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Research Article

The Impact Of Strategic Foresight On Crisis Management In Jordan's Energy Security Sector

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ABSTRACT

In Jordan, the Energy Security Sector has been a major contributor to recent economic growth. Due to that vital agenda, a new strategic planning methodology, such as strategic foresight, is expected to play an important role in resolving crises induced by Jordan's high demand and energy resource scarcity. However, there are few studies that investigate how strategic foresight influences crisis management. So, the goal of this study is to evaluate the impact of strategic foresight, as defined by (technology intelligence, competitive intelligence, political environment foresight, and consumer foresight), influences on crisis management in Jordan's energy security sector. A total of 200 questionnaires were delivered to respondents chosen from a population list of 1622 managers working in energy-related enterprises throughout Jordan. The data was analyzed using SEM with SMART-PLS 4. The measurement model was used to test the validity and reliability of the theoretical model, and the path coefficient in the structural equation model was used to evaluate the study hypotheses. As a result, this study supports the significant impact of technology intelligence, political environment foresight, and consumer foresight on crisis management. On the contrary, competitive intelligence had no impact on crisis management in Jordan.

Keywords: *energy, Jordan, strategic foresight, security sector, crisis management, PLS-SEM*

Introduction

People's lifestyles and demands raise their energy requirements, which rise with time. Most modern appliances are entirely dependent on energy, particularly electricity (Stephan & Stephan, 2020; Sahu, 2019). As a result, most modern challenges are tied to energy, its sources, and availability, making energy the primary strategic goal for nation management. As a result, governments began to pay attention to energy sources and seek out previously untapped new sources (Osting & Simanek, 2020; Wang & Senatore, 2020). Energy interest rises as a result of exploration and study, and many present technologies are geared toward this purpose (Clausen and Rudolph, 2020). The most important energy aims are to provide massive amounts of electricity, fuel for transportation, and basic human requirements such as food and shelter. Meanwhile, modern industrial sectors rely heavily on energy consumption because handicraft is no longer required. Today, majority of the industrial sector emphasizes energy security for productivity and performance (Huang et al., 2022; Alrwashdeh, 2021; Ala'a, 2022).

Jordan, like the rest of the world, seeks to secure its energy needs and integrate production to fulfill the growing demands of diverse industries for economic development and other sectors (Hamed & Bressler, 2019; Komendantova, 2021). However, Jordan is currenrtly one of the world's worst energy sources, as traditional sources can only meet 10% of its energy requirements. Jordan now relies on the Arab Gulf countries, Iraq, and Egypt for crude petroleum supply security (Abu Rumman et al., 2020; Shaltout et al., 2020). Basically, Jordan has two main challenges regarding its energy situation: the growing energy demand on the one hand and the very limited domestic resources to fulfill this demand on the other hand. Another major challenge facing Jordan in the coming years is reducing the country's energy and subsidy bills while alleviating public concerns over rising electricity costs (Anas Alhajji, 2023).

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Figure 1 displays Jordan's domestic production versus the imported energy, and still heavily dependent on importing (MEI, 2015).

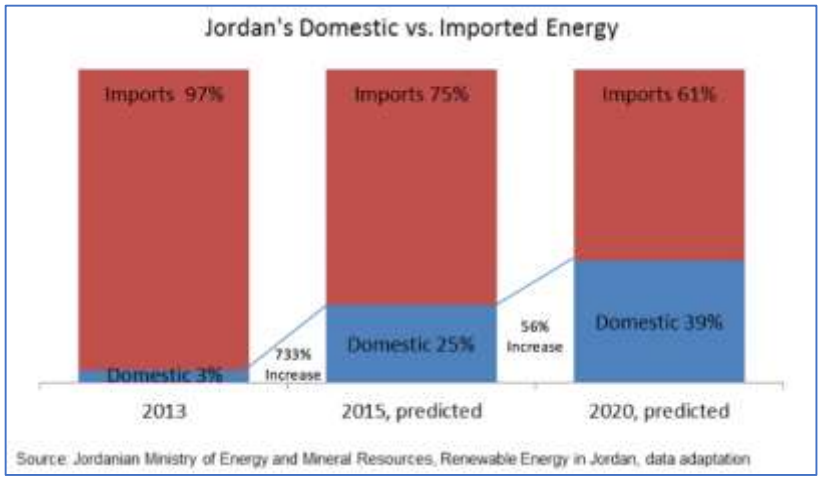


Figure 1: Jordan's Import of Energy

Jordanian electric generation planning is challenging, and the country, like many other emerging countries in the Middle East and North Africa (MENA), is struggling to fulfill rising energy demand, notably for electricity. The main reasons include a lack of indigenous primary energy supplies, a heavy reliance on fossil fuel imports, and population increase, particularly in the aftermath of the Syrian refugee crisis. As a result, these factors placed strain on the country's limited electrical generation capacity. The country's limited resources and increasing demand (from industrial sectors) have added to the pressure to generate enough electricity. In addition, Jordan's multidimensional and dynamic problems necessitated substantial management efforts (Sein et al., 2021).

