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Crisis Management as a Strategic Option for Enhancing Competitiveness: The Mediating Role of Organizational Resilience

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Abstract

This study examines the function of crisis management as a strategic mechanism in the promotion of organizational resilience and competitiveness. Unlike the majority of the preceding research which typically treats crisis management as a reaction to an unexpected event, the current study views it as a unique capability and a sustainable strategic resource that will provide an ongoing competitive advantage. The research followed a descriptive-analytical applied methodology, and a 30-question survey was distributed to 100 managers and specialists in a wave of tourism companies of Karbala and Babylon and 79 of the responses were usable. Using a five- Likert scale, the survey measured the dimensions of crisis management, organizational resilience and competitiveness. SPSS was utilized for the descriptive and normality statistics and SmartPLS was used for confirmatory factor analysis (CFA) and structural equation modeling (SEM) to evaluate the hypotheses. The study revealed that organizational resilience has a mediating effect between crisis management and competitiveness. These results endorse the validity of the three hypotheses and conclude that crisis management impacts competitiveness both directly and obliquely, with resilience as a critical mediating factor.

Keywords: Crisis Management, Strategic Management, Organizational Resilience, Competitiveness.

JEL Classification: M10, L25, M19, G32

1. Introduction

Highly modern organizational structures find themselves confronted by rapid change and the increasing complexity of predictive outcomes and scenario reliance. With the development of the world economy, shifts in the global political landscape, the blossoming of technology, climate change and other related social crises, the traditional models of management were rendered obsolete (Mizrak 2024). In the increasing volatility, organizations are faced with a loss of trust among primary stakeholders. Heightening uncertainty is strategically amplified in the potential risks of loss of organizational viability and survivability. Managers are driven to act decisively and promptly, to avert the crises which may cause loss of market range, diminished financial viability, and/or the collapse of the organization (Opatska, Johansen, and Gordon 2024).

Crisis management as a practice is established, complex, and multi-faceted. It is more than a response model to emergencies, as it also includes prevention, preparedness, and recovery processes within a flexible structure that shields organizations from disruptive events, while also optimizing their adaptive flexible capacity. Therefore, crisis management is a phenomenon that is gradually changing from a tactical mechanism to a strategic organizational capability (Arikawe, Edwards-Fapohunda, and Waite 2024). This is important because crises are not merely disruptive, but also represent a unique opportunity for renewal and/or innovative transformation. Therefore, organizations that manage to leverage crises to drive positive transformation are more likely to achieve and maintain sustainable competitive advantage in a disruptive business environment. This justifies the need to shift from a purely reactive model to a more proactive and strategically integrated model in crisis management (Ajith et al. 2025).

Prior research shows that the majority have limited their study of crisis management to its reactivity dimension, dealing mainly with the practical aspects, tools, and procedures to be used during emergencies. Integrating crisis management into organizational functional strategies at the macro and middle levels seems to have received very little attention. Such focus, or lack thereof, has resulted in the miss opportunity with the potential of crisis management in fostering the growth of organizational resilience over the years. (Hosen et al. 2024). The current study, therefore, will try to address this by treating crisis management as a paradox of sustainable strategy and ceasing to be merely a short term remedial option. It is proposed, from this position, that crisis management, in the broader scheme of things, ought to be viewed as a pivotal element of planning, organizational structuring and, more critically, in strategy formulation, and more broadly, response to emergencies. It also provides the basis to harmonize crisis management with other critical organizational strategies such as innovation, marketing, and HR (Edström, Greig, and Skinner 2024).

This paper addresses the role of crisis management as a strategic function to improve competitiveness via organizational resilience. There are several key research questions: How can systems of crisis management be incorporated into the strategy of an organization? What systems lead to the transformation of crisis management from a temporary short-term measure to a source of sustainable competitive advantage? What is the overall effect of crisis management on organizational resilience, adaptability, and sustainability during turbulent and unpredictable environments? The paper is based on theory, a literature review, and empirical data and makes the case that crisis management can redefine its role from a simply reactive to a strategic and purposeful choice, over the long term. In so doing, crisis management fulfills its operational role during a given emergency, and also positions itself as the underpinning to a

sustainable competitive advantage, allowing organizations to respond to an unpredictable future more effectively.

2. Literature Review

2.1. Crisis management theories and models

Fink's crisis life cycle model is one of the earliest models conceived concerning crisis management. In this model, a crisis is likened to a disease that progresses through a number of stages. These include the prodromal (or early symptoms) stage, the acute stage (where the crisis manifests/severely impacts the organization), the chronic stage (where the effects of the crisis linger), and finally, the resolution stage (where the crisis starts to taper off or is fully addressed) (Celestin and Sujatha 2024). Through the Fink model, organizations can see crises as dynamic, multi-stage phenomena, and accordingly craft diverse responses across differing stages of a crisis. The model's most significant contribution is to stress that there are early signs of a crisis that allow a time window to respond in a manner that prevents the crisis from occurring, or at least lessens the damage to the organization. The other more seminal model in the literature is the four-phase cycle of crisis management. The four phases include Prevention, Preparedness, Response, and Recovery. This model is mostly used in the field of public administration and emergency management. In this model, the time period of crisis management is extended to include the period of time leading up to the crisis and the period of time after the crisis event in addition to the actual crisis event. From this standpoint, organizations are prompted to shift from a reactive to a proactive planning paradigm, which is likely to enhance their ability to sustain operational continuity and improve organizational resilience (Wang, Wu, and Zhang 2025).

When it comes to crisis management though the lens of theory, the reputation of the field systems theory explains the crux of crisis and crisis management, in this instance, the systems approach posits that a crisis is seen as a result of a malfunction of one or more components of the system, which could set off a chain reaction to the entire system. Thus, effective crisis management must be system-wide; it must consider cross-cutting boundary subsystems, external environment, and the feedback loops that the managers may create. Such a system is beneficial in the case of large, complex and interconnected organizations; the more interconnected the system, the more exposed it is to system-wide failures (Huang et al. 2025). Chaos theory is another field which offers an alternative perspective and views crises as the result of nonlinearity and organizational environment unpredictability. Chaos theory argues that the crisis can be the result of 'small' changes in the initial situation which may lead to crises as the result of large and uncontrollable set of circumstances. Crisis management under such a premise focuses more on flexibility, adaptive capacity, and scenario/contingency planning. Organizations are encouraged to focus on adaptive capacity and learning systems, which in turn provides an increased responsiveness to the changes in the underlying systems (Otal, Stern and Canbaz 2024).

