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The Impact of Strategic Agility on the Crisis Management of Energy Security sector in Jordan

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Abstract

The expansion of phenomena of globalization and the emergence of in light of recent developments and development are the most significant changes confronting organizations today (alqudah, 2023) Jordan is one of the world's poorest countries in terms of energy sources; the country's traditional energy resources are insufficient to meet its demands. Management crises may occur in this sector is essential. Adapting strong strategies as agility strategies is very important. Hence, this research designs a model to enhance the crisis management in the energy security sector in Jordan. The recent study aimed to examine the impact of the **strategic agility** conceptualized as; **strategic insight, internal response orientation, external response orientation, human resource capability and information technology capability** on the **crises management** measured by; **discover alarm signals**, **preparedness and prevention**, **containment of damages, restoration activity** and **learning** in the in the energy security sector in Jordan. A total of 200managers as respondents selected by simple random sampling from 1622 managers in the eighteen-energy security sector in Jordanian companies. The study used SEM with SMART-PLS 4 to analyze the data collected. The measurement model applied to analyze the validity and reliability of the model, the path coefficient in the structural equation model used to test the study hypotheses. The results of this study **support four from five of the study direct effect** hypotheses. The result of the study finds that strategic insight, external response orientation, human resource capability and information technology capability has a significant impact on the crises management, while the result of the study **didn't find any significant** impact of the internal response orientation on the crises management in the Jordanian energy security sector. The study provides very important implications to the managers of the energy security sector in Jordan to improve their strategic agility dimensions to gain effective and efficient crises management by applying model of strategic agility and crises management model in the energy security sector in Jordan.

Key words: *Strategic Agility, Crises management, security, energy, Jordan, security, PLS-SEM*

1. Study Background

Energy security sector planning in Jordan is complicated and demanding but necessary for strong, productive, and long-term success and to avoid any crises that can occur in this essential sector. Jordan faces the same problems as many other developing MENA nations when it comes to getting enough energy, especially electricity, to fulfill its increasing demand. Reasons for this include a lack of domestic primary energy supplies, heavy reliance on fossil fuel imports, within Jordan's public healthcare facilities, ultimately helping to mould a healthier and more prosperous future for Jordan (alqudah, 2023) and an ever-increasing human population, particularly in the wake of the refugee crisis in Syria. Because of this, the country's already-scarce power generation resources are under even more strain than before (Al Naimat & Liang, 2023). Electricity generation in Jordan has been under increasing pressure due to a lack of resources and rising demand. The country's complicated and ever-changing circumstances have necessitated drastic measures for crisis management, particularly in the electricity sector, which is vital to the country's energy infrastructure (Hussein et al., 2021).

Efforts to address energy crises have been made through ongoing exploration and study, and numerous current technologies are aimed toward this goal (Clausen & Rudolph, 2020; Sun et al., 2016). Obtaining reliable electric power on a massive scale, ensuring fuel sources for vehicles and travel, and meeting the many energies needs of humansCustomer satisfaction and customer relationships are important com-ponent for government (alqudah, 2023) , including heating, are the top energy goals. It turns out that energy is the backbone of the industrial sector. Without energy, the industry can't achieve its most distinguished goals. The energy security sector's top priority is having a well-defined strategy for handling crises in this crucial and delicate area (Smal & Wieprow, 2023; Olujobi et al., 2023).

The business world is full of crises, and no company can ever be completely safe from them (Lutes, 2021). Every business should have plans and strategies to manage crises as they become an inherent part of modern companies across all industries and countries. Among the many pressing concerns raised by academics and industry professionals in recent years is the best way to handle crises. With the help of crisis management, organizations may lessen the frequency and severity of crises, improve their response times to those that do occur, and equip themselves to learn from their mistakes quickly and thoroughly. To either prevent crises from happening or, if they do, to mitigate their destructive effects, prepare for them, offer emergency relief, and recover from them, crisis management is an applied science that systematically observes and analyzes crises. The management framework for avoiding or lessening negative consequences, making the most of existing resources, and being ready for the unexpected is what crisis management is all about (Putra et al., 2021).

Furthermore, while entering a new environment, it is imperative to confront novel developments, obstacles, and skillfully handle crises. Organizations must surpass mere adaptation to the environment and actively pursue prospective chances (Elali, 2021). One of the principles is to enhance organizational **flexibility, velocity, quality, and agility**. According to Motwani and Katatria (2024), **agility is the capacity to function in a constantly changing and fast-paced competitive environment as well as to react swiftly and effectively to shifts in the market**. collaborative operational coordination. This makes it possible for cooperative organizations to adjust and react to changes in accordance with client needs (Rastegari et al., 2020). Agility refers to the capacity **to operate effectively in a fast-paced and uncertain competitive setting**, and to

promptly and efficiently respond to shifts in the market (Motalo et al., 2023). The following factors should be taken into account when discussing strategic agility: internal response to unresolved internal events that could cause organizational crises; responding to external threats and strengthening the organization's human resource capabilities; and, lastly, addressing the information technology capability, which is the most crucial component of the organization (Arokodare & Asikhia, 2020).

Additionally, companies that need more strategic agility will stay behind their rivals and see a steady loss in performance (e Cunha et al., 2020). According to Rohrbeck and Kum (2018), strategic agility is a reliable indicator of future success and aids businesses in overcoming the unpredictable dynamics of the modern corporate environmentOn the other hand, supply chain significantly affects the level of care (alqudah, 2023). This is also happening when handling urgent situations. According to Barthe-Delano et al. (2018), strategic agility is crucial for crisis management because it speeds up creative and innovative processes, allows for the integration of modern information, computational, and communication technologies into decision-making platforms, empowers employees to work remotely, and fosters a collaborative work environment that promotes teamwork and gives everyone a say in decision-making. Appelbaum et al. (2017) found that organizations with higher levels of strategic agility were better able to proactively react to changes in their environment.