Because of rapid development and continual change, the global work environment has grown increasingly complicated and unstable, making organizations exposed to a variety of crises (Murad et al., 2021). They also discovered that they impose a variety of difficulties and challenges, which may result in crises with varying sources, levels, and intensity of impact, endangering their survival and continuity. This could inspire businesses to tailor their crisis management (CM) techniques to the changing workplace (Bhaduri, 2019). Every company in the third millennium has endured disasters. Practitioners and scholars are increasingly focusing on crisis management as organizations strive to prevent disasters such as food, energy, and water scarcity (Lutes, 2021).

Crisis management allows the organization to prevent, control, and learn from a specific problem. It is an applied science that watches and analyzes crises to prevent them or mitigate their impact, prepare, provide emergency relief, and recover. Crisis management employs facilities and equipment to prepare for unexpected events, thereby minimizing and limiting harm (Putra et al., 2021). As a result, interest in crisis management has grown as a means of meeting and adapting to unexpected developments. Early warning signals can help predict and manage crises by preparing, containing, and mitigating their negative consequences (Obeidat et al., 2018). Crises can lead to increased challenges, changes, and even breakdowns in values, beliefs, and property for individuals and organizations across all sectors.

So, undertaking crises, comprehending them, and being aware of them requires the strategic management; strategic planning, and foresight are critical to handling them efficiently and successfully. Today, the term "strategic foresight" refers to activities and procedures that assist decision-makers in planning future actions for the firm. This method of strategic management examines the goal, lists the steps required to achieve it, forecasts the outcomes of each stage, and tracks progress. As previous study by Arokodare and Asikhia (2020) who are investigated the crisis management by strengthen the four areas such as technology intelligence, competitive intelligence, political environment foresight, and consumer foresight. As same to this situation, this study also focusses on the strategic foresight with these factors as important variables in perusing the crisis management in Jordanian electric sector.

Problem Statement

Jordan, like other Middle Eastern countries, struggles to meet its electrical demands, due to limited local fossil fuel resources, insufficient conversion capacity, and financial issues faced by energy entities. Emerging of modern industrialization, population growth, and the influx of Syrian and Iraqi refugees all contribute to the rising of the electricity demand. Meanwhile, the renewable energy can contribute to the reliable and environmentally beneficial electricity generation, but the platform of technologies including knowledge and manpower are still limited even though Jordan has abundant of solar and wind resources (Alrwashdeh, 2022; Al-Omary et al., 2018).

According to experts, one of the most crucial concerns that have not been addressed in most of the country's natural disasters, particularly in the electric sector, is temporarily prioritizing crisis management goals, plans, and strategies to safeguard Jordan's energy sector. Jordan faces energy security challenges due to a lack of fossil fuels and regional instability. Jordan depends on fossil fuels (Hamed & Bressler, 2019). According to Abu-Rumman et al. (2020), the country imports 94% of its energy, and demand is rapidly increasing. Regional conflicts also make the Jordanian energy sector vulnerable (Alshwawra, 2020). Presently, the conflict between Israel and the Palestine's armed military becomes another major threat for the electric sector at their neighbour nation; Jordan.

The war in Gaza (Palestine) has hampered Jordan and Israel's anticipated water and energy cooperation initiatives. Water and energy are among the most economically and politically sensitive industries in modern Jordan, owing to the country's chronic water scarcity and the difficulties in obtaining energy sources for domestic use. According to official statistics, Jordan imports more than 96% of its energy needs, totaling more than $3 billion each year (Shaud Al-Sharafat, 2024). Regional instability has also caused supply and price fluctuations (such as liquified gas imports from Egypt, which have been disrupted since 2011), forcing the authorities to reconsider energy policy, including the exploration of alternative energy sources such as oil shale and nuclear energy, as well as the testing of new international agreements (for example, the construction of an electric transmission line between Jordan and Saudi Arabia).

The Ministry of Energy and Mineral Resources (MEMR) report (2020) examines Jordan's energy sector plan for meeting unexpected rise in electricity consumption and the difficulty in obtaining the necessary investments. The report emphasized the importance of strategic foresight in Jordan to manage crises and gain energy sector security to avoid the challenges of a lack of natural gas quantities required for future compound circuit electricity generation projects, which delays execution and increases power generation costs.

