



Crisis Management and Organizational Resilience: Learning from Global Business Disruptions

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ABSTRACT

The purpose of this research is to examine the link between crisis management practices and organizational readiness for crises in the healthcare, financial, manufacturing, and retail industries. In particular, it aims at determining the most effective crisis management measures that play a major role in enhancing resilience and evaluating the role of sectoral strategies in enhancing crisis preparedness. Out of the 500 surveys distributed, 385 were filled up, which gave a response rate of 77 percent. The quantitative analysis proved that there is a strong positive correlation between the application of effective crisis management strategies and organizational resilience ($F(3, 381) = 24.56, p < 0.001$), where preparedness and planning explained 45 % of the variance. Furthermore, the qualitative data from the semi-structured interviews revealed that proactive risk management, leadership flexibility, and organizational culture were important components of resilience; proactive risk management was mentioned in 8 out of 10 interviews. The study therefore calls for the need to adopt and enhance the crisis management frameworks that will enhance resilience in the current evolving environment. Regarding the main theme, understanding preparedness, communication, and leadership adaptability seem to be crucial for work on an organization's crisis management which in turn provides them with an opportunity to be stronger and more sustainable in the long-term perspective.

Keywords: crisis management, organizational resilience, preparedness, proactive risk management, adaptive leadership, collaborative culture.

Introduction

Crisis management is a significant discipline that focuses on the activities of planning for, avoiding, minimizing, and overcoming a variety of occurrences that are likely to threaten an organization, its individuals, or its reputation. They can occur in various forms including fire disasters, floods, devastating hurricanes, system failure, financial loss, and even global health crises such as the current COVID-19 pandemic (1). The purpose of this paper is to explain the importance of crisis management using examples of global disruptions that have occurred recently and to show that organizations must have efficient measures to reduce the risks and ensure business sustainability (2).

Organizational resilience is thus the ability of an organization to mitigate and manage incremental and catastrophic changes to continue to function and prosper. This concept is not just about 'fire fighting'; it is possible to avoid crises and get organizations ready to address them most effectively once they happen by applying knowledge from previous crises (3). In complex environments, the use of resilience in crisis management is essential for the survival of the business organizations. The importance of crisis management and organizational resilience has emerged as a hot topic, particularly because of the disruptions in business at the international level. The current global crises such as the COVID-19 pandemic have revealed significant risks in organizations and supply chain networks that require flexibility. The pandemic affected not only the normative and strategic activities of organizations but also the effectiveness and inefficiency in managing crises (4).

Research has established that firms that have established crisis management plans are in a better place to handle shocks than those that have not. For instance, shift flexibility and technology adoption before the COVID-19 outbreak were less of a problem for companies that adopted them than those that did not. This observation supports the assertion that planfulness and flexibility are components of the resilience mechanism



in a world threatened. Resilience and crisis management are also related to organizational culture (5). Good working relationships, tolerance of error and learning from them, and unencumbered information sharing promote pool crisis management. For instance, organizations that encourage communication and employee involvement in decision-making will likely respond better during crises. This partially explains why it is important to develop a strong organizational culture to ensure that resilience forms part of the organizational disaster management framework (6).

Supply chain management has also been made more challenging by the increasing complications in the management of crises. This is accompanied by the idea that problems that happen in one part of the world can easily affect various industries at different tiers. When dealing with these challenges, management should employ an organizational orientation to crises, which recognizes the interaction within the organizational network and the environment in which the entity operates. This approach focuses on the need to have supplier, customer, and government cooperation in the development of systems that can handle disruptions (7). It is also important to know the theoretical framework of crisis management and resilience, but it is also useful to know the case studies to understand what is useful in practice. For instance, the firms that managed to survive the 2008 financial crisis had strong risk management systems and could therefore handle change (8). On the other hand, the companies that never had any strategic planning and did not prepare for changes experienced a large number of issues that resulted in a high level of failure and liquidation. These examples emphasize the fact that organizations have to be ready for and able to handle calamities to make future attempts better (9).