There is lack of studies in the field of strategic agility in Jordan(Zarafili& Zarafili, 2023). Also, based on the researcher knowledge there is no study yet examine the strategic agility conceptualized as;strategic insight, internal response orientation, external response orientation, human resource capability and information technology capability on the crises management in the Jordanian electricity sector (alqudah, 2023). this study will try to fill this gap by examining the strategic agility as a tool that canmanage the changes will happened suddenly and accidentally turn into crises in Jordanian This study examined the impact of the strategic agility conceptualized as;strategic insight, internal response orientation, external response orientation, human resource capability and information technology capability on the crises management in the Jordanian energy security sector.

2. Problem Statement

While the future of business is filled with unpredictability, it also offers numerous opportunities for ambitious companies. The current business climate is generally difficult to expect, comprehend, and adapt to, and as a result, firms encounter an assortment of risks. As a result, companies of all sizes and strengths are at risk for crises (alqudah, 2023). The company's operations, growth, profitability, and very survival could be endangered in the event of one of these crises (Georgewill, 2021). Recognizing the necessity to acquire the ability to face any possible threat or difficulty that is certain to arise, managers should emphasize being ready to confront any emergency that may occur (Knox, 2020).

The energy sector in Jordan is initiating efforts to deal with the unanticipated increase in electricity demand and the challenge of securing the required investments, according to a study by the Ministry of Energy and Mineral Resources (MEMR) in 2020. The paper emphasizes the value of strategic preparations for handling any unanticipated event that can cause crises in this industry. An important tool for crisis management and avoiding future problems with insufficient natural gas supplies for compound circuit power generation projects is the sector's strategic agility in managing its human and informational capabilities, as well as its internal and external orientation in responding to unforeseen situations that cause crises. Also, to fix the problems with rising power generation costs, strategic agility is recommended.

The Jordanian security energy sector is facing serious challenges in meeting the country's energy demands. Official statistics show that Jordan imports over 96% of its energy needs, amounting to about $3 billion per year (Kiwan & Al-Gharibeh, 2020). Supply and price fluctuations have been caused by regional instability. As an example, liquified gas imports from Egypt have been disrupted since 2011. As a result, the authorities have had to reconsider energy policy. They have begun exploring alternative energy sources like nuclear power and oil shale. They have also begun testing new international agreements, such as the construction of an electric transmission line between Jordan and Saudi Arabia. In light of the current energy security sector challenges, it is imperative that Jordanian policymakers possess practical, adaptable strategies for crisis management (alqudah, 2023). The recent study will try to help in crises management in this sector by providing empirical study of the impact of the strategic agility (strategic insight, internal response orientation, external response orientation, human resource capability and information technology capability) on the crises management in the Jordanian energy security sector.

A crisis is any situation or series of events that launch a group, team or an organization into a downward spiral, by threatening to harm people or property and negatively impact and damage an organization, its stakeholders, or even an entire industry if not handled effectively and efficiently, characterized by “high consequence, low probability, ambiguity, and decision making time pressure,” (Al Khalifa, 2021), and always creates three inter related threats: public safety, financial loss due to disruption of operations and loss of market share, and inevitably reputation damage, because it reflects poorly on an organization (Ziakas, Antchak & Getz, 2021). Related to the importance of the energy security sector in Jordan, this study will provide strategical tool to manage any unexpected crises in this sector that lead to serious consequences by building model of the impact of the strategic agility as strategic tool to manage crises in the energy security sectorin Jordan.

Strategic agility is crucial in the Jordanian electric sector and worldwide to manage crises (Bakir & Moh'd, 2022). This study developed a unique model of the impact of strategic agility on crises management in Jordan, taking into account that strategic agility is a multi-dimensional construct that includes strategic insight, internal response orientation, external response orientation, human resource capability, and information technology capability. This study aims to improve Jordanian energy security sector crises management by developing strategic agility in strategic insight, internal response orientation, external response orientation, human resource capability, and information technology capability to effectively and efficiently manage crises. According to the researcher, no study has distinguished the model of the impact of strategic agility (strategic insight, internal response orientation, external response orientation, human resource capability, and information technology capability) on Jordanian energy crises management (discover alarm signals, preparedness and prevention, containment of damages, restoration activity, and learning).

3. Research Objectives

The main aim of this study was to examine the effect of strategic agility; strategic insight, internal response orientation, external response orientation, human resource capability and information technology capability on crises management**.** Accordingly, the study is going to achieve the following objectives

RO1: To investigate the effectsof the strategic insight on the crises management in Jordan's energy security sector.

RO2: To investigate the influence of the internal response orientation on the crises management in the Jordanian energy security sector.
RO3: To investigate the influence of the external response orientation on the crises management in the Jordanian energy security sector.
RO4: To investigate the impact of the human resource capability on the crises management in Jordan's energy security sector.
RO5: To investigate the impact of the information technology capability on the crises management in Jordan's energy security sector.

4.Research Questions

In order to accomplish the study objectives, the study is going to answer the following questions:
RQ1: What impact does strategic insight have on crisis management in Jordan's energy security sector?
RQ2: What influence does internal response orientation have on crisis management in Jordan's energy security sector?
RQ3: What impact does external response orientation have on crisis management in Jordan's energy security sector?
RQ4: What impact does human resource capability have on crisis management in Jordan's energy security sector?
RQ5: What impact does information technology capability have on crisis management in Jordan's energy security sector?

5.literature Review

In this section the previous literature related to the study variables will be discussed in details. Hypotheses development based on the discussion of the relationships between variables as illustrated in the previous studies will be discussed also in the following sections.

5.1Strategic Agility

Strategic agility defined in this study as the ability of an organization to detect changes through the opportunities and threats existing in the business environment, and to give rapid response through the recombination of resources, processes and strategies. In this study strategic agility conceptualized based on the study of (Khoshnood & Nematizadeh 2017; Arokodare & Asikhia, 2020) as; strategic insight, internal response orientation, external response orientation, human resource capability, information technology capability. The following sections will provide more about each strategic agility dimension.