Crisis management teaches managers how to prevent and manage crises. However, adopting strategic foresight to shape the electric sector's perspective is critical for defending it and other related sectors, as well as Jordan's social, political, and economic elements. This study investigates how strategic foresight might improve Jordan's electric sector via crisis management. Hopefully the findings of the study will fill a gap in research on the impact of strategic foresight towards crisis management in Jordan's electric industry. Strategy experts define strategic foresight as the ability to anticipate future events and use strategic resources for favorable outcomes (Csaszar & Laureiro-Martínez, 2018; Gavetti & Menon, 2016). Strategic foresight can assist organizations in developing better strategies, better managing resources, and perhaps earning above-average earnings and a competitive advantage under uncertain conditions. Strategic foresight can also improve company performance, creativity, and personal success.

Research Questions

The primary goal of the most recent research is to ask: "Is there any significant impact of strategic foresight (technology intelligence, competitive intelligence, political environment foresight, and consumer foresight) on the crisis's management in the Jordanian energy security sector". The study will provide answers to the following questions:

RQ1: What impact does technology intelligence have on crisis management in Jordan's energy security sector?

RQ2: What influence does competitive intelligence have on crisis management in Jordan's energy security sector?

RQ3: What impact does political environment foresight have on crisis management in Jordan's energy security sector?

RQ4: What impact does consumer foresight have on crisis management in Jordan's energy security sector?

Research Objective

The primary goal of the recent study is to investigate the impact of strategic foresight (technology intelligence, competitive intelligence, political environment foresight, and consumer foresight) on crisis management in Jordan's energy security sector. The study will attempt to address the following questions:

RO1: To investigate the influence of technology intelligence on crisis management in the Jordanian energy security sector.

RO2: To investigate the effects of competitive intelligence on crisis management in Jordan's energy security sector.

RO3: To investigate the impact of political foresight on crisis management in Jordan's energy security sector.

RO4: To investigate the impact of consumer foresight on crisis management in Jordan's energy security sector.

Literature Review

Crises Management

The most serious crises nowadays are related to humankind security concerns. Most security problems, particularly those involving water and energy security, might be averted if security-related organizations performed their functions. Today's natural resource shortages pose new concerns (Zamoum & Gorpe, 2018). When discussing "managing" a crisis, each situation is unique, which makes it an interesting application topic. Despite the dispute, the crisis literature characterizes crises using specific conditions. Crisis management has many facets, including a **three-stage procedure** (Bhaduri, 2019). **Pre-crisis measures include signal detection, prevention, and crisis preparation.** If a crisis is detected, take steps to prevent and prepare for it. Reduce crisis risks by preparing strategically and tactically. The organization's crisis management plan should be revised on a regular basis. The corporation forms a crisis squad, selects spokespersons, and develops crisis messaging. **The second stage,** crisis, is divided into two stages: **crisis recognition and crisis containment** (Hatani, 2019).

At this point, the organization's crisis response, stakeholder communication, and crisis management capabilities are critical. The crisis management plan has been executed, and the literature suggests that it be quick, accurate, and consistent. At this time, public relations create communications for all stakeholder groups, with public safety as the top focus. Organizational damage is rectified. **The post-crisis stage occurs after the crisis**. The company is now assessing their crisis reaction. They prepare for crises (Ozanne et al., 2020). Despite the fact that the crisis has cooled, the agency continues to monitor the media and stakeholder organizations. Stakeholder perceptions are critical. The crisis management literature provides a variety of process models. This three-phase approach is more straightforward than theirs (Coombs, 2020).

The crisis is also an irregular condition that poses a risk to the company and could result in disaster if ignored or mismanaged (Al Thani & Obeidat, 2020). Therefore, the issue may worsen. Events that overwhelm society, corporations, and systems necessitate massive efforts to recover and return to normalcy (Alzoubi, 2020). The situation was unforeseeable and required little preparedness. The term "crisis" refers to "an occurrence, or collection of circumstances that threaten the safety, reputation, or survival of an individual or institution" (Hazaa et al., 2021, p. 1). A crisis entails surprise, threat, and prompt action. Crisis management entails detecting and assessing probable crisis symptoms, making judgments, and taking action to assist the organization's recovery from the crisis.

Crisis management necessitates proactive planning and efforts focus on anticipating and dealing with potential crisis events (Al-Harthi & Khalifa, 2019). Organizations must spend resources and establish infrastructure to address potential emergencies. Organizational management's preparedness and crisis management skills are critical to crisis management. As a result, crisis management is an improved management model that removes unexpected events that disrupt routine work, increase risks, stress, and conflict, and complicate decision-making (Al-Shibli, 2018).

Crisis management is a coordinated, planned method to dealing with, containing, and resolving emergencies. The organization's crisis management procedures protect it from unanticipated events or situations that could jeopardize its performance or continued operation (Sarpong, 2018). Modern strategic management incorporates crisis management's four stages: reduction, preparation, response, and recovery. Thus, crisis management ensures the organization's future stability and safety. Crisis management policies must be revised on a regular basis to keep up with the changing needs of the company.

