invest in safety and quality procedures, modernizing their systems with the latest updated international standards, tend to be more resilient to work-related accidents and crises than others. Additionally, this paper explores whether these organizations are in position to lessen the impact of a crisis through means of HR department by employees' preparation and training to handle a crisis and recover from it with the least possible damages and in the minimum possible time. In order to achieve this, an empirical study is conducted among domestic organizations, which according to ICAP (2017) employ the largest number of employees, representing various business sectors.

2. Theoretical Framework

Certainly, there is an interaction between organizations, crises, people and technologies (Mitroff, 2004). A crisis: "invalidates nearly every one of the critical assumptions individuals, organizations, or even whole societies have been making about people, organizations, and technologies" (Mitroff, 2004, p. 3). Most of the times a crisis may reveal the invalid assumptions the top management has made regarding the organization, technologies and the employees.

2.1 Crisis Management and Total Quality Management

Unfortunately, the majority of the organizations are satisfied to be “good enough” so as they can respond to potential problems that may emerge (Booth, 2015). In the early 80’s, Deming was one of the first that strongly supported that this “good enough” mentality may lead to failure. It is known that he introduced the field of Total Quality Management (TQM) for the purpose of assisting organizations in increasing their quality and productivity. TQM philosophy is based on continuous improvement and on the evolvement of a zero-defect system and simultaneously on detecting product defects. It is worth mentioning that organizations that adopted this philosophy and continue to invest on high quality and safety systems proved to be more resistant to crisis than others. Organizations that were satisfied with the “good enough” mentality and thought they had sufficient quality and safety systems when they faced a crisis, they mishandled it and ended up learning the “hard” way, having to pay the price. Some characteristic cases, mentioned earlier, are: the Union Carbide and the Bhopal gas leak in 1984, NASA and the Challenger disaster in 1986, the Exxon and the Exxon Valdez oil and the Deepwater Horizon oil spill in 2010.

According to Mitroff (1994), TQM and CM are two interrelated functions. TQM may contribute to CM, as TQM “identifies and eliminates potential product-related crises” (p. 106). At the same time, CM may contribute to TQM, as CM “identifies and eliminates potential manufacturing defects” (Mitroff, 1994, p. 106). According to Bertrand and Lajtha (2002) “crisis management training develops management qualities and skills that are useful in ‘normal’ situations” (p. 186). Such qualities and skills can be the ability to make decisions under pressure, an enhanced capability for teamwork, enhanced lateral thinking and creative skills and greater sensitivity to weak signals of abnormality (Bertrand and Lajtha, 2002). Skills that can enhance safety, quality and the resilience of organizations. Furthermore, the last stages of EFQM include the review and learning and improvement stages; all these stages “involve comprehensive monitoring so that the review system is based on facts and reviews the entire system to draw out the learning points and to drive continuous improvement” (Williams et al., 2006, p. 71). Notably, these stages are very much similar to the last two stages of Mitroff’s (2005) six-stage crisis model: no-fault learning stage and redesign stage.

Meanwhile, in 2015, ISO 9001 was substantially reviewed. According to the International Organization for Standardization (ISO, 2015a): “ISO 9001:2015 sets out the criteria for a quality management system and is the only standard in the family that can be certified to (although this is not a requirement). It can be used by any organization, large or small, regardless of its field of activity”. Chiarini (2017) highlights that “one of most interesting and debated requirements is ‘risk-based thinking’, which represented a novel addition to the previous 2000 and 2008 versions of ISO 9001” (p. 311). Under these conditions, the idea of risk is fundamental in every feature of QMS (Quality Management System) functions and procedures, plus, every origin of risk should be properly managed (ISO, 2015b). This being said, the

authors' perspective is that this may also enhance crisis awareness and contribute to CM. Williams et al. (2006) point out that the risk prioritization stage consists of two parts: risk analysis and risk evaluation. Two parts that are also essential for every organization in the pre-crisis stage to assist them in designing and implementing their CM plans and procedures, hence crisis risk assessment being prerequisite for every CM plan.

2.2 Safety and Crisis Management

When it comes to crisis preparedness and awareness the ideal state for an organization is to be proactive. Proactive organizations make “CM a top corporate priority” (Mitroff, 2005, p. 213). High reliability organizations, also known as HROs, are remarkable example of proactive organizations. It is characteristic that one of the fundamental principles of HROs is “sensitivity to operations” (Weick and Sutcliffe, 2007). Being sensitive to operations is related with the ability of “keeping track of expectable interactions within a complicated, often opaque system and responding promptly to those not expected” (Perin, 2005, p. xvi). Proactive HROs consider near miss as a sign of failure and a potential threat to operations. Weick and Sutcliffe (2007) highlight that “HROs worry about the blind spots that are associated with safe interpretations of a near miss” (p. 62).

The employees are in the most suitable position to detect a near miss or a malfunction in the operating system. Thus, people who work and interact with machines and the whole system every day are better to report these blind spots and mishaps. However, for employees to report an error, it is prerequisite that they feel safe to do so (Weick and Sutcliffe, 2007). It is of significant necessity for them to evaluate whether a high level of safety in work and particular in their workplace is applied. Employees tend to acknowledge the value that is placed on safety “by overt statements and actions of managers and coworkers that promote safety and sanction unsafe behavior” (Neal and Griffin, 2004, p. 18). Additionally, employees might comprehend “implicit messages about the relative status of safety compared with other priorities such as productivity, the pace of work, and teamwork” (Neal and Griffin, 2004, p. 18). All these perspectives related to the significance of safety contribute to the assembly of a safety environment. Moreover, employees can advance to maximize the quality of the products and services of organizations. Research showed that quality can offer a competitive advantage during turbulent times and increase customer loyalty and satisfaction (Afthonidis and Tsiotras, 2014; Skowron and Kristensen, 2012). Besides that, the quality and the commitment of the human resources can offer a significant competitive advantage for the organization as well (Rao, 2009).

At this point, the interconnection between safety in work, safety in operations and industrial safety, should be highlighted. Working in a safe environment may promote safety in operations. As mentioned in the previous paragraph, when employees feel that they work in a safety environment, they feel less reluctant to report a near miss.

Simultaneously, safety in operations implies continuous mutual adjustment (Weick and Sutcliffe, 2007) and people are willing to execute them and constantly follow them up in case there is a malfunction or a small error. “One change is compensated for by another change” (Weick and Sutcliffe, 2007, p. 41). These bilateral changes may ensure a high level of safety in operations, hence reliability. At a greater scale, all the above factors may also enhance industrial safety. It is characteristic that according to researchers from the field of safety literature, 80-90 percent of industrial accidents are mainly a result of human errors and misbehaviors by individuals (Reason, 1990). This percentage can be seriously reduced if employees participate actively in error detecting and error reporting process, as described in the previous paragraphs.

