

The impact of strategic planning on crisis management A field study on the Public Corporation for Water and Sanitation in the capital city of Sana'a.

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Abstract:

The study aimed to determine the impact of strategic planning on crisis management at the Public Corporation for Water and Sanitation in the capital Sana'a. The researcher used the descriptive analytical method, and the questionnaire tool was used to collect field data. The study population consisted of leaders, department directors, and heads of sections at the Public Corporation for Water and Sanitation. Given the population size of (78) individuals, a comprehensive enumeration method was adopted. After analyzing the study data and testing its hypotheses, the study reached several conclusions, most notably: that the reality of strategic planning and crisis management from the perspective of the research sample was rated as (high), and that strategic planning has an impact on crisis management. The study presented several recommendations, most notably: The Public Water and Sanitation Corporation must continue to adopt strategic planning practices to achieve effective crisis management, and pay attention to the crisis management system as a whole and its five phases, given its importance in confronting crises.

Keywords: Strategic planning, crisis management, Public Water and Sanitation Corporation, Sana'a Governorate.

Introduction;

The world witnessed rapid transformations in various fields in the late twentieth and early twenty-first centuries, therefore business organizations seek to adopt modern management approaches that help them deal with any changes in the surrounding environment. One of these approaches is strategic planning, which expresses a series of decisions related to the future, as it includes predicting what the future will be like and preparing for this future (Mahmoud, 2021, 40). This also comes through analyzing the environment of all the elements surrounding any organization to have the ability to influence it or part of it. Environmental analysis is the process of identifying the environmental elements of any organization by identifying the opportunities and threats it faces and the scientific and technological developments. It works to identify the strengths and weaknesses in the human and material resources needed to implement the plan (Al-Sanfi and Al-Ariqi, 2012, 62). While the strategic orientation expresses "a set of general strategies that are fundamentally oriented towards the company towards setting its mission (Who are we?), so that it provides it with a vision for the future (What will we be?), and these strategies are set with an understanding of the philosophy and values and a set of benchmarks for the company to achieve its goals" (Khadija, 2020, 2). While strategy formulation expresses "a process of developing the ability to sense direction," the formulation process consists of: defining the message, setting goals, and analyzing the external and internal environment (Armstrong, 2020, 42). Crisis management is considered "a dynamic field that increases the efficiency and effectiveness of any organization in dealing with many of the incidents it is exposed to. It is applied in an administrative manner designed to deal with crisis situations while achieving the organization's goals. This method attempts to apply the means that achieve the most economic efficiency" (Turki, 2019, 30). The general framework and previous studies are among the most important elements of the study chapters, as they crystallize the basic components of the researcher's study. Therefore, this article addressed

the general framework with all its components as the first axis, and then it addressed previous studies related to the study variables. In addition to clarifying the similarities and differences between previous studies and the current study, which is the second focus of this article, the study by Muhammad et al. (2023) aimed to reveal the extent to which faculty members in faculties of education at Egyptian universities fulfill their roles in raising awareness and educating students about crisis and disaster management in educational institutions. The study concluded that there is a deficiency among the faculty members of the Faculty of Education at Aswan University in carrying out their roles towards raising awareness and educating students about managing crises and disasters in educational institutions, as well as the low knowledge of students about managing crises and disasters in educational institutions. The study (Al-Nasr, 2022) also aimed to The study aimed to identify intellectual capital in its various dimensions and its impact on crisis management. It concluded that intellectual capital, in its various dimensions, does not have a statistically significant impact on crisis management in its various dimensions, while innovation does have a statistically significant impact on crisis management. Meanwhile, Al-Zahrani's study (2022) aimed to identify the role of strategic planning processes in improving the effectiveness of crisis management in Saudi universities. The study concluded that the degree of practice of strategic planning processes in Saudi universities is moderate, and that the level of effectiveness of crisis management is moderate. Abu Leila's study (2022) aimed to identify the impact of strategic vigilance and its dimensions on crisis management methods, as measured by those dimensions. The study concluded that strategic vigilance, in its various dimensions, has a statistically significant impact on crisis management methods, in their combined dimensions, within pharmaceutical companies. Similarly, Ismail's study (2021) aimed to: To understand the application and practice of strategic management in the education sector and to identify the factors and variables that affect the application of strategic management in higher education. The study concluded that financial and administrative factors led to a significant and evident decline in the performance of higher education outputs, and that there was a lack of a clear and effective plan to address the causes of this decline in one of the most important development sectors. Meanwhile, Jarallah's study (2021) aimed to: To identify the impact of strategic planning on crisis management in oil and gas companies, the study concluded that existing strategic planning has a moderate impact on crisis management in the Yemeni oil and gas companies under investigation, and that the level of strategic planning practice in the oil and gas sector under study, in terms of vision, mission, and objectives, is The strategy and analysis of the internal and external environment are at a moderate level, and oil and gas companies lack a dedicated crisis management center or team. Mahmoud's study (2021) aimed to identify the key role public relations can play after crises and to determine the extent to which a public relations strategy is employed and implemented. The study found that higher education institutions are keen to provide communication systems that answer questions raised during crises in higher education institutions, and that one of the obstacles facing crises is the lack of interest from senior management in public relations and their lack of conviction in its ability. The lack of specialized training courses for public relations staff to practice the profession. As for Jaafar's study (2017): The study aimed to identify the impact of strategic planning in reducing the crises faced by employees in public institutions. The study reached a number of conclusions, most notably: that strategic planning in public institutions contributes to reducing potential problems, and that its lack of explanation to employees reduces the effectiveness of crisis management. It also clarified that strategic planning provides information that is useful in decision-making and problem-solving.