Strategic Foresight

Ben Martin and John Irvine proposed one of the most widely accepted definitions of foresight in 1983 (Pereira Cabral et al., 2019), which is the systematic examination of the long-term future of science, technology, the economy, and society in order to identify strategic research and emerging generic technologies with the highest economic and social value. Mauksch et al. (2020) define foresight as a long-term vision, a diversified collection of conditions, and formal processes and techniques to ensure legitimacy and consistency. There are corporate foresight drivers and objectives. They are either (a) the result of the organization's business activities, which require a long-term perspective, or (b) deliberate actions taken to increase the firm's responsiveness to general business environment difficulties (Dahlgren & Bergman, 2020).

Strategic foresight assists an organization in understanding the emerging risks and opportunities, drivers, motivations, resources, evolution, and causalities associated with alternative decisions, which form the space of possible, plausible, probable, or preferred future paths, allowing it to make better-informed and prepared decisions on issues relating to its overall strategic plans and means of achieving its objectives. It is a review of the predicted evolution of the business environment in order to promptly identify and manage the opportunities and risks associated with emerging trends. It aids firms' performance and market position (Rohrbeck & Kum, 2018; Brandenburger & Stuart, 1996). Strategic foresight entails future knowledge and prediction. Many futures are possible; change (drivers) can be identified and investigated, and the future can be altered (Bereznoy, 2017).

Strategic foresight entails developing a company system that anticipates difficulties and identifies new opportunities, a skill that large corporations struggle with (Arokodare & Asikhia, 2020). Foresight evaluates environments, generates future possibilities, promotes innovation, and reduces complexity. Organizations struggle to adapt to change when they do not scan their environment thoroughly (Brown & Barnard, 2018). Strategic foresight, also known as futures studies (FS), develops numerous future visions to assist organizations in identifying opportunities and dangers and implementing strategies to gain a competitive edge (Brown, 2019). In a recent study, strategic foresight was constructed based on Baumgartner and Peter's (2021) research as (technology intelligence, competitive intelligence, political environment foresight, and consumer foresight).

Hypotheses Development

Because businesses can adjust to organizational changes so it might have a higher chance of surviving, and then strategic foresight is essential in the face of environmental uncertainty. It is imperative for strategic actors to provide their enterprises with outstanding performance and innovation (Canyon, 2021). Decision-making in an uncertain context is aided by strategic foresight, especially when globalization raises competitiveness and uncertainty. Furthermore, in order to respond to organizational change events, create appropriate plans, and carry out these strategies in order to bring about the desired change, strategic foresight is a crucial tool. Any company that has to satisfy the demands of its stakeholders needs to consider this. In an environment where competition has peaked and gotten more complex, this calls for strategic foresight with a future vision in order to foresee events in a way that ensures their growth, task completion, and goal attainment (Burrow & Gnad, 2018).

Given the increasing influence that crises have on both businesses and individuals, organizations need to be ready for and knowledgeable about them. Organizations were urged by strategic foresight to anticipate, handle, and overcome issues before they threatened their survival (Al-Omari, Alomari, & Aljawarneh, 2020). Because of this, crisis management is given top priority by strategic foresight, and strategic leaders create strategies that allow them to adjust as circumstances change. Handling complexity and unpredictability is one of the biggest problems crisis managers have.

Decision theory assumptions face challenges in a more dynamic environment: time and capacity to gather information and make decisions are limited; information comes from a variety of sources and actors and is uncertain or unavailable; the implications of a decision must be assessed across organizations and actors with shifting preferences and goals; and those in charge of a decision may lack the knowledge and information to make it (Nishant et al., 2020). Establishing competitive intelligence systems, enhancing competitive intelligence processes, and using competitive intelligence are essential components of organizational crisis management, especially when it comes to risk management crisis alerts (Yiu et al., 2021). Comparing and analyzing crisis indications can help firms make timely decisions and create effective coping strategies. By incorporating competitive intelligence into crisis alarm systems, a wide range of pertinent events can be detected in their early phases. Here are the study's hypotheses.

H1: Strategic foresight (technology intelligence) has a substantial impact on crisis management in Jordan's energy security sector.

H2: Strategic foresight (competitive intelligence) has a substantial effect on crisis management in Jordan's energy security sector.

H3: Strategic foresight (political environment foresight) has a substantial impact on crisis management in the Jordan's energy security sector.

H4: Strategic foresight (consumer foresight) has a substantial effect on crisis management in Jordan's energy security sector.