5.1.1Strategic Insight

According to Mavengere (2013), the initial component of strategic agility is strategic insight. This is the tendency of a company to thrive in present-moment circumstances by learning from complicated strategic scenarios as they arise and analyzing them so that the company can profit from these events as they develop (Elali, 2021). Both the outside (external sensing) and the inside (internal awareness) perspectives are part of strategic insight within an organization (Arokodare et al., 2024). An organization's internal awareness can be enhanced through experimentation and exploration by throwing light on its strengths and shortcomings in its external environment. This, in turn, can prompt a test of the firm's fundamental business assumptions, which can then be further defined, refined, and sharpened. However, when executives take a step back from their daily routines and begin to model the organization and its

relationship to its environment, they can gain a new perspective through external sensing (Doz & Kosonen, 2010; Reed, 2021).

5.1.2Internal response orientation

Internal response orientation is a second dimension of the of strategic agility. The strategic internal response is the ability of an organization, working in collaboration with its customers and business partners, to quickly and seamlessly reconfigure its resources and processes to react or proactive in line with changes and/or developments in the business environment (Mavengere, 2013; Khaddam, 2020).

5.1.3External response orientation

According to Doz and Kosonen (2008) and Arokodare (2021), external response orientation is the capacity to foresee changes in the market before rivals do. It means cultivating and sustaining connections with a wide range of individuals and organizations in order to absorb as much knowledge, insight, and new ideas as possible. Therefore, businesses must have a market orientation in order to recognize the necessity of change. An organization's capacity to react or pro-act to the business environment is defined by Mavengere (2013) as external response orientation, which is a dimension of strategic agility.

5.1.4Human resource capability

According to Ajgaonkar et al. (2022), human resource capability is defined as the capacity and adaptability of individuals to play pivotal roles in a dynamic organization that is always adapting to new situations. A company's human resources capability can be defined as its employees' skill level and its capacity to carry out their job responsibilities competently and successfully (Mavengere, 2013). According to Bansal et al. (2023), human resource capability encompasses a range of policies and practices that are essential for carrying out different tasks. Management does its duties to the best of its ability through them. According to Ngila and Mutua (2024), human resource capability can also be defined as managerial activity related to the identification of project's workforce needs and a response to these needs by providing the appropriate workforce within the numbers and qualifications that correspond to the project's needs, and using these resources in an effective manner to achieve productivity. to evaluate both new and existing goods and services in target markets.

5.1.5Information technology capability

In his taxonomy of strategic agility, Mavengere (2013) identified information technology capabilities as one of the sub-constructs of the capabilities dimension of strategic agility and he described this as the ability of the organization to successfully utilize its information infrastructure and resources to derive value in order to improve its performance. It was his opinion that an organization with the required information infrastructure and resources for its core functions will be able to carry out its functions effectively while possession of such capabilities is important for the organization to utilize its information resource and promote information management in a competitive business environment (AlTaweel & Al-Hawary, 2021).

5.2 Crises Management

Based on the research of (Al Thani & Obeidat, 2020; Laws & Prideaux, 2006), this study defines crisis management as the set of management methods that begin with preparation before a crisis occurs, are activated to respond to the crisis as it happens, and are put into place to recover from the disaster. In order to make the right decision before a crisis develops and moves on to the next stage, it is important for managers to be well-versed in all of the stages of crisis management. The leader's inability to handle any one of these stages effectively will cause the crisis to escalate, endanger lives, damage property, and have psychological and repercussion effects on

those who work for and buy from the company (Riley et al., 2024). Crises management conceptualize in this study based on the study of Al Thani and Obeidat, (2020) as; Discover alarm signals, Preparedness and prevention, Containment of damages, Restoration activity and Learning.

Discover Alarm signals: Prior notification of a crisis is typically provided. The length or severity of a crisis is predicted by a sequence of early warning indications; if these signals are not adequately addressed, the crisis is likely to occur. Every crisis has its own unique signs. During the crisis detection stage, leaders should be able to perceive early warning signals (red flags) that indicate the probability of a crisis, but they aren't guaranteed to do so. There are several steps to identify a crisis, such as; Making sense of things, which is an effort to put things in order and figure out what happened in hindsight. The capacity to put oneself in another person's or a group's shoes is what we mean when we talk about perspective-taking(Al Eid& Arnout, 2020).

Preparedness and prevention:Crisis preparedness and prevention strategies must be adequate for organizations. Because of how hard it is to stop anything from being predicted or from happening, early warning signs are very important. Finding organizational and institutional weak spots is the aim of prevention. Now that the crisis has been detected, the next step for the crisis management team is to either get ready for it or figure out how to avoid it (Wut et al.,2021).

Containment of damages:The preparation of strategies to contain the damage and stop it from escalating to unaffected areas of the business is the next step in crisis management. At this point in the crisis management process, the specifics of the incident are being considered. Crisis containment and damage management aim to minimize harm to its financial reputation, safety, and other survival hazards during this typically dynamic phase of the crisis. Officials tasked with handling the crisis are putting in long hours to ensure it is resolved quickly so the company can minimize unwanted publicity and resume business as usual(Abdalla et al.,2021).

RestorationActivity:According to a study by Ketter (2022), restoration activity entails the preparation and implementation of programs that have been tested and proven in the past. It will be challenging to react and come up with suitable answers when the crisis is in full swing if these programs have never been tried. As the crisis escalates, organizations that are crisis-oriented often make the mistake of concentrating on internal processes and failing to consider how the crisis will affect external parties. In such a situation, the ability to continue operations is crucial, as is the ability to plan for recovery from the crisis's effects.

Learning:The current step involves reassessing previous work in order to make improvements. Acquiringknowledge is crucial, however, it can be rather distressing and trigger distressing recollections associated with past hardships. In order for an individual to effectively learn, they must be prepared to embrace feelings of unease without succumbing to overwhelming fear. Following the crisis, decision-makers prioritize the significance of acquiring knowledge and utilizing past experiences to formulate novel strategies and behaviors that ultimately transform the organization's operational methods(Al-Janabi et al.,2022).

5.2 Hypothesis Development.

The linkages between strategic agility conceptualized as strategic insight, internal response orientation, external response orientation, human resource capability, and information technology capability on the crises will be discussed this section. Furthermore, the hypotheses to be tested in the context Jordanian energy security sectorin Jordanwill be formulated next. The model of the recent study model shown in Figure 1.