In more recent developments, crisis management scholarship has focused on the role of communication and engagement with stakeholders. In this frame of reference, the role of crises is not merely breakdowns in the operation of the organization, but failures in the communication process, and therefore, require flow of information, trust-building and communication with stakeholders, and media relation management. In this regard, the role of leadership and the communication process is crucial in minimizing the negative impact/ losses on the reputation of the organization, and restoring and rebuilding the organization's trust and reputation. Constructive and

recent studies expanded the theory on strategic crisis management by viewing crisis not as isolated incidents but as strategic issues of the organization in the long term. In this perspective, managing crisis as a strategic issue is not loss control, but managing crisis as a vehicle for achieving innovation, a renewed organization, and a sustainable competitive advantage. From this perspective, innovation, knowledge management, and human resource management are seen as areas of focus that will require synergy with crisis management processes.

These different models can help us understand how the field of crisis management develops. Where in the beginning it operated as a purely reactionary discipline, it now has the capability to be comprehensive, dynamic, and flexible. It can outline the strategy of a field. It has now expanded its presence in the academic field as a framework for the adverse consequences of unanticipated events to an end on resource that can be transformed to improve an organizations strategic resilience, adaptability, and competitive advantage. Such a trajectory of theory and practice calls for more greater research on the proactive role of crisis management as a strategic choice in a given environment, thus providing a platform for both theory and practice to be advanced (Carbon, 2024).

2.2. The relationship between crisis management and strategic management

Management of crises and strategy as separate disciplines is possible only in theory. There is always a two-way relationship between them while being a function of a single process. Because of the long-term resource allocation and objective setting that strategy involves, there is a need to focus on the organizational environment that is always changing, as well as the market, in order to ensure the organizational management of the competition. Strategy management is a form of crisis management because it both keeps the strategic management objectives intact and the plan on track. This is why the two elements of strategy and crisis management need to be kept as interdependent elements of the same process. This is because both of them need to ensure the flexibility and resilience of the organization over a long-term (Talebi and Samadianfard 2024). Environmental uncertainty is the central focus of the nexus management of crisis and strategy. While and traditionally, in strategic management, opponents are identified and map uncertainties using frameworks like PESTEL or SWOT, there are crises that manifest in uncertainties and, in some instances, lead to crises (Gao, Jaggi, and Yan 2024). This is why, at this stage, crisis management is meant to add value to strategy management by equipping and empowering the organization to identify the crises well before they happen and to plan to change the objectives all the while remaining focused on the primary objectives.

The relationship between the two domains is also clear at the processual level. Crisis management is organized around a cycle of prevention, preparedness, response and recovery. This cycle maps directly onto the stages of strategy formulation, implementation and evaluation. For example, prevention in crisis management is similar to strategic formulation because both focus on the identification of potential risks and the formation of countermeasures. Likewise, recovery aligns with evaluation in strategic management, given that the feedback from the crisis often leads to a revision of the organization’s goals and strategies. In the resource-based view, crisis management is a form of dynamic organizational capability where strategic capital is enhanced (Barrett and Shipway 2024). Organizations that integrate crisis management into their systems can more easily flex their human, financial, and technological resources, and thereby transform a crisis into an opportunity. By focusing on strategically embedding crisis management into the organization, the focus can shift from minimizing disruption to maximizing the opportunity. The relationship between crisis management and strategic management also emphasizes that the disruption is not external, but part of the internal process of strategy formation. This should give organizations the freedom to think about the future with an embedded anticipation of uncertainty. Crisis management, therefore, moves beyond

its conventional function as a reactive process, becoming a more proactive strategic tool for enhancing crisis-driven competitive advantage, resilience, and sustainability (Herrera et al. 2025).

2.3. Related works

As. referenced in (Wu et al. 2021), there is a relative lack of literature concerning the future of the study of crisis management, despite there being numerous literatures discussing the management of crises within numerous disciplines. In outlining their Agenda for Crisis Management Research, Wu et al (2021) state that numerous crises have occurred which have attracted the study of crisis management, yet there in an increasing amount of literature concerning management of these crises. The literature concerning crisis management is often very fragmented, with the reviews often taking a subjective stance in their attempt to identify, and integrate the pertinent literature. The lack of a subjective understanding of the collected literature creates an environment where there is a lack of clarity in the literature, identifying and understanding the theoretical and empirical advancements in the literature. Despite the relative lack of literature in crisis management, there exist various methods of analysis for various forms of crisis management (Wu et al. 2021).

Harika et al. (2024) focused on the potential benefits of Artificial Intelligence (AI) in Disaster Response and Crisis Management. Individuals are faced with the danger of both natural and human-made disasters in all parts of the globe. As a result, an emphasis on survival and the mitigation of negative impacts is necessary. The purpose of this paper is to examine how Artificial Intelligence (AI) may transform the management of disasters and the distribution of resources in the aftermath of a disaster. Different forms of Artificial Intelligence (AI) are employed in various aspects of disaster preparedness, disaster response, and disaster recovery. Such forms include natural language processing, predictive modeling, visual computer, and machine learning. The author hopes to determine the optimal use of the various systems and applications based on the comparison of AI with conventional approaches. The proposed systems and applications process real world data and address the systems and applications in the provision of case studies. The author starts the study with an extensive overview of various systems and applications of disaster management. Subsequently, they focused on the proposed concept, which is the use of Artificial Intelligence (AI) to analyze data, make decision, allocate resources, and communicate during emergencies. In order to ensure that the proposed system meets or exceeds the expectations, the author used test results to compare the proposed system with the gold standards of expert opinion and manual data analysis. The analysis of AI-based solutions is multi-faceted.

