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The Impact of Strategic Planning and Strategic Thinking on Crisis Management: An Analytical Study on Governmental and Non-governmental Organizations in the KRI

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Abstract

Crises of organizational misdeeds arise when management takes certain decisions knowing the harmful consequences of the same towards the stakeholders and external parties. The purpose of this study is to determine the impact of strategic planning and strategic thinking on crisis management. The importance of our research is that crisis management, A timely and accurate response to any critical incident is critical to mitigating impacts, a successful crisis management plan can prevent delays, and strategic thinking helps you identify opportunities for change, and take advantage of them. It also helps staff anticipate crises that may occur in the future. The study was conducted through Google Form. A survey of Kurdistan Regional Government residents aged 20 to over 60 years and residents of Halabja, Suleimani and surrounding areas, through a simple Random sample. Approximately 120 respondents were recruited who were recruited through an adaptive questionnaire. After analyzing the data through SPSS and its Correlation and regression models. Finally, strategic thinking and strategic planning play a crucial role in effective crisis management. By anticipating potential crises, developing proactive strategies and implementing structured plans, organizations can better navigate uncertain and challenging situations. Overall, integrating strategic thinking and planning into crisis management processes can enhance an organization’s ability to mitigate risks, respond quickly, and recover quickly from crises.

Keywords: Strategic planning, Strategic thinking, Crisis management
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Introduction

An unforeseen event or the unintended outcome of an event that was thought to pose a risk can both lead to a crisis. Either way, choices must almost always be made rapidly during crises to minimize harm(Alvarez, Newman, Barney, & Plomaritis, 2023). An organizational crisis is characterized by uncertainty about the source, effect, and means of resolution as well as the perception that decisions must be made quickly. It is a low-probability, high-impact occurrence that jeopardizes the organization's viability (Pearson & Clair, 1998)

Crisis management is mainly influenced by strategic thinking and strategic planning. Strategic thinking is about unravelling the mysteries of the chaotic world around us and harnessing powerful forces to our own ends. It means utilizing tools of analysis and tactics to take decisive and prudent, action that gives us the best possible chance of achieving our objectives whether those objectives are personal or professional(Ridgley et al., 2019). The goal of strategic thinking, which is an ongoing process, is to make sense of a complicated world by getting rid of ambiguity. In order to create an effective strategic plan, this process entails both situational investigation and the creative fusion of the analysis results.

With the aid of strategic thinking, a manager may determine which aspects are crucial to accomplishing the goals and why they are important. Porter (1997) compares strategic thinking to a stick that holds several of the organizational subsystems together(Allahveisi, Yousefian, Rezaie, & Nikkhoo, 2019).

The concept of strategic thinking is surrounded by a variety of definitions and ideas; thus, this section addresses the ones that are covered by the majority of the literature on the subject. They mostly rest on the various authors' perspectives on strategy. Parts of strategic thinking, features of decision-making, and organizational environments come next. The goal of the entire chapter on strategic thinking is to provide an understanding of how the thought developed and to lay the groundwork for gathering primary evidence(Krasnici & Fors Lindeberg, 2020). Additionally, strategic planning is the process of observing future developments and finding themes and patterns to measure the Department or Office's organizational priorities against. It refers to coordinating a team, division, section, or unit inside the Departments and Offices with a higher-level strategy.

Importance of crisis management a timely and accurate response to any critical incident is critical to mitigating the impact, requiring a crisis management plan. A successful crisis management plan can prevent delays, and strategic thinking will help you identify opportunities for change, and take advantage of them. It also facilitates the development of a strategic plan that allows organizations to anticipate what is likely to happen and prepare accordingly, and helps staff anticipate crises that may occur in the future.

No one plans to fail, yet even the most well-managed companies can experience an internal or external crisis. Over the years, actual business experience has demonstrated that crises can be avoided, minimized, or prevented. In order to prepare preparations for handling possible crises, a lot of contemporary organizations try to predict them before they happen. Organizations need to be able to quickly alter their course if and when a crisis arises in order to survive.