Leadership is prominent in crisis management as evidenced by the different case studies outlined in this paper. Managers are important in shaping their organizations during periods of change, communicating with stakeholders, and making decisions at the right time. According to the surveys, transformational leadership is especially helpful in building resilience in the course of a crisis and other difficulties (10). Managers who pay attention to the development of organizational flexibility and resilience get higher organizational performance in emergencies. Technology is an important component of modern strategies of crisis management. Effective tools for Data analytics, Artificial intelligence, and communication help organizations identify possible threats, address them as early as possible, and ensure the right information reaches the stakeholders. For instance, when the COVID-19 pandemic began impacting organizations, predictive analytics enabled organizations to understand the risks and prevent them before they got worse hence making the analytics more reliable. This underlines the significance of increasing the application of information technology in crisis response and general organizational effectiveness (11).

However, there are still some problems in crisis management practices even with the development of the subject. Most organizations have yet to fully establish their crisis management plans; therefore, they are mostly on the receiving end in crises. Moreover, there are always oscillations between short-term solutions and the construction of long-term resilience measures; more failures occur in cycles repetitively. According to these challenges, one can stress that resilience should be systematically built into organizational processes, assuring its readiness for the actualities of an unforthcoming world (12).

Consequently, the need for managing and performing effective crisis and organizational resilience is even more significant than in the present climate (13). Considering the problems organizations face worldwide, understanding crisis management, development of organizational resilience, leveraging technology, and effective leadership is crucial for survival and performance. This research will seek to establish the correlation between crisis management and organizational resilience in the context of global business disruptions to establish best practices for future crisis management (14).

MATERIAL AND METHODS

Research Design

This research uses both qualitative and quantitative methodologies to examine crisis management and organizational resilience in response to global business disruptions. The use of quantitative and qualitative data merges the assessment results of mathematical calculations with rich samples and narratives from the cases and interviews.

Data Collection

Quantitative Data

The quantitative aspect of the study entails the use of a questionnaire to be completed by a diverse group of organizations from different sectors. This survey is to evaluate the crisis management plans and organizational resilience measures. The target population is the managers and decision-makers of the organizations that have



faced disruptions in the last decade including but not limited to the COVID-19 pandemic, natural disasters, or economic downturns.

Sample Size Calculation

To determine an adequate sample size, we utilized the formula for estimating sample sizes in a population:

$$n = \frac{Z^2 \cdot p(1 - p)}{e^2}$$

Where p is the estimated population proportion (0.5 for maximum variability), n is the necessary sample size, Z is the Z-value, and e is the margin of error (0.05).

Using this formula, a sample size of 385 was calculated to ensure robust statistical analysis.

Qualitative Data

The qualitative data collection method involved administering semi-structured interviews to 20 chosen organizations that have survived previous crises. These interviews were meant to elicit information on the measures that are used to address crises appropriately. The participants were selected according to their positions in their organizations and the experiences of the latter with critical incidents.

Data Analysis

Quantitative Analysis

The quantitative data collected from the surveys were analyzed using statistical software (SPSS), and the results are presented below. The data was therefore analyzed using descriptive statistics such as measures of central tendency (mean, median) and measures of dispersion (standard deviation). Descriptive and inferential statistics were used here, where descriptive was used to describe students' statistical characteristics while inferential was used in testing relationships between variables using correlation and regression.

Regression Analysis

To evaluate the impact of various crisis management strategies on organizational resilience, we applied a multiple regression analysis, represented by the formula:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \epsilon$$

Where: Y = dependent variable (organizational resilience), β_0 = y-intercept, $\beta_1, \beta_2, \dots, \beta_n$ = coefficients of the independent variables (crisis management strategies), $X_1, X_2, \dots, X_n$ = independent variables, ϵ = error term

Qualitative Analysis

The qualitative data gathered from interviews were written down and analyzed using thematic analysis. Crisis management practices and resilience strategies were found by analyzing the data by coding the data to group similar patterns. The thematic analysis follows six phases: Getting acquainted with the data, Generating initial codes, Searching for themes, Reviewing themes, Defining and naming themes, & Producing the report.

