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THE IMPACT OF ORGANIZATIONAL AGILITY ON CRISIS MANAGEMENT IN PUBLIC ORGANIZATIONS

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Abstract

This study aimed to investigate the impact of organizational agility on crisis management in public organizations. The analytical descriptive method was employed, and data were collected through a questionnaire distributed to a sample of 155 administrative leaders from 61 government agencies. Data analysis was conducted using the statistical analysis program SPSS. The study's findings indicate that organizational agility, along with its dimensions (sensing agility, decision-making agility, and practice agility), has a statistically significant impact on crisis management within public organizations. Among these dimensions, decision-making agility and practice agility had the most significant impact on crisis management in public organizations.

Keywords: Organizational Agility, Crisis Management, Public Organizations.

INTRODUCTION

Numerous crises have had a detrimental impact on various aspects of modern society, resulting in a global situation of complexity. Given that crises can manifest in various ways, organizations must maintain a level of readiness that allows them to respond effectively to every kind of crisis, at any moment. Public organizations are now compelled to respond to these crises in accordance with an essential strategic vision for crisis management because of their sheer number and complexity.

In the public sector, the ability to respond quickly and effectively to crises depends heavily on the adaptability of the relevant organizations. Public organizations must be ready to react swiftly and effectively to various crises (Carstensen, et., al., 2023), including natural catastrophes, economic downturns, public health emergencies, and political upheaval.

Organizational agility emerges as a key factor in enabling public organizations to respond promptly to emerging crises (Arslan, & Bektas, 2021). It equips them with the ability to assess situations, make timely decisions, and mobilize resources and personnel effectively. Agile organizations are characterized by flexible structures and streamlined processes, allowing them to adapt swiftly to changing circumstances, thus ensuring a prompt response to emergencies and disasters. This adaptability empowers organizational leaders to anticipate and proactively respond to evolving situations, making essential adjustments as needed.

In recent decades, Yemen has borne the brunt of various crises, including political, economic, security, and environmental upheavals, inflicting substantial devastation on the country and its populace. The ongoing conflict in Yemen represents a critical and perilous situation, marked by a myriad of crises spanning multiple domains, ultimately culminating in one of the most severe humanitarian catastrophes globally (OCHA, 2023). Thus, it becomes essential to investigate the capacity of public organizations

to handle these emergencies and to assess the adaptability of the administrative system, along with its influence on crisis management efforts in Yemen.

In this context, the adoption of organizational agility within the public organizations emerges as a practical and scientifically sound method to help alleviate the severe consequences of indecisiveness when addressing crisis management in challenging environments, such as the Yemeni context. Regarding the effectiveness of this approach, Harraf et al. (2015) have indicated that organizational agility has become a crucial and necessary approach for accelerating the delivery of quick responses and adaptable solutions to ongoing external environmental changes. It also aids in distinguishing between progressive and traditional organizations. Additionally, Al-Hamdan (2019) have further emphasized that organizational agility has become an ideal method for enhancing an organization's capacity to confront challenges and achieve the highest levels of performance

As one of the pioneering studies that delves into the impact of organizational agility in addressing crises within Yemeni Public Organizations, this research holds significant importance in various ways. First, it sheds light on the current state of organizational agility in public organizations in Yemen and its role in managing crises during periods of conflict. Furthermore, it will lay the groundwork for researchers and policymakers to better understand and recognize the significance of organizational agility in Yemen's public organizations, leading to the development of innovative crisis solutions. Among these significant aspects, the research has the potential to inspire policymakers to consider alternative approaches to crisis management.

The overall objective of the study is to investigate the impact of organizational agility on crisis management in public organizations in the Republic of Yemen. This overarching goal is pursued through a series of sub-objectives that involve assessing the current state of organizational agility and crisis management in the Republic of Yemen. Specifically, it intends to highlight the impact of organizational agility in all its dimensions, including sensing agility, decision-making agility, and practice agility.

In light of the growing importance and relevance of research within the Yemeni context, this study is dedicated to addressing three fundamental research questions: What is the impact of organizational agility, encompassing all its dimensions, sensing agility, decision-making agility, and practice agility,on crisis management in public organizations in the Republic of Yemen? What is the current state of organizational agility in public organizations in the Republic of Yemen? And what are the crisis management situations in public organizations in the Republic of Yemen?

After the introduction, the study proceeds with a literature review that clarifies the concept of organizational agility, crisis management, and their relationship. The third section delves into previous research that has explored organizational agility and crisis management. The fourth section centers on research methodology and outlines the research hypotheses, the design of the research model, and detailed data descriptions. The fifth section presents the research analysis, while the sixth section offers implications and the main findings of the study, along with the conclusion.

LITERATURE REVIEW

As the organizational agility concept is new in the public organization management realm, the concept of agility in contemporary management thought is witnessing a contested view regarding reaching a concert and agreeable definition of termonlogies

(Mills & Keremah, 2020). In its broadest sense, organizational agility refers to a set of qualities that manifest in the speed of an organization's response to current changes while also predicting future developments. This agility enables an organization to operate with flexibility and outperform competitors by quickly adapting to the changing business landscape and seizing timely opportunities. These attributes are nurtured through a range of organizational practices falling under five dynamic drivers. The first three drivers involve anticipating changes, delivering the necessary responses, and strengthening confidence among employees, beneficiaries, and stakeholders. The remaining two drivers primarily concern promoting innovative thinking, evaluating results, and efficiently utilizing human resources, technology, and processes within the organization (Al-Hamdan, 2019). Some scholars perceive agility as a preventive mechanism and a strategic approach that enables organizations to cope with ongoing environmental changes (Nold, et., al., 2018), while other scholars view it as a control mechanism and a means of delivering quick responses to rapid changes occurring in complex environments (Zitkiene & Daksnys, 2018; Darvishmotevali & Tajeddinin, 2019). Al-Ajri (2017) place significant emphasis on the role of organizational agility in addressing complex external and internal environments by strengthening the role of innovation and effecting necessary changes in process design. Furthermore, they argue that it enables the redistribution of organizational resources and the restructuring of the organizational structure, thereby enhancing the organization's ability to survive and maintain its competitive edge in the business environment.