For all parties involved, strategic planning entails identifying the most practical and efficient means of carrying out the mission, as well as comprehending the obstacles, trends, and difficulties at hand as well as the primary beneficiaries or clients and their needs. A sound plan promotes accountability, outcomes, and focus(Krasnici & Fors Lindeberg, 2020). Establishing a routine through planning helps to save valuable time. Prior to starting pre-crisis preparation, your management team has to consider the kinds of crises that your firm and its many companies might encounter. (Waryjas, 1999). In a nutshell, strategic planning is the process of recording and determining your organization's direction by evaluating both your current state and future state. It provides you with a location to document your: (goals, values, extended objectives, and action plans) (Bier-Laning et al., 2021).

Literature Review and Hypothesis Development

Since the globe has gotten smaller due to information, communication, technological development, and the cognitive revolution, organisations are confronting exciting and dynamic difficulties in the twenty-first century. These issues could result in successive crises for these organisations and dangers. Organisational sustainability and survival can take many different shapes in the modern world. Some organisations are changing as a result of intense rivalry, advancements in technology, and shifts in the political and economic landscape. Although these factors are beyond their control, businesses can adapt by developing strategic plans in response to change as it occurs(Yusuf, Amsbaugh, Burton, Chesney, & Woo, 2017).

The process of looking to the future, creating a picture of it based on present events, and influencing the forces that will impact us is known as strategic planning. Technically speaking, strategic planning addresses only a portion of the problem of organisational effectiveness. Issues with organisations. In light of this, the idea of strategic thinking is developed to close gaps in knowledge. The constraints that experience with strategic planning has demonstrated(Bouhali, Mekdad, Lebsir, & Ferkha, 2015). In addition to increasing the effectiveness of developing and implementing strategic plans to battle crises, the suggested process of strategic management in crisis conditions serves as a means of preventing and eliminating crisis phenomena. The use of prearranged frameworks and procedures for crisis management could offer a chance to uphold stringent oversight of top-level management decisions and to pinpoint crucial duties for mitigating crisis developments as they arise. During a crisis, a company's ability to complete assigned duties promptly and effectively can boost the effectiveness of its anti-crisis measures (Groh et al., 2014).

The crisis facing the public company Management is directed to practice strategic thinking in the face of and management of potential crises. Based on an underlying assumption that relies on strategic thinking in its dimensions (systematic thinking, foresight, future vision) something significant Influence on the capability of the research organization in crisis management through its specific phases. There is also a clear effect of foresight in perceiving the crisis in the future (Al-Janabi, Al-Bayati, ALtaie, Elzupir, & Yousef, 2022).

In this study go on to talk about how difficult it is to determine whether crisis management was successful or not. We now provide definitions of "crisis management" and "crisis management effectiveness" based on the previously mentioned study. Whatever the organisational literature currently suggests. The methodical effort made by members of an organisation in collaboration with external stakeholders to prevent crises or to skilfully handle those that do arise is known as organisational crisis management. Effective crisis management within an organisation is demonstrated, when possible, crises are avoided or when important stakeholders feel that the short- and long-term positive effects of crises exceed the negative ones(Pearson & Clair, 1998). When organisational and external stakeholder losses are minimised, learning takes place so that lessons are carried over to future incidents, and operations are sustained or resumed (i.e., the organisation is able to maintain or regain the momentum of core activities necessary for transforming input to output at levels that satisfy the needs of key customers), crisis management efforts are effective. It has proven more challenging to distinguish between effective and ineffective crisis management in practice, despite the fact that researchers have proposed criteria for doing so(Boin, McConnell, & t Hart, 2008).

Strategic thinking is the means by which strategy can be linked to future reinvention, generating new competitive space rather than battling with sluggish growth or even contracting markets. The goals of the strategic thinking/planning cycle are not many strategies but rather distinct perspectives backed by one-of-a-kind activity systems. Strategic thinking challenges the conventions around strategy itself(Nadler, 1994).

The instruments that are used at each level of the strategic management process serve as incentives rather than being significant in and of themselves. both analytical and creative thinking. Ideally, there Dialectical mental processes that can diverge and then integrate, be imaginative and then observe and be constructed but also analyse ramifications for the real world are required. Having the capacity to perceive both the larger picture and the ramifications for operations—qualities that distinguish exceptional leaders and strategists(Porter, 1996).