2.3 The Strategic Role of HR Department in terms of Crisis Management

It is common knowledge that the HR Department is the interactive link between the top management and the workforce. The HR Department acts on behalf of the employees and their best interest. Therefore, when a crisis takes place, this department is borne with the responsibilities of taking care of the employees’ primary needs and their safety. Additionally, it is the most appropriate department to maintain constant contact with the employees. It is characteristic that during a crisis, negative emotions such as fear, stress, anxiety arise (Smith and Ellsworth, 1985). These emotions may prove to be determinant to the employees’ morale and their performance. The HR Department may guide and help employees deal and cope with the consequences of these negative emotions and traumatic events by providing adequate training in the precrisis stage, through conducting various exercises of possible crisis scenarios and crisis simulations. According to Ramsay (1999) the kind of people who have already worked together acquire a greater response level in comparison with those that meet and are destined co-operate for the first time under the threat of a real crisis event.

The HR Department may play a key role in terms of crisis management (Vouzas and Nizamidou, 2018). McCracken and Wallace (2000) point out that the HR Department can contribute to the organization’s success by developing and harnessing the workforce. The HR Department is the most suitable department to quantify the impacts of the loss of employees, because of an injury or even death and at the same time to estimate the number and the type of the employees needed to restore the system and return to some kind of normalcy when the crisis threat is over. Furthermore, Lockwood (2005) strongly supports that “a business cannot recover without its employees” (p. 3). Yet, little consideration is given to the relationship between the HR department and crisis management (Hutchings and Wang, 2008; Wang, Hutchins and Garavan, 2009). As Premeaux and Breaux (2007) noted: “a common mistake in crisis management planning is thinking about the company’s human capital only after plans are made for the organizations systems, operations and infrastructure. Organizations must give more consideration to the effects of critical events on their employees” (p. 41).

2.4 The Type of Organization and the Associated Crisis Risk

According to Barton (1993), “common sense suggests that certain types of organizations have a higher degree of crisis risk than others” (p. 65). After his thorough review of numerous crises that took place from 1981 to 1991, he categorized the different types of organizations in three different categories according to their sensitivity to public crisis:

1. High-Risk Category
2. Medium-Risk Category
3. Low-Risk Category

Thus, based on Weick’s and Sutcliffe’s exhaustive research of HROs and the five basic principles that govern them (Weick and Sutcliffe, 2007), it is easily understood that HROs -that mainly belong to the High-Risk Category- present a higher degree of crisis awareness and crisis preparedness. Consequently, it is expected that the organizations that belong to the first category to have a high level of crisis management familiarity compared to other types of organizations.

3. Research Methodology

There are several different methods of collecting primary data. The most common includes questionnaires sent by post, personal interviews and telephone interviews (Kelley et al., 2003; Sekaran, 2003). It is worth noting that a more modern method of research, which has gained increasing ground recently, is web survey. A web-based survey has more advantages compared to the above-mentioned traditional methods. Web surveys may “be of high quality, fast, and inexpensive. There are no interviewers involved, thereby eliminating interviewer error and bias” (Aaker et al., 2011, p. 230). Within the effort of deepening the understanding of the interrelationship between quality, safety, crisis management and the role of the HR Department, a web survey was conducted with the use of a questionnaire with closed-ended questions. The survey was carried out to Greek organizations, that according to ICAP (2017), employ the largest number of employees, despite their business sector. Organizations with a large population of employees are expected to have better organized HR Department compared to others. The study of this particular sample may produce more reliable results, instead of studying the entire population. According to Sekaran (2003) “this is mostly because fatigue is reduced and fewer errors will therefore result in collecting data, especially when large number of elements is involved” (p. 267).

The survey was conducted from mid-September to late November 2017 and the final survey population was 491 enterprises. A total of 223 questionnaires were collected at the end of the survey, out of which 207 questionnaires were fully completed and perfectly suitable and useful for further analysis and processing. Therefore, it is understood that the response rate of this survey was 42,16% ($207/491 = 0,42159$). This percentage is too high and far exceeded the initial conservative estimate of 25 percent. First of all, the reliability of the questionnaire was verified

with the use of Cronbach's alpha (Field, 2013). The subscales of the questionnaire all had high reliabilities, all Cronbach's α were above $> 0,890$, which is very high. Table 1 summarizes these results:

Insert Table 1 about here

4. Research Model and Hypotheses

The following figure illustrates the conceptual model of the current research:

Insert Figure 1 about here

Independent, Dependent and Other Variables

In order to measure an organization's level of crisis management awareness, as well as the strategic role of the HR Department in dealing with a crisis, the following independent and dependent variables have been developed:

- Independent Variable

The organization's experience with safety and quality ($X\alpha = \text{safety_qual}$)

This variable refers to an organization's level of prior experience with safety and quality. It measures how much safe the employees feel within the organization and up to what extent they are trained to respond to a potential accident. It also measures the investment of the organization in safety and quality procedures. As it was pointed out in previous paragraphs, organizations that invest in safety and quality procedures are more resilient to work-related accidents and crises. Specifically, organizations that constantly update their safety and quality systems and train their workforce on the basis of these, have employees with higher awareness of how to identify errors and know what exactly they should do, in the event of an accident. This implies that the HR Department actively participates in the employees' training and in their awareness' formulation to identify and report errors.

- Dependent Variables

The role of the HR Department in terms of crisis management. The selected dependent variables basically reflect the role of the HR Department in terms of crisis management. The model of the three stages of a crisis (before a crisis - during the crisis - after a crisis) was selected to be applied. This is also aligned with the new Mentor-Healer-Renaissance Man (MHR) role that HR Department should adopt for managing crisis situations, as this was conceptualized by Nizamidou and Vouzas (2018). Based on the features of the “MHR” role, that specifies the actions that are to be performed by the HR Department in every stage of a crisis (before, during, and following a crisis), the authors were able to assess the role of HR in the current study. Subsequently, the following dependent variables Y were derived:

1. $Y_1 = \text{HR_PreCrisis}$

This variable determines the role of the HR Department in terms of crisis management in the pre-crisis stage. It measures the proportionate share of the HR Department in the employees’ preparation to manage a crisis. It measures the extent that the HR department has trained the employees, so as they have acquired the necessary knowledge of all the actions needed to perform, when a crisis occurs.

2. $Y_2 = \text{HR_Crisis}$

This variable measures the role (active or not) that the HR department had during the last crisis that the organization faced. It defines the proportionate share of the HR Department and the assistance it provided to the employees during a crisis. In the calculation of this variable and for the accuracy of the results, only the organizations that have already prior experience with a crisis event will be included in the statistical analysis. This is determined based on a question of the questionnaire that indicated whether or not the organization under study has confronted a crisis.

3. $Y_3 = \text{HR_PostCrisis}$

This variable refers to the role (decisive or not) of the HR department in the post-crisis stage. It measures the proportionate share of the assistance provided to the employees in terms of overcoming a crisis event and return quickly to their normal work rates. Similarly, with the exact previous variable, in the calculation of this variable, only the organizations that have prior experience with crisis will be included in the analysis.