Study of Ludviga andKalvina(2023) asserted that the strategic agility is important determinant of the crisis management due to its ability to speed up creative problem-solving and innovation; to facilitate the use of cutting-edge information, computational, and communication technologies in decision-making platforms; to enable remote work; to foster an inclusive workplace that encourages teamwork and gives everyone a voice; and to remove bias from the decision-making process.According to several studies (Tilman & Jacoby, 2019; Rigby et al., 2020), agile organizations have non-hierarchical, flat organizational structures that are entangled in a web of alliances and strategic partnerships and that release with decision-making sub-units reposed in highly motivated teams that operate entrepreneurially.

Market-dominating companies achieve superiority by demonstrating "agility" through the implementation of the management concept known as "Strategic Agility." Advocates of this approach possess heightened foresight and adaptability, enabling them to effectively handle crises caused by the introduction of new technologies, unexpected competition, and significant changes in economic, financial, and trade policies. Employing this form of leadership enhances market share, enhances an organization's reputation, and enhances its capacity to manage unforeseen crises with composure and effectiveness (Al-Yasiri, 2022).

Strategic agility has become a prominent management paradigm in academic writing in recent years. Strategic agility refers to the ability of senior management and policymakers to effectively foresee and react to abrupt changes in both the internal and external factors of the business environment. This enables them to transform prospective threats into favorable opportunities (Tilman and Jacoby, 2019). Successful business management and uncertainty management during crises necessitate a high degree of strategic agility, which is the capacity to deliver the appropriate items at the correct location, at the optimal time, for the right price, and to the suitable customers. Furthermore, the implementation of strategic agility can improve the organization's ability to consistently adjust to evolving circumstances while maintaining its fundamental strengths and efficiency (alqudah, 2021).

According to Hughes et al.'s (2020) study, strategic agility can improve crisis management by allowing organizations to dynamically adjust their strategies in response to changing market conditions. Furthermore, Doz and Kosonen (2008a) suggested that the ability of an organization to effectively manage crises is derived from the integration of various dynamic capabilities. These capabilities include strategic insight, internal response orientation, external response orientation, human resource capability, and information technology capability. By combining these capabilities, management personnel can swiftly reposition the organization to take advantage of emerging opportunities (Elali, 2021).

Based on the above discussion of the impact of the strategic agility on the crises management, this study formulates the following hypotheses to be tested in the context of the Jordanian security sector

H1: strategic agility (strategic Insight) has significant effect on thecrises management in the Jordaniansecurity sector.

H2: Strategic agility (internal response orientation) has significant effect on the crises management in the Jordanian security sector.

H3: Strategic agility (externalresponse orientation) has significant effect on the crises management in the Jordanian security sector.

H4: Strategic agility (human resource capability) has significant effect on the crises management in the Jordanian security sector.

H5: Strategic agility (information technology capability) has significant effect on the crises management in the Jordanian security sector.

6.Theoretical Framework

Based on the resources-based view theory (RBV) theory and dynamic capability theory (DCT) theory and this study build model to examines the impact of the strategic agility as independent variable conceptualized by; Strategic insight internal response orientation, external response orientation, human resource capability, information technology capability on the crises management in term of (discover alarm signals, preparedness and prevention, containment of damages, restoration activity, learning). The suggested model build based on the studies of (Arokodare & Asikhia, 2020; Al Thani & Obeidat, 2020) will be empirically examined in the Jordanian security sector. Theoretical framework shown in the figure 1.