Rather than serving as a comprehensive list of all research conducted in each domain, our discussion of these perspectives is intended to help us define terms like "organizational crisis" and "crisis management," and we create a thorough model of the crisis management process that takes into account technological, social-political, psychological, and structural assumptions (Koushafard, 2013). feels that creating comparison methods to discover an appropriate condition in an industrial environment is the primary problem of the strategic process. Additionally, the process of strategic management yields a plan that the company can use to compete in the market. Keep strategy and crisis management closely related. The susceptibility of the strategic management process can be considerably decreased by concentrating on both the crisis management method and the strategic management process at the same time. (Rached, Hobeika, Karam, Kourié, & Kattan, 2018). feels that business managers need to prepare and think strategically during a crisis by handling both the great possibilities and the bad risks that the crisis continuously brings. This is because business managers are particularly vulnerable to the consequences of crises, which puts pressure on them.

How can you improve your ability to plan ahead, outsmart your rivals, and steer clear of unpleasant surprises? Strategic thinking provides the solution. Strategic Contemplation a collection of abilities and methods for long-term planning, competitive intelligence, critical decision making, and problem solving. Varge & Seville have highlighted four primary things that become affected in terms of strategy during these periods, despite the fact that strategy is crucial to crisis management. (1): While strategy as a concept concentrates on an organization's long-term goals, emergencies may necessitate immediate action (2): While crises may reduce that control, strategic management typically depends on having more influence over what occurs within and outside of the company. (3) Organisations may experience overwhelming crises at times, to the point that neither developed nor implemented strategies are effective. (4): A typical strategic management environment gives an organisation the option to choose from a variety of approaches or distinct courses of action. In an emergency, these choices might be drastically (Vargo & Seville, 2011).

An organisation can recover from a crisis more quickly and effectively if it can predict and prepare for additional crises, regardless of whether it can completely prevent them. Although planning cannot stop all crises, it can help an organisation deal with them more skilfully when they do occur. A fundamental principle of crisis management is that no crisis ever transpires precisely as expected or orchestrated. Because of this, crisis management that works is a continuous process rather than a one-time occurrence(Greening & Gray, 1994).

Research Methods

The researchers used the probability sampling method to collect the data, the research design chosen for the study is the survey research to collect data required to test hypotheses which includes governmental and non-governmental organizations in the Kurdistan Region of Iraq. And the researchers designed a questionnaire instrument as a Google form, which consist of the following sections: Section One: Demographic variables. The demographic information was collected with closed-ended questions, through (5) factors; (Gender, Age, Certificate level, Organization Status, and Years of Experience). Section Two: Quality of Strategic Decision-Making, which measured the quality of strategic decision-making through (15) items through (3) dimensions (Strategic planning in crisis management, Strategic thinking in crisis management, and Strategic planning and Strategic thinking in crisis management) which are the independent variables of the study. Section Three: Crisis Management, which measured the crisis through (10) items which is the dependent variables and both of the two last sections on a Likert-type scale (Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4 and Strongly Agree=5) (H. T. Blbas & Faraj, 2022; Faraj & Jafr, 2020).

The sample of this study includes 146 respondents from governmental and non-governmental organizations in the Kurdistan Region of Iraq. Primary source data were used in this study and data was collected by researchers using a questionnaire form as a Google form. The area of this study research includes the employees of all governmental and non-governmental organizations in the Kurdistan Region of Iraq.

The Kurdistan Region of Iraq is located in the Middle East within the Federal Republic of Iraq and is located in the north of the country. Iran is the eastern border of the Kurdistan Region, Turkey is on the northern border, north-eastern Syria is on the western border, and southern Iraq is on the entire southern border of the Kurdistan Region (Faraj, 2024a, 2024b).

Correlation and Regression

(Aziz, Saeed, & Faraj, 2022) Identified that, correlation analysis is used in statistics to describe the pattern or relationship between independent (Predictor) variables and dependent (Response) variables. If they move towards the same direction, the correlation is positive; if they move in opposite directions, the correlation is negative and Correlation coefficients go from −1 (perfect negative correlation) to +1 (perfect positive correlation), while 0 indicates no correlation (Udovičić, Baždarić, Bilić-Zulle, & Petrovečki, 2007).

Regression analysis is a statistical method that is used for undertaking and modeling the functional relationship between a response variable and a set of explanatory variables (Sharif et al., 2025). Multiple Linear Regression were used to identifying the predictor (independent) variables including Decision-Making Approach, Decision-Making Culture, and Decision-Making Competence that predict response (Dependent) variable (Crisis Management) (Beers & Anderson, 2021).