- Mediator Variable

M = Familiarity with Crisis Management Procedures

This variable determines the organization's level of familiarity with crisis management procedures. It measures whether the top management and the employees of the organization are familiar with the CM processes and with various CM actions. It is common, for these organizations, to have already implemented a crisis simulation and constantly revision of their crisis plans and crisis scenarios. Organizations that are constantly being prepared and trained in crisis management processes, are more familiar with them, showing a great deal of interest to their employees and in meeting their needs in the event of a crisis.

- Moderator Variable

W = Business Sector

This variable refers to the business sector into which the respondent's organization belongs to. Particularly, in the current survey, the authors have kept the categorization that was already used by ICAP (2017). Based on this classification, the organizations are divided into 67 different business sectors. In this respect, the authors proceeded in dividing furtherly these organizations, according to their sensitivity to public crisis. As per their perspective, the final risk-category, as specified by the business sector into the organization each one belongs to, acts as a moderator variable. Therefore, all the organizations according to their sector are divided in three categories: 1 = Low-Risk, 2 = Medium-Risk and 3 = High-Risk. This classification follows Barton's (1993) categorization of organizations in terms of their susceptibility to public crises. As it was described in the relevant section, regarding the type of organization (section 2.4), organizations that belong to the High-Risk category are expected to have a high level of crisis management familiarity, compared to other types of organizations.

At this point, it should be noted that the authors decided to assess the alternative hypotheses instead of the null ones. Characteristically, the above general conceptual research model, where the various relationships between the variables are illustrated, is the main novelty of the current research. The entire research was implemented based on this model. The authors' perspective is that in order the reader to capture and understand the various relationships between the variables with ease, these relationships including the respective hypotheses should be clearly depicted in the model. Hence, in the following paragraphs the alternative hypotheses are presented, accompanied by the assorted versions of the general conceptual model.

Therefore, within an effort to enrich the current knowledge and provide a thorough understanding of the role that the HR Department occupies, in terms of crisis management as well as the presumable relationship between the organization's investment in safety and quality procedures and the organization's investment in HR practices, aiming to overcome crisis situations the following hypotheses were made:

H₁ : The organization's experience with safety and quality has a positive direct effect on the active role of the HR department in preventing and dealing with crises in the pre-crisis stage.

H₂ : The organization's experience with safety and quality has a positive direct effect on the active role of the HR department in dealing with crisis during the crisis stage.

H₃ : The organization's experience with safety and quality has a positive direct effect on the active role of the HR department in recovering from crisis in the post-crisis stage.

The organization's experience with safety and quality reflects the level of intimacy with safety and quality procedures. In particular, organizations that constantly modernize their safety and quality systems and train their employees within this framework, have employees with higher awareness of how to identify errors, who already know what exactly they should do in the event of a crisis. In order to achieve that, it is implied that the HR department actively participates in the employees' training and in their awareness' formulation to identify and report near misses or mishaps. Therefore, these organizations are more resilient to work-related accidents and crises and simultaneously their HR department has a greater active role, in terms of crisis management. Based on the above hypotheses, regarding the direct effect of the independent variable on the dependent variables, the general conceptual model takes the following form:

Insert Figure 2 about here

Moreover, in order to examine the interrelationship among safety, quality, crisis preparedness and the role of HR department as well as how crisis awareness and the level of familiarity with crisis management procedures may influence this interaction, the researchers concluded in testing the following research hypotheses:

H₄ : The organization's experience with safety and quality has an indirect effect on the active role of the HR department in preventing and dealing with crises in the pre-crisis stage through its level of familiarity with CM procedures.

H₅ : The organization's experience with safety and quality has an indirect effect on the active role of the HR department in dealing with crisis during the crisis stage through its level of familiarity with CM procedures.

H₆ : The organization's level experience with safety and quality has an indirect effect on the active role of the HR department in recovering from crisis in the post-crisis stage through its level of familiarity with CM procedures.

At this point it should be noted that there is a significant relationship between the HR department and quality and safety departments. In order to achieve a high level of safety and quality in any organization, all people involved, should acquire a high level

of training and education, regarding the safety and quality systems and procedures. In the employees' case, the HR department is the most appropriate department, in cooperation with quality and safety departments, to train and constantly inform them about the latest updates, regarding all safety and quality procedures. Additionally, as being the department that has direct and constant interaction with the employees, holding the responsibility for the employees' safety and their wellbeing, may also contribute into a high level of safety, quality and crisis management. According to the above hypotheses, regarding the indirect effect of the independent variable on the dependent Variables Y through the mediator, the general conceptual model takes the following form:

Insert Figure 3 about here

Hence, the authors concluded to test as well, the following research hypotheses regarding the impact (or not) of the type of the organization in the initial research hypotheses:

H₇ : The business sector into which the organization belongs to, moderates the direct effect of the organization's experience with safety and quality on the active role of the HR department in preventing and dealing with crises in the pre-crisis stage.

H₈ : The business sector into which the organization belongs to, moderates the direct effect of the organization's experience with safety and quality on the active role of the HR department in dealing with crisis during the crisis stage.

H₉ : The business sector into which the organization belongs to, moderates the direct effect of the organization's experience with safety and quality on the active role of the HR department in recovering from crisis in the post-crisis stage.

H₁₀ : The business sector into which the organization belongs to, moderates the indirect effect of the organization's experience with safety and quality on the active role of the HR department in preventing and dealing with crises in the pre-crisis stage through its level of familiarity with CM procedures.

H₁₁ : The business sector into which the organization belongs to, moderates the indirect effect of the organization's experience with safety and quality on the active role of the HR department in dealing with crisis during the crisis stage through its level of familiarity with CM procedures.

H₁₂ : The business sector into which the organization belongs to, moderates the indirect effect of the organization's experience with safety and quality on the active role of the HR department in recovering from crisis in the post-crisis stage through its level of familiarity with CM procedures.

In this regard, it has to be added that the organizations of the current study were representing 67 different business sectors, based on the classification of ICAP (2017). These business sectors, as it was already described in a previous subsection regarding

the Moderator Variable, were further categorized into the three risk categories, according to their sensitivity to public crisis, using Barton's classification (1993). In this respect, the organizations that belong to high-risk category, such as HROs, have a high consciousness to sensitivity in operations. Thus, they invest more in safety and quality issues in comparison with organizations, that belong to a lower-risk category.

As a result, based on the above hypotheses regarding the moderation of the direct effect of the independent variable on the dependent variables by the moderator, (Research Hypotheses: **H₇** - **H₉**), the general conceptual model takes the following form:

Insert Figure 4 about here

In the meantime, when referring to the level of familiarity with CM procedures, it is common for organizations, that have a high level of awareness with the field and processes of crisis management, to increasingly invest in crisis management practices and to have already grasped the importance of the human factor. As analyzed in a previous subsection regarding the Mediator Variable, organizations that are constantly being prepared and trained in CM processes and are more familiar with them, show a greater deal of interest to their employees and to their needs in case of a crisis. This high level of training and education, that the employees possess, in terms of CM procedures, often illustrates that the HR Department holds an active role in the organization's CM Team, thus presenting a high level of crisis awareness.