Key criteria include responsiveness, precision, distribution of efforts, and result consistency, and from our perspective, the use of AI integrated tools for the management of crises and the response to emergencies is warranted. AI systems are able to rapidly process and understand large volumes of data, enabling human users to make quality decisions quickly. Within the scope of contemporary global issues, the ability to derive important, actionable insights from organized, structured datasets, including processed social media analytics, satellite imagery, and other data sources, assists in maintaining an adequate and organized global situation representation (Harika et al. 2024). Karinshaak et al. (2024) analyzed human-AI hybrid systems simulation. Generative AI, in conjunction with simulation technologies, offers crisis management practitioners unprecedented potential; Coombs describes the phases of crisis management as prevention, preparation, response, and recovery. The integration of crisis management and computer science is predicated on the assumption that such tools help crisis managers with decision-making and communication, streamline the identification of organizational risk, and improve the process of communication,

including the strategy, content, and iterative cycles.They discussed opportunities, risks, poignant questions, and ethical considerations regarding current and anticipated examples of AI in driving simulations tools for crisis management (Karinshak, 2024)

The Internet of Things (IoT) and Systems Crises Management were explored by Solati Dehkordi et al. (2024) for their study. When implemented, the requirements and considerations of passive defense, within the context of a country's systemic management of crises, will minimize the detrimental effect the country's adversary (through military strikes, sabotage, or sabotage, security, and threats) will have on the country's personnel and its military and civilian infrastructures, or its building, or its operational support elements. When threats are upgraded, or positions are taken that are militarized, essential functions of the infrastructures will be in jeopardy. With the advent of the new Internet of Things, radical transformations of established ways of doing have been made possible by the linkage of the physical and digital worlds, as well as by the interconnection of humans, digital devices, and physical objects that are equipped with sensors. The new technologies that have a significant effect on the preventive and responsive aspects of crises have been used to evaluate the Internet of Things and its innovations in the context of the delineation of man-engineered crises within the judiciary. This study, in terms of its objectives, is of an 'applied and development' nature, and in relation to its qualitative-descriptive framework, has undertaken an investigation of the current state of affairs using the field research methodology. The research subjects consisted of educators and operational executives from the Isfahan Justice Department and the Judiciary Headquarters. Eighteen individuals, selected through the snowball technique, constitute the sample. A mixed-method approach of an in-depth interview and a questionnaire was employed and tested for validity through the content validity method and for reliability via the Cronbach alpha method. Data were analyzed using the software SPSS 23. The Delphi method was applied throughout the different phases of the research for identifying main axes and indicators, formulating questionnaire items, and data analysis. As per the usage of Internet of Things in the mitigation of man-made crises, based on the 21st National Building Regulations, the safety of gas installations, electrical and mechanical installations, and fire (which contribute to the overall score of 65.82 percent) stand at 41.59 percent, 35.32 percent, and 25.58 percent respectively, with shelter and water stress at 8.28 and 7 percent respectively. (Solati Dehkordi, Sanayei, and Safari 2024).

In 2024, Chilovia et al. analyzed how leadership is involved in the management of crises. In regard to this study, the objective is to gather and analyze the available information and to present the counter-arguments that relate to the position of leadership as a function of the management of crises. In the organizational context, the goal of this study is to advance the current state of knowledge by analyzing recent literature on the intersection of leadership and crises management. The literature reviewed the relationships between different types of crises and various leadership styles employed in the management of crises. The objective of this analysis is to establish a conceptual framework to assist organizations in the effective management of crises. This analysis is concerned with literature that focuses on various aspects of the function of leadership in the management of crises. The initial phases of this research involve collecting and analyzing the relevant literature. This approach enabled the researcher to establish a comprehensive framework on the practice of leadership during a crisis. The most relevant and highest quality publications on the practice of leadership during a crisis were selected for further analysis. This method also allowed for the construction of a conceptual model which emphasizes the active components and variables of the crisis management process. This document analyzes the various styles of leadership in crisis management, as documented in the literature by theorists and practitioners. An extensive examination of various literature streams was undertaken to evaluate their research. This study suggests that there is no optimal leadership style. Numerous variables contribute to the optimum

leadership style to be adopted, including the knowledge and situation of the followers, among others. There is no optimal combination of variables to achieve effective leadership, for leaders must change their strategies to address the particular situation, which is shaped by a combination of internal and external factors. Distinct Contributions to Theory, Practice and Policy: The leadership theories, for instance, transformational, transactional and charismatic leadership, as well as the theories on crisis management and leadership which are the focus of the study are a confirmation of the role of leadership in crisis management necessitated by the nature and the frequency of the crises organizations face in the contemporary world, including but not limited to, natural disasters, economic recessions, pandemics, and cyber-attacks. During a crisis, the most important factor is the ability to build a proactive organizational environment and culture. In this context, the theories and models serve as helpful guides for managing the different dimensions of the crisis (Chiwisa 2024).

Table 1. Review of Previous Studies on Crisis Management

Authors & Year	Research Method	Research Findings
Wu et al. (2021)	Bibliometric review using citation analysis, bibliographic coupling, and co-word analysis	Crisis management research is fragmented; identified main themes and proposed a future research agenda.
Harika et al. (2024)	Applied study using real-world data, case studies, and comparative analysis between traditional and AI-based approaches	AI (NLP, ML, computer vision) improves disaster preparedness, response, and recovery versus traditional methods.
Karinshaak et al. (2024)	Literature review combining crisis management and computer science perspectives	Generative AI simulations support decision-making, communication, and risk identification; noted ethical issues.
Solati Dehkordi et al. (2024)	Applied and developmental study, qualitative-descriptive approach, Delphi technique, interviews, and questionnaires; data analyzed using SPSS 23	IoT reduces vulnerabilities in infrastructure and resources; key safety indices for gas, fire, and security identified.
Chilovia et al. (2024)	Literature review of studies on leadership in crisis management	No universal leadership style; effectiveness depends on context; transformational, transactional, charismatic models emphasized.

A review of previous studies reveals that they typically portray crisis management as a response to unexpected events. However, the current study redefines crisis management as a strategic option that enhances organizations' long-term competitiveness, as well as maximizing organizational flexibility and the ability to adapt to environmental changes.

2.4. Theoretical framework and conceptual model

The initial conceptual model shows that combining crisis management and an uncertain environment builds resilience, which enhances enduring competitiveness. In this cycle, crises are seen, not just as obstacles, but as drivers for change and revitalization. In other words, crisis management has a mediating role, as it allows the organization to identify and address threats from the environment, while also improving the strategic ability to exploit the opportunities that arise in times of turbulence.