The literature on organizational agility is replete with elements that portray its significance. However, a substantial number of scholars, (Gurbuz & Hatunoglu, 2022; Özkan, & Salepçioğlu, 2022) have reached a consensus on several fundamental elements crucial for realizing the impact of organizational agility. These elements primarily include (i) Responsiveness, which involves promptly identifying the types of necessary changes, sensing, predicting, and responding to variables, generating an immediate reaction, and catalyzing necessary changes. (ii) Speed, which pertains to the ability to deliver the required performance, and complete tasks and operations efficiently and promptly. (iii) Flexibility, which requires achieving various goals by available tools and resources within the prevailing organizational framework, responsibilities, and duties. (iv) Competence, which equips the company with the ability to provide a wide range of capabilities and enhance productivity to achieve the organization's goals. (v) Proactivity, which serves as a preventive mechanism enabling the organization to establish working condition guidelines, and predict and seek opportunities to improve, promote, and enhance organizational performance. From a different perspective, Abdel-Aal & Muhammad (2022) illustrate organizational agility through three basic dimensions including; sensing agility, decision-making agility, and practice agility. The dimension of Sensing agility and decision-making agility align with the previous fundamental elements of Responsiveness, Speed, and Proactivity, while the dimension of practice agility refers to a set of activities aimed at regrouping and configuring resources to radically organize and adjust processes according to the business.

In adifferent context, articles on crisis management have attracted attention from both private and public organizations. Recently, the related literature has showcased dynamic trends and activities. Within this context, a subset of the research community views crisis management as a mechanism that empowers organizations to address both current and potential risks and threats. It assists organizations in avoiding or

mitigating the adverse effects of these challenges, enabling them to restore their equilibrium system as swiftly as possible. In simpler terms, their presumption is that crisis management provides organizations with the resilience to resume their activities, extract valuable lessons from past crises, and prevent the recurrence of such crises in the future (Ahmed, 2020). Following a similar line of thought, other scholars view it as a systematic methodology for predicting and analyzing crises, comprehending their root causes, and preventing their reappearance. This approach involves dealing with crises through a clear vision to reduce, avoid, control, and learn from them (Zeidan, 2014). Another segment of the research community perceives crisis management as a set of immediate measures applicable throughout various management cycles, encompassing planning, implementation, follow-up, and feedback. These measures are grounded in preparation, knowledge, awareness, available capabilities, skills, and the prevailing management styles (Lafta, 2014).

Overall, the objectives of crisis management can be categorized into three sequenced measures: pre-crisis, during crises, and post-crisis (Raut, et., al. 2022). Pre-crisis measures aim to activate various communication channels with all stakeholders, establish special task forces for crisis intervention when needed, and address the root causes of crises. Furthermore, their goal extends to identifying the responsible agencies involved in crisis management, reallocating necessary crisis response resources, and developing the practical ability to identify sources of threats, predict risks, and optimize the use of available resources to minimize their adverse effects. During-crises measures mainly focus on delivering immediate action to halt the escalation and scale of events and promptly restoring balance at the lowest possible cost. Post-crisis measures aim to provide support for returning to normalcy and analyzing strengths and weaknesses to learn from the crisis (Al-Marri, 2020; Al-shoubaki, et., al., 2016).

To effectively manage crises and mitigate severe consequences throughout all phases of a crisis, it is imperative to follow a systematic administrative method. Recent literature on administrative management has introduced prominent processes and guidelines. These processes encompass crisis planning, crisis management, guidance during a crisis, communication, and, lastly, follow-up and evaluation.

Crisis planning primarily involves steps to address crises during the pre-crisis phase and prepare the organization for potential crises. Detailed measures of these guidelines include gathering surveys and information on the organization's resources, prioritizing critical issues during crises, and establishing a warning system as a preventive and proactive measure. Additionally, crisis planning also encompasses preparing scenarios to confront crises, identifying material and human needs, and collaborating with members of the crisis team (Lafta, 2014).

Crisis management, guidance during a crisis, and communication are steps for dealing with crises during the crisis phase. Crisis management involves coordinating and integrating efforts and empowering the crisis management team with sufficient authority. On the other hand, guidance during a crisis provides clear and implementable instructions that outline the tasks, schedules, and workloads of personnel (Al-Ajlouni, 2009). Communication during a crisis focuses on improving the process of transferring information to make it clearer, faster, more effective, and more efficient (Ulmer, et., al. 2010). Lastly, follow-up and evaluation guidelines establish a comprehensive roadmap for dealing with crises in the post-crisis period. These

guidelines provide a holistic view of the crisis, from early warning signals to implementation. Their overarching goals are to ensure the correctness of paths and the implementation of contingency plans, to ensure that each team member plays an effective role and uses resources efficiently to provide necessary support(Al khalila, 2020). Additionally, they aim to identify strengths and weaknesses, diagnose and evaluate the situation after the crisis has ended, identify the causes of its occurrence, analyze them to draw lessons and prevent their recurrence in the future (Zidan, 2014).

Effectively dealing with crises requires the presence of several prerequisites that create a conducive environment for crisis management. Among the most critical requirements are the simplification of procedures and the establishment of a specialized crisis management team equipped with experts, specialists, and technicians from various fields. Simplifying procedures ensures quick and immediate responses in terms of decision-making and implementation while having an experienced team enhances the chances of making accurate and rational decisions (Al-Dailami, 2019; Halaq, 2020).

Similarly, the prerequisites for crisis management extend to include the necessity of effective coordination, strategic planning, and power delegation. Effective coordination helps prevent incorrect interventions, potential conflicts, contradictions, and duplications of work(Alhadami & Jassim, 2008). On the other hand, strategic planning involves developing multiple valid scenarios and programs that enable the effective handling of crises and their consequences (Abdulrahman, 2010). Delegating powers assist in making decisive, appropriate, and prompt decisions, thereby preventing potential interruptions, delays, and confusion (Abdelkader, 2014). Furthermore, the prerequisites for crisis management involve assessing the current situation and prioritizing events, plans, and suitable alternatives to combat the crisis (Naser, 2019).