Therefore, according to the research hypotheses regarding the moderated mediation of the indirect effect of the independent variable on the dependent variables by the moderator, (Research Hypotheses: **H₁₀** - **H₁₂**), the general conceptual model takes the following form:

Insert Figure 5 about here

5. Findings

For the present statistical data analysis, the SPSS statistical package was chosen. In addition, the PROCESS command was used for the analysis of mediation and moderation. The PROCESS tool, as Field (2013) points out: "is basically the best thing to do in regulating and mediating for a long time" (p. 507). Though the specific dialogue framework offers the possibility of statistical analysis of 74 different models of mediation and moderation (Hayes, 2013), only three models were used in this research:

1. Model 1 for simple moderation,
2. Model 4 for simple mediation, and
3. Model 7 for moderated mediation

Below, the results of the statistical analysis are presented and the test of all the research hypotheses takes place:

5.1 Findings regarding the Research Hypotheses $H_1 - H_3$

Table 2 summarizes the results of the SPSS analysis of simple regression:

Insert Table 2 about here

- Research Hypothesis H_1 :

According to Field (2013) b_0 is the Y intercept, and this value is the value B (in the SPSS output) for the constant. So, from the table, it is shown that b_0 is 0,980. At the same time the value of b_1 can be estimated and this value represents the gradient of the regression line. It is 0,640. “Although this value is the slope of the regression line, it is more useful to think of it as representing the change in the outcome associated with a unit change in the predictor” (Field, 2013, p. 420). Therefore, the model is described by the following equation:

$$Y = 0,980 + 0,640X$$

Additionally, the bootstrap confidence interval indicates that the population value of b for the organization’s experience with safety and quality is likely to fall between 0,513 and 0,765. Since this interval doesn’t include zero, it can be concluded that there is a genuine positive relationship between the organization’s experience with safety and quality and the active role of the HR Department in preventing and dealing with crises in the population. Also, the significance associated with this confidence interval is $p = 0,001$, which is highly significant.

Furthermore, the analysis showed that the value of R^2 is 0,408, which indicates that the organization’s experience with safety and quality can account for 40,8% of the variation in the active role of the HR Department in preventing and dealing with crises in the pre-crisis stage. There might be many factors that can explain this variation, but the research model, which includes only the organization’s experience with safety and quality, can explain approximately 40,8% of it.

For these data, F is 141,300, which is significant at $p < 0,001$. This indicates that there is less than a 0,1% chance that an F-ratio this large would happen if the null hypothesis were true.

Therefore, the research hypothesis H_1 is proved to be correct.

- Research Hypothesis **H₂**:

It should be noted that in this model, only the organizations that have already experienced a crisis event have been included (162 organizations out of a total 207). It is shown that b_0 is 1,582 and b_1 is 0,536. Therefore, the model is described by the following equation:

$$Y = 1,582 + 0,536X$$

Additionally, the bootstrap confidence interval indicates that the population value of b for the organization's experience with safety and quality is likely to fall between 0,385 and 0,669. Since this interval doesn't include zero, it can be concluded that there is a genuine positive relationship between the variables $X\alpha$ and Y_2 in the population. Also, the significance associated with this confidence interval is $p = 0,001$, which is highly significant.

Furthermore, the analysis showed that the value of R^2 is 0,347. This indicates that the organization's experience with safety and quality can account for 34,7% of the variation in the active role of the HR Department during the crisis stage. For these data, F is 84,972 and $p < 0,001$.

Therefore, the research hypothesis **H₂ is proved to be correct.**

- Research Hypothesis **H₃**:

It should be noted that in this model there have been included only the organizations that have already experienced a crisis event (162 organizations out of a total 207). It is shown that b_0 is 1,188 and b_1 is 0,607. Therefore, the model is described by the following equation:

$$Y = 1,188 + 0,607X$$

Additionally, the bootstrap confidence interval indicates that the population value of b for the organization's experience with safety and quality is likely to fall between 0,462 and 0,759. Since this interval doesn't include zero, it can be concluded that there is a genuine positive relationship between the variables $X\alpha$ and Y_3 in the population. Also, the significance associated with this confidence interval is $p = 0,001$, which is highly significant.

Furthermore, the analysis showed that the value of R^2 is 0,372. This indicates that the organization's experience with safety and quality can account for 37,2% of the variation in the active role of the HR Department in the post-crisis stage. For these data, F is 94,802 and $p < 0,001$.

Therefore, the research hypothesis **H₃ is proved to be correct.**

5.2 Findings regarding the Research Hypotheses $H_4 - H_6$

Table 3 presents the output from a simple mediation analysis conducted using model 4 (Simple Mediation) of PROCESS.

Insert Table 3 about here

- Research Hypothesis **H₄**:

As shown, in Table 3, there was a significant indirect effect of the organization's experience with safety and quality on the active role of the HR department in preventing and dealing with crises in the pre-crisis stage through its level of familiarity with CM procedures, $b = 0,2752$, 95% BCa CI [0,1972, 0,3642] and $p < 0,001$. This range does not include zero and the fact that the confidence interval does not contain zero means that there is likely to be a genuine indirect effect.

Furthermore, the R^2 value is 0,5417. This indicates that the model explains 54,17% of the variance in the active role of the HR department in the pre-crisis stage. Focusing on the most useful of these effect sizes (Field, 2013), the standardized b for the indirect effect (*completely standardized b*), its value is $b = 0,2745$, 95% BCa CI [0,2044, 0,3530].

Therefore, the research hypothesis **H₄ is proved to be correct.**

- Research Hypothesis **H₅**:

It should be noted that in this model there have been included only the organizations that have already experienced a crisis event (162 organizations out of a total 207). There was a significant indirect effect of the organization's experience with safety and quality on the active role of the HR department in dealing with crisis during the crisis stage through its level of familiarity with CM procedures, $b = 0,2552$, 95% BCa CI [0,1622, 0,3646] and $p < 0,001$. Since the confidence interval does not contain zero, it means that there is likely to be a genuine indirect effect.

Moreover, the R^2 value is 0,4905. This indicates that the model explains 49,05% of the variance in the active role of the HR department during the crisis stage. Focusing on the completely standardized b for the indirect effect, its value is $b = 0,2806$, 95% BCa CI [0,1911, 0,3834].

Therefore, the research hypothesis **H₅ is proved to be correct.**

- Research Hypothesis **H₆**:

It should be noted that in this model there have been included only the organizations that have already experienced a crisis event (162 organizations out of a total 207). As illustrated, there was a significant indirect effect of the organization's experience with safety and quality on the active role of the HR department in recovering from crisis in the post-crisis stage through its level of familiarity with CM procedures, $b = 0,2804$, 95% BCa CI [0,1869, 0,3939] and $p < 0,001$. This range does not include zero and this means that there is likely to be a genuine indirect effect.

Moreover, the R^2 value is 0,5171. This indicates that the model explains 51,71% of the variance in the active role of the HR department in the post-crisis stage. Focusing on the completely standardized b for the indirect effect, its value is $b = 0,2819$, 95% BCa CI [0,1978, 0,3794].