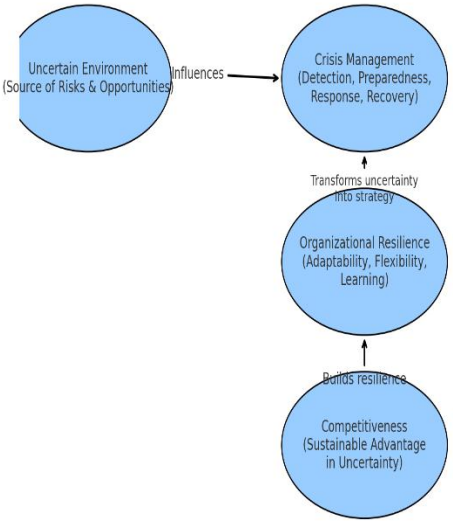

Figure 1. Conceptual research model

The example illustrates the conceptual model, which helps elaborate the ways in which crisis management can transform into a strategy in the face of the unknown. Here, the unknown environment is a representation of the most important risks and opportunities given the pressure on organizations. In most of these risks, the response to the challenges of crisis management operates on four of the most important dimensions of the challenges of exposure: identification, preparedness, response, and recovery. These dimensions help organizations convert the most significant challenges into opportunities and sustain strategies for the organization. The immediate outcome of the process is resilience for the organization, which includes adaptable, flexible, and learning components. This resilience means that organizations can withstand and crises, but also see them as opportunities for advancement and innovation. This also provides the organization with a sustainable competitive advantage. This competitive advantage is the end goal of the model. The example illustrates that, when embedded, managed, and taken in the systematic and strategic way, the managed example emphasizes that crisis management can move organizations from the negative drift of mostly threat outruns to a positive drift of opportunity and persistent constructive competitive advantage. The hypotheses of the research include:

- H1: Crisis management in uncertain environments has a positive and significant effect on organizational resilience.
- H2: Organizational resilience mediates the relationship between crisis management and competitiveness.
- H3: Crisis management directly and indirectly increases organizational competitiveness.

3. Data and Methodology

3.1. Data Collection Tool

In this instance, the researcher focuses on the development of a particular questionnaire. This questionnaire is constructed utilizing the theoretical underpinnings as well as the empirical evidence from the previous studies while considering the key aspects of the study pertaining to each of the relevant disciplines, such as, crisis management, strategic management, and organizational resilience. This instrument is tailored to capture the variables pertaining to crisis management, uncertain environment, organizational flexibility, and competitiveness, so as to fit the core variables of the conceptual framework. The researcher attempted to make the questionnaire as simple and straight forward as possible to avoid any confusion to the respondents. The questionnaire possesses two sections. The first section captures the demographic variables such as age, gender, level of education, years of working experience, and job title, so as to assist the researcher to analyze the context of the data. The second section comprises variables related to the key constructs of the study, especially the four dimensions of crisis management which are: identification, preparedness, response, recovery; and organizational flexibility, which concerns adaptation, innovation and learning; and competitiveness, which concerns efficiency, innovation, and sustainability. The set-up of the questions will enable the researcher to undertake causal analysis and test the hypothesis of the study.

Table 2. Cronbach's Alpha for Research Variables

Variable	Number of Items	Cronbach's Alpha (α)
Crisis Management	12	0.89
Organizational Resilience	10	0.91
Competitiveness	8	0.88
Total Questionnaire	30	0.93

Each of the survey questions used a 5-point Likert scale, which ranged from "strongly disagree" to "strongly agree." This Likert scale was chosen to capture the attitudes and perceptions of the respondents, and convert these subjective measures into empirical quantitative data. This scale also fosters the measurement of basic descriptive statistics (e.g. means, standard deviations) and facilitates the conduct of more sophisticated analyses (e.g. factor analysis, structural equation modeling). Face and content validity of the survey questions was established through an expert review, and the survey questions were subsequently revised. Construct validity was also established using confirmatory factor analysis (CFA). This ensured that each individual survey item would appropriately measure the latent construct that it was intended to measure. For the measurement of reliability, a Cronbach's alpha coefficient will be computed, and coefficients that exceed 0.70 would be considered indicative of acceptable internal consistency.

3.2. Data Analysis Methods

A combination of advanced statistical software packages will be employed to analyze the data collected in this research. At the initial stage, data will be processed using SPSS to conduct descriptive and preliminary analyses. This phase involves calculating measures such as the mean and standard deviation, as well as generating frequency tables for demographic variables, including age, gender, educational attainment, and work experience. Furthermore, to verify the distributional properties of the dataset and assess its suitability for subsequent analyses, tests of normality—

notably the Kolmogorov-Smirnov test alongside skewness and kurtosis indices—will be applied. Subsequently, confirmatory factor analysis (CFA) will be undertaken to evaluate the measurement model and establish construct validity of the questionnaire. Following this, structural equation modeling (SEM) using $SmartPLS$ will be applied to test the research hypotheses and assess the causal linkages among the study's variables. SEM has been selected for its capacity to simultaneously estimate multiple causal relationships and rigorously assess complex conceptual frameworks. In the event that the data fail to meet the statistical assumptions required for SEM, alternative analytical strategies—such as multiple regression analysis—will be implemented to examine the proposed hypotheses.

3.3. Research Design

The purpose of this study is applied research in the context of organizational performance and the likely practical implications, organizational performance is likely to improve even in situations of environmental uncertainty. In this regard, the study adopts a descriptive-analytical framework. This framework entails describing the existing organizational performance and then evaluating, describing, and identifying the principal variables of the conceptual framework and the interrelationships among the key variables. This framework is justified on the basis of the research purpose and the fact that it enables the researcher to carry out empirical testing of the formulated hypotheses, as it relates to the area of study. The predominant focus of this study is on the empirical assessment of the interrelationships of the principal variables of the conceptual model, which in this case are the variables of crisis management, organizational resilience, and competitiveness. From the perspective of this model, crisis management, in the context of the uncertainty of the environment, is described as the independent (predictor) variable. On the other hand, organizational resilience (flexibility and adaptability) is the described variable and organizational competitiveness is the described dependent outcome variable. Consequently, it has been established that the study has a goal of determining the extent to which the phenomenon of crisis management, as a predictor variable, contributes to the development of organizational resilience and, in turn, contributes to the enhancement of sustained competitiveness in organizations.

3.4. Population and Sample

In the primary statistical study, a total of 100 tourism company managers, as well as experts from the tourism firms based in Karbala and Babylon, who participate in decision-making and crisis management, were selected. This group was formed based on their demonstrated practitioner experience, professional proficiency, and critical role in crisis management. Because of their organizational specialist status, their feedback was believed to be one of the dependable sources of primary data relevant for the study's conceptual framework. Using the Cochrane formula with a 95 percent degree of confidence and a 5 percent error margin, the researcher has determined the necessary sample size. Since the study population was considered to be small (n = 100), the sample size was adjusted and set to 79 participants. To increase the generalizability and representativeness of the outcomes, simple random sampling was chosen, thus providing every individual in the study population with an identical opportunity for selection. This sampling technique permits the researcher to formulate and validate the research hypotheses on the basis of the empirical data collected.