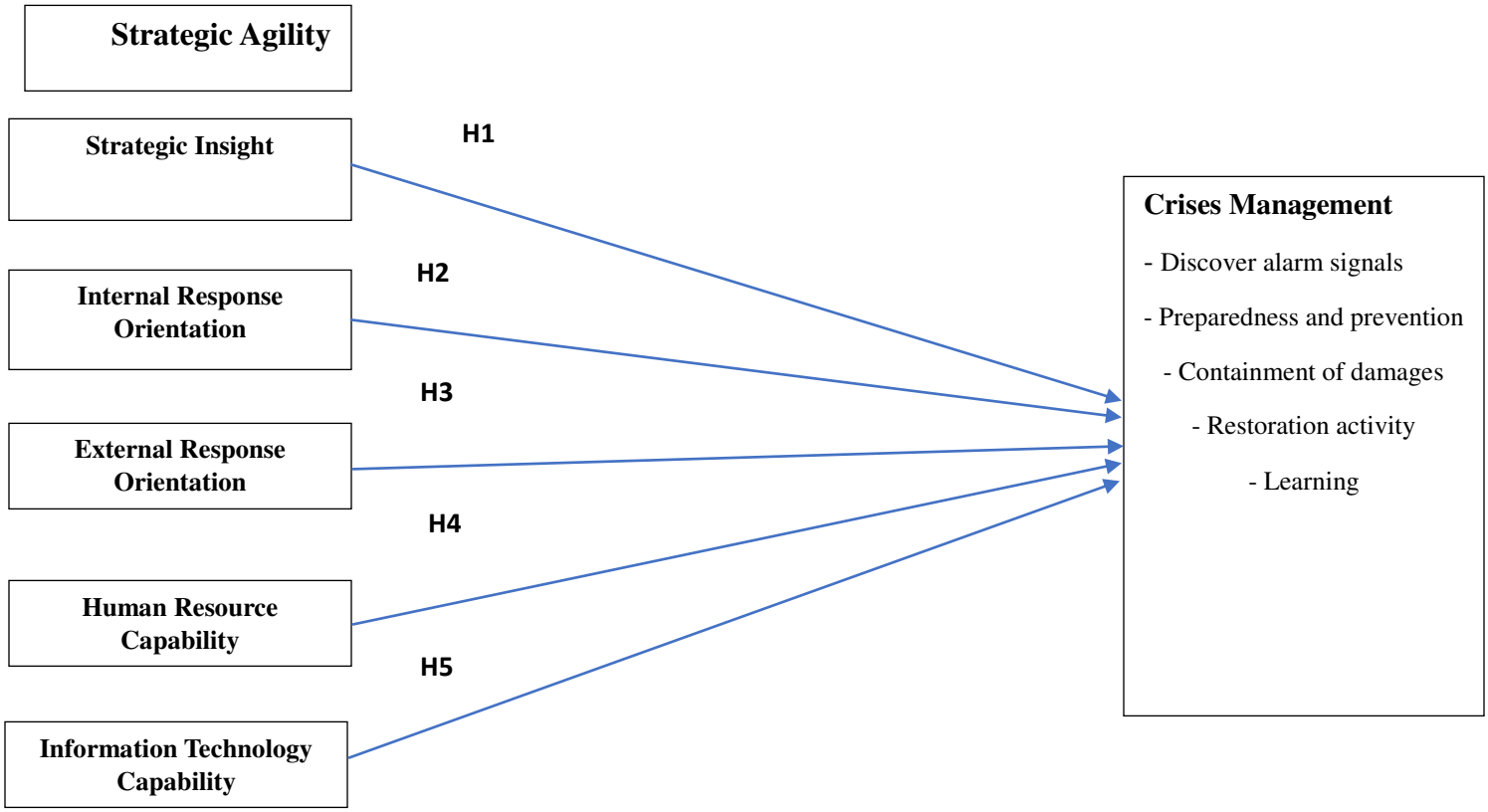


Figure 2.1: the theoretical model of the study

7. Research Methodology

7.1 Design and Procedures

This study applied the empirical approach to examine the links between strategic agility conceptualized by; strategic agility; strategic insight, internal response orientation, external response orientation, human resource capability, and information technology capability. The study was based primarily on quantitative approach, the data collected from managers working in

the energy sector companies in Jordan. The study data collection started from January 20, 2023, to March 25, 2023, and the data collected covers that time. The study also made use of secondary data, from previous studies that had already explored the same topics. The data analysed by SPSS and SMART-PLS.

7.2 Population

The study population consist of the managers working in the energy sector companies in Jordan. Based on the Energy and Minerals Regulatory Commission (EMRC) there are eleven electricity generation companies, three energy auditing companies, one main operator company, and three companies for retail distribution and retail supply, this means eighteen companies licensed by EMRC to operate the energy sector in Jordan (2022). Based on the statistics of the Jordanian Ministry of Energy and Mineral Resources (MEMR) there are around 1622 managers in the eighteen companies that will be the study population (alqudah, 2021). Study of Sekaran and Bougie (2016) asserted that managers opinions essential in social studies because of their significant roles in their organizations, also they are valuable sources of data, views, and information. Many researchers find organization managers to be the organization's most influential group to ensure the role of strategic issues (Iqbal, Ahmad, Allen, & Raziq, 2018).

7.3 Sampling Tanique and Sample Size

The power analytic method is used to establish the sample size (Cohen, 1988).Kock and Hadaya's (2018) inverse square root technique for the Partial Least Square-Structural Equation Model (PLS-SEM) suggests that a sample size of 155 is needed to achieve statistical significance at the 5% level and a route coefficient of 0.2. (Hair et al., 2021). To compensate for a potentially low response rate, the researchers added 20% to the minimum sample size recommended by Hair et al., et al., (2014), bringing the total to 200 participantsas sample size of the study.

Sampling Tanique of the study is the simple random sampling which utilized as a probability sampling method. According to Hair et al. (2014), the researchers select the target group using probability sampling to generate big samples. Besides, each element in the population has an equal chance of being elected as a sample (Sekaran & Bougie, 2016). In particular, simple random sampling is applicable where the target population is homogeneous in terms of interest in the study (Awang, 2012).

The population of this study is all managers working in the energy sector companies licensed EMRC in Jordan; at the point of the data collection, there were 1622 managers. A total of 200 questionnaires will be disseminated to the respondents who were chosen from the population list of 1622 managers, therefore when selecting the requested respondents from a population (N) size of 200, a random selection using SPSS was made by clicking on the "Random Sample of Cases" button.

7.3Study Tool (Questionnaire)

The questionnaire is thetool of the data collection of this study, the tool of this study designed based on the previous literature related to the study variables. The items tomeasures of strategic agility conceptualized as; strategic agility; strategic insight, internal response orientation, external response orientation, human resource capability and information technology capability the independent variables adapted from previousliterature of (Mavengere, 2013,Al-Hosani, Mohammed-Arbab & Azzam-Elmasri, 2017; Doz & Kosonen, 2008). Moreover, crises management with its dimensions (discover alarm signals, preparedness and prevention, containment of damages, restoration activity and learning)measurement adapted from the studiesof (Al Thani & Obeidat, 2020).

7.4 Data Analysis

This section provides findings from SMART-PLS path modeling analysis of the data. Internal consistency reliability, discriminant validity and convergent validity, are displayed in the findings of the descriptive statistics, and the measurement model is evaluated. The structural model analysis that was performed to establish causality will be shown here as wellthe hypothesized pathways in this investigation were tested simultaneously utilizing the partial least squares structural equation modelling (PLS-SEM) method (alqudah, 2023).

7.4.1Structural Equation Modelling (SEM)

The evaluation of PLS-SEM path model findings consists of a two-step approach was adopted in the recent work. This two-stage process consists of (1) evaluating the measurement model, which includes checking the items' reliability and validity, and (2) evaluating the structural model, which includes testing the significance of the path coefficients and calculating the R2 value (Figure 2).