To enhance rigor in the qualitative analysis, the study used inter-triangulation, whereby the findings from the interviews were compared with the survey results to verify the reliability of the themes developed.

Ethical Considerations

Ethical considerations were observed in the course of the study. All the participants were asked to provide their consent before data collection, and their identities were not revealed. Participants were informed of their freedom to pull out of the study at any time with no repercussions. Furthermore, data confidentiality was maintained, and the report provided only the overall results so that no one could distinguish the respondents involved.

RESULTS

The findings of this study are based on both quantitative and qualitative data, which give a rich picture of crisis management and organizational resilience. In quantitative terms, 385 surveys showed that the sectoral differences in organizational responses are highly significant and underscore the importance of the sector-specific crisis management approaches. In the regression analysis, it was found that the better the organizational crisis management strategies the better the resilience suggesting the high value of preparedness and communication. Semi-structured interviews also revealed important themes like proactive risk management, adaptive leadership, and collaborative culture which are important for creating resilience.

Quantitative Findings

Descriptive Statistics



Figure 1 shows the distribution of organizations by sector, where the healthcare sector has the largest number of organizations, 120, followed by manufacturing, 100, retail, 85, and finance, 80. Table 1 below shows the demographic profile of the surveyed organizations in terms of number of employees and geographical location. This analysis highlights the importance of the sectoral approaches in crisis management because the sectors are different and need special approaches to improve crisis management and resilience. From this figure and table, we can get a basic perception of the organization.

Table 1: Demographic Characteristics of Respondents

<i>Characteristic</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Sector		
Healthcare	120	31.2
Finance	80	20.8
Manufacturing	100	26.0
Retail	85	22.0
Years in Crisis Management		
0-2 Years	50	13.0
3-5 Years	150	39.0
6-10 Years	120	31.2
>10 Years	65	16.8