The importance of the study:

- To raise awareness among senior management at the Public Water and Sanitation Corporation in the capital city of Sana'a regarding the importance of strategic planning and its impact on crisis management.
- The importance of the study: - To contribute to enriching the topic of (Strategic Planning and its Impact on Crisis Management), which the Yemeni library still needs more study and research on, especially in the General Corporation for Water and Sanitation in the capital Sana'a.
- importance of the study: - This research is expected to motivate researchers to conduct more research and studies in this field.

Study Objectives:

- Determine the level of commitment of the Public Corporation for Water and Sanitation in the capital city of Sana'a to strategic planning.
- A statement of the level of crisis management at the Public Water and Sanitation Corporation in the capital city of Sana'a.
- An understanding of the impact of strategic planning dimensions (environmental analysis, strategic orientation, and strategy formulation) on crisis management.

Literature Review:

1. The Concept of Strategic Planning:

The concept of strategic planning refers to a distinct and powerful field within business management. The applications of this concept achieve competitive advantage in business organizations, especially international ones, as it defines the organization's vision, mission, goals, and strategies. Thus reducing uncertainty or ambiguity in the future, especially in light of the rapid and successive international economic, political and cultural changes (Jad Al-Rab, 2016, 9). While Harrison defined it as: long-term planning that takes into account internal and external variables and identifies the targeted market sectors and segments and the style of competition. Strategic planning is a renewed process that is updated every year to study external and internal developments (Harrison, 2009, 235). While it is defined as: a general plan to facilitate the successful management process, it takes the planner out of the circle of activities and work within the company, and gives a complete picture of what we do? And what is our future path? It provides the planner or management with a clear vision of what you want to achieve? And how to achieve what you want? This is in addition to the daily plans and activities (Younes, 2017, 296). Strategic planning has been defined as the set of activities that lead to the development of a company's mission and objectives, and the formulation of appropriate strategies to achieve those objectives (Marangu, 2015, p19). It has also been defined as encompassing goals, policies, and master plans. In other words, the company's strategy in its field of activity to achieve the desired goals, and it is characterized by stability and non-change, as its decisions last for a long period. For example, the company's reputation, size, and type of activity represent a specific strategy for the company that does not change during a short period (Muhammad, 2016, 19). The environment is all the conditions that surround the company from the inside and outside. Al-Adili defined it as: reviewing both the external environment in order to identify the most important opportunities and threats facing the company, and the internal environment in order to identify the most important weaknesses and strengths. The process must be continuous in order to serve the strategy design process (Al-Adili, 2018, 31). Strategic orientation is one of the most prominent fundamental variables in the business world, as it is directly related to the way in which the company's management chooses to compete in the labor market. This is because strategic orientation is based on the results of strategic thinking in determining the means that the company's management needs to achieve its strategic goals. Strategic direction is defined as a set of principles and foundations that influence a company's activities and provide the necessary strategies to achieve the desired performance, contributing to long-term expansion and growth (Al-Shammari, 2021, p. 264). Formulating a set of strategies, on the other hand, means And choosing the best of them to achieve the goals and objectives in order to work on achieving the company's vision. Zaidan defined it as: preparing the mission of the sector or organization and identifying the external opportunities and threats that each of them faces, identifying strengths and weaknesses, setting long-term goals, reaching alternative strategies, and choosing the strategies that are implemented and followed up (Zaidan, 2017, 156).