In the meantime, there are critical success factors that serve as the foundation of effective crisis management. These critical success factors include reacting efficiently and promptly and establishing a comprehensive database containing information about all the organization's activities, past crises, and potential risks. Additionally, implementing an early warning system is essential. This warning system should be efficient, accurate, and capable of detecting and interpreting warning signs, and it must effectively communicate these signals to decision-makers (Ahmed, 2020).

Furthermore, the organization must maintain its readiness and permanent preparedness to face crises and strengthen its ability to mobilize and utilize available resources (Kafin, 2016). Another critical success factor in crisis management is the development of an efficient and effective communication system that emphasizes both efficiency and effectiveness (Al Khalila, 2020).

Orgnzation Agility and Crisis Management:

Organizational agility plays a pivotal role in enhancing the ability of public organizations to effectively manage crises. Specifically, it aids in anticipating and mitigating potential risks, expediting the decision-making process, and implementation. Through its various dimensions, organizational agility allows public organizations to identify emerging threats and take proactive measures to mitigate them. This proactive approach is essential in crisis management, as it helps prevent the escalation of crises and reduces their impact. Moreover, it fosters innovation, enhances employee engagement across multiple levels, and improves administrative efficiency while overcoming challenges in risk management. Additionally, its flexibility

helps eliminate structural constraints and enables quick adaptation, learning, and responsiveness to environmental changes (Chamanifard et al., 2015).

Al-Otaibi (2022) have presented empirical evidence regarding the impact of organizational agility on enhancing the quality of work life in government hospitals. The research findings have revealed a positive correlation between the decision-making agility variable and the quality of work life. In a similar context, Abdeen and her colleagues (2022) show that organizational agility dimensions significantly contribute to early warning mechanisms and crisis prediction by 16.9%. Furthermore, their study found that the accuracy of finding solutions, alternatives, and decision-making improved by 27.6%, while the follow-up of results, evaluation of the situation, and verification of performance stability increased by 14.97%. These findings are consistent with Al Mufiz et al. (2020), indicating that organizational agility has significant effects on different phases of crisis management, including warning, crisis preparation, damage containment, activity restoration, learning, and benefits.

In a different context, the adoption of a strategic planning approach has increasingly demonstrated its effectiveness in enhancing the performance of public organizations. The strategic planning process contributes to reducing risks, developing the capabilities of public organizations, and maintaining their performance efficiency, thus enhancing effective crisis management (Jaafar, 2014).

Similarly, during times of crisis, organizational agility catalyzes public employee engagement in work activities and promotes their well-being. This is a crucial factor for crisis management, as engaged and motivated employees are more likely to perform effectively in high-stress situations. Organizational agility fosters an environment where employees feel empowered to take initiative and contribute to the organization's response to a crisis. This not only improves the organization's ability to manage crises but also enhances the overall well-being of its workforce (Ludviga & Kalvina, 2023).

However, the positive impact of organizational agility extends to enhancing other critical success factors related to crisis management, especially in the decision-making process. In this regard, organizational agility expedites the decision-making process by strengthening organizational market flexibility and accelerating operations (Babazadeh & Titkanloo, 2019).

While organizational agility offers numerous advantages for crisis management, it has several challenges and considerations associated with its implementation. These challenges mainly involve the measurement and regulation of organizational agility, as well as the induction of institutional changes and modifications to existing laws and frameworks necessary to activate organizational agility mechanisms. Additionally, there is the relatively high cost associated with its implementation and the contention within organizations striving to balance competence with certain human and ethical values. This ethical shift prompts organizations to adopt a value framework that aligns with their competition, allowing them to harmonize their values without compromising their competitiveness (Durra, 2022). Mills and Keremah (2020) argue that organizations must develop specific crisis management strategies to enhance their ability to deal with crises. These strategies involve the incorporation of organizational agility dimensions throughout the three crisis phases: pre-crisis, during-crisis, and post-crisis. The pre-crisis phase involves proactive measures to prepare for potential crises, such as training, scenario planning, and risk assessment. During the crisis

phase, organizations must be responsive and adaptable, leveraging their agility to make quick decisions and adjustments as the situation evolves. In the post-crisis phase, the focus shifts to learning from the crisis and implementing changes to prevent similar occurrences in the future.

RESEARCH METHODOLOGY

The study employs a quantitative descriptive method to examin the current state of the relationship between organizational agility and crisis management in Yemen. The research is based on specific hypotheses. The main hypothesis of the study posits that there is no statistically significant effect of organizational agility (comprising sensing agility, decision-making agility, and practice agility) on crisis management in public organizations within the Republic of Yemen. Furthermore, three sub-hypotheses are derived from the main hypothesis. The first sub-hypothesis suggests the absence of a statistically significant relationship between sensing agility and crisis management in public organizations. The second sub-hypothesis postulates the abscnce of a significant statistical relationship between decision-making agility and crisis management. The third sub-hypothesis contends that there is no statistically significant effect of practice agility on crisis management in public organizations. The research methodology relies on SPSS software (Version 26) to perform statistical analysis and test the study's hypotheses.