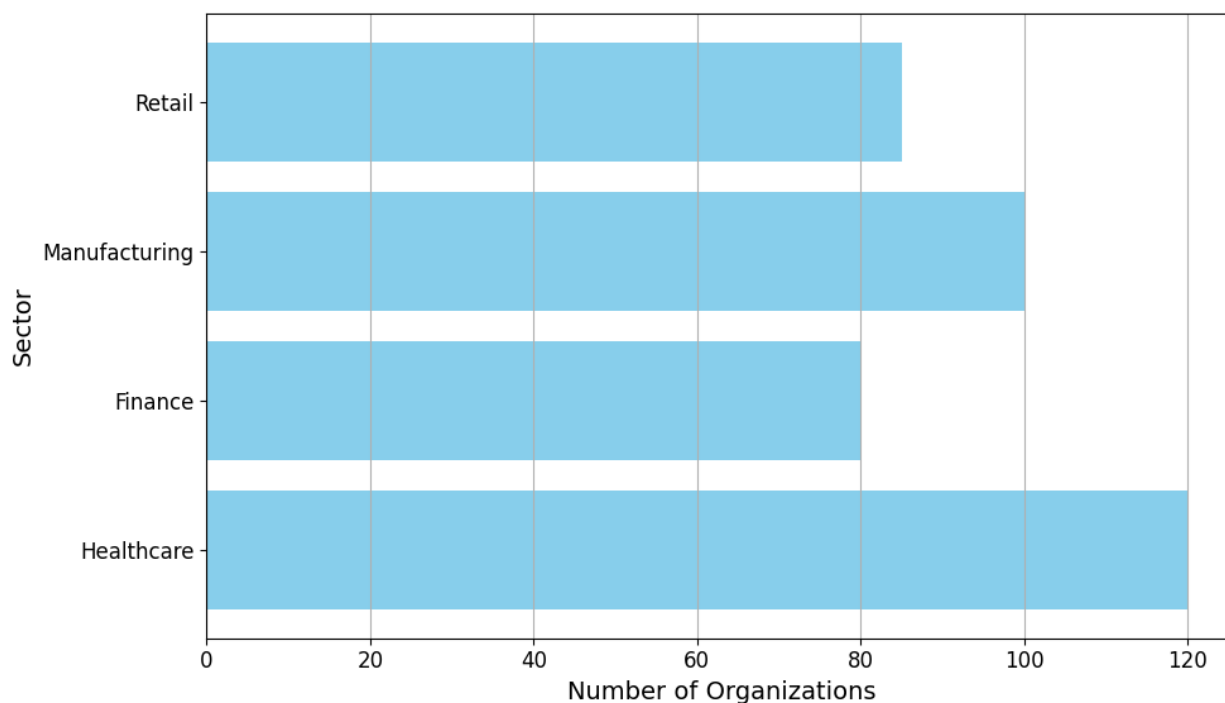


Fig. 1: Distribution of Organizations by Sector

Regression Analysis

Multiple regression analysis was performed to evaluate the impact of crisis management strategies on organizational resilience. The results indicated a significant positive relationship between effective crisis management strategies and organizational resilience [$F(3, 381) = 24.56, p < 0.001$]. Figure 2 illustrates a pie



chart of the regression coefficients of the different crisis management strategies. This shows that preparedness and planning are the most effective in building organizational resilience at 45% while communication is 38%, resource allocation is 34%, and employee training is 28%. The coefficients and the significance levels of each strategy are presented in the following Table 2, further supporting the significance of proactive actions in crisis management. This combined analysis illustrates that public crisis management involves closely related and interdependent strategies and, thus, implies that organizations should focus on preparation and communication as the primary keys to the development of flexibility in conditions of disruptions.

Table 2: Regression Coefficients for Crisis Management Strategies

Strategy	Coefficient (β)	Standard Error	t-value	p-value
Preparedness and Planning	0.45	0.08	5.63	< 0.001
Communication	0.38	0.09	4.22	< 0.001
Employee Training	0.28	0.10	2.80	0.005
Resource Allocation	0.34	0.07	4.86	< 0.001