Reliability Statistic

The test helps in checking the consistency of the questionnaire will give similar results if implemented in another area. The value is supposed to be above 0.5 and the higher the better. For this purpose, the researchers selected 20 forms randomly to conduct a reliability test for all independent variables and dependent variables beginning the main investigation to confirm the validity of the questionnaires using Cronbach's alpha to assess the consistency of the data (Faraj, Salih, et al., 2024).

Table 1 shows the reliability test for our research questionnaire explaining Cronbach's alpha values for strategic planning (0.821), and for strategic thinking (0.878), then for strategic planning and thinking (0.909), and for crisis management (0.888) Finally (0.921) for all independent and dependent variables.

Table1: Reliability test for all study variables

	Strategic Planning	Strategic Thinking	Strategic Planning - Strategic Thinking	Crisis Management	Independent variables and dependent variable
Numbers of Variables	6	6	12	6	18
Cronbach's Alpha	0.821	0.878	0.909	0.888	0.921

Conceptual Model

Simple and Multiple Linear Regression

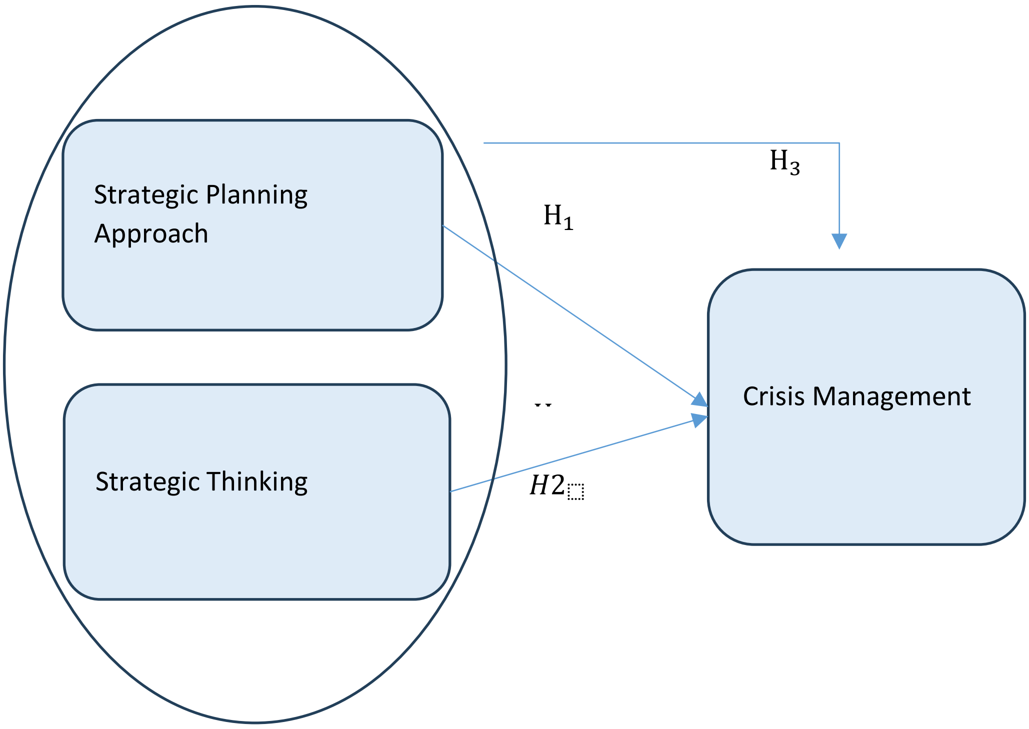

Figure1: Represented the Research Model

Research Hypotheses

H_1: There is a significant positive impact of Strategic Planning on crisis management.

H_2: There is a significant positive impact of Strategic Thinking on crisis management.

H_3: There is a significant positive impact of Strategic Planning and Strategic Thinking on crisis management.

Statistical Tools

Data were analyzed using SPSS V.26 and researchers consider the descriptive and inferential methodology for this study. Descriptive analysis used to show frequency and percentages of our first section of demographic questions(Abudlqadir, Hama, & Faraj, 2020; Faraj, Azam, Ali, & Hussein, 2024). In addition, researchers used correlation and regression method to show the relationship between variables.