Theoretical Framework

Based on the resource-based view (RBV) theory and dynamic capability theory (DCT), a recent study model investigates the impact of strategic foresight as an independent variable conceptualized as technology intelligence, competitive intelligence, political environment foresight, and consumer foresight on crisis management. The proposed model, which is based on the research of (Arokodare & Asikhia, 2020; Al Thani & Obeidat, 2020; Rohrbeck, Battistella, & Huizingh, 2015), will be empirically tested in the Jordanian setting in the energy security sector - electricity. Figure 2 shows a theoretical framework.

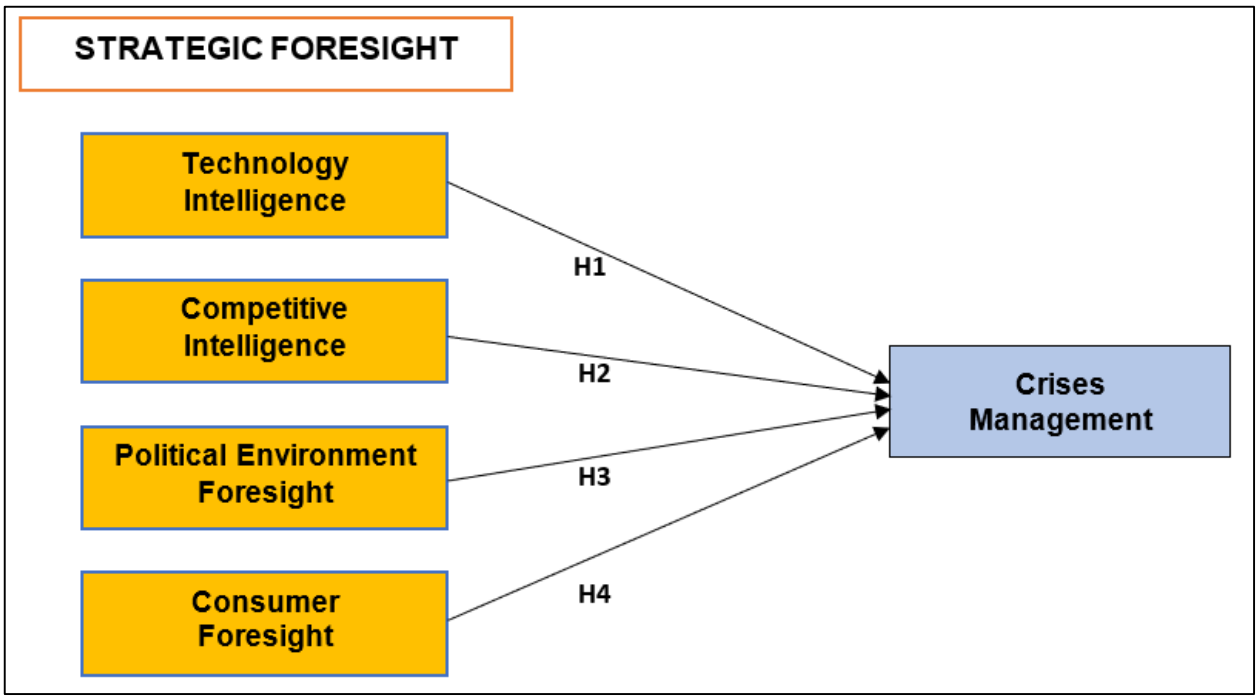


Figure 2: The Theoretical Framework

Methodology

Target Population

Eleven traditional energy producer companies in Jordan have been granted licenses by the Energy and Minerals Regulatory Commission (EMRC) to produce electricity; the management of these companies will comprise the study population. Included in the survey are three energy audit companies. NEPCO was also granted a transport license by EMRC. In the Kingdom, NEPCO is the only wholesaler and electrical system operator. The Energy and Minerals Regulatory Commission ultimately issues permit to service receivers (standard distribution and retail license) in accordance with guidelines and legislation controlling the distribution and retail supply of electrical power from connection points (three primary businesses) with the transport network. In Jordan, there are eleven generation businesses, three energy auditing firms, one large operator company, and three retail distribution and retail supply companies that hold EMRC licenses.
For this study, 1622 managers and specialists from eighteen firms are estimated by the Jordanian Ministry of Energy and Mineral Resources (MEMR). Because of their roles within their companies and because they are excellent providers of facts, ideas, and information, managers' opinions are significant in social studies, according to (Sekaran & Bougie, 2016). According to a number of academics, managers have the greatest influence over ensuring that strategic issues are taken care of (Iqbal, Ahmad, Allen, & Raziq, 2018).

Sampling Technique

The power analytic technique is used to determine the sample size (Cohen, 1988). Power analytics is a more reliable method of determining sample size than the conventional "rule of thumb" method, which is based on a ratio of cases to predictors and is unlikely to design studies that have "insufficient power because of too few samples or excessive power because of too many samples." The minimal sample size needed for a 5% significance level and 0.2 path coefficient is 155, according to the inverse square root technique for the Partial Least Square-Structural Equation Model (PLS-SEM) put forward by Kock and Hadaya (2018) (Hair et al., 2021).