The study generates a research model to illustrate the correlation and impact of organizational agility on crisis management as showen in the following figure:

<table>
<tr><th>Independent variable</th><th></th><th>Dependent variable</th><th></th></tr>
<tr><td rowspan="5">Organizational agility</td><td>Sensing agility</td><td rowspan="5">Crisis Management</td><td>Early warning signals</td></tr>
<tr><td rowspan="2">Decision-making agility</td><td>Readiness and prevention</td></tr>
<tr><td rowspan="3">Practice agility</td><td>Damage containment</td></tr>
<tr><td>Activity recovery</td></tr>
<tr><td>Learning</td></tr>
</table>

Figure 1: Knowledge Model

The research community comprises of 261 administrative leaders in various Yemeni governmental agencies, who are enrolled in the Executive master degree in public administration at Sanaa university during the years 2021- 2023 , including Deputy Minister, Deputy, Director General, and Director of Department. According to Craig and Marjan (Krejcie & Morgan, 1970), the size of selected sample has been 155 participants, representing 61 governmental agencies encompass a wide spectrum of Yemeni government entities, including ministries, institutions, and other governmental bodies. The response rate for the questionnaire reached 87%, which is statisticly accepted, enhancing the validity and applicability of the research findin. Participants were instructed to respond using a 5-point Likert scale, which ranged from "Strongly Disagree" (1) to "Strongly Agree" (5).

Table 1: Five-Point Likert Scale for Alternative Answers

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5	4	3	2	1

The question is designed in a way that helps evaluate participants' opinions and the extent of their agreement with the questionnaire's statements. Essentially, the questionnaire comprises two primary questions aimed at assessing the state of

organizational agility and crisis management in Yemeni public organizations. Each of these two questions consists of sub-statements that represent the dimensions of organizational agility and the prerequisites of crisis management.

Five management professors, at Sana'a University and Hudeidah University, played a pivotal role in validating the research tool. As well as, the tool underwent validity test, that yielded correlation coefficients for the questionnaire dimensions, ranging from 0.678** to 0.868**. These high correlation coefficients indicate substantial internal consistency within each dimension. Moreover, reliability test has been conducted to asses accuracy and consistent of result if the tool redistributed more than once under the same circumstances and conditions. Reliability method mechanism utilized Cronbach's Alpha coefficient, where the value of the reliability coefficient ranged between (0.946,0.978). These are very high values that confirm the validity of the tool for study and analysis purposes.

Data Analysis:

Level of Organizational Agility Practice:

To investigate the extent to which organizational agility practices are implemented within Yemeni public organizations. The following table presents the means, standard deviations, and frequency of the level of practicing organizational agility:

Table 2: Responses of study sample members to the dimensions of organizational agility

Dimensions	Mean	Std. Deviation	Mean ratio	level
Sensing agility	2.76	0.85	55%	Medium
Decision making Agility	2.83	2.86	57%	Medium
Practice agility	2.83	0.77	57%	Medium
Organizational agility	2.81	0.76	56%	Medium

Table (2) shown that the general average of organizational agility in public organizations in the Republic of Yemen reached (2.81) with a standard deviation (0.76) and percentage (56%). These statistics indicate that, from the perspective of the study's sample, the level of organizational agility, in general, is moderate.

Furthermore, the previous results indicate that the arithmetic averages for the dimensions of organizational agility ranged from (2.76 to 2.83)all falling within the "medium" range. This suggests that the degree of practicing organizational agility in all its dimensions within Yemeni public organizations is at a "medium" level. The slight variations in the average values merely reflect the level of priority among these dimensions. In this context, the " Decision-Making Agility" dimension holds the top position, followed by the " Practice Agility" and finally, the "Sensing Agility" dimension ranks third.

Through the analysis of the preceding statistical results and in response to the first question in the study, it is evident that the reality of organizational agility in public organizations is at a "medium" degree.

Level of Crisis Management Practice:

To examine the extent of crisis management practices within Yemeni public organizations. The following table displays the means, standard deviations, and frequency of responses regarding the level of practice within the crisis management dimensions:

Table 3: Responses of respondents on the dimensions of crisis management in the Republic of Yemen

Dimensions	order	Mean	Std. Deviation	Mean ratio	level
Early warning signals	1	3.21	0.93	64%	Medium
Preparedness and prevention	2	3.10	0.94	62%	Medium
Damage containment	5	2.79	0.89	56%	Medium
Restore activity	3	3.05	0.85	61%	Medium
Learning	4	3.03	0.92	61%	Medium
Crisis Management		3.04	0.81	61%	Medium

Table 3 reveals that the overall average level of practicing crisis management is at a medium level. Based on the responses from the sample, the Mean score for crisis management is 3.04, with a standard deviation of 0.81, and a frequency of 61%. From the perspective of the study's sample, these statistics indicate that the practice of crisis management within Yemeni public organizations is at a medium level. The arithmetic averages for the dimensions of crisis management ranged between 2.79 and 3.21. Considering the variation in these values, the dimension related to early warning signals ranks first, followed by the dimension of preparedness and prevention in second place. The dimensions of recovery and learning come in third and fourth place, respectively.

Testing The Hypotheses of The Study:

Hypothesis testing was performed to investigate the impact of organizational agility, considering all its dimensions, on crisis management in Yemeni public organizations. Prior to confirming the primary study hypothesis through multiple regression analysis and progressive testing, the collected data were verified and validated. This validation process involved several tests, including checks for variance inflation factors and tolerance. The main objective of these tests was to ensure data consistency and produce a robust evaluation of the study hypothesis and analysis. The following tables show the results of VIF, Tolerance and Skewness tests:

Table 4: Test Results (Skewness, Tolerance, VIF)

Dimension	VIF	Tolerance	Skewness
Sensing agility	3.336	0.300	0.129
decision making Agility	3.142	0.318	-0.08
Practice agility	3.360	0.298	-0.067

The results of the tolerance and Variance Inflation Factor (VIF) test confirm the absence of variable dependencies and multicollinearity. Specifically, the VIF values for the dimensions of organizational agility ranged between 3.142 and 3.36, which does not exceed the threshold of 10. Furthermore, all tolerance values for the organizational agility dimensions ranged between 0.298 to 0.318, exceed the threshold of 0.05. It's worth noting that having VIF values under 10 and tolerance values above 0.05 are the necessary conditions for multicollinearity to be absent. Additionally, the skewness values range from -0.080 to 0.129, all of which are less than 3. This indicates that the data follows a normal distribution.