Descriptive Statistics

First of all, researchers used descriptive statistics which can help in summarizing data in the form of simple quantitative measures such as percentages or means (H. T. A. Blbas et al., 2024; Omer, Faraj, &

Mohamad, 2023). Table2 shows descriptive statistics for demographic questions that have been used in this study which include gender, age, certificate level, organization status, and years of experience).

Table2: Descriptive Statistics for Demographic Questions

Demographic Questions		Frequency	Percent (%)
Gender	Male	77	64.2%
	Female	43	35.8%
	Total	120	100%
Age	Below 25 years	32	26.7%
	25-30 years	63	52.5%
	36-45 years	23	19.2%
	Above 45 years	2	1.7%
	Total	25	20.8%
Certificate Level	Diploma	58	48.3%
	Bachelor	32	26.7%
	Master	5	4.2%
	Others	25	20.8%
	Total	58	48.3%
Organization status	Employee	50	41.7%
	Manager	16	13.3%
	University Lecturer	22	18.3%
	Other Occupation	32	26.7%
	Total	120	100%

Table 2 contains the demographic questions categorized into different levels such as gender, age, qualifications and occupation. This table shows that out of 120 respondents, males are 64.2% more than females (36.8%), The slight predominance of female participants ensures that the findings are inclusive and not skewed toward one gender, thereby enhancing the generalizability and comprehensiveness of the research outcomes. Then the age group of 31-40 with 52.3% and the lowest with 1.7% for the age of 51-60, In certificate, this distribution indicates that the majority of the study participants are young adults, particularly those in their early thirties, which could influence the perspectives and outcomes related to the research topic. the highest participation rate was those with bachelor's degrees (48.3%) and the lowest participation rate in degrees (4.2%) was those with different degrees.

Inferential Statistics

In this part of the research, researchers tried to demonstrate the Correlation analysis to show the relationship between variables, and to analyze the hypothesis, they employed simple linear regression and multiple linear regression analysis at 95% of confidence intervals.

Table3: Correlation matrix between independent variables and dependent variable

Correlations	Strategic planning	Strategic thinking	Crisis management
Strategic planning		.745**	.766**
Strategic thinking	.745**		.874**
Crisis management	.766**	.874**	

** Correlation is significant at the 0.01 level (2-tailed).

Table 3 revealed a significantly positive relationship between the independent variable (Strategic planning) and dependent variable (crisis management) respectively (766.), and the relationship between the independent variable (Strategic thinking) and dependent variable (crisis management) is strongly correlated with (874).

Table4: Simple Linear Regression Analysis between the independent variable (Strategic Planning) and Dependent Variable (Crisis Management)

	Coefficients			Model Summary		ANOVA	
	B	T	P-Value				
(Constant)	0.234	0.171	0.000	R	R square	F	P- value
Strategic planning	0.856	0.066	0.000	.766	.587	167.855	0.000

In Table 4, we can observe that there is a positive between the independent variable (strategic planning) and the dependent variable (crisis management). The table above shows the ANOVA table to check the goodness of fit for the predictor variable (strategic planning) on the response variable (crisis management), so the model is fit based on F =167.855, P-Value < 0.000).

It also includes the constant result, range, t-value, and coefficient of determination (R^2). The regression coefficient (B) for is 0.234, this means that adding one unit to the decision approach increases crisis management by 0.234. The coefficient of determination (R Square) explains how much variation in the dependent variable is explained by the independent variable. The determination of the coefficient (R^2) of 58.7% reflects that crisis management changes are determined by team motivation and how the management is done and strategic planning that affect crisis coping.

Table5: Simple Linear Regression Analysis between the independent variable (Strategic Thinking) and Dependent Variable (Crisis Management)

	Coefficients			Model Summary		ANOVA	
	Beta coefficient	t-value	P-value	Multiple R	R Square	F	p-value
(Constant)	0.032	0.123	0.000	0.891	0.793	224.626	0.000
Strategic planning	0.291	0.070	0.000				
Strategic thinking	0.711	0.066	0.000				

Table 5 Showed the positive correlation between the dependent variables (Crisis management) and the independent variable (Strategic thinking). After finding the positive relationship between the dependent variable (Crisis management) and the independent variable (Strategic thinking) and the results of analysis it is very important to understand the prediction and rate of impact of thinking on a crisis in this study. From the Pearson correlation analysis, we can see that there is a strong positive relationship between and therefore, the model is fit based on F = 380.611, P-Value < 0.000).