4. Results and Discussion

4.1.1. Descriptive Statistics

In this research, the statistical population comprised 100 managers and experts from the target organization, out of which 79 valid questionnaires were collected and analyzed in accordance with the Cochran formula. With respect to demographic attributes, the findings revealed that 62% of respondents were male and 38% were female. The age distribution indicated that the largest proportion fell within the 30–40 years category (41.8%), followed by the 40–50 years group (29.1%). Respondents under 30 years accounted for 19%, while those aged over 50 years represented 10.1% of the sample. Regarding educational attainment, 15.2% held an associate degree, 46.8% a bachelor's degree, 31.6% a master's degree, and 6.4% a doctoral degree. In terms of professional experience, the majority belonged to the 10–15 years group (34.2%), while 22.8% reported less than five years, 27.9% had 5–10 years, and 15.1% more than 15 years of experience. This distribution demonstrates a balanced composition in terms of professional tenure, thereby ensuring diverse perspectives for subsequent analysis.

Table 3. Descriptive Statistics of Main Research Variables

Variable	Mean	Std. Deviation	Minimum	Maximum
Crisis Management	3.84	0.62	2.40	4.80
Organizational Resilience	3.91	0.57	2.60	4.90
Competitiveness	3.76	0.64	2.50	4.85

Analysis of job positions further revealed that 44.3% of participants were in expert-level roles, 36.7% occupied middle management positions, and 19% held senior management roles. This stratification highlights the presence of respondents from multiple organizational levels, enabling a comprehensive assessment across hierarchical layers. To represent these demographic characteristics with greater precision, frequency distribution tables and bar charts were developed, illustrating the structure of the sample. Beyond demographic features, descriptive statistics were computed for the study's key constructs. The results showed that the crisis management variable had a mean of 3.84 with a standard deviation of 0.62, indicating a relatively favorable evaluation. The organizational flexibility variable yielded a mean of 3.91 and standard deviation of 0.57, reflecting a strong perception of flexibility within the studied organizations. Similarly, organizational competitiveness reported a mean of 3.76 and standard deviation of 0.64, suggesting a generally positive assessment of competitive capacity. Collectively, these findings imply that the primary variables under investigation are perceived to be in a relatively favorable condition among the sampled population.

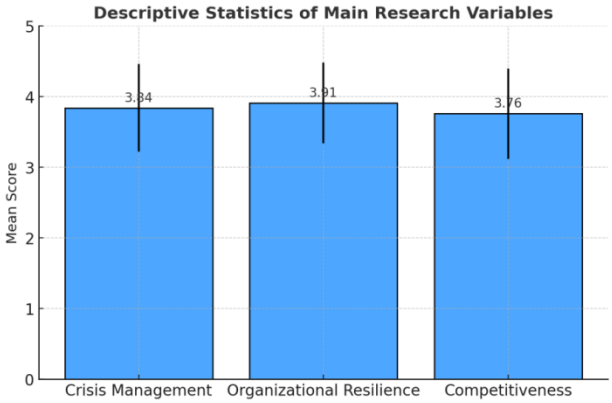

Figure 2. Descriptive statistics of the main research variables

Here, we discuss the means and deviations of the variables in the study using the chart, and we start with the highest value as an example. Organizational Resilience has the highest mean value (3.91). This suggests that the organizations in the sample are more positive about the Organizational Resilience construct than the other constructions. On the other hand, with the lowest mean (3.76) value, Competitiveness still has an acceptable mean. Furthermore, with a mean value of 3.84 for the Crisis Management construction, we can still conclude that capacity of the organizations surveyed to manage crises is perceived as satisfactory. The standard deviations for the variables are represented with the error bars. The standard deviations indicate the dispersion of the sample in terms of responses. The standard deviations of the sample mean values are all in a close range (0.57 to 0.64) This close range interpretation suggests that the sample of the population has similar responses and evaluations. This is a positive characteristic that will enhance the dependability of the descriptive results. Furthermore, this characteristic will provide a solid base for the Inferential results to be derived from the Descriptive results.

4.1.2. Normality Tests

To evaluate the normality of the dataset, both the Kolmogorov-Smirnov (K-S) test and the skewness and kurtosis indices were applied. According to the K-S test results, the statistic for the crisis management variable was 0.081 with a significance level of $p < 0.200$, indicating no significant departure from normality. For the organizational flexibility variable, the K-S statistic was 0.094 with a significance of $p < 0.200$, similarly confirming the normal distribution of the data. The competitiveness variable produced a K-S statistic of 0.087 with a significance of $p < 0.200$, likewise supporting normality. In parallel, skewness and kurtosis indices were computed for the key research constructs. The results showed skewness and kurtosis values of -0.214 and 0.387 for crisis management, -0.198 and 0.421 for organizational flexibility, and -0.236 and 0.405 for competitiveness. Since all values fell within the accepted threshold of ±2, the distributions can be considered statistically acceptable and approximately normal.

Table 4. Normality Test Results of Main Research Variables

Variable	K-S Statistic	Sig.	Skewness	Kurtosis
Crisis Management	0.081	0.200	-0.214	0.387
Organizational Resilience	0.094	0.200	-0.198	0.421
Competitiveness	0.087	0.200	-0.236	0.405

Taken together, the outcomes of the K-S test along with skewness and kurtosis indices provide strong evidence that the data conform to the assumptions of normality. This result is critical because the application of advanced statistical techniques—such as confirmatory factor analysis (CFA) and structural equation modeling (SEM)—requires data that exhibit normal or near-normal distributions. Failure to meet this assumption could otherwise lead to biased or invalid results. Accordingly, the findings confirm that the data for all three principal variables—crisis management, organizational flexibility, and competitiveness—are suitable for advanced statistical analysis. This provides a sound foundation for proceeding with hypothesis testing and the exploration of causal relationships through structural equation modeling in the subsequent sections of the study.