Therefore, the research hypothesis **H₆ is proved to be correct.**

5.3 Findings regarding the Research Hypotheses $H_7 - H_9$

Table 4 presents a part of the output from a simple moderation analysis conducted using model 1 (Simple Moderation) of PROCESS.

Insert Table 4 about here

- Research Hypothesis **H₇**:

Moderation is shown up by an interaction effect, and in this case the interaction is not significant, $b = -0,1365$, 95% CI [-0,2914, 0,0184], $t = -1,7377$ and $p = 0,0838$ (Table 4). Since this interval includes zero, it means that the relationship between the organization's experience with safety and quality and the active role of the HR department in the pre-crisis stage is not moderated by the business sector into which the organization belongs to.

Therefore, the research hypothesis **H₇ is proved to be incorrect.**

- Research Hypothesis **H₈**:

It should be noted that in this model there have been included only the organizations that have already experienced a crisis event (162 organizations out of a total 207). Moderation is shown up by an interaction effect, and in this case the interaction is not significant, $b = -0,0912$, 95% CI [-0,2738, 0,0914], $t = -0,9863$ and p

= 0,3255 (Table 4). This shows that the relationship between the organization's experience with safety and quality and the role of the HR department during the crisis stage is not moderated by the business sector into which the organization belongs to.

Therefore, the research hypothesis **H₈** is proved to be incorrect.

- Research Hypothesis **H₉**:

It should be noted that in this model there have been included only the organizations that have already experienced a crisis event (162 organizations out of a total 207). Moderation is shown up by an interaction effect, and in this case the interaction is significant, $b = -0,1596$, 95% CI [-0,3074, -0,0118], $t = -2,1334$ and $p = 0,0344$ (Table 4). The negative b indicates that as the moderator increases, the effect declines (and vice versa). Additionally, the analysis provides the results of three different regressions for the various values of the moderator and it indicates that the interaction effect is significant. The models can be interpreted as follows:

- 1) When the values of the moderator are low, there is a significant relationship between the variables $X\alpha$ and $Y3$, $b = 0,7150$, 95% CI [0,5375, 0,8925], $t = 7,9545$, $p < 0,001$.
- 2) At the mean value of the moderator, there is a significant relationship between the variables $X\alpha$ and $Y3$, $b = 0,5924$, 95% CI [0,4528, 0,7320], $t = 8,3825$, $p < 0,001$.
- 3) When the values of the moderator are high, there is a significant relationship between the variables $X\alpha$ and $Y3$, $b = 0,4831$, 95% CI [0,3085, 0,6577], $t = 5,4645$, $p < 0,001$.

This shows that the relationship between the organization's experience with safety and quality and the role of the HR department in the post-crisis stage is moderated by the business sector into which the organization belongs to.

Therefore, the research hypothesis **H₉** is proved to be correct.

5.4 Findings regarding the Research Hypotheses $H_{10} - H_{12}$

Tables 5 and 6 summarize the last part of the output from a moderated mediation analysis conducted using model 7 (Moderated Mediation) of PROCESS.

Insert Table 5 about here

Insert Table 6 about here

- Research Hypothesis **H₁₀**:

Moderated mediation is shown up by an interaction effect, and in this case the interaction is not significant, $b = 0,1107$, 95% CI $[-0,0404, 0,2617]$, $t = 1,4449$ and $p = 0,1500$. Additionally, Table 5 shows the results of three different regressions for the various values of the moderator and it indicates that the interaction effect is significant. The models can be interpreted as follows:

- 1) When the values of the moderator are low, there is a significant positive relationship between the organization's experience with safety and quality and the active role of the HR department in the pre-crisis stage through its level of familiarity with CM procedures, $b = 0,2416$, 95% CI $[0,1624, 0,3397]$.
- 2) At the mean value of the moderator, there is a significant positive relationship between the variables $X\alpha$ and $Y1$ through M , $b = 0,2744$, 95% CI $[0,1961, 0,3600]$.
- 3) When the values of the moderator are high, there is a significant positive relationship between the variables $X\alpha$ and $Y1$ through M , $b = 0,3047$, 95% CI $[0,2172, 0,4091]$.

This shows that there is mediation in the relationship between the organization's experience with safety and quality and the role of the HR department in the pre-crisis stage through the organization's level of familiarity with CM procedures (as it is already proved). Table 6 indicates that there is not any moderated mediation: Index = $0,0413$, $[-0,0118, 0,1000]$.

Therefore, the research hypothesis **H₁₀** is proved to be incorrect.

- Research Hypothesis **H₁₁**:

It should be noted that in this model there have been included only the organizations that have already experienced a crisis event (162 organizations out of a total 207). Moderated mediation is shown up by an interaction effect, and in this case the interaction is significant, $b = 0,1740$, 95% CI $[0,0088, 0,3391]$, $t = 2,0808$ and $p = 0,0391$. Additionally, Table 5 shows the results of three different regressions for the various values of the moderator and it indicates that the interaction effect is significant. The three models can be interpreted as follows:

- 1) When the values of the moderator are low, there is a significant positive relationship between the variables $X\alpha$ and $Y2$ through M , $b = 0,2070$, 95% CI $[0,1286, 0,3232]$.

- 2) At the mean value of the moderator, there is a significant positive relationship between the variables $X\alpha$ and $Y2$ through M , $b = 0,2542$, 95% CI [0,1610, 0,3662].
- 3) When the values of the moderator are high, there is a significant positive relationship between the variables $X\alpha$ and $Y2$ through M , $b = 0,2964$, 95% CI [0,1867, 0,4384].

This shows that there is mediation in the relationship between the organization's experience with safety and quality and the active role of the HR department during the crisis stage through the organization's level of familiarity with CM procedures (as it is already proved). Table 6 indicates that moderated mediation takes place: Index = 0,0615 [0,0113, 0,1380].

Therefore, the research hypothesis **H₁₁** is proved to be correct.

- Research Hypothesis **H₁₂**:

It should be noted that this model includes only the organizations that have already experienced a crisis event (162 organizations out of a total 207). Moderated mediation is shown up by an interaction effect, and in this case the interaction is significant, $b = 0,1740$, 95% CI [0,0088, 0,3391], $t = 2,0808$ and $p = 0,0391$. Additionally, Table 5 shows the results of three different regressions for the various values of the moderator and it indicates that the interaction effect is significant. The three models can be interpreted as follows:

- 1) When the values of the moderator are low, there is a significant positive relationship between the variables $X\alpha$ and $Y3$ through M , $b = 0,2275$, 95% CI [0,1403, 0,3505].
- 2) At the mean value of the moderator, there is a significant positive relationship between the variables $X\alpha$ and $Y3$ through M , $b = 0,2794$, 95% CI [0,1809, 0,3898].
- 3) When the values of the moderator are high, there is a significant positive relationship between the variables $X\alpha$ and $Y3$ through M , $b = 0,3257$, 95% CI [0,2114, 0,4588].