The table above also shows the constant result, slope, t-value and coefficient of determination (R^2). The regression coefficient (B) for strategic thinking is 0.913, which means that a one-unit increase in strategic crisis management thinking increases by 0.913. coefficient determination (R^2=0.685), suggesting that. 68.5% of crisis management changes are predicted by strategic thinking and the remaining change is. As for other factors affecting Crisis management.

Table 6: Multiple Linear Regression analysis among independents variable (Strategic planning and Strategic thinking) and dependent variable (Crisis management)

	Coefficients			Model Summary		ANOVA	
	B	T	P-Value				
(Constant)	0.289	0.112	0.000	R	R Square	F	P-Value
Strategic thinking	0.913	0.047	0.000	0.874	.763	380.611	0.000

In Table 6, Multiple regression was used to test whether strategic thinking and strategic planning significantly predicted crisis management. The results show that the rate of. Determination (R=0.891), therefore in crisis management (Strategic thinking and Strategic planning), collectively, F =224.626, P<0.000, therefore, the model is appropriate.

The regression coefficient (B) for strategic planning is 0.291, which means, increase one unit for strategic planning crisis management increases by 0.291, then, the regression of coefficient (B) for strategic thinking is 0.711, so, adding one unit to Strategic Thinking Increase crisis management by 0.711 due to current thinking approach and management skills.

Discussion

As a result of our study due to the quantitative test the factors that affect crisis management are presented in which two variables were discussed that affect crisis management type. As Table 3 explains the impact of Strategi planning on crisis management. Table B shows that Strategic planning increases Tiran management by0.858. This means that Strategic thinking is an effective method. Also, the result that the value (p value=0.00) means that planning has been able to influence crisis management. And the last table that Table 5 describes Effects of each of planning and strategic thinking together on crisis management. As shown by the p value of 0.00 indicates that both types of strategic planning and strategic thinking together can have an impact on crisis management. Table B also shows that strategy planning affects crisis management by0.291, and strategic thinking affects crisis management by0.711. This analysis shows the attitude and influence that each type of variables has on Crisis management.

This aligns with prior research by Jaques (2009), who emphasized the importance of strategic thinking in preparing for crisis scenarios, noting that organizations that encourage foresight and scenario analysis tend to respond more effectively to disruptions. (Jaques, 2009). Similarly, Mitroff, Pearson, & Harrington (1996) argued that strategic planning provides a formalized framework for crisis response, enhancing coordination and resource allocation(Mitroff, Pearson, & Harrington, 1996). The synergy of both approaches—strategic planning for structure and strategic thinking for adaptability—has also been highlighted in a comparative study by Parnell, Koseoglu, and Dent (2012) (Parnell, Koseoglu, & Dent, 2012), which found that high-performing firms integrate both elements effectively in crisis-prone environments(Parnell et al., 2012).

Strategic thinking and Strategic planning play a crucial role in effective crisis management. By anticipating potential crises, developing proactive strategies, and implementing structured plans, organizations can better navigate through uncertain and challenging situations. Strategic thinking helps in identifying emerging threats and opportunities, while strategic planning ensures that resources are allocated efficiently and actions are coordinated effectively during a crisis. Overall, integrating strategic thinking and planning into crisis management processes can enhance an organization's ability to mitigate risks, respond promptly, and recover swiftly from Crises.

Conclusion

Strategic thinking and strategic planning play a crucial role in effective crisis management. By anticipating potential crises, developing proactive strategies, and implementing structured plans, organizations can better navigate through uncertain and challenging situations. Strategic thinking helps in identifying emerging threats and opportunities, while strategic planning ensures that resources are allocated efficiently and actions are coordinated effectively during a crisis. Overall, integrating strategic thinking and planning into crisis management processes can enhance an organization's ability to mitigate risks, respond promptly, and recover swiftly from crises.