1. Test The Main Hypothesis:

The main hypothesis of the study posits that there is no statistically significant impact of organizational agility, encompassing sensing agility, decision-making agility, and practice agility on crisis management in public organizations. To test the validity of this hypothesis, multiple linear regression was utilized, and the outcomes are as follows:

Table 5: Results of Multi-effect Regression Analysis

Summary of Model			ANOVA	
Dependent Variable	**R**	**R^2**	**F**	**Sig. F**
Crisis Management	0.843	0.71	104.489	0.00
Regression Analysis				
Independent variable	**β**	**standard error**	**t**	**Sig. t**
Sensing agility	0.16	0.08	1.94	0.05
Decision making Agility	0.49	0.08	6.25	0.00
Practice agility	0.21	0.09	2.33	0.02

Table (5) shows that with an R-value of 0.843, there is a positive direct correlation between the dimensions of organizational agility and crisis management. Furthermore, the statistical significance of the dimensions of organizational agility on crisis management is confirmed, as indicated by the calculated F-value of 104.489 and a significance level (Sig) of 0.00, which is less than 0.05. Additionally, the R-squared value (R^2) of 0.71 underscores the significance of the regression analysis. This value suggests that organizational agility, in its various dimensions, accounts for 71% of the variation in crisis management, when all other variables remain constant.

The regression coefficients provide further insights regarding the significance of relation crisis management. In this regard, the dimension of sensing agility exhibits a statistically significant effect, with a β-value of 0.16 and a t-value of 1.94, where Sig is equal to 0.05, indicating statistical significance. Similarly, the dimension of agility in decision-making has a significant effect, with a β-value of 0.49, a t-value of 6.25, and a Sig value of 0.00. The dimension of practice agility also has a statistically significant effect, with a β-value of 0.02, a t-value of 2.33, and a Sig value of 0.00.

Based on the above results, the analysis of the study contradicts the main hypothesis of the study, which suggests the absence of a significant relationship. Instead, it supports the alternative hypothesis. Therefore, the results strongly confirm that there is a statistically significant effect of organizational agility (sensing agility, decision-making agility, and practice agility) on crisis management in Yemeni public organizations.

Testing the three sub-hypotheses:

The first sub-hypothesis assumes the absence of a statistically significant effect of Sensing agility on crisis management in public organizations. Validating this hypothesis requires the application of simple linear regression, and the results of this test are presented in the following table:

Table 6: Results of Simple Linear Regression of Sensing Agility

Summary of samples			ANOVA	
Dependent Variable	**R**	**R^2**	**F**	**Sig. F**
Crisis Management	0.74	0.548	159.99	0.00
Regression Analysis				
Independent variable	**β**	**standard error**	**t**	**Sig. t**
Sensing agility	0.798	0.06	12.65	0.00

Table (6) indicates a statistically significant correlation between sensing agility and crisis management. In this context, the calculated F-value of 159.99, with a significance level (Sig) of 0.00 (less than 0.05), underscores the significance of this relationship. Furthermore, the R-value of 0.74 suggests the presence of a positive relationship between sensing agility and crisis management. Additionally, the R-

squared value (R^2) of 0.548 supports the assertion that 54.8% of the variation in crisis management can be attributed to the dimension of sensing agility while holding other variables constant.

On the other hand, the results of the regression analysis, with a β value of 0.798, a t value of 12.65, and a significance level (Sig) of 0.00, confirm the statistical significance of the sensing agility dimension on crisis management. Therefore, the first sub-hypothesis has been rejected, and in its place, the existence of a significant statistical relationship between sensing agility and crisis management is confirmed.

The second sub-hypothesis postulates that there is no statistically significant effect of Agility in decision-making on crisis management in public organizations. Validating this hypothesis necessitates conducting simple linear regression, and the following table outlines the obtained results as follows:

Table 7: Results of Simple Linear Regression of Agility in decision making

Summary of Model			ANOVA	
Dependent Variable	**R**	**R^2**	**F**	**Sig. F**
Crisis Management	0.812	0.66	255.841	0.00
Regression Analysis				
Independent variable	**β**	**standard error**	**t**	**Sig. t**
Decision making Agility	0.759	0.05	15.995	0.00

Table (7) indicates a statistically significant correlation between agility in decision-making and crisis management. The calculated F-value is 255.841, with a significance level (Sig) of 0.00, which is less than 0.05, underscoring the significance of this relationship. Furthermore, the R-value of 0.812 suggests a positive relationship between the dimension of decision-making agility and crisis management. Additionally, the R-squared value (R^2) is 0.66, signifying that 66% of the variation in crisis management can be attributed to agility in decision-making while holding other variables constant.

On the other hand, the results of the regression analysis, with a β value of 0.759, a t value of 15.995, and a significance level (Sig) of 0.00, confirm the statistical significance of the decision-making agility dimension on crisis management. Therefore, the second sub-hypothesis has been rejected, and in its place, the existence of a significant statistical relationship between decision-making agility and crisis management is confirmed.

The Third sub-hypothes is based on presumption of abscene of statistically significant effect of Practice Agility on crisis management. Similarly,Validating this hypothesis necessitates conducting simple linear regression, and the following table outlines the obtained results as follows:

Table 8: Results of Simple Linear Regression of Practice Agility

Summary of Model			ANOVA	
Dependent Variable	**R**	**R^2**	**F**	**Sig. F**
Crisis Management	0.751	0.564	168.437	0.00
Regression Analysis				
Independent variable	**β**	**standard error**	**t**	**Sig. t**
Practice Agility	0.792	0.061	12.978	0.00

Table (8) indicates a statistically significant correlation between practice agility and crisis management. The calculated F-value is 168.437, with a significance level (Sig)

of 0.00, which is less than 0.05, highlighting the significance of this relationship. Furthermore, the R-value of 0.751 suggests a positive relationship between the dimension of practice agility and crisis management.

Additionally, the R-squared value (R^2) of 0. 564 supports the assertion that 56.4% of the variation in crisis management can be attributed to the dimension of practice agility while holding other variables constant.