This shows that there is mediation in the relationship between the organization's experience with safety and quality and the active role of the HR department in the post-crisis stage through the organization's level of familiarity with CM procedures (as it is already proved). Table 6 indicates that moderated mediation takes place: Index = 0,0676, [0,0134, 0,1438].

Therefore, the research hypothesis **H₁₂** is proved to be correct.

5.5 Classification of the organizations according to their Risk Category and their Crisis Experience

The following table presents the classification of organizations in terms of their susceptibility to public crises.

Insert Table 7 about here

It appears from Table 7 that 21,7 percent of respondents surveyed came from organizations with a low degree of crisis risk and 30 percent belonged to the medium risk category. Accordingly, the remaining 48,3 percent of the respondents belong to the high-risk category. As it was already mentioned, the organizations where the respondents were employed in, represented 67 different business sectors, based on the classification of ICAP (2017). Overall, the organizations that participated belong to the following general business sectors:

1. Industrial Sector: 80 organizations out of 207, representing 38,65 percent.
2. Services Sector: 81 organizations out of 207, representing 39,13 percent.
3. Trade Sector: 26 organizations out of 207, representing 12,56 percent.
4. Transports & Logistics Sector: 14 organizations out of 207, representing 6,76 percent.
5. Construction Sector: 6 organizations out of 207, representing the remaining 2,9 percent.

Lastly, the analysis indicated that 78,3 percent of the organizations that participated in the survey had already experienced one or more crisis incidents (162 organizations out of 207). Accordingly, the remaining 21,7 percent of the organizations had not suffered any crisis. In particular, Table 8, based on the results of the statistical analysis, summarizes the different types of crisis that these 162 organizations experienced:

Insert Table 8 about here

With regard to the above, it should be noted that the organizations under study, could choose more than one type of crisis, based on the different types they had experienced. To that extend, 80,9 percent of these organizations suffered economic crises, 19,1 percent experienced informational crises and 23,5 percent physical crises. Moreover, 30,9 percent of these 162 organizations suffered human resource crises, 33,3 percent reputational crises and 6,2 percent suffered psychopathic acts. In addition, 26,5 percent had also experienced natural disasters.

6. Conclusions and Discussion

Based on the results of the statistical analysis that were illustrated thorough enough in the previous paragraphs and in conjunction with the hypotheses that the research was based, the following outcomes can be made:

- i. As it proved the independent variable $X\alpha$ (Safety_qual) exerted a statistically significant effect on all three dependent variables Y1 (HR_Precrisis), Y2 (HR_Crisis) and Y3 (HR_Postcrisis). Additionally, it is observed that $p < 0,001$ for all cases. This means that the organization's experience with safety and quality has a positive direct effect on the active role of the HR department at all stages of a crisis. In the case of organizations where practices are defined by TQM philosophy and are based on continuous improvement and on the involvement of a system of zero defects, it is certain that the top management has already realized the importance of quality and safety. Overall, these organizations with a high level of awareness in quality and safety, that invest more in the latest quality and safety systems and processes, tend to be more resilient to crises. As it was expected, the higher the organization's experience with safety and quality is, the greater is the contribution of the HR department in preventing and dealing with crises in the pre-crisis stage and in dealing with crisis during the crisis stage. Finally, the higher the organization's experience with safety and quality is, the greater is the contribution of the HR department in the post-crisis stage.
- ii. The independent variable $X\alpha$ exerted a significant indirect effect on the three dependent variables Y1, Y2 and Y3 through the organization's level of familiarity with CM procedures. In addition, it is observed that $p < 0,001$ for all cases. That said, the organization's experience with safety and quality has a positive indirect effect on the active role of the HR department at all stages of a crisis through the organization's level of familiarity with CM procedures.
- iii. Furthermore, when the mediator is present in the model, it is noted that the organization's experience with safety and quality exerts a greater impact on the active role of HR department at all stages of a crisis. As it was expected, the greater the organization's experience with safety and quality and the higher the organization's level of familiarity with CM procedures are, the greater is the contribution of the HR department in crisis prevention in the pre-crisis stage, in dealing with crisis during the crisis stage and in recovering from crisis in the post-crisis stage.
- iv. Regarding the moderation of the relationship between the independent variable $X\alpha$ and the dependent variables Y1 and Y2 from the business sector into which the organization belongs to, it is found that there is not any moderation. Based on the results of the statistical analysis, the relationship between the organization's experience with safety and quality and the active role of the HR department in the first two stages of the crisis is not moderated by the business sector into which the organization belongs to.
- v. Referring to the moderation of the relationship between the independent variable $X\alpha$ and the dependent variables Y3 from the moderator W, it is

proved that this relationship is moderated by the business sector into which the organization belongs to. As it was expected, the business sector of the organization moderates the relationship between the organization's experience with safety and quality and the active role of the HR department in recovering from crisis in the post-crisis stage.

- vi. Regarding the first two cases that simple moderation did not occur, it is worth noting that the sample of research may not be sufficient for the cases. Through the statistical analysis carried out and presented in a previous section it showed that the plethora of the companies that participated in the survey belongs to the high-risk category. This imbalance may be one of the main reasons for the cases (first two stages of the crisis) where there was not found any moderation of the relationship between the organization's experience with safety and quality and the active role of the HR department, though it was evident in the last stage of crisis.
- vii. Referring to the moderation of the relationship of the independent variable $X\alpha$ (Safety_qual) with the dependent variables Y1, Y2 and Y3 through the mediator (M) from the business sector into which the organization belongs to, it is clearly shown that any moderation in the pre-crisis stage does not occur. Nevertheless, it indicated that moderated mediation takes place in the following two stages of the crisis (crisis and post-crisis).
- viii. Based on the results of the statistical analysis, it is proved that there is mediation in the relationship between the organization's experience with safety and quality and the active role of the HR department at all stages of a crisis through the organization's level of familiarity with CM procedures (as it was already proved in the relevant section).

In total, within organizations that invest and have a high consciousness in quality and safety issues and at the same time possess a high crisis awareness and a high level of familiarity with CM procedures, their HR department plays a vital and strategic role in lessening the impact of crisis and in helping employees recover fast from crisis events. Subsequently, organizations that constantly evolve their safety and quality systems and train their workforce on the basis of these, have employees with higher awareness of how to identify errors and mishaps and are in a position to prevent a potential crisis. This implies that the HR Department actively participates in the employees' training and in their awareness' formulation of identifying and reporting errors. These organizations show a significant crisis consciousness and tend to invest in the field of CM and various CM procedures. Hence, showing a greater deal of interest in their employees and in their needs in the event of a crisis, indicating that the HR Department actively participates in the implementation of their CM plans. This should be clearly understood and adopted not only by organizations and their top management but also by business community as whole. More attention ought to be given to quality and safety issues during normal state of operations.