Recommendations

Based on the study results and researchers' conclusions, the researchers suggest the following recommendations to meet the study objectives:

1. Institutions should work on training crisis management teams through strategic planning and strategic thinking to be able to anticipate, solve and manage crises and be able to make the right decisions in a timely manner.
2. Along with strategic planning and thinking, the groundwork for crises should be prepared in advance.
3. In the event of crises, the entire council, management and every individual in the organization should cooperate with the entire crisis management team in all aspects and follow the decisions that have been made, based on the strategic plans.
4. After doing all the work to handle a crisis and manage all the direct and side effects, you need to analyze and go through all the past circumstances or wrong things that likely led to the crisis and

what could be done to resolve it differently or even avoid, which they all mat effect on the decisions that may be made.

5. A huge part of successfully handling a crisis process is communication, and the effective one is where you explain everything to your employees with case studies and examples. Moreover, communicate with them to make them feel involved in decisions and know the company's ability to survive this crisis.
6. Redesign incentive systems to increase employee’s loyalty; develop managers ability to revealing the future; encourages managers to empower the staff like including them in events that will assist them in their professional growth or make the staff re-think the ideas that have not been previously discussed, also encourages employees in participating in decision-making process and delegation of power based on scientific basis; Finally, pay more attention to the decisions made to provide all the information to make high quality decisions in order to eradicate crises.
7. You should never ignore crises or think that the crisis may not go away on its own. Remember that whatever you do to deal with a crisis, it can be done.

Future Research

According to the results of this study and the impact of the variables, there may be several other factors that can be used as an effective weapon in crisis management for future research such as the role of leaders in crisis management and the impact of human resources, as well as the impact of communications effective crisis management, the impact of human resource management in managing administrative crises, management centralization and decentralization in management and effectiveness On managing and resolving administrative crises.

Bibliography

Abudlqadir, A. H., Hama, B. E., & Faraj, S. M. (2020). The effects of financial crisis on birth rates in Halabja province from 2014 to 2018. *Economics, Management and Sustainability, 5*(2), 132-137.

Al-Janabi, A. S., Al-Bayati, A. F., ALtaie, O. A., Elzupir, A. O., & Yousef, T. A. (2022). Co (II), Ni (II), and Zn (II) complexes of 5-methyl-1, 3, 4-oxadiazol-2-amine Schiff base as potential heat shock protein 90 inhibitors: Spectroscopic, biological activity, density functional theory, and molecular docking studies. *Applied Organometallic Chemistry, 36*(12), e6899.

Allahveisi, A., Yousefian, E., Rezaie, M., & Nikkhoo, B. (2019). Comparison of morphometric and morphology oocytes after in vitro maturation between healthy women and patients with polycystic ovarian syndrome. *Acta Endocrinologica (Bucharest), 15*(3), 295.

Alvarez, S., Newman, A. B., Barney, J., & Plomaritis, A. (2023). Creating stakeholder legitimacy in the eyes of stakeholders: The case of Havana's paladares. *Entrepreneurship Theory and Practice, 47*(1), 17-65.

Bier-Laning, C., Cramer, J. D., Roy, S., Palmieri, P. A., Amin, A., Anon, J. M., . . . Cognetti, D. M. (2021). Tracheostomy during the COVID-19 pandemic: comparison of international perioperative care protocols and practices in 26 countries. *Otolaryngology–Head and Neck Surgery, 164*(6), 1136-1147.

Blbas, H. T., & Faraj, S. M. (2022). A statistical study of the influence of COVID-19 on the agricultural supply chain (vegetative) production in Halabja governorate. *Cihan University-Erbil Scientific Journal, 6*(1), 1-6.

Blbas, H. T. A., Kahwachi, W. T. S., Ahmed, S. K., Aziz, K. G., Faraj, S. M., & Mohammed, M. S. (2024). Factors contributing to vitamin D deficiency in Erbil, Iraq: A statistical investigation. *Clinical Nutrition Open Science, 54*, 151-162.

Boin, A., McConnell, A., & t Hart, P. (2008). *Governing after crisis*: Cambridge University Press.

Bouhali, R., Mekdad, Y., Lebsir, H., & Ferkha, L. (2015). Leader roles for innovation: Strategic thinking and planning. *Procedia-Social and Behavioral Sciences, 181*, 72-78.

Faraj, S. M. (2024a). Application of Grey Forecasting Models for Forecasting the Number of Marriages in Halabja Governorate-Iraq. *Khazayin of Economic and Administrative Sciences*, 170-181.