7.4.2 Measurement Model Evaluation

Measurement model of the study involves the determination of reliability of the individual item, also, the internal consistency of reliability,discriminant validity,content validity and finally convergent validity as suggested byHair, et al.,(2014). The measurement model of the studydisplayed in figure 2

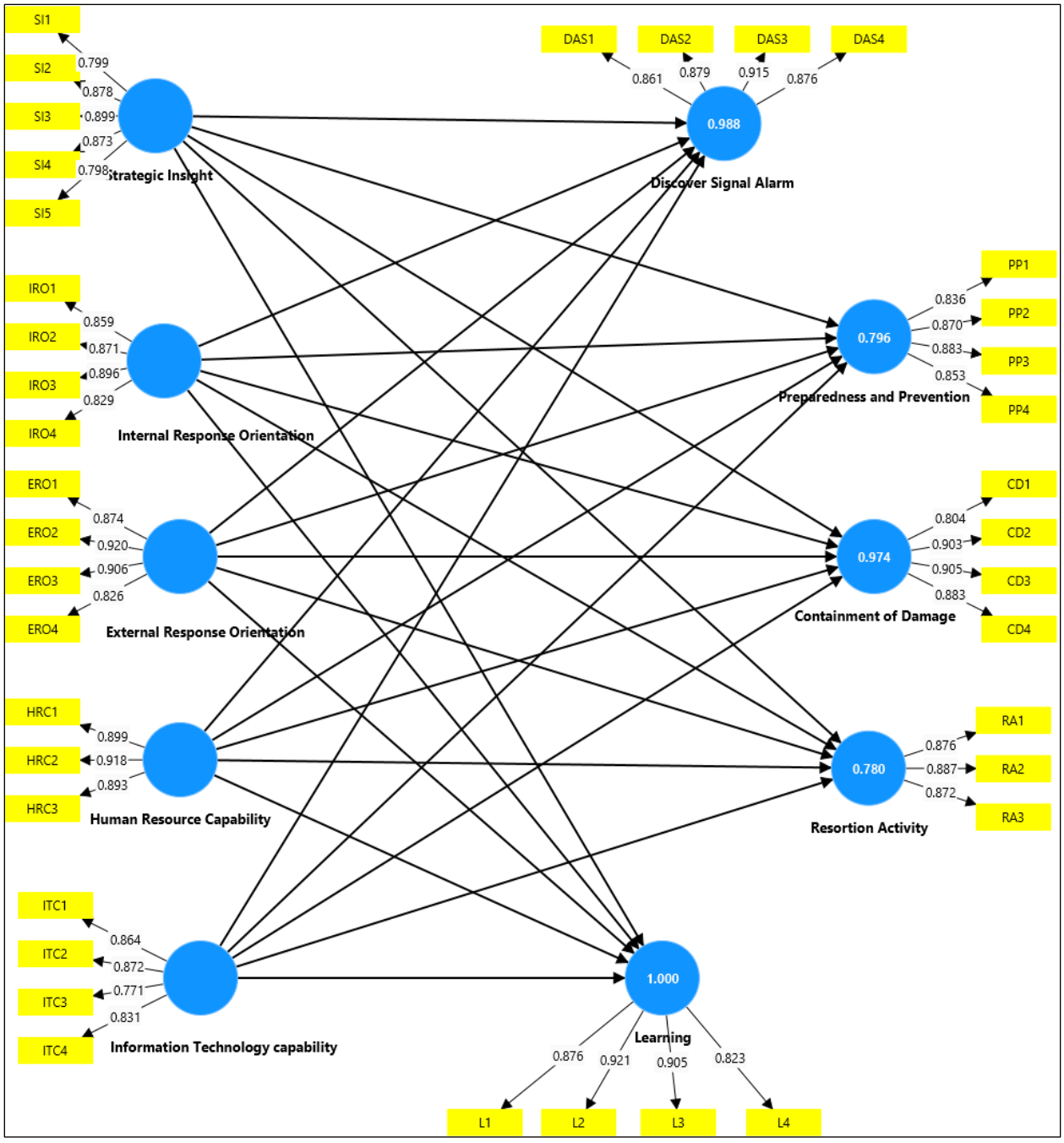


Figure 2: The measurement model of the study

The outer loadings of each of the latent variables are used to measure item reliability in relation to Figure 2 (Hair et al., 2014). The results demonstrate that all items in this study had loadings satisfied the acceptable level of 0.40. The Internal consistency reliability is the degree to which all components of a given scale measure the construct being measured, as depicted in Figure 2 of the measurement model. Cronbach's alpha and the composite reliability coefficient are often used indices in organizational research for measuring the internal consistency and reliability of a scale, especially one with multiple components. Thus, the internal consistency, composite reliability and Cronbach's alpha displayed in table1

Table 1: Assessment for Measurement Model

		Indicators Reliability	**Internal consistency**	**Convergent validity**	**Reliability**
Construct	**Items (Indicators)**	**loading >0.70**	**CR >0.70**	**AVE >0.50**	**Cronbach's Alpha >0.70**
Strategic insight	SI1	0.799	0.929	0.723	0.903
	SI2	0.878			
	SI3	0.899			
	SI4	0.873			
	SI5	0.798			
Internal Response Orientation	IRO1	0.859	0.922	0.746	0.886
	IRO2	0.871			
	IRO3	0.896			
	IRO4	0.829			
External Response Orientation	ERO1	0.874	0.933	0.778	0.904
	ERO2	0.92			
	ERO3	0.906			
	ERO4	0.826			
Human Resource Capability	HRC1	0.899	0.93	0.816	0.887
	HRC2	0.918			
	HCR3	0.893			
Information Technology capability	ITC1	0.864	0.902	0.698	0.855
	ITC2	0.872			
	ITC3	0.771			
	ITC4	0.831			
Discover Signal Alarm	DAS1	0.861	0.934	0.78	0.906
	DAS2	0.879			
	DAS3	0.915			
	DAS4	0.876			
Preparedness and Prevention	PP1	0.836	0.919	0.74	0.883
	PP2	0.87			
	PP3	0.883			
	PP4	0.853			
Containment of Damage	CD1	0.804	0.929	0.765	0.897
	CD2	0.903			
	CD3	0.905			
	CD4	0.883			
Resortion Activity	RA1	0.876	0.91	0.771	0.852
	RA2	0.887			
	RA3	0.872			

Learning	L1	0.876	0.933	0.778	0.904
	L2	0.921			
	L3	0.905			
	L4	0.823			

Based on the study of Hair, et al. (2014), thecoefficient of composite reliability should not be less than.70 to evaluate internal consistency of reliability. Moreover, the coefficients of the composite reliability of the study's constructs all above the minimum reliability accepted level of.70, which indicating good internal consistency of the study variables. Also, Hair et al. (2014), asserted that the average variance explained (AVE)determines convergent validity. However, AVE values of 0.5 or higher are normally acceptable (Barclay & Smith Jr 1995). The Average Variance Extracted (AVE) coefficients in table1 show convergent validity for all constructs in this investigation.