The investigator made the choice to increase the sample size by 20%. Hair et al., et al., (2014) in order to prevent a low response rate, then 155+24 =177; nonetheless, the investigators chose to set the sample size at 200 for this investigation. This study used simple random sampling as a probability sampling technique. The big samples are taken based on the probability sampling characteristic of the target population, as stated by Hair et al. (2014). Furthermore, as a sample, every member of the population has an equal chance of getting elected (Sekaran & Bougie, 2016). Specifically, basic random sampling can be used in situations when the target population is uniform in terms of the study's interest (Awang, 2012).
At the time of data collection, there were 1622 managers in the population of this study, which consists of managers and experts in Jordanian energy sector enterprises licensed by EMRC. A total of 200 questionnaires will be distributed to the participants selected from the 1622 employee population list. Therefore, using SPSS, a random selection was made by clicking on the "Random Sample of Cases" option in order to choose the desired respondents from a population (N) size of 200.

Data Analysis

PLS-SEM software was utilized in this investigation to examine the gathered data. Structural and measurement models are established using PLS path modeling. The measurement model is employed to evaluate the validity and reliability of the construct, while simultaneous regression analyses are utilized to test the study's hypotheses and perform bivariate correlation analysis.

Measurement Model Evaluation

Measurement model evaluation involves the determination of individual item reliability, internal consistency of reliability, content validity, discriminant validity, and convergent validity (Hair et al., 2014). The assessment of individual item reliability in this study was done by examining the outer loadings of each of the latent variables (Hair et al., 2014). Following the rule of thumb that specifies the retaining of items having loadings between 0.40 and 0.70 (Hair et al., 2014).

Internal Consistency of Reliability

A scale's internal consistency refers to how well each component of the scale measures the same topic. When assessing the internal consistency and reliability of a scale, particularly one with several items, organizational researchers frequently utilize the Cronbach's alpha coefficient and the composite reliability coefficient (McCrae, Kurtz, Yamagata, & Terracciano, 2011; Peterson & Kim, 2013). Therefore, for a number of reasons, the composite reliability coefficient was chosen over Cronbach's alpha coefficient to determine the internal consistency of the modified measures in this investigation.

Scholars Gott, Liehr-Gobbers, and Krafft (2010) contend that the composite reliability coefficient provides a significantly less biased estimate of reliability than the Cronbach's alpha coefficient because the latter assumes that each indicator contributes to the mother construct independently of the others, thereby undervaluing the individual contributions of each item.

Additionally, in contrast to composite reliability, which can be read in the same way as Cronbach's alpha, the former may underestimate or overestimate scale reliability, while the latter considers variations in item loadings within a model. Table 1 displays the study constructs' composite reliability and Cronbach's alpha.

Table 1: Assessment for Measurement Model

Construct	Cronbach's alpha >0.7	CR (rho_c) >0.7	AVE >0.5
Technology Intelligence	0.879	0.926	0.806
Competitive Intelligence	0.837	0.885	0.608
Political Environment Foresight	0.752	0.852	0.616
Consumer Foresight	0.884	0.92	0.743
Crises Management	0.85	0.893	0.626

Once more, as recommended by Bagozzi and Yi (1988) and Hair et al. (2011), the composite reliability coefficient's value should not be less than 0.7 when evaluating internal consistency of reliability. As a result, Table 1 demonstrates that the composite reliability coefficients of the study's constructs showed that all of the latent variables in this study have adequate internal consistency, above the 0.7 minimum acceptable level.

Discriminant validity using the Fornell–Larcker criterion.

Table 2 represents the results of variables correlation using the Fornell-Larcker approach to assess the discriminant validity of the measurement model.

Table 2: Variables Correlation-Root Square of AVE

	Competitive Intelligence	Crises Management	Political Environment Foresight	Technology Intelligence	Consumer Foresight
Competitive Intelligence	**0.779**				
Crises Management	0.639	**0.791**			
Political environment foresight	0.526	0.582	**0.785**		
Technology Intelligence	0.688	0.627	0.629	**0.898**	
Consumer Foresight	0.668	0.574	0.315	0.421	**0.862**

According to Fornell and Bookstein (1982), in the variable correlation approach, discriminating validity occurs when the square root of AVE is greater than the correlation between the components making up each pair. In other words, the value should be higher than the other off-diagonal elements in the rows and columns, as was the case with the correlation matrix used in this study.