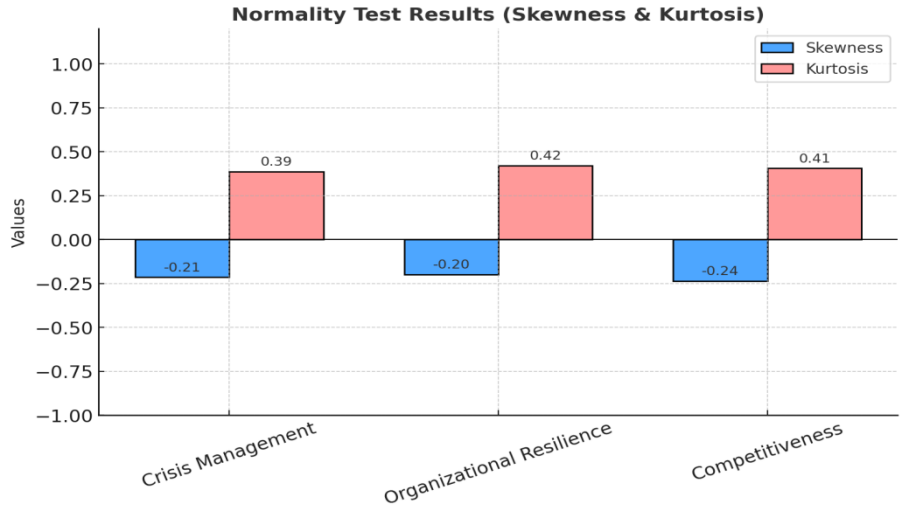

Figure 3. Normality Test Results (Skewness & Kurtosis)

This chart presents the skewness and kurtosis indices of the study's main variables in a comparative format. As illustrated, the skewness values for crisis management (-0.214), organizational flexibility (-0.198), and competitiveness (-0.236) are all close to zero and fall within the acceptable statistical range. These values confirm that the data distributions are approximately symmetrical around their means, with no substantial leftward or rightward bias. Regarding kurtosis, the results indicate values of 0.387 for crisis management, 0.421 for organizational flexibility, and 0.405 for competitiveness. All of these are well within the conventional ±2 threshold, signifying that the distributions do not exhibit abnormal peaks or excessive kurtosis. The gray horizontal lines in the figure represent the accepted boundaries for normality, and it is evident that all values remain within these limits. Consequently, the dataset demonstrates adequate normality, making it appropriate for the application of advanced statistical techniques such as confirmatory factor analysis (CFA) and structural equation modeling (SEM).

4.1.3. Confirmatory Factor Analysis

To evaluate the construct validity of the questionnaire and determine the extent to which the observed data aligned with the theoretical research model, Confirmatory Factor Analysis (CFA) was employed. This procedure was carried out using specialized statistical software to examine the factorial structure of the core constructs: crisis management, organizational resilience, and competitiveness. At this stage, standard model fit indices were computed to assess the level of consistency between the data and the proposed measurement framework. The reported values for the Comparative Fit Index (CFI = 0.93) and the Tucker-Lewis Index (TLI = 0.91) exceeded the recommended threshold of 0.90, supporting a good model fit. Similarly, the Root Mean Square Error of Approximation (RMSEA = 0.056) fell below the accepted cutoff of 0.08, and the Chi-Square/Degrees of Freedom ratio ($\chi^2/df = 2.41$) was under the acceptable level of 3, further confirming the adequacy of the model. For the crisis management construct, four dimensions—signal identification, preparedness, response, and recovery—were evaluated. All factor loadings were greater than 0.60 and statistically significant at the $p < 0.001$ level, indicating that the items effectively measured the intended dimensions. This demonstrates that the crisis management construct is empirically consistent with the theoretical assumptions of the study and can be considered reliable for further analyses. With respect to organizational resilience, three dimensions—adaptability, innovation, and learning—were examined. The analysis showed that all factor loadings exceeded 0.65 and were statistically significant, confirming that the items validly

captured the resilience dimensions. Thus, the construct validity of organizational resilience was supported, ensuring its appropriateness for use in subsequent advanced statistical tests.

In the case of organizational competitiveness, the three defined dimensions—efficiency, innovation, and sustainability—were tested. The CFA results indicated that all factor loadings surpassed 0.70 and were statistically significant, suggesting that the construct of competitiveness was robustly operationalized and valid within the research framework. Taken together, the CFA results confirmed that the measurement model exhibited acceptable fit and that the empirical data were in strong agreement with the theoretical model. All fit indices were within the recommended thresholds, and the proposed dimensions of the main constructs were appropriately reflected in the measurement items. Therefore, it can be concluded that the questionnaire demonstrated adequate construct validity, making it suitable for advanced analytical methods such as Structural Equation Modeling (SEM) to test the study's hypotheses.

Table 5. Factor Loadings of Main Constructs

Construct / Dimension	Item Code	Factor Loading	Significance (p)
Crisis Management	CM1	0.74	<0.001
	CM2	0.81	<0.001
	CM3	0.77	<0.001
	CM4	0.69	<0.001
Organizational Resilience	OR1	0.82	<0.001
	OR2	0.79	<0.001
	OR3	0.76	<0.001
Competitiveness	CP1	0.85	<0.001
	CP2	0.80	<0.001
	CP3	0.78	<0.001

Table 5 reports the factor loadings of the principal constructs obtained through confirmatory factor analysis. All indicators displayed statistically significant loadings at the $p < 0.001$ threshold, thereby validating their effectiveness in representing the designated constructs. For the Crisis Management construct, factor loadings ranged from 0.69 to 0.81, reflecting an acceptable level of representation across its four dimensions. The Organizational Resilience construct recorded loadings between 0.76 and 0.82, demonstrating strong internal consistency within its three dimensions. Likewise, the Competitiveness construct yielded the highest factor loadings, ranging from 0.78 to 0.85, confirming that its three dimensions were reliably measured by the respective items. Taken together, these findings indicate that all constructs exhibit robust measurement characteristics, thereby reinforcing both the reliability and the construct validity of the research instrument.

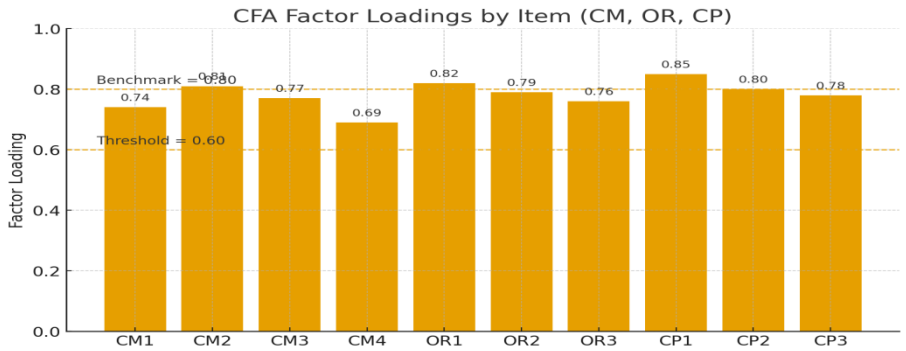

Figure 4. CFA Factor Loadings by Item (CM, OR, CP)

This figure provides a visual representation of the results from the confirmatory factor analysis (CFA), illustrating and comparing the factor loadings of items associated with the three core constructs of the study: crisis management (CM), organizational resilience (OR), and competitiveness (CP). All loadings exceed the 0.60 threshold, confirming the adequacy of the indicators for measuring the corresponding latent variables. Notably, items OR1 (0.82) and CP1 (0.85) exhibit the highest loadings, underscoring their relative strength and explanatory power for their respective constructs. Conversely, item CM4, with a loading of 0.69, is positioned near the lower bound but still meets the acceptable standard for construct measurement. The inclusion of reference lines at 0.60 (minimum acceptable threshold) and 0.80 (benchmark value) facilitates straightforward and transparent comparisons across items, enabling a clearer evaluation of their relative strengths. Collectively, the results depicted in this diagram confirm that the research instrument demonstrates sufficient construct validity, thereby supporting its applicability for advanced statistical procedures such as structural equation modeling (SEM).