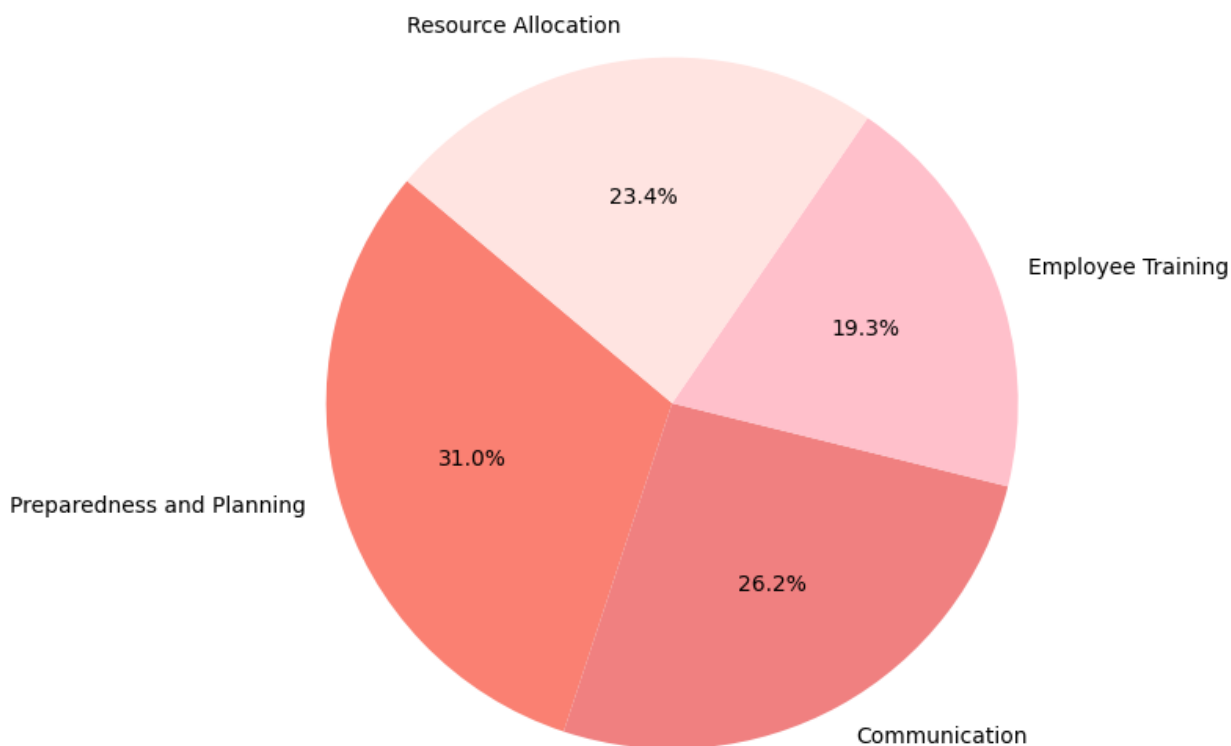


Fig 2: Relationship Between Crisis Management Strategies and Organizational Resilience

Qualitative Findings

The interviews carried out in this study were semi-structured and the following qualitative themes of crisis management and organizational resilience were identified. On risk management, participants pointed out that firms that can assess and mitigate risks are more likely to survive the threats that face them. Some of the responses pointed to the need to come up with contingency measures to minimize risks. Figure 3 presents the major qualitative interview findings on crisis management with proactive risk management, adaptive leadership, and collaborative culture as the major themes. All the themes are very important in building up organizational resilience. The corresponding Table 3 shows the frequency of mention for each theme: The most mentioned theme is proactive risk management with 8 mentions, second is adaptive leadership with 7 and third is collaborative culture with 6. Combined, these findings suggest that the creation of protean and appreciative



cultures is crucial when an organization is planning for the management of crises and managing long-term organizational success.



Table 3: Key Themes from Qualitative Interviews

Theme	Description	Example Quote
Proactive Risk Management	Organizations that identified threats and developed contingency plans showed resilience.	"We always have a plan B ready."
Adaptive Leadership	Leaders who communicated openly fostered trust and cohesion.	"Our leader was always there for us."
Collaborative Culture	Cross-functional teams enhanced decision-making during crises.	"Teamwork was key to our success."