It is indicative that Greek organizations have somehow started to realize this fact as they do not have passive behavior but a more reactive one when it comes to crisis. At this point it should be noted, that the authors did not identify any significant differences between the total 207 organizations that participated in the survey and the

162 organizations that have already experienced a crisis. Nonetheless, there is huge room for improvement, in acquiring a standard proactive behavior. Organizations with proactive behavior not only “form and train appropriate CM teams in order to have the necessary expertise to handle a wide variety of crises” (Mitroff, 2005, p. 214), but they also “continually audit the corporate culture for values that hinder effective CM” (Mitroff, 2005, p. 214). These imperatives allow them to have a high level of crisis management and at the same time a high degree of resilience to crises.

The current study allowed the authors and provided them the opportunity to prove the interrelationship that exists between quality, safety, HR and crisis management. Their perspective is that the higher the performance degree of an organization in safety and quality issues, the higher the awareness the organization is, in preventing a small error or a minor accident at work evolving in a crisis. Additionally, the more powerful is the presence of the HR Department, not only in educating and training the employees regarding quality and safety issues, but also in terms of crisis management and training. All these illustrate a high degree of crisis awareness, that can lead an organization to adopt the ideal proactive behavior, in order to be ready to deal with a potential crisis.

CM experts are constantly stressing that the key issue modern businesses face is “not whether a crisis will occur, but when, and what type” (Crandall et al., 2014, p. 3). Characteristically, in organizations with reactive behavior in crisis, valuable time is lost and when decisions are made under pressure are proved to be inappropriate. Thus, organizations may be “suffering” longer from the effects of the crisis and delaying their return to normal operating rates, which is stressful and painful especially for those directly affected, such as the employees. On the contrary, organizations with proactive behavior can cope with the crisis in the shortest possible time and with the least possible damage. Individuals, within these organizations that have acquired an adequate level of training and preparation prior to the crisis threat, are able to adjust the management process of a critical incident as well as the decision making in becoming an instinct act of their daily behavior. These people are not affected by the intensity of the moment, they know how they have to act and are able to cope successfully with the imperatives of a crisis.

Additionally, according to the above findings, organizations and their top management can review and redesign their CM plans and procedures in a status of being able and ready enough to handle a crisis and recover fast from it, so as return to a state of normalcy. Human resources are the most vital resources of every organization and this cannot be overlooked by today’s organization. That is one of the main reasons why the HR department can hold the key role in terms of crisis management.

7. Research Limitations and Suggestions for Future Research

Concerning the existing limitation, it is necessary to take under consideration the specific timeframes for conducting and completing the survey. Based on its duration, this research is a static one. Nevertheless, it imprinted a significant status of the Greek

organizations at the given time, that it was conducted. In addition, it is remarkable in static research that independent gathering of primary data can provide indirect and not direct evidence of the causality of relationships between the various factors (Malhotra, 1993). Therefore, the accuracy of the present empirical research is limited and far smaller in comparison with a longitudinal one.

In regard to the research limitations the authors encourage other researchers to implement similar research to enrich the existing knowledge with longitudinal studies not only in Greece but also in a larger scale in Europe or even globally. These researches may enhance the study in depth whether the degree of familiarity of the organizations and the contribution of the HR department to crisis management change over time. Additionally, these studies can focus on a specific business sector or even on a specific regional segment. Equally interesting would be that studies targeting to organizations to specific risk categories, for example include organizations belonging to either the low-risk, the medium-risk or the high-risk categories.

Furthermore, as it was mentioned in previous paragraphs, the current survey was carried out to Greek organizations, that according to ICAP (2017), employ the largest number of employees, representing mainly large sized companies. It would be of great importance to implement similar surveys to smaller organizations, such as SMEs (small and medium-sized enterprises) in order to examine the role (if any) the HR Department of these organizations may have, in terms of crisis management. It would be valuable to examine whether there are any significant differences, between these various types of organizations (large, medium or small) and try to offer an in-depth understanding regarding these differences. Indicative proposals, also, for further research are to be carried out through similar surveys in various business sectors, at regular intervals, to understand the development of the phenomenon. As it was mentioned in the previous section, the authors did not notice any substantial differences, between the total number of the organizations and those that had already experienced a crisis. According to the results of the statistical analysis, the majority of the organizations that had prior experience with crisis, had suffered mainly from economic crises (131 out of a total of 162 organizations). Supposing, it would be interesting to implement further researches to the organizations that confronted the same crisis type (for example only economic crises) and examine whether there are any substantial differences within these organizations.

At this point it should additionally be noted, that the authors did not have enough data to study the differences (if any) that may exist between organizations that have already acquired ISO 9001:2015 and those that did not have yet. Therefore, they encourage other researchers to conduct similar studies to organizations that have acquired ISO 9001:2015 and to organizations that have not, in order to ascertain if there any substantial differences, regarding their level of crisis awareness and preparedness. Last but not least, it must be added that in future research, new areas could be integrated into independent variables such as logistics, environmental management system, purchasing or supply chain. For example, it would be compelling to examine the relationship between environmental management system and crisis management, since the environment aspect is also very important and may

influence the organizational behavior. Presumably, even considering to implement similar studies using new possible moderator variables, such as the insurance sector.

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Table 1: "Summary of results of Cronbach's Alpha"

Subscales	Cronbach's Alpha
Safety_qual	0,896
Familiar_CMP	0,912
HR_Precrisis	0,905
HR_Crisis	0,890
HR_Postcrisis	0,903

Table 2: "Summary of Results of Simple Regression"

Model	R²	F	p	b₀	b₁	BootLLCI	BootULCI
X_a & Y1	0,408	141,300	0,000	0,980	0,640	0,513	0,765
X_a & Y2	0,347	84,972	0,000	1,582	0,536	0,385	0,669
X_a & Y3	0,372	94,802	0,000	1,188	0,607	0,462	0,759

Table 3: “Summary of Results of Mediation”

Model	R ²		Indirect effect of X on Y			Completely standardized indirect effect of X on Y		
			b	BootLLCI	BootULCI	b	BootLLCI	BootULCI
Xα, Y1 & M	0,5417	Fam_CMP	0,2752	0,1972	0,3642	0,2745	0,2044	0,3530
Xα, Y2 & M	0,4905	Fam_CMP	0,2552	0,1622	0,3646	0,2806	0,1911	0,3834
Xα, Y3 & M	0,5171	Fam_CMP	0,2804	0,1869	0,3939	0,2819	0,1978	0,3794

Table 4: “Summary of Results of Moderation”

	b	t	P	LLCI	ULCI
Int_1 (HR_Precrisis)	-0,1365	-1,7377	0,0838	-0,2914	0,0184
Int_1 (HR_Crisis)	-0,0912	-0,9863	0,3255	-0,2738	0,0914
Int_1 (HR_Postcrisis)	-0,1596	-2,1334	0,0344	-0,3074	-0,0118

Table 5: “Summary of Results of Conditional Indirect Effect(s) of X on Y at Values of the Moderator”

	W	b	BootLLCI	BootULCI
Fam_CMP (HR_Precrisis)	-0,7956	0,2416	0,1624	0,3397
	0,0000	0,2744	0,1961	0,3600
	0,7343	0,3047	0,2172	0,4091
Fam_CMP (HR_Crisis)	-0,7679	0,2070	0,1286	0,3232
	0,0000	0,2542	0,1610	0,3662
	0,6852	0,2964	0,1867	0,4384
Fam_CMP (HR_Postcrisis)	-0,7679	0,2275	0,1403	0,3505
	0,0000	0,2794	0,1809	0,3898
	0,6852	0,3257	0,2114	0,4588