2. The concept of crisis management:

Crisis management is defined as "a series of actions aimed at controlling crises and limiting their escalation so that they do not get out of hand, leading to the outbreak of wars. Thus, sound crisis management is what ensures the preservation and protection of the vital interests of the state" (Jalda, 2011, 19). It is: "a dynamic field that increases

the efficiency and effectiveness of the organization in dealing with many of the incidents that organizations are exposed to. It is applied in an administrative manner designed to deal with crisis situations while achieving the organization's goals. This method attempts to apply the means that achieve the most economic efficiency" (Turki, 2019, 30). It is the ability of the organization to recognize current and potential risks and threats and to work to avoid them or reduce their negative effects in order to restore balance to the system in the shortest possible time and start its activity again and draw lessons learned to prevent a recurrence of the crisis or improve ways of dealing with it in the future and take advantage of the opportunities it provides (Ahmed, 2020, 36). It is: dealing with crises by planning for avoidable situations and making preparations for predictable crises within a system that is applied in the event of their occurrence by imposing control over the results or reducing their destructive effects (Hallaq, 2020, 39). It is the process of responding to the threats and emergency conditions that a crisis brings by making urgent decisions, in light of the lack of information (Al-Mulla, 2015, 53). Most crises have early warning signs indicating potential pitfalls, and sensing these potential pitfalls is the first step toward avoiding, resolving, or mitigating their impact. At this stage, the nascent crisis begins to manifest for the first time as a vague, anxious feeling that something is looming, portending a strange danger with undefined features, direction, size, or extent. (Aljuhmani, 2017, p53). Preparedness and prevention is the stage of advance preparations to deal with the expected crisis with the intention of preventing its occurrence or reducing its effects. The company must have sufficient preparations and methods to prevent it, including working to reveal any signs of weakness in the pillars of the entity that may generate the possibility of a crisis occurring in the company. Therefore, monitoring it and finding solutions for it, and preparing for crises by drawing up scenarios for confrontation that include how to deal with them and reduce their risks to prevent their escalation (Al-Jarallah, 2017, 53). While the damage containment and mitigation phase in crisis management depends on the nature of the event, for example, the sinking of a ferry, and its rapid sinking, might leave no possibility of saving the lives of those who actually drowned (Aqilan, 2015, p. 44). During the activity recovery phase, pre-prepared short and long-term programs are implemented to regulate and restore conditions within the various security departments, and training on these programs is necessary to complete this phase as quickly as possible (Al-Shehhi, 2018, 53). While the learning phase involves formulating controls to prevent a recurrence of the crisis, and building experiences from past lessons, whether from the crisis that the company went through or those that occurred in other companies that had previously faced crises, to ensure a high level of readiness in the future, and for the company to review and re-evaluate its previous applications to deal with crises in order to develop plans and replace others (Al-Tamimi, 2018, 110).

Methodology and Procedures of the Study:

The research adopted the descriptive-analytical method, which, since its inception, has been associated with the study of problems related to the humanities and social sciences. It is also considered one of the most suitable and widely used methods in studying human and social phenomena.

Study Population and Sample:

The research population and sample consisted of all senior leaders, department directors, and heads of sections in the General Authority for Water and Sanitation, totaling (78) individuals. The comprehensive enumeration method was used.

Table No. (1) Table showing the data of the study sample

Sample size	distributed forms	returned forms	available for analysis	percentage
78	78	65	50	%64

Source: Prepared by the researcher

Study Results and Discussion

First: Results of the Descriptive Analysis:

This section presents the results of the study variables (strategic planning and crisis management), using arithmetic means, standard deviation, and response level. If each dimension of the study variables obtains an arithmetic mean of less than (3) or a relative importance of less than (0.6), it is rejected.

a. Presentation and Analysis of the Results of the First Question

To answer the first question, which reads (What is the level of application of the Public Authority for Water and Sanitation in strategic planning?), the arithmetic mean, standard deviation, and level of application were extracted for each item of each dimension. Table (2) shows the arithmetic means, standard deviations, and level of application for the opinions of the study sample.