Structural Model

After determining the accuracy of the outer model in this study, the structural model will be evaluated to determine the links between latent variables (constructs). To determine the significance of the path coefficients, this work used nonparametric evaluation criteria based on a bootstrapping technique using 5000 bootstrap samples (Hair et al., 2014). Figure 1 depicts this study's structural (interior) model, which includes moderating effects.

Coefficient of Determination (R^2) Value

Calculating effect size (R^2) is done when the changes between two variables in the correlation exist. In this study, the smart-PLS algorithm function is used to obtain the values $\mathbf{R^2}$ as indicated in Table 3 and indicated in Figure 1.

Table 3: R-Square of the Endogenous Latent Variable

Latent Construct Relation	R^2	R Square Adjusted
Crises Management	0.563	0.553

The results of the structural model with R^2 values and path coefficients were competitive intelligence, political environment foresight, technology intelligence, and consumer foresight are capable to explain 0.563 of the variance of crisis management in the Jordanian energy security sector. The result of the study means that the strategic foresight with the dimensions of (Technology Intelligence, Competitive Intelligence, Political Environment Foresight and Consumer Foresight) can impact positively the crises management in the energy security sector in Jordan. The importance of the result stem from of the importance of managing the crises in the energy sector because the energy is required for several practical functions, including transportation, mobility, food preparation, water purification, communication, and others (Kalt et al. 2019; Vahidi and Sciarretta 2018). The study result provides to the policy makers significant tool to manage the crises in the energy sector in Jordan with strategic foresight and its dimensions; technology Intelligence, competitive Intelligence, political environment foresight, consumer foresight, crises Management.

Hypotheses Testing (Path Coefficient)

This section discussed the findings of the path coefficient used to test research hypotheses. The finding of direct (H1 to H4) hypotheses are presented in figure 1 and Table 4