Faraj, S. M. (2024b). Performance Evaluation of Machine Learning Algorithms for Predictive Classification of Anemia Data. *University of Kirkuk Journal For Administrative and Economic Science, 14*(3).

Faraj, S. M., Azam, K. O., Ali, Z. O., & Hussein, S. K. (2024). The Assessing the effect of Business Intelligence and Innovation on business startups: A Case Study Approach. *Jurnal Manajemen Stratejik dan Simulasi Bisnis, 5*(2).

Faraj, S. M., & Jafr, M. M. (2020). The Relationship and Effect of Social Media on Student's Academic Performance:-University of Halabja as an Example. *Halabja University Journal, 5*(4), 326-339.

Faraj, S. M., Salih, D. T. M., Azam, K. O., Saeed, S. A., Mahmood, O. M., & Kareem, A. H. R. (2024). The Impact of Teacher and Parental Involvement on Students' Academic Performance: A Statistical Analysis in the Kurdistan Region of Iraq. *Journal of Philology and Educational Sciences*, 38-58.

Greening, D. W., & Gray, B. (1994). Testing a model of organizational response to social and political issues. *Academy of Management journal, 37*(3), 467-498.

Groh, A. M., Fearon, R. P., Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., Steele, R. D., & Roisman, G. I. (2014). The significance of attachment security for children's social competence with peers: A meta-analytic study. *Attachment & human development, 16*(2), 103-136.

Jaques, T. (2009). Issue and crisis management: Quicksand in the definitional landscape. *Public Relations Review, 35*(3), 280-286.

Koushafard, S. (2013). Strategy in crisis management.

Krasnici, V., & Fors Lindeberg, M. (2020). Strategic Thinking in Crisis Management: A Study into how Organisations Use Strategic Thinking to Overcome Unusually Demanding Situations. In.

Mitroff, I. I., Pearson, C. M., & Harrington, L. K. (1996). The essential guide to managing corporate crises: A step-by-step handbook for surviving major catastrophes. *(No Title)*.

Nadler, D. A. (1994). Collaborative strategic thinking. *Planning Review, 22*(5), 30-44.

Omer, A., Faraj, S. M., & Mohamad, S. H. (2023). An application of two classification methods: hierarchical clustering and factor analysis to the plays PUBG. *Iraqi Journal of Statistical Sciences, 20*(1), 25-42.

Parnell, J. A., Koseoglu, M. A., & Dent, E. B. (2012). Propensity for participative decision making (PPDM) in Turkey and the USA. *International Journal of Business Excellence, 5*(3), 278-304.

Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of management review, 23*(1), 59-76.

Porter, M. E. (1996). What is strategy?

Rached, G., Hobeika, C., Karam, E., Kourié, H. R., & Kattan, J. (2018). Urging medical students to publish: Advantages, disadvantages and new challenges. In (Vol. 105, pp. 626-628): Elsevier.

Ridgley, L. A., Anderson, A. E., Maney, N. J., Naamane, N., Skelton, A. J., Lawson, C. A., . . . Pratt, A. G. (2019). Il-6 mediated transcriptional programming of naïve CD4+ T cells in early rheumatoid arthritis drives dysregulated effector function. *Frontiers in immunology, 10*, 1535.

Sharif, Z. F., Azam, K. O., Saeed, S. A., Blbas, H. T. A., Faraj, S. M., Mohammed, F. A., & Ali, A. S. (2025). The Impact of Organizational Integrity on Organizational Symmetry: An Analytical Study in the Public and Private Sectors: Impact of Organizational Integrity on Organizational Symmetry. *Academic Journal of International University of Erbil, 2*(02), 129-142.

Vargo, J., & Seville, E. (2011). Crisis strategic planning for SMEs: finding the silver lining. *International Journal of production research, 49*(18), 5619-5635.

Waryjas, M. (1999). Effective crisis management: Grace under pressure. *KMZ Rosenman Katten Muchin Zavis Rosenman*, 1-16.

Yusuf, M. B., Amsbaugh, M. J., Burton, E., Chesney, J., & Woo, S. (2017). Peri-SRS administration of immune checkpoint therapy for melanoma metastatic to the brain: investigating efficacy and the effects of relative treatment timing on lesion response. *World Neurosurgery, 100*, 632-640. e634.