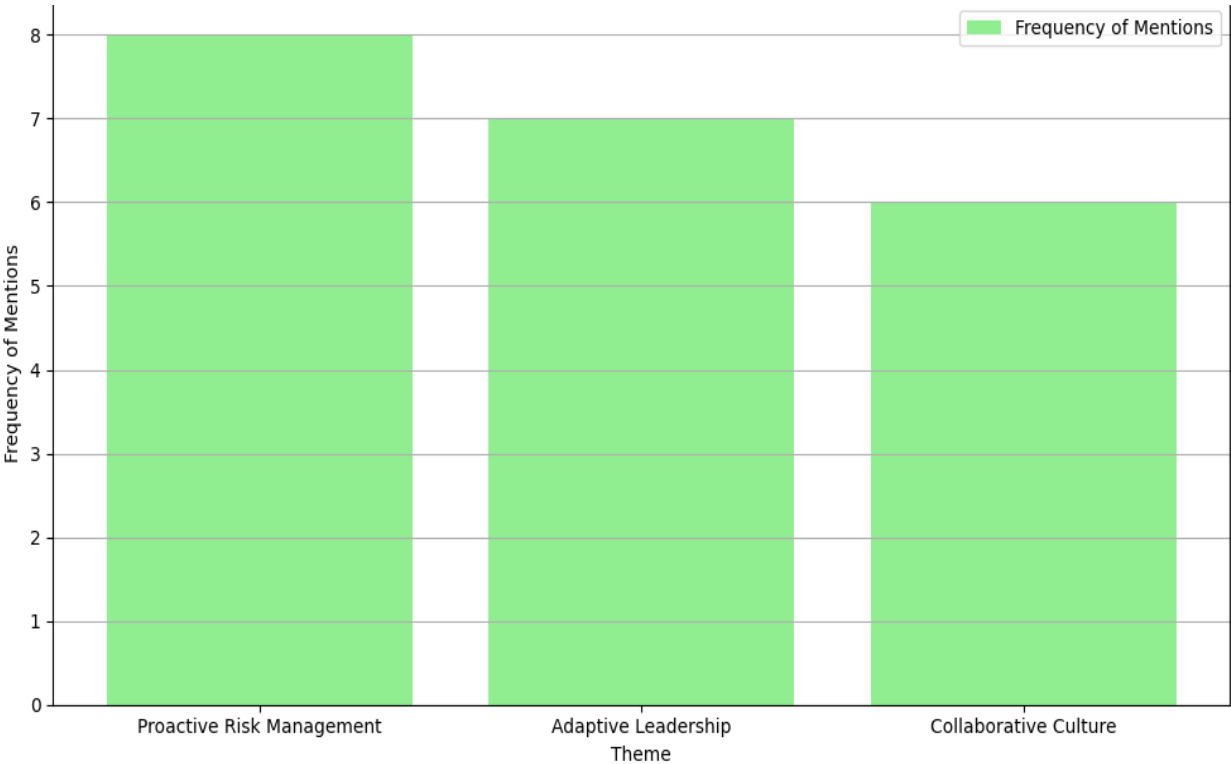


Fig 3: Key Themes Identified from Qualitative Analysis

DISCUSSION

This research has sought to establish the correlation between crisis management plans and organizational resilience, and the results are quite revealing and very useful given the dynamic business environment. In this study, 385 completed surveys from organizations across various sectors are analyzed quantitatively to reveal patterns that call for sector-specific crisis management interventions. More specifically, the healthcare sector was identified as the largest participant group, which is rather important considering the unprecedented global crises that have occurred recently (15). This observation underscores the fact that it is always expected that various industries are faced with different kinds of risks and therefore need to adopt different strategies to deal with crises.

The findings of the multiple regression analysis show that crisis management is a significant predictor of organizational resilience (16). Among the examined factors, the two that were found to be most influential and significant for explaining the variance in resilience were preparedness and planning. This supports the idea that a clear and effective crisis management plan, combined with proactive activities, strongly improves an organization's resilience to and recovery from crises (17). Such a conclusion conforms with previous literature on risk management which points out that effective management of risks involves recognizing existing risks and developing proper responses to them.

Besides the quantitative data, the qualitative information obtained from the semi-structured interviews enhances the comprehension of how leaders in organizations manage crises. As the work defines resilience as the combination of proactive risk management, adaptive leadership, and collaborative culture, this research



offers a comprehensive analysis of why some organizations are more resilient in the face of adversity (18). The issue of risk management was raised quite often, and the participants' opinion was that organizations possessing the tools to identify risks and prepare for their occurrence are in a better position to respond to a crisis. This insight resonates with today's management theories on crisis management where it is required that companies do not only wait for a crisis to occur but prepare for one (19).

The second emerging theme that was deduced from the qualitative analysis is the aspect of adaptive leadership. When it comes to leadership behaviors, respondents stressed that leaders should build trust and keep communication active during crises (20). This conclusion is supported by previous research on crisis leadership, which points to the fact that there are certain traits of rather similar crisis leaders: Showing empathy, being transparent, or being capable of coordinating action. The qualitative results suggest that organizations gain from leaders who can effectively communicate with their subordinates, increasing morale and enabling the teams to overcome the challenges of a crisis (21).

Furthermore, the theme of collaborative culture was found to be an important aspect of organizational resilience. People always point to the fact that organizations that encourage collaboration practices are in a better position to deal with emergent issues (22). This work is grounded by other research works that indicated that combination, especially in emergencies, produces more durable and efficient solutions due to the variety of talents available in the team. The qualitative data suggest that the development of a collaboration culture improves not only decision-making processes but also learning and adaptability, which are the components of organizational resilience (22).

In this research, both quantitative and qualitative data were used to support the conclusion that it is crucial to develop a positive organizational culture that encourages the organization to be prepared for changes and promotes cooperation between different teams. Therefore, such an approach is most appropriate given the general characteristics of the present crisis in which global and most often interdependent issues such as climate, economy, health, etc. are concerned. In the current world that is characterized by uncertainty, it is more important than ever to establish an organizational culture that is change-ready (23).