Table (2) Responses of the study sample on the dimensions of the reality of strategic planning

No	Verbal Connotation	Application Level	Standard Deviation	Arithmetic	Ranking	Dimensions
1	Environmental analysis	1	3.97	0.56	79%	High
2	Strategic direction	2	3.86	0.72	77%	High
3	Strategy formulation	3	3.82	0.61	76%	High
	strategic planning	0.63	3.88	0.63	78%	High

Table (2) shows that the overall average for strategic planning was (3.88), with a standard deviation of (0.63) and an application level of (78%). This means that the level of strategic planning from the point of view of the study sample in the Public Corporation for Water and Sanitation, the field of study in general, was at a (high) level. The dimensions ranged between (3.82) and (3.97), where the degree of evaluation of all dimensions was (high), with a slight difference in the values of the arithmetic means, which reflected the order of each dimension in terms of priority.

B. Presentation and Analysis of the Results of Question Two

To answer the second question, which reads (What is the level of crisis management in the Public Authority for Water and Sanitation?), the arithmetic mean, standard deviation, and level of application were calculated for each item in each dimension. Table (3) shows the arithmetic means, standard deviations, and level of application for the opinions of the study sample.

Table (3) Responses of the study sample regarding the dimensions of crisis management reality

No	Verbal Connotation	Application Level	Standard Deviation	Arithmetic	Ranking	Dimensions
1	Early warning	3	3.40	0.73	68%	Medium
2	Preparedness and prevention	5	3.37	0.69	67%	Medium
3	Damage containment	1	3.66	0.86	73%	High

4	Restore activity	4	3.38	0.69	68%	Medium
5	Learning	2	3.46	0.78	69%	High
	crisis management reality	0.75	3.45	0.75	69%	Medium

Table (3) shows that the average overall score for crisis management in the company was (3.45), the level of application was (69%), and the standard deviation was (0.75). According to the overall average, the level of crisis management from the point of view of the study sample in the Public Corporation for Water and Sanitation, the field of study in general, was at a (high) level. As for the level of each dimension, we find that the values of the arithmetic mean ranged between (3.37) and (3.66). It literally means to a (medium and high) degree, meaning that the reality of crisis management in all its dimensions in the Public Authority for Water and Sanitation came at a (high) degree, except for the early warning dimension, the preparedness and prevention dimension, and the recovery of activity dimension, which are at a medium degree, with a slight difference in the values of the arithmetic averages that reflected the ranking of each dimension in terms of the level of application. The dimension of damage containment came in first place, followed by learning in second place, then the dimension of early warning in third place, then the dimension of recovery in fourth place, and in last place the dimension of preparedness and prevention.

Second: Testing the Study Hypotheses

In this section of the study, we will examine the hypothesis testing process to verify the impact of the axes and dimensions of strategic planning on crisis management within the Public Authority for Water and Sanitation. The hypothesis states that "There is no statistically significant effect of strategic planning in its dimensions on crisis management in the Public Authority for Water and Sanitation," and the following sub-hypotheses emerged from this hypothesis:

First sub-hypothesis: There is no statistically significant effect of the environmental analysis dimension on the crisis management of the Public Authority for Water and Sanitation.

Table (4) Results of the test on the impact of the environmental analysis dimension on crisis management

Form Summary					Analysis of Variance			Regression Coefficients		
Dependent Variable	R	R ²	F	Sig	df	Independent Variable	β	Standard error	T	Sig
crisis management	0.68	0.46	41.17	0.00	148	Environmental analysis	0.78	0.12	6.42	0.00

The results in Table (4) indicate that the correlation coefficient ($R=0.68$) indicates a positive direct correlation between the independent variable and the dependent variable, which confirms that there is a statistically significant effect of the independent variable (environmental analysis) on the dependent variable (crisis management), as the calculated value of (F) reached (41.17). With a significance level of (000.) which is less than (0.05), in addition to the value of the coefficient of determination ($R^2=0.46$), which confirms the significance of the regression, meaning that the environmental analysis dimension explains (46%) of the variance in crisis management, provided that all other variables remain constant.

Based on the above, we reject the first null hypothesis and accept the alternative hypothesis, which states that: There is a statistically significant effect of the environmental analysis dimension on crisis management in the Public Authority for Water and Sanitation.

Second sub-hypothesis: There is no statistically significant effect of the strategic orientation dimension on crisis management at the Public Authority for Water and Sanitation.