On the other hand, the results of the regression analysis, with a β value of 0.792, a t value of 12.978, and a significance level (Sig) of 0.00, confirm the statistical significance of the practice agility dimension on crisis management. Therefore, the Third sub-hypothesis has been rejected, and in its place, the existence of a significant statistical relationship between practice agility and crisis management is confirmed.

After testing the main research hypothesis and its three sub-hypotheses, the independent variables of the organizational agility dimensions were subjected to a stepwise linear regression. The basic rationale behind this step is to identify the independent variables that have the most influence and provide the greatest explanatory power for the variables in crisis management. The following table highlights the results obtained from the regression test:

Table 9: Results of a stepwise linear regression analysis

Model	Dimension	Summary		ANOVA			Regression Analysis			
1		R	R^2	F	Sig. F	Df	Value		t	Sig. t
	Decision making Agility	0.819	0.67	264.391	0.00	1	β	0.76	16.3	0.00
	Fixed						α	0.86	6.21	0.00
2	Decision making Agility	0.838	0.702	151.587	0.00	131	β1	0.56	7.7	0.00
	Practice Agility						β2	0.30	3.7	0.00
	Fixed						α	0.61	4.05	0.00

According to the first model, the stepwise regression identifies that the dimension of "agility of decision-making" accounts for 67% of the total variance of crises management practice in Yemeni public organizations. The R-squared (R^2) value of 0.67 and the F-value of 264.391, with α significance level (Sig) of 0.00, confirm the significance of the regression. Similarly, the regression coefficients also reveal a statistically significant effect for the field of "agility of decision-making." In this regard, obtaining a value of β of 0.76 and a t-value of 16.3, with a significance level of 0.00, signifies the statistical significance of the dimension of decision-making.

On the other hand, the results of the second model in the stepwise regression identify that the dimensions of both agility in decision-making and agility in practice account for 70.2% of the total variance of crises management practice in Yemeni public organizations. The R-squared (R^2) value of 0.702 and the F-value of 151.587, with a significance level (Sig) of 0.00, confirm the significance of the regression. Similarly, the regression coefficients also reveal a statistically significant effect for the dimensions of decision-making agility and practice agility. In this regard, obtaining values of β1 and β2 of 0.56 and 0.30 , and t-values of 7.7 and 3.7, with a significance level of 0.00 for the dimensions of agility in practice and decision-making, respectively, signifies the statistical significance of these two dimensions.

In the context of stepwise linear regression analysis, there are two models as follows:

First model:

- α + (agility in decision making) * β = (crisis management)
- First model: 0.86 + (x) *0.76 = (Y)
- It is shown by the value of β (0.76) that there is an indication of the degree of effect and power of decision making agility, Which means that an improvement in the application of decision-making agility by one degree leads to an improvement in crisis management by (0.76) degrees, assuming the rest of the variables remain constant.

Second model:

- α + (agility in decision making) * β1 + (agility in practice) * β2 = (crisis management)
- Second model: 0.61 + (0.56 * agility in decision making) + (0.30 * agility in practice) = (Y)
- It is evident from the values of β1 and β2 (0.56 and 0.30, respectively) that there are indications of the degrees of effect and power in conducting decision making agility and practice agility, Which means that an improvement in the application of both decision-making agility and practice agilty by one degree leads to an improvement in crisis management by (0.86) degrees, assuming the rest of the variables remain constant.

Findings

The research aimed to investigate the impact of organizational agility on crisis management in public organizations within the Republic of Yemen. Through our extensive study, several significant findings have come to light that contribute to a deeper understanding of the role of organizational agility in addressing crisis management challenges within Yemeni public organizations.

One of the key findings in our analysis is that Yemeni public organizations exhibit a medium level of organizational agility across all dimensions, as evidenced by the responses of the study's participants. While there is a slight variation in the arithmetic average values, this variance predominantly reflects the relative priority of each dimension. In particular, the order of these dimensions, from the highest to the lowest, is as follows: agility of decision-making, agility of practice, and agility of sensing. Furthermore, our research indicates that Yemeni public organizations practice crisis management at a moderate level. Similarly, the dimension of crisis management exhibited slight variations, primarily indicating the varying priority levels within Yemeni public organizations. In this context, the dimension of early warning signals holds the top position, followed by preparedness and prevention. The third rank is held by restoring activity, while learning comes in as the fourth rank, and containing the damage claims the fifth position.

In the process of testing the research hypothesis, we discovered a statistically significant relationship between organizational agility, particularly in terms of sensing agility, decision-making agility, and practice agility, and crisis management in public organizations in Yemen. Nevertheless, when it comes to the dimensions of organizational agility, it is the agility in decision-making that significantly impacts crisis management the most. It is followed by practice agility, and then sensing agility.

Moreover, our results emphasize the significant effect of the dimensions of agility in decision-making on crisis management within public organizations. This suggests that policy-makers can improve crisis management by taking measures such as establishing updated databases and involving employees in decision-making processes.

Consistency in our findings further underscores the importance of practice agility dimensions in crisis management within public organizations. This indicates that organizations can enhance their crisis management capabilities by maintaining flexible organizational structures, facilitating effective communication channels, and streamlining procedures to keep pace with evolving challenges and developments.

This research carries profound implications for the field. The findings within serve as an invaluable resource for organizations and policymakers aiming to fortify their crisis management strategies and cultivate more agile and resilient responses to a wide array of challenges. In line with the research findings, organizational agility emerges as a pivotal factor in the enhancement of crisis management strategies, fostering more agile and robust responses, specifically tailored for Yemeni public organizations.

The research underscores the moderate level of organizational agility concerning crisis management within Yemen. This points to a pressing need for enhancing agility practices. Among these enhancements, a critical aspect involves advocating for administrative officials to champion the concept of organizational agility. This advocacy endeavor primarily serves to inculcate organizational agility practices into the cultural fabric of public organizations, thereby fortifying their crisis management capabilities.