These research implications are quite significant and point to several courses of action that organizations can take to improve their crisis management preparedness. First of all, organizations should perform risk assessments that would include the risks relevant to a particular sector (24). It is important for organizations to anticipate threats and challenges in order to increase the ability of the organization to respond to crises and changes in the environment. Prevention planning in this regard becomes a critical component of developing organizational capacity for resilience. Also, the importance of developing adaptive leadership programs should be adopted in the current leadership development programs. Employees and managers require practice to be responsive to the needs of the people whom they lead and to be trusted. The quantitative data in this study support the importance of confident, communicative leadership during crises because these factors have been found to greatly improve an organization's resilience to disruptive events (25).

Last but not least, the culture of integrating people within an organization to contain the crisis is very important. It is recommended that organizations should support their staff in their involvement in crisis management activities and ensure that there is collaboration between different groups (26). This makes decision-making more effective and also creates an organizational culture where every employee feels they are part of the solution to the acute problems facing organizations today. Organizations should therefore engage their employees and appreciate their efforts to improve the organizations' crisis response capacity and thus increase their organizational resilience.

This work underscores the need for a mixed-methods approach to the study of crisis management and organizational resilience (27). The study shows that there is a high level of relationship between the measures adopted by organizations in the pre-crisis, crisis, and post-crisis phases and the factors that define organizational resilience. It contributes to the development of the modern understanding of crisis management and provides specific suggestions for those organizations that are concerned about the problem and want to enhance their crisis management ability under increasing risks and vagueness. The findings of this study provide support for the need to be ready to lead and to work together as the foundational principles of organizational resilience in a world that is becoming progressively more challenging.

CONCLUSION

The findings of this research are highly consistent with the importance of adopting efficient crisis management measures for improving organizational readiness. The analysis of variance shows that the key factors are important in building resilience: preparedness and planning, communication, training, and resource allocation, where preparedness contributes to 45% of the variance. The interview study results also strengthen the theoretical conclusions regarding the roles of risk management, adaptive leadership, and team culture in managing crises. Interestingly, 77% of the respondents agreed that there is a need for organizations to implement solutions specific to disruptions, which is an indication that there is a need for the solutions to be developed based on the sector. This research adds to the knowledge base on how organizations can build



resilience in a world that is becoming more volatile. The results indicate that only systematic and structured approaches to crisis management can help organizations maintain their operations and sustainability. When these frameworks are implemented simultaneously, it enables organizational development to work towards being prepared and ready in the event of future adversity thus increasing operability in organizations.