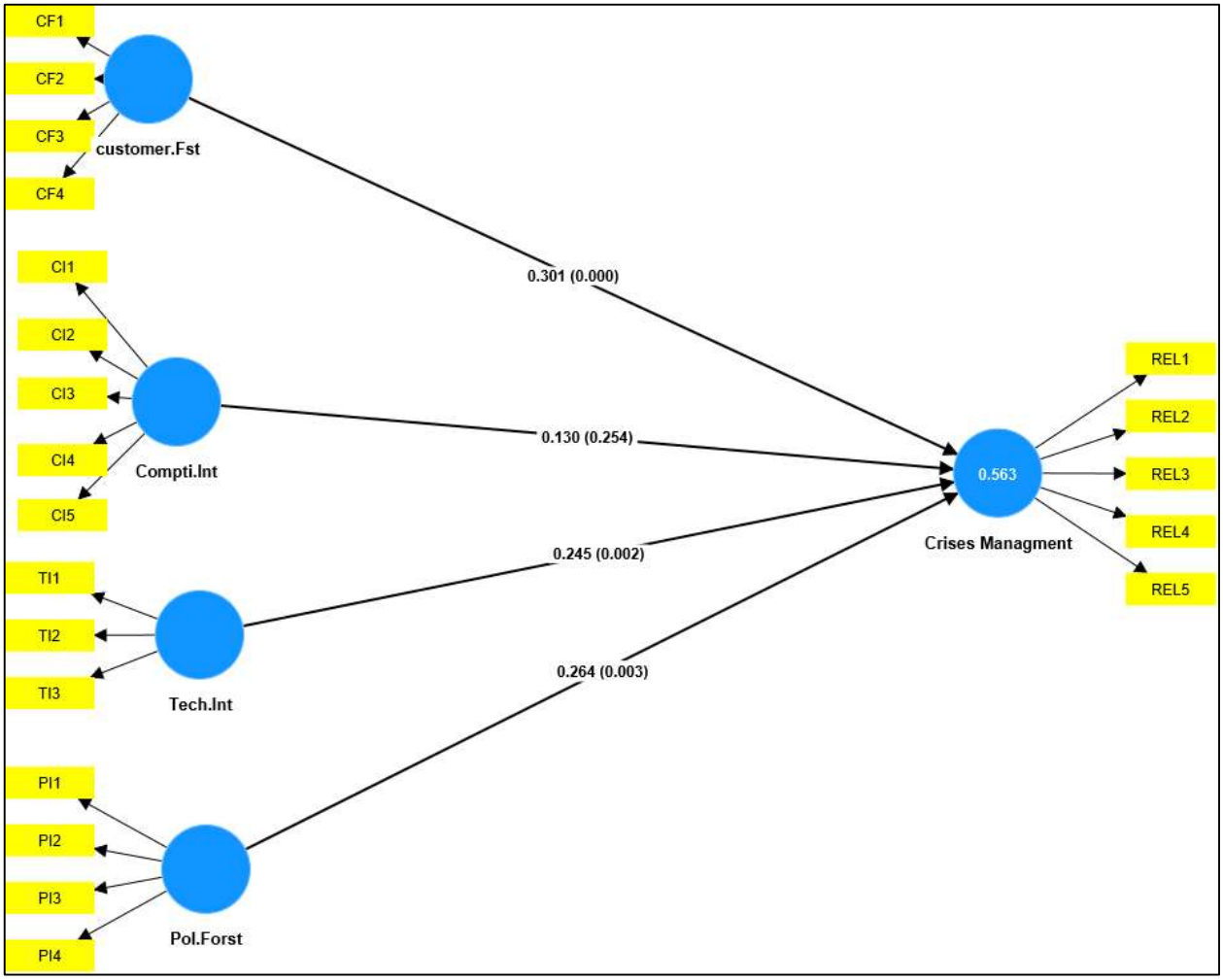


Figure 1: Structural Model of The Study

Figure 1 above presented the structural model of the direct impact of the independent variables on the dependent variable. The figures are brackets that represent the T-Statistics, and the values next to the bracket represent the co-efficient value (beta value).

Table 4: Structural Model Assessment

	Relationship	Std. Beta	SE	t-value	P-Value	Decision
H1	Technology Intelligence → Crises Management	0.245	0.081	3.031	0.002	Supported
H2	Competitive Intelligence → Crises Management	0.13	0.114	1.141	0.254	Not Supported
H3	Political environment foresight → Crises Management	0.264	0.09	2.94	0.003	Supported
H4	Consumer Foresight → Crises Management	0.301	0.08	3.781	0.000	Supported

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

The result of the study support H1 which is related to the effect Technology Intelligence on the crises management in the Jordanian energy security sector with (p-value= 0.002, Beta coefficient = 0.245) this results correspond with previous studies as the study of (Alkhaffaf & Almomani, 2021). While the result of the study doesn't support H2 which is related to the effect competitive intelligence on the crises management in the Jordanian energy security sector with (p-value= 0.254, Beta coefficient = 0.130) this results correspond with previous studies as the study of (Alomoush, 2021). Moreover, the result of the study support H3 which is related to the effect political environment foresight on the crises management in the Jordanian energy security sector with (p-value= 0.003, Beta coefficient = 0.264) this results correspond with previous studies as the study of (Makian & Nematpour, 2021). Related to the impact of the consumer foresight on the crises management in the Jordanian energy security sector the result of the study support H4 with (p-value= 0.000, Beta coefficient = 0.301) this results correspond with previous studies as the study of Anderson et al. (2022).

Discussion And Conclusion

The results of this research show that most dimensions of strategic foresight positively affect crisis management in the Jordanian security sector. The data provided evidence for most of the hypotheses evaluated. The result of the study confirms the impact of technology intelligence on crisis management in the Jordanian security sector and this result is compatible with the study of Rastegari, Hosseini, and Ghayoor (2020), while the study confirms the result of Makian and Nematpour (2021) on the impact of the political environment foresight on the crisis management as the result of the recent study show the significant positive impact of the political environment foresight on the crises management in the Jordanian security sector. this result can be explained by the fact that Jordan is one of the stable in MENA region which has been in crisis since 2011 and witnessing internal conflicts and tensions between countries, which points out the importance of political foresight by cooperation with the countries in the field of energy sector to effectively crises management in this sector. Another dimension of strategic foresight; is consumer foresight shows a positive significant impact on crisis management in the Jordanian security sector, this result can be explained by the awareness of the Jordanian consumers about the shortage of the energy resources in Jordan and their importance role of managing these resources during unexpected crises, so this explain the positive impact of their foresight on the crises management, and this result is confirmed by the study of (Zbašnik-Senegačnik & Koprivec, 2022).

Finally, the study does not confirm the impact of competitive intelligence on crisis management in the Jordanian energy security sector, this result confirmed by the low level of competitiveness between the energy sector company as these companies owned by the government, and there are limited number of these companies.

In conclusion, Jordan's energy security sector should focus and seriously tack strategic foresight with all its fields in order to successfully manage the unexpected and uncertain situations which lead to huge crises in this sector which are regarded as one of the most valuable and sensitive sectors economically and politically in Jordan.

7. Implications

The academic community and energy security sector organizations in Jordan can benefit from the findings of this study. Additionally, the theoretical value of this study is to close the research gap from the prior study. An examination of strategic foresight (technology intelligence, competitive intelligence, political environment foresight, and consumer foresight) was conducted in this study to better understand its effects on crisis management. Future researchers can use this study as a reference to learn more about the impact the strategic foresight (technology intelligence, competitive intelligence, political environment foresight, and consumer foresight) on crisis management in the energy security sector. Energy security sector organizations can also use the findings of this study as a guide when deciding where to allocate funds for strategic foresight in strategic planning.

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