Furthermore, accentuating the role and influence of organizational agility emerges as a pivotal focus area in harnessing the effective impact of agility aspects in crisis management. Public organizations must proactively prioritize the elevation of organizational agility through the development of apt structures, regulations, and work procedures that expedite agile responses to crises. Active involvement of employees in decision-making processes, coupled with the conferment of requisite flexibility, serves to amplify work efficiency and effectiveness.

Shifting our gaze towards the domain of information systems for crisis management, it becomes evident that these systems wield substantial influence over the quality of decisions made during crises. Elevating interest and investment in information systems emerges as a cornerstone, applicable across the entire spectrum of crisis management phases, encompassing preparedness, response, recovery, and mitigation. Information systems directly shape the choices made by public organizations, rendering their optimization a matter of paramount significance.

To deepen our comprehension of this pivotal subject, conducting additional empirical research becomes imperative. Such research must incorporate diverse perspectives and viewpoints to provide a comprehensive understanding of the role of information systems in crisis management. A multifaceted approach will yield deeper insights into how these systems can be further fine-tuned to enhance crisis response and management.

CONCLUSION

In conclusion, this research sheds light on the crucial impact of organizational agility in crisis management within public organizations in the Republic of Yemen. The findings underscore the significance of organizational agility in all its dimensions. To summarize, organizational agility emerges as an essential aspect of effective crisis management. The discoveries from this research provide organizations and policymakers with invaluable insights, equipping them to enhance their strategies for addressing a wide range of challenges and crises. These insights, customized to the specific context of Yemeni public organizations, emphasize the need for agility improvements. By advocating for, prioritizing, and cultivating organizational agility as a cultural norm, public organizations can enhance their crisis management capabilities. Additionally, by highlighting the pivotal role of information systems, they can improve the quality of decision-making during crises.

Finally, through empirical research from various perspectives, we can refine our understanding and optimization of information systems in crisis management, ensuring a more resilient and agile future for public organizations in Yemen. Future research efforts should focus on developing strategies to enhance these aspects of organizational agility and assess their impact on the effectiveness of crisis management. We hope that this research will contribute to a deeper understanding of the intricate relationship between organizational agility and crisis management. This, in turn, will provide valuable insights for policymakers and leaders within public organizations in Yemen.

References

1) Abdeen. S. M. Et. Al., (2022). The impact of organizational agility on the organization's ability to manage a crisis, an applied study on the Hilton Hotel Management Group. Egypt for the year 2019/2020 during the Covid-19 pandemic. *Scientific Journal of Commercial and Environmental Studies*. Suez Canal University. Volume 13. Issue 1. January 2022.p.p 603-623.

2) Abdel Mawla, A. M. (2019). Requirements for implementing organizational agility as viewed by faculty members at King Khalid University. *Bisha University Journal of Humanities and Educational Sciences,* 19 (4). p p. 15-46.

3) Abdel-Aal, S. M. (2022). Organizational agility at Yarmouk University and its relationship to the performance of academic department heads from the point of view of faculty members. Ph.D. Yarmouk University. Jordan.

4) Abdelkader, H. (2014). Crisis management and its relationship to strategic planning from the point of view of administrators and financers at Al-Istiqlal University. Palestine. Scientific research book. Jordan.

5) Abdulrahman, O. I. (2010). Crisis management in educational institutions. the author. Egypt

6) Aboi. Z. M. (2006). Crisis Management. Dar Konooz Almarefa for Publishing and distribution. Jordan

7) Ahmed, I. F. (2020). Disaster and Crisis Management, Teba Publishing and Distribution Foundation, Alexandria.

8) Al Hadami. M. S. and Muhammad. J. (2008). Principles of Strategic crisis management and solutions. Dar Zahran Publishing and Distribution. Jordan

9) Al khalila, Z. A. (2020). The effect of strategic vigilance in crisis management, the mediating effect of organizational learning. An applied study on dairy companies in Jordan. Unpublished doctoral dissertation. International Islamic Sciences University. Jordan.

10) Al Mufiz. K. et. Al,. (1442). Organizational agility is an introduction to crisis management in offices in education offices in the city of Riyadh (a proposed scenario). *Journal of Educational Sciences*. Imam Muhammad Bin Saud Islamic University. Volume 3. Issue 26..

11) Al-Ajlouni. M. M. (2009). Crisis management in the banking sector in the Northern Region. *Journal of the Baghdad University College of Economic Sciences*, Volume 2, Number 20, p.p. 191-218.

12) Al-Ajri. D. F. (2017). Organizational agility and its Role in enhancing the relationship between business intelligence and organizational performance with impelimintation on the pharmaceutical sector. Ph.D. Business Administration Department. Commerce College. Al Azhar University. Cairo

13) Al-Dailami. A. (2019). Public relations and crisis management. Al-Yazouri Scientific Publishing and Printing House. Jordan.

14) Al-Hamdan, A. R. (2019). Organizational agility to achieve organizational excellence at the Saudi University. Proposed model. Ph.D. King Saud University. Saudi Arabia.

15) Al-Marri. S. S. (2020). The impact of creative leadership on crisis management strategies. The mediating Role of strategic intelligence in public institutions in the State of Qatar. Unpublished doctoral dissertation. College of Graduate Studies. Mutah University. Jordan. https://search.emarefa.net/detail/BIM-1341685

16) Al-Otaibi. S. A. (2022). The role of organizational agility in improving the quality of work life in government hospitals. A field study on the administrative staff at the Children's Hospital in Taif Governorate. *Journal of Economic, Administrative and Legal Sciences*. Volume (6). Issue (11). pp. 27-49.

17) Al-Shoubaki. M. et al. (2016). The impact of strategic orientationson crisis management. A field study on the International Relief Agency in the Gaza Strip. The First Scientific Conference on Community Development, Faculty of Economics and Administrative Sciences, Al-Azhar University in Gaza, Palestine, November 5-6.