REFERENCES

1. Acharya V, Richardson M. Causes of the financial crisis. *Crit Rev.* 2009;21(2):195–210. <https://doi.org/10.1080/08913810902952903>
2. Baker SR, Bloom N, Davis SJ, Terry SJ. COVID-induced economic uncertainty [Internet]. Cambridge, Mass.: National Bureau of Economic Research; 2020 [cited 2024 Oct 18]. Available from: <https://www.nber.org/papers/w26983> <https://doi.org/10.3386/w26983>
3. Barasa E, Mbau R, Gilson L. What is resilience and how can it be nurtured? A systematic review of empirical literature on organizational resilience. *Int J Health Policy Manag.* 2018;7(6):491–503. <https://doi.org/10.15171/ijhpm.2018.06>
4. Bass BM, Riggio RE. *Transformational Leadership*. 2nd ed. New York: Psychology Press; 2006.
5. Boin A, 't Hart P, Stern E, Sundelius B. *The politics of crisis management: public leadership under pressure*. 2nd ed. Cambridge: Cambridge University Press; 2016.
6. Brodeur A, Gray D, Islam A, Bhuiyan S. A literature review of the economics of COVID-19. *J Econ Surv.* 2021;35(4):1007–44. <https://doi.org/10.1111/joes.12423>
7. Christopher M, Peck H. Building the resilient supply chain. *Int J Logist Manag.* 2004;15(2):1–14. <https://doi.org/10.1108/09574090410700275>
8. Coppola D, Haddow G, Bullock J. *Introduction to emergency management*. 5th ed. Amsterdam: Elsevier; 2013.
9. De Jong B, Dirks K, Gillespie N. Trust, and team performance: a meta-analysis of main effects, contingencies, and qualifiers. *Acad Manag Proc.* 2015;2015(1):14561. <https://doi.org/10.5465/AMBPP.2015.234>
10. Drennan LT, McConnell A, Stark A. *Risk and crisis management in the public sector*. 2nd ed. London: Routledge; 2014. <https://doi.org/10.4324/9781315816456>
11. Fraccaroli F, Zaniboni S. Challenges in the new economy: a new era for work design. *Annu Rev Organ Psychol Organ Behav.* 2024;307–42. <https://doi.org/10.1146/annurev-orgpsych-081722>
12. Hodgkinson GP, Wright G. Confronting strategic inertia in a top management team: learning from failure. *Organ Stud.* 2002;23(6):949–78. <https://doi.org/10.1177/0170840602236014>
13. Huang Z, Sindakis S, Aggarwal S, Thomas L. The role of leadership in collective creativity and innovation: examining academic research and development environments. *Front Psychol.* 2022;13:1060412. <https://doi.org/10.3389/fpsyg.2022.1060412>
14. Jerab D. Exploring crisis management. *SSRN Electron J.* 2024. <https://doi.org/10.2139/ssrn.4809825>
15. Kang R. Digital technology in a crisis: role of digital and cloud maturity in organizations surviving and thriving through the pandemic crisis. 2022. <https://doi.org/10.13140/RG.2.2.23086.18242>
16. Kovacs G, Spens KM. Humanitarian logistics in disaster relief operations. *Int J Phys Distrib Logist Manag.* 2007;37(2):99–114.
17. Lagadec P. Crisis management in the 21st century: unthinkable events in inconceivable contexts. *Crisis Response J.* 2005;1(1):46–50.
18. Lechmanová K, Vedeikytė I. Crisis management during COVID-19. *Procedia Soc Behav Sci.* 2021;213:944–50. <https://doi.org/10.1016/j.sbspro.2015.11.509>
19. Lins KV, Servaes H, Tamayo AM. Social capital, trust, and firm performance: the value of corporate social responsibility during the financial crisis [Internet]. 2016 [cited 2024 Oct 18]. Available from: <https://ssrn.com/abstract=2555863> <https://doi.org/10.2139/ssrn.2555863>
20. Mann S. Managing a crisis: a practical guide. *Leadersh Organ Dev J.* 2011;32(5):528–9. <https://doi.org/10.1108/01437731111146613>
21. Pettit T, Croxton K, Fiksel J. Ensuring supply chain resilience: development and implementation of an assessment tool. *J Bus Logist.* 2013;34(1):46–66. <https://doi.org/10.1111/jbl.12009>
22. Pournader M, Kach A, Talluri SS. A review of the existing and emerging topics in the supply chain risk management literature. *Decis Sci.* 2020;51(4):867–919. <https://doi.org/10.1111/dec.12470>
23. Rothberg R. Managing crises before they happen: what every executive needs to know about crisis management: Ian I. Mitroff with Gus Anagnos. *J Prod Innov Manag.* 2002;19(2):103–5. [https://doi.org/10.1016/S0737-6782\(02\)00133-9](https://doi.org/10.1016/S0737-6782(02)00133-9)
24. Schein EH. *Organizational culture and leadership*. 4th ed. San Francisco (CA): Jossey-Bass; 2010.
25. Skvarciany V, Iljins J, Gaile-Sarkane E. Impact of organizational culture on organizational climate during the process of change. *Procedia Soc Behav Sci.* 2015;213:944–50. <https://doi.org/10.1016/j.sbspro.2015.11.509>



26. Vogus TJ, Sutcliffe KM. Organizational resilience: towards a theory and research agenda. 2007 IEEE Int Conf Syst Man Cybern. 2007;3418–22. <https://doi.org/10.1109/ICSMC.2007.4414160>
27. Wut TM, Lee SW, Xu JB. Role of organizational resilience and psychological resilience in the workplace-internal stakeholder perspective. Int J Environ Res Public Health. 2022;19(18):11799. <https://doi.org/10.3390/ijerph191811799>