Table (5) Results of the test on the effect of the strategic orientation dimension on crisis management

Form Summary					Analysis of Variance			Regression Coefficients		
Dependent Variable	R	R ²	F	sig	df	Independent Variable	β	Standard error	T	Sig
crisis management	0.62	0.38	29.24	.000	148	Strategic direction	0.55	0.10	5.41	0.00

The results in Table (5) indicate that the correlation coefficient ($R=0.62$) indicates a positive direct correlation between the independent variable and the dependent variable. There is also a statistically significant effect of the independent variable (strategic orientation) on the dependent variable (crisis management), as the calculated value of (F) reached (29.24). With a significance level of (000.) which is less than (0.05), in addition to the value of the coefficient of determination ($R^2=0.38$), which confirms the significance of the regression, and it appears from the table that the strategic orientation dimension explains (38%) of the variance in crisis management, provided that all other variables remain constant.

Based on the above, we reject the second null hypothesis and accept the alternative hypothesis, which states that: There is a statistically significant effect of the strategic orientation dimension on crisis management in the Public Authority for Water and Sanitation.

Third sub-hypothesis: There is no statistically significant effect of the strategy formulation dimension on crisis management at the Public Authority for Water and Sanitation.

Table (6) Results of the test on the effect of the strategy formulation dimension on crisis management

Form Summary					Analysis of Variance			Regression Coefficients		
Dependent variable	R	R ²	F	Sig	df	Independent variable	β	Standard error	T	Sig
crisis management	0.61	0.37	28.38	.000	148	Strategy formulation	0.64	0.12	5.33	0.00

The results in Table (6) indicate that the correlation coefficient ($R=0.61$) indicates a positive direct correlation between the independent variable and the dependent variable. There is also a statistically significant effect of the independent variable (strategy formulation) on the dependent variable (crisis management), as the calculated value of (F) reached (28.38). With a significance level of (000.) which is less than (0.05), in addition to the value of the coefficient of

determination ($R^2=0.37$), which confirms the significance of the regression, and it appears from the table that the strategy formulation dimension explains (37%) of the variance in crisis management, provided that all other variables remain constant.

Based on the above, we reject the third null hypothesis and accept the alternative hypothesis, which states that: There is a statistically significant effect of the strategy formulation dimension on crisis management in the Public Authority for Water and Sanitation.

Conclusions:

Based on the findings, the following conclusions can be drawn:

- 1- The research results showed that the reality of strategic planning in the Public Corporation for Water and Sanitation, the field of study, from the point of view of the research sample, came at a (high) level. This indicates that strategic planning processes are practiced at a (high) level, which indicates that the corporation has work teams that work on determining the general framework for work and competition.
- 2- The reality of the early warning dimension from the point of view of the research sample came in at a (moderate) degree. This result indicates a reduction in the perception of crisis prediction in the institution, as well as the absence of specialized teams to collect and discover crisis indicators.
- 3- The results confirmed that the reality of the preparedness and prevention dimension came at a (moderate) level, and this result indicates the weakness of training programs on how to deal with crises and how to prevent them.
- 4- The reality of the dimension that contained the damages came in a high degree, and this result expresses the satisfaction of the sample with the role of the institution's leadership in containing the damages resulting from the crisis through the formation of committees and continuous follow-up to facilitate and overcome obstacles and prevent their escalation.
- 5- The reality of the recovery of activity came in at a (moderate) degree, and this result indicates that the institution is not working to employ all the capabilities available to it, in order to restore the situation to what it was in an urgent manner.
- 6- The reality of the learning dimension came in at a (high) level. This result indicates that there is a review of the reasons that led to the occurrence of the crisis, and how to benefit from it, in order to identify the mistakes and work to overcome them in the future, and learn from them in building scenarios to face future crises.

Recommendations:

Based on the conclusions reviewed above, the following recommendations can be made:

- 1- The need to support strategic planning processes by promoting a culture and practices of environmental analysis in order to collect and analyze indicators of crisis occurrence, provide quantitative and qualitative information through effective communication methods, allocate and invest resources, develop strategies, and respond to renewed requirements and needs.
- 2- The need to activate crisis management within institutions, as a preventive approach to the occurrence of crises, by providing early warning systems that are efficient, accurate and capable of detecting signs of danger, training employees on ways to deal with crises, and establishing a comprehensive and accurate database of information and data on all crisis activities.
- 3- Increased attention to crisis management, especially with regard to the dimensions of preparedness, prevention, recovery and early warning, through the preparation of plans, the formation of specialized and trained teams to confront and deal with crises, taking preventive measures and providing the necessary capabilities to restore a state of balance.

- 4- Activating information systems in making response decisions and accomplishing administrative and technical tasks, employing technology to speed up the flow of information, and achieving coordination and integration between different administrative levels in institutions.

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