Table 6. Model Fit Indices for CFA

Fit Index	Recommended Threshold	Obtained Value	Interpretation
χ^2/df	< 3.00	2.41	Good Fit
CFI	≥ 0.90	0.93	Good Fit
TLI	≥ 0.90	0.91	Good Fit
RMSEA	≤ 0.08	0.056	Acceptable Fit
SRMR	≤ 0.08	0.049	Good Fit

Table 6 reports the model fit indices obtained from the confirmatory factor analysis (CFA). The findings reveal that all indices meet or surpass the recommended thresholds, thereby confirming the adequacy of the model fit. In particular, the χ²/df ratio was 2.41, which falls below the maximum acceptable value of 3.00, while the CFI (0.93) and TLI (0.91) both exceeded the critical value of 0.90, demonstrating strong comparative and incremental validity. Moreover, the RMSEA value (0.056) was considerably lower than the cutoff of 0.08, suggesting an acceptable level of approximation error, and the SRMR value (0.049) was also within the acceptable boundary, providing additional evidence of fit quality. Taken together, these results indicate that the measurement model is statistically sound and well aligned with the theoretical framework underpinning the study.

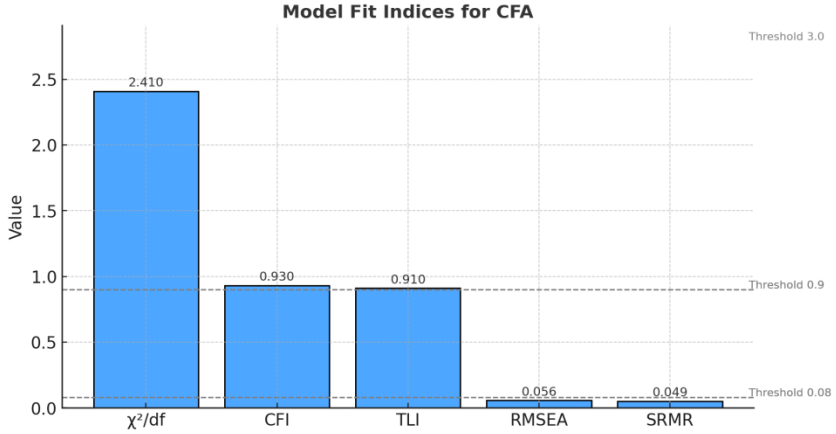

Figure 5. Model Fit Indices for CFA

This figure illustrates the results of the model fit indices derived from the confirmatory factor analysis (CFA). Each bar represents the actual value of one index (χ^2/df, CFI, TLI, RMSEA, SRMR), while the gray dashed lines denote the recommended threshold values for evaluating model adequacy. As shown, the χ²/df ratio (2.41) is below the critical cutoff of 3, indicating an acceptable

model fit. Furthermore, both the CFI (0.93) and TLI (0.91) exceed the minimum recommended value of 0.90, confirming that the model provides a strong comparative and incremental fit relative to a baseline model. In addition, the values for RMSEA (0.056) and SRMR (0.049) fall well below the maximum acceptable threshold of 0.08, reflecting low levels of approximation error and further supporting the model's adequacy. Collectively, the fact that all indices are within their recommended ranges provides strong evidence that the CFA measurement model demonstrates satisfactory goodness-of-fit and alignment with the empirical data. This outcome reinforces the validity of the measurement framework and ensures its suitability for use in more advanced analyses, such as structural equation modeling (SEM).

4.1.4. Hypotheses Testing

To evaluate the research hypotheses, the structural equation modeling (SEM) technique was applied using $SmartPLS$ software. This approach was selected due to its capacity to simultaneously analyze both direct and indirect relationships among variables as well as to assess complex conceptual models. Within this framework, path coefficients (β), t-values generated through the bootstrap algorithm, and corresponding significance levels were calculated to investigate the effects of crisis management on organizational resilience and competitiveness. The results for the first hypothesis confirmed that crisis management in uncertain environments exerts a positive and significant influence on organizational resilience, with a reported path coefficient of β = 0.58 and a t-value of 7.34 ($p < 0.001$). This suggests that strengthening crisis management capabilities directly enhances an organization's adaptability, learning, and innovation, thereby reinforcing resilience.

For the second hypothesis, which tested the mediating role of organizational flexibility in the relationship between crisis management and competitiveness, the bootstrap analysis demonstrated a significant indirect effect. The indirect path coefficient was β = 0.27, with a t-value of 4.91 ($p < 0.001$), indicating that part of crisis management's impact on competitiveness is channeled through improvements in organizational flexibility. Hence, flexibility functions as a meaningful mediating variable. The third hypothesis examined both the direct and indirect effects of crisis management on competitiveness. The direct relationship was found to be significant (β = 0.32, t = 5.02, $p < 0.001$), while the indirect effect through flexibility, consistent with H2, was also statistically significant. Collectively, these results show that crisis management enhances competitiveness via both direct pathways and indirect mechanisms mediated by flexibility.

The overall findings from hypothesis testing confirm the theoretical and empirical validity of the proposed model. Crisis management not only improves organizational preparedness for uncertain environments but also contributes to building a sustainable competitive advantage by strengthening flexibility. This is particularly relevant for organizations exposed to environmental turbulence and rapid market dynamics. The mediating role of flexibility highlights that enhancing competitiveness requires more than crisis management alone; it also depends on cultivating internal adaptive capacities and continuous learning mechanisms.