In addition to reliability, table1display the discriminant validity of the study variables, which indicates that a construct's measurement model is free from redundant items and that, by empirical standards, it is actually distinct from other constructs. Hence, to assess the discriminant validity of the measuring model, Smart-PLS used Fornell and Larcker, and Heterotrait-Monotrait Ratio. They are detailed below in connection to the study. Fornell–Larcker is the first discriminant validity criterion. Variable correlation utilizing Fornell-Larcker approach to test measurement model discriminant validity is shown in Table2.

	Containment of Damage	Discover Signal Alarm	External Response	Human Resource Capability	Information Technology	Internal Response	Learning	Preparedness and Prevention	Resortion Activity	Strategic Insight
Containment of Damage	**0.875**									
Discover Signal Alarm	0.73	**0.883**								
External Response Orientation	0.556	0.651	**0.882**							
Human Resource Capability	0.709	0.985	0.631	**0.903**						
Information Technology capability	0.584	0.649	0.799	0.625	**0.835**					
Internal Response Orientation	0.743	0.947	0.638	0.905	0.651	**0.864**				
Learning	0.555	0.651	1	0.631	0.798	0.637	**0.882**			
Preparedness and Prevention	0.533	0.602	0.792	0.586	0.877	0.58	0.792	**0.86**		
Resortion Activity	0.492	0.574	0.757	0.557	0.874	0.546	0.756	0.981	**0.878**	
Strategic Insight	0.987	0.756	0.575	0.735	0.605	0.769	0.574	0.555	0.514	**0.85**

Table 2: Variable Correlation-Root Square of AVE (Fornell and Larcker)

Fornell and Bookstein (1982) asserted that the when the square root of AVE is greater than the correlation between the factors accounting for each pair, the discriminate validity occurs. This is displayed in bold in table2. As was the case in this study's correlation matrix, the value should be greater than the other off-diagonal elements in the rows and columns. This showed that the criteria for the measures' discriminating validity had been met.

Moreover, according to Fornell & Bookstein (1982), in the variable's correlation method, the discriminate validity occurs when the calculation of square root of AVE is greater than the correlation between the factors making for each pair. In other words, the value should be higher than the other off-diagonal elements in the rows and columns, which was the case in the correlation matrix of this study. This demonstrated the discriminate validity of the measurements used. Heterotrait-Monotrait Ratio (HTMT) of Correlations intable3 which represents the results of HTMT discriminate criteria to assess the discriminate validity of the measurement model.

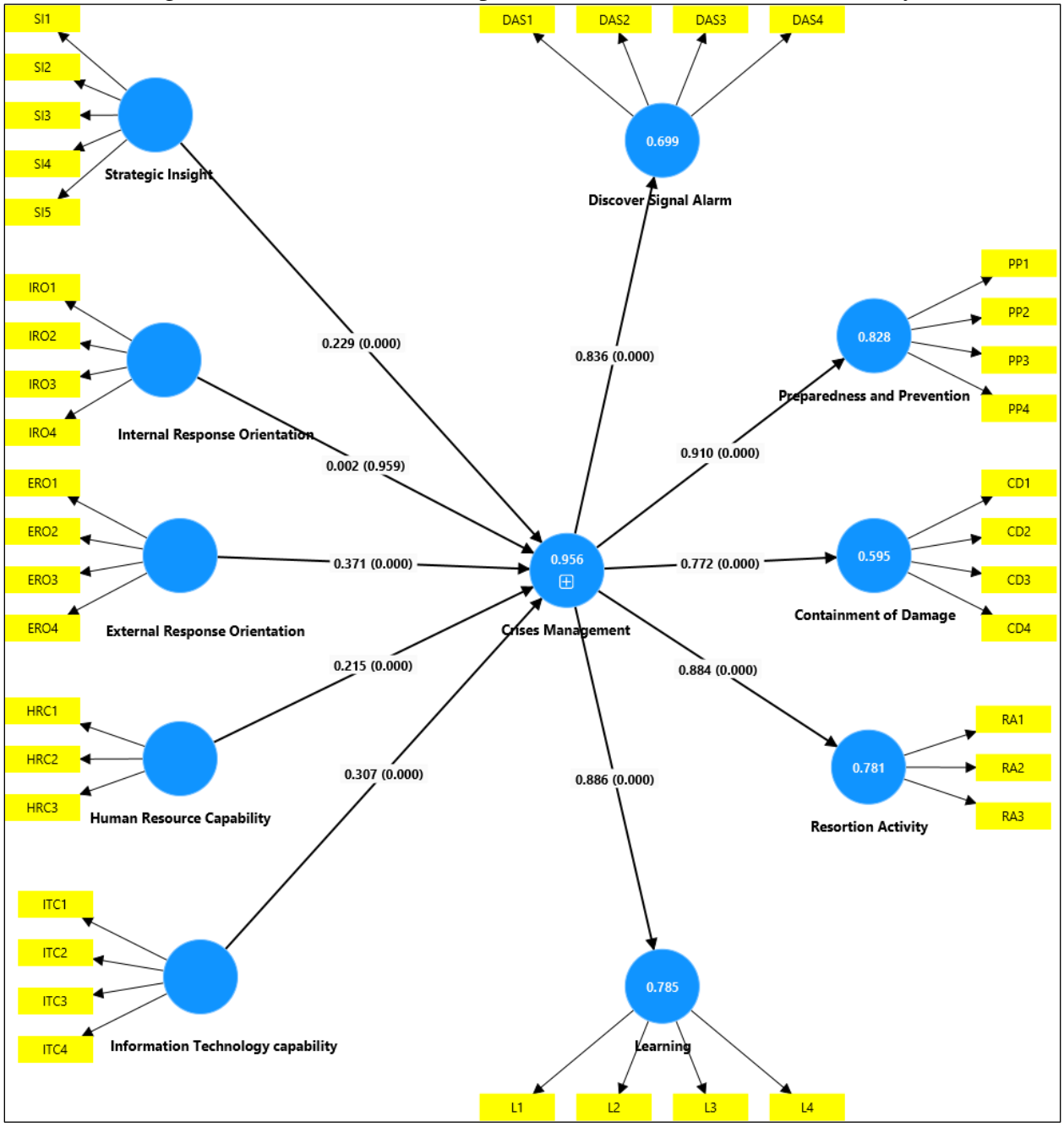
	Containment of Damage	Discover Signal Alarm	External Response	Human Resource Capability	Information Technology	Internal Response	Learning	Preparedness and Prevention	Resortion Activity	Strategic Insight
Containment of Damage										
Discover Signal Alarm	0.813									
External Response Orientation	0.619	0.723								
Human Resource Capability	0.795	0.158	0.704							
Information Technology capability	0.666	0.718	0.699	0.715						
Internal Response Orientation	0.814	0.666	0.612	0.681	0.744					
Learning	0.619	0.713	0.456	0.704	0.604	0.712				
Preparedness and Prevention	0.601	0.675	0.687	0.660	0.525	0.653	0.887			
Resortion Activity	0.565	0.655	0.664	0.639	0.652	0.626	0.764	0.131		
Strategic Insight	0.595	0.708	0.637	0.821	0.687	0.659	0.637	0.024	0.588	