18) Arslan, A., & Bektas Ç. (2021). Organizational Agility in Turkey: the Remote Work during the Corona Virus Pandamic. *International Journal of Business, Economics, and Management Perspectives*, 5(1), 48-58. https://ijbemp.com/files/64709c00-f759-41df-be29-ed333a7a35a9.pdf

19) Babazadeh R. and Jafari, T. S. (2019). The role of organizational agility on the relationship between organizational information technology capabilities and competitive performance; case study: Mellat bank. *J. Educ. Manage. Stud*., 9(4): 16-24. DOI: https://dx.doi.org/10.51475/jems.2019.4.

20) Carstensen, M. B., Sørensen, E., & Torfing, J. (2023). Why we need bricoleurs to foster robust governance solutions in turbulent times. *Public Administration*, 101(1), 36-52. https://doi.org/10.1111/padm.12857

21) Chamanifard, R., Nikpour, A., Chamanifard, S., & Nobarieidishe, S. (2015). Impact of organizational agility dimensions on employee's organizational commitment in Foreign Exchange Offices of Tejarat Bank, Iran. *European Online Journal of Natural and Social Sciences: Proceedings*, 4.1 (s), 199- 207. https://european-science.com/eojnss_proc/article/view/4223

22) Darvishmotevali, M., & Tajeddini, K. (2019). Understanding organizational agility: Evidence from the hotel industry in Iran. In: Tourism, Hospitality and Digital Transformation. Routledge, 73-88. https://doi.org/10.4324/9780429054396

23) Durra. A. K. (2022). The reality of digital competencies among employees in Palestinian sports institutions and their impact on achieving organizational agility. A field study on Palestinian sports institutions, Master's thesis. Al-Aqsa University. Gaza.

24) Gurbuz, F. G., & Hatunoglu, S. B. (2022). Assessment of Organizational Agility: Adaption and Validation of the Scale for Application in Turkey. *Journal of Management Marketing and Logistics*, 9(1), 27-37. https://doi.org/10.17261/Pressacademia.2022.1546

25) Halaq. B. (2020). Public Relations and Crises, Syrian Virtual University, Syria.

26) Harraf, A., Wanasika, I., Tate, K., & Talbott, K. (2015). Organizational agility. *Journal of Applied Business Research (JABR),* 31(2), 675-686. https://clutejournals.com/index.php/JABR/article/download/9160/9152/35359

27) Homey, N., & O'shea, T.(2015). Focused, Fast & Flexible: Creating Agility Advantage in a VUCA World. United States of America: Indie books International.

28) Jaafar, Y. I. (2014). Strategic planning and its impact on crisis management in West Bank municipalities, The Thirteenth Annual International Scientific Conference for Business, "Crisis Management in a Changing World," April 21-23, Faculty of Economics and Administrative Sciences, Al-Zaytoonah University, Amman. Jordan.

29) Kafin. M. Y. (2016). Public relations and crisis management decrees. Dar Osama for Publishing and Distribution. Jordan

30) Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610. https://www.researchgate.net/publication/349118299_Sample_Size_Determination_Using_Krejcie_and_Morgan_Table

31) Lafta. B. S. (2014). Organizational immunity and its Role in crisis management. An analytical study of the opinions of a sample of officials in the General Company for Leather Industries. The Thirteenth Annual International Scientific Conference for Business, "Crisis Management in a Changing World," April 21-23, Faculty of Economics and Administrative Sciences, Al-Zaytoonah University, Amman. Jordan.

32) Ludviga, I., & Kalvina, A. (2023). Organizational Agility During Crisis: Do Employees' Perceptions of Public Sector Organizations' Strategic Agility Foster Employees' Work Engagement and Well-being?. *Employee Responsibilities and Rights Journal,* 1-21. https://doi.org/10.1007/s10672-023-09442-9.

33) Mills, B. R., & Keremah, O. M. (2020). Crisis Management And Organisational Agility: A Theoretical Review. *International Journal of Innovative Research and Advanced Studies (IJIRAS),* 7 (5), 5-12. https://www.researchgate.net/publication/341370700_Crisis_Management_And_Organisational_Agility_A_Theoretical_Review.

34) Naser. A. (2019). Psychology of crisis management. Dar Al Khaleej for Publishing and Distribution. Amman Jordan.

35) Nold, H., Anzengruber, J., Woelfle, M., & Michel, L. (2018). Organizational Agility – Testing, Validity, and Reliability of a Diagnostic Instrument. *Journal of Organizational Psychology*, 18(3). 104- 117. https://doi.org/10.33423/jop.v18i3.1292

36) OCHA, (2023), Yemen: Humanitarian Response Snapshot (September 2023), posted in: 10 Nov 2023. https://reliefweb.int/report/yemen/yemen-humanitarian-response-snapshot-september-2023-enar

37) Özkan, H., & Salepçioğlu, M. A. (2022). Does Organizational Agility Affect Sustainable Quality Perception? The Mediating Role of Innovation Orientation. *International Journal of Business*, 27(4), 1-20. https://ir.lib.cyut.edu.tw/bitstream/310901800/41643/1/V27N4-2+IJB-2021-07-06.pdf

38) Qutish. N. H. (2009). Crisis Management. Dar Al Raya for Publishing and Distribution. Jordan.

39) Raut, P. K., Das, J. R., Gochhayat, J., & Das, K. P. (2022). Influence of workforce agility on crisis management: Role of job characteristics and higher administrative support in public administration. *Materials Today: Proceedings*, 61, 647-652.

40) Ulmer, R. R., Sellnow, T. L., & Seeger, M. W. (2010). Effective crisis communication: Moving from crisis to opportunity. Sage Publications.

41) Zidan. M. (2014). Determinations of human resources in crisis management and humanitarian aid. The first Arab forum. November, 4-6. Cairo.

42) Žitkienė, R., & Deksnys, M. (2018). Organizational agility conceptual model. *Montenegrin journal of economics. Podgorica: Economic Laboratory Transition Research Podgorica-Elit*, 14. (2), 115-129. https://doi.org/10.14254/1800-5845/2018.14-2.7