Table 7. Results of Hypotheses Testing Using SEM

Hypothesis	Path Relationship	Path Coefficient (β)	t-value	p-value	Result
H1	Crisis Management →	0.58	7.34	< 0.001	Supported

	Organizational Resilience				
H2	Crisis Management → Competitiveness (via Resilience)	0.27	4.91	< 0.001	Supported
H3	Crisis Management → Competitiveness (Direct)	0.32	5.02	< 0.001	Supported

Finally, the SEM results verified that all three hypotheses were supported, with statistically significant path coefficients at acceptable levels. Thus, crisis management emerges as a strategic and pivotal construct, fostering organizational competitiveness both directly and indirectly through resilience and flexibility. These insights underscore the transformation of crisis management from a reactive operational response to a sustainable strategic capability, essential for organizational survival and long-term advantage in uncertain environments. Table 7 reports the outcomes of hypothesis testing performed through structural equation modeling (SEM). The results indicate that all three hypotheses were empirically supported, with statistically significant path coefficients and robust t-values. Specifically, H1 revealed that crisis management exerts a strong, positive, and significant effect on organizational resilience ($\beta = 0.58$, $t = 7.34$, $p < 0.001$), confirming that effective crisis management strengthens organizational adaptability, innovation, and learning capabilities. For H2, the mediating role of organizational resilience was substantiated, as the indirect relationship between crisis management and competitiveness proved significant ($\beta = 0.27$, $t = 4.91$, $p < 0.001$), demonstrating that resilience serves as a critical mechanism through which crisis management contributes to competitive performance.

Furthermore, H3 established that crisis management directly enhances organizational competitiveness ($\beta = 0.32$, $t = 5.02$, $p < 0.001$) in addition to its indirect influence via resilience. This dual impact highlights that crisis management strengthens competitiveness not only through direct strategic pathways but also by cultivating resilience as an intermediary capability. Collectively, these findings provide compelling empirical validation of the research model, underscoring the pivotal role of crisis management in advancing both resilience and competitiveness in uncertain and turbulent environments.

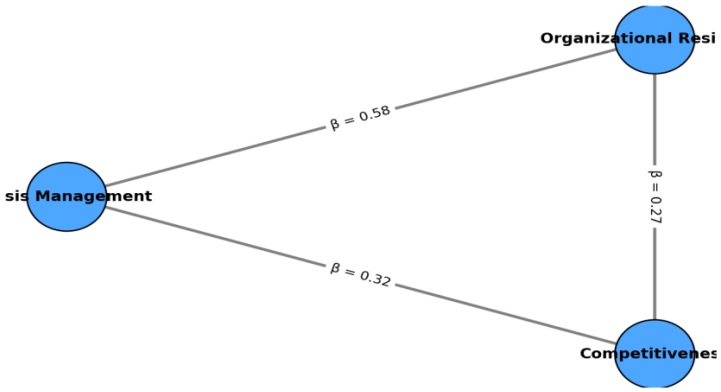

Figure 6. Path Diagram of Hypotheses Testing (SEM)

This path diagram illustrates the results of hypothesis testing based on the structural equation modeling (SEM) approach. As shown, crisis management exerts a direct and significant effect on organizational resilience (β = 0.58), highlighting its critical role in enhancing an organization's adaptive capacity, innovation, and learning. In addition, organizational resilience positively influences competitiveness (β = 0.27) and functions as a mediating variable. This finding indicates that part of the impact of crisis management on competitiveness is realized indirectly through the strengthening of resilience. Moreover, the direct effect of crisis management on competitiveness was also significant (β = 0.32). Together with the indirect effect mediated by resilience, this dual influence demonstrates the multifaceted role of crisis management in improving organizational competitiveness. In other words, crisis management not only contributes directly to competitive advantage but also creates more sustainable impacts by fostering flexible and learning-oriented structures. These results emphasize the strategic importance of crisis management in uncertain environments and position it as a key instrument for achieving sustainable competitive advantage.

4.2. Discussion

This research underscores the importance of strategically optimizing crisis management from a reactive approach for better organizational alignment when operating in a heightened state of organizational volatility. The analysis conclusively determined that crisis management, in the positive sense, improves organizational resilience. Moreover, the ability to envision, psychologically and behaviorally, the next crisis, and prepare, respond, and recover from it, enhances adaptability, innovation, and organizational learning. This positive improvement of volatility from an organizational perspective aligns with the many theoretical perspectives that cite resilience as an important factor for the survival of organizations in unstable environments.

What distinguishes this study from previous research reviewed is its investigation of the mediating role of resilience in the relationship between crisis management and competitiveness. The observed indirect effect demonstrates that long-term competitive advantage cannot be secured solely through immediate crisis responses but requires transforming crises into opportunities for renewal and strategic adaptation, consistent with previous research that frames resilience as a bridge between short-term reactions and sustainable performance. The results also revealed that crisis management has a direct and significant impact on competitiveness, complementing its indirect effect through resilience. This dual impact demonstrates that crisis management contributes to enhanced competitiveness by fostering resilience and directly supporting strategic agility and innovation.

Considering the value of crisis management as a strategy, it allows organizations to enhance their decisions, optimize the distribution of their resources, and sustain their competitive position in rapidly changing market environments. In this sense, crisis management is more of a tactical advantage than a functional imperative. Organizations with such a disposition are more resilient to disruptions, learn through challenging situations, and adjust swiftly to new conditions, which allows them to strengthen their position over time.

5. Conclusion

The going study proves the need to dedicate resources to building both crisis management systems and initiatives that foster resilience. This includes flexible systems on the allocation of resources and the building of formal and informal structures that promote learning and innovation. Such initiatives will not only help sustain the organizations during times of crises but will also allow them to grow and strengthen their competitive advantage after the crisis. Additionally, the results correspond to the global discourse on the strategy of management in environments characterized by high instability

(especially, technological disruption, geopolitical tension and economic volatility). By proving the positive effect of synergy between crisis management, resilience and competitiveness, the study gives prescriptions to organizations on how to manage uncertainty effectively.

Nonetheless, subsequent research ought to evaluate larger, more varied samples, analyze cross-sector discrepancies, and utilize longitudinal methods to better understand the complexities of crisis management and resilience. Ultimately, this study reflects the importance of transformative power of crisis management within precarious contexts. Crisis management, through the simultaneous enhancement of resilience and the positive effect on competitiveness, offers a unique flexible path for organizations to radically change their position on crisis from a threat to an opportunity. In this context, crisis management is positioned as a positive and enduring practice. Ultimately, for organizations to thrive, and for sustainable competitive advantage to be realized, crisis management must be instilled as a practice of the organization.

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