Table 6: “Index of Moderated Mediation”

	Index	BootLLCI	BootULCI
Fam_CMP (HR_Precrisis)	0,0413	-0,0118	0,1000
Fam_CMP (HR_Crisis)	0,0615	0,0113	0,1380
Fam_CMP (HR_Postcrisis)	0,0676	0,0134	0,1438

Table 7: “Classification of the Organizations according to their Risk Category”

	Frequency	Percent	Valid Percent	Cumulative Percent
Low-Risk	45	21,7	21,7	21,7
Medium-Risk	62	30,0	30,0	51,7
High-Risk	100	48,3	48,3	100,0
Total	207	100,0	100,0	

Table 8: “The Different Types of Crisis experienced by Organizations”

	CRISIS TYPES	NUMBER OF ORGANIZATIONS	PERCENT
1	Economic Crises	131	80,9
2	Informational Crises	31	19,1
3	Physical Crises	38	23,5
4	Human Resources Crises	50	30,9
5	Reputational Crises	54	33,3
6	Psychopathic Acts	10	6,2
7	Natural Disasters	43	26,5

Figure 1: “Conceptual Research Model”

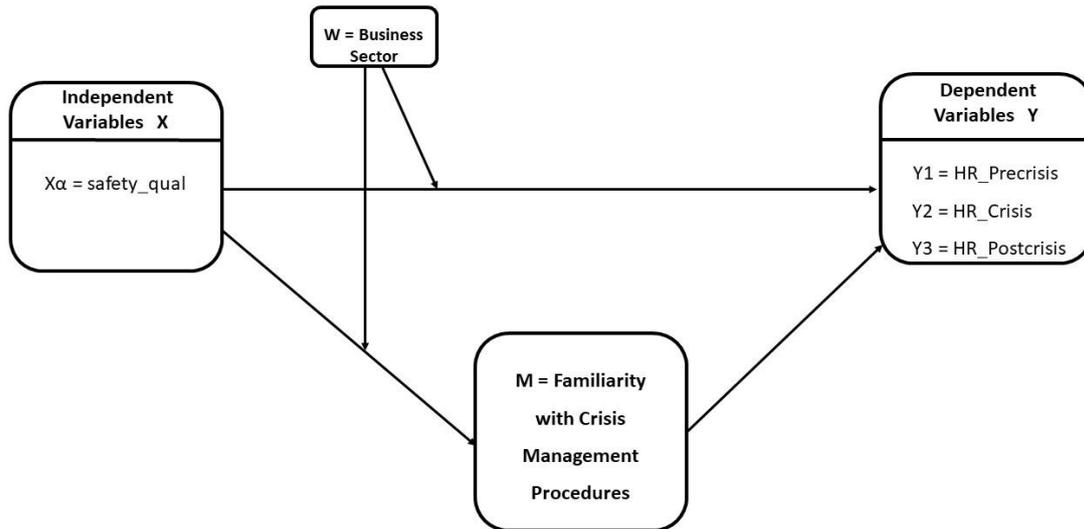


Figure 2: “Conceptual Research Model of Research Hypotheses $H_1 - H_3$ ”

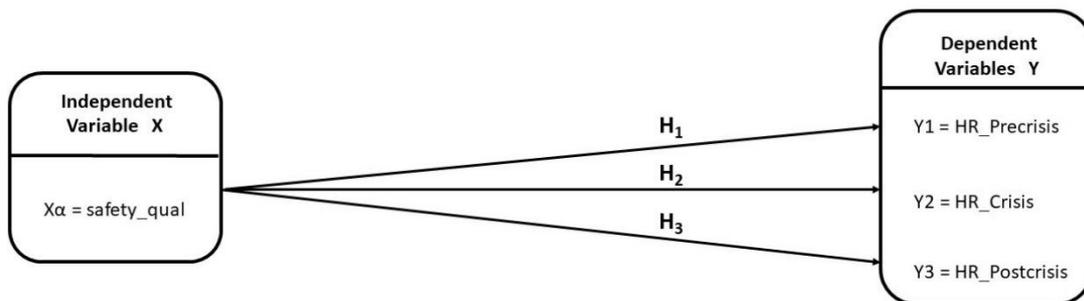


Figure 3: “Conceptual Research Model of Research Hypotheses $H_4 - H_6$ ”

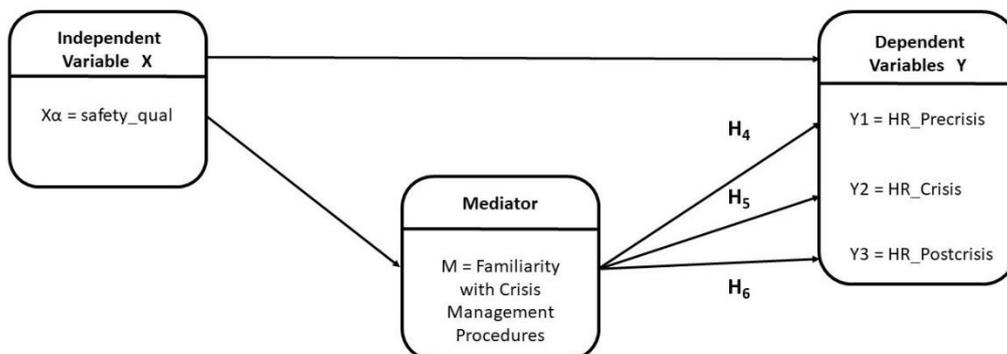


Figure 4: “Conceptual Research Model of Research Hypotheses **H₇ - H₉**”

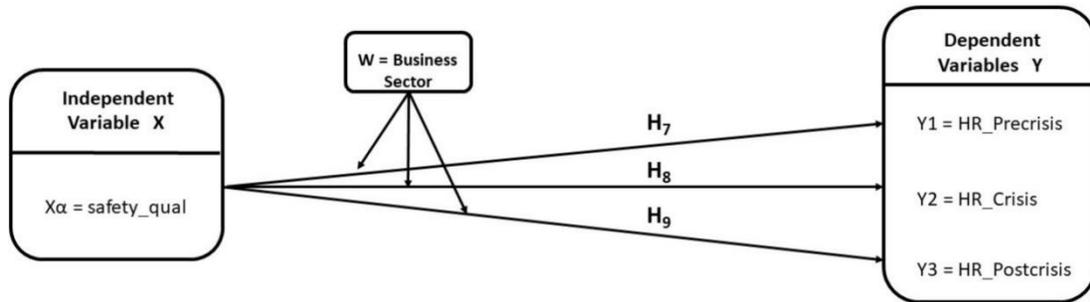


Figure 5: “Conceptual Research Model of Research Hypotheses **H₁₀ - H₁₂**”