Table3: Heterotrait-Monotrait Ratio

7.4.3 Structural Model Findings

This study estimated the structural model using PLS-SEM and bootstrapping using 5000 replicates to test hypotheses. This included inner model R2, and p-value tests (Hair et al., 2014). Figure3 illustrates the structural (inner) model with p-value and beta coefficient of construct correlations (alqudah, 2022). The size and significance of the structural parameter estimates, as shown in the path diagrams by one-headed arrow, are not taken into account during a structural parameter evaluation. This assessment concludes by verifying the structural model's accuracy based on hypothesized relationships between identified and assessed variables.

Figure3: The Structural Model path coefficient and P value of the study



Calculating (R^2) is done when the changes between two variables in the correlation exist. Table 4 and Figure 2 show the results of this analysis, which was generated using the Smart-PLS algorithm function.

Table 4: R^2 of the Endogenous Variables

Variables Relation	**R^2**	**R^2 Adjusted**
Crises Management	0.956	0.955

Based on the findings of the structural model with R^2 values and path coefficientsstrategic insight, internal response orientation, external response orientation, human resource capability, and information technology capability may account for 95.6% of the variation of crises management among Jordanian security sector.

7.4.4Hypotheses Testing (Path Coefficient)

This section discusses the findings of the path coefficient which used to examine the hypotheses of the study. The finding of direct (H1 to H5), are presented in figure 2 also intable5. The numbersin bracket represent the p-value in, and the values next to the bracket represent the co-efficient value (beta value).

Table5: Structural Model Assessment for the direct effect hypotheses

		Path coefficient Beta	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Decision
H1	Strategic insight -> Crises Management	0.229	0.031	7.478	0.000	Supported
H2	Internal Response Orientation -> Crises Management	0.002	0.04	0.052	0.959	Not Supported
H3	External Response Orientation -> Crises Management	0.371	0.03	12.5	0.000	Supported
H4	Human Resource Capability-> Crises Management	0.215	0.035	6.141	0.000	Supported
H5	Information Technology capability -> Crises Management	0.307	0.024	13.052	0.000	Supported

Notes: Significant level at ** = $p < 0.05$,

Assessment of the whole model is presented in Table 5. Four of direct effect hypotheses were supported and show statically significant impact including H1 which is related to the effect strategic insight on the crises management, H3 which is related to the effect externalresponse orientation on the crises management, H4which is related to the effect human resource capability on the crises management, H5which is related to the effect information technology capability on the crises management, while the result of the study doesn't support H2 which is related to the impact of theinternal response orientation on the crises management in the Jordanian energy security sector.

8. Discussion and Conclusion

The result of the study support H1 which is related to the effect strategic insight on the crises managementin the Jordanian energy security sectorwith (p-value= 0.000, Beta coefficient = 0.229) this results correspond with previous studies as the study of (Wenzel et al., 2020). While

the result of the study doesn't support H2 which is related to the effect internal response orientation on the crises management in the Jordanian energy security sector with (p-value= 0.959, Beta coefficient =0.002) this results correspond with previous studies as the study of (Thakur & Hale,2022). Moreover, the result of the study support H3 which is related to the effect external response orientation on the crises management in the Jordanian energy security sector with (p-value= 0.000, Beta coefficient = 0.371) this results correspond with previous studies as the study of (Boers& Henschel,2022). Related to the impact of the human resource capability on the crises management in the Jordanian energy security sector the result of the study support H4with (p-value= 0.000, Beta coefficient = 0.215) this results correspond with previous studies as the study of Kamar et al. (2022). Finally, the result of the study support H5 which is related to the effect information technology capability on the crises management in the Jordanian energy security sector with (p-value= 0.000, Beta coefficient = 0.307) this results correspond with previous studies as the study of (Saroj, A., & Pal,2020). This study undergrounded by the RBV theory and DCV, respectively, these theories linked the capabilities and resources of the firms linked with its ability to stay and compete in the market and face the challenges in the work environment. The result of the study supports these theories in new and underexplored context the Jordanian energy security sector.

9. Limitations and Future Research

The findings emphasize the importance of consistently implementing strategic agility with its dimensions in order to effectively managing any unexpected crises that may threaten the future firms in the Jordanian energy security sector

. In this study questionnaire with survey method was used to data collection. Also, cross-sectional applied in this study which is only captures participants' perspectives at a single point in time; future studies may benefit from recognizing longitudinal research designs to more accurately indicate cause-and-effect relationships. Another limitation of this studyrelated to the methodology; the current study only used the quantitative approach to define the impactofthe study variables; future research in the field of strategic agility and crises management can focus on "depth" rather than "quantitative width" same as this study. The qualitative approach may provide new insights and a deeper comprehension of the issue at hand. Qualitative and quantitative approaches complement eachother's to achieve more results its recommended to conduct more studies in this field with another variable's and in another industries and countries to compare with the result of this study.

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