



THE IMPACT OF CRISIS PRESSURE MANAGEMENT ON INNOVATIVE BUSINESS PRACTICES: A STUDY OF ARAB POTASH COMPANY AND JORDAN PHOSPHATE MINES COMPANY IN JORDAN

Sa'ed Faisal Mah'd Shawawerh* DR. M R Jhansi Rani*

**Department of Management, ISBR Research Centre, Bangalore, University of Mysore, Mysuru.*

Abstract

In today's world of uncertainty and crisis, organizations are increasingly expected to effectively manage operational pressure to ensure innovation and organizational performance. The mining industry faces constant challenges due to operational complexities, environmental considerations, and market volatility, demanding that organizations stay agile and responsive, adapt to changes, and proactively meet emerging needs. Thus, the current study aims to examine the effect of Crisis Pressure Management (CPM) on Innovative Business Practices (IBP) in Arab Potash Company and Jordan Phosphate Mines Company in Jordan. The study is based on Dynamic Capabilities Theory and Organizational Resilience Theory to explore the influence of organizational capabilities for coping with pressure associated with crisis on innovation and entrepreneurial-oriented practices in the context of turbulent situations. This study was designed quantitatively, and a descriptive-analytical design, structured online questionnaire was chosen as a tool for collecting data that is distributed electronically to the respondents who are employees of APC and JPMC. A total of 391 valid responses were collected and analyzed using SPSS statistical software. The statistical methods used were Cronbach's alpha, EFA, Pearson correlation analysis, and simple linear regression analysis. Results indicated that CPM is positively and significantly affecting IBP. Firms with a higher crisis pressure management ability exhibited more innovation, flexibility, operational responsiveness, and entrepreneurial-oriented behavior. The findings indicate that effective pressure management helps an organization to sustain its operations and support innovative organizational practices in the event of a crisis. It contributes to the crisis management and innovation literature by highlighting the strategic value of CPM as a means of promoting innovative organizational practices in high-risk industrial industries. In practice, the results show that organizations can boost innovation, sustainability, and long-term competitiveness by strengthening pressure management systems, operational coordination, and adaptive decision-making processes in the crisis.

Keywords: *Arab Potash Company; Crisis Management; Crisis Pressure Management; Dynamic Capabilities Theory; Innovative Business Practices; Jordan Phosphate Mines Company; Jordanian Mining Sector.*

Introduction

Today's complex business landscape has made organizations vulnerable to continual uncertainty, disruptions in operations, and pressures due to crisis. The rapid pace of technological advancements, economic uncertainty, fluctuating markets, and environmental issues has compelled organizations to rethink their crisis response strategies and ensure their operations and competitiveness remain intact and sustainable in the long term. In this context, conventional crisis response strategies may not be enough as organizations are increasingly required to operate in an unstable environment, being informed, adaptable, and innovative in how they do this. As a result, the ability of an organization to adapt and to respond to operations and change has grown in significance for the maintenance of organizational performance and competitiveness (Lengnick-Hall et al., 2011; Teece et al., 1997).



Crisis Pressure Management (CPM) has become a significant organizational capacity in this respect, especially in industries where the uncertainty and risk of the environment are high. CPM is the organization's capacity to orchestrate, adapt, and make decisions in response to operational stress, uncertainty, urgency, and pressure on resources in the event of a crisis. Organizations that can handle pressure are likely to be able to cope with unstable circumstances, minimize disruption, and be able to respond efficiently to such pressures (Ayad, 2015; Mahmoud, 2017). Most importantly, however, good pressure management can help organizations turn crisis situations into opportunities for organizational responsiveness and organizational improvement.

In the meantime, Innovative Business Practices (IBP) is an important factor in the organizational needs in highly competitive and uncertain business environments. Firms that adopt and retain innovative and entrepreneurial approaches tend to be more responsive, adaptable, and flexible in effectively responding to environmental changes. IBP is not just about technology breakthroughs, entrepreneurship, process improvement, strategic experimentation, and developing adaptive practices within the organizations that are able to adapt to the uncertainty and market turbulence (Crossan & Apaydin, 2010). In a situation where the need for innovation is a greater necessity for sustaining the organization during a crisis, not only as a competitive advantage, but it is no longer regarded as a one-off solution.

The concept of IBP in this study is an “organizational entity” that has multiple facets: the organization's capacity to create, act, and maintain innovative ideas, initiatives, and business practices that strengthen its effectiveness and competitiveness (Kör et al., 2021). The dimensions of this construct are innovation and entrepreneurship, which represent the organizational dimensions of opportunity recognition, proactive behavior, adaptability, and new product, process, and organizational practices (Al-Aqrabawi, 2023; Al-Baqom, 2022).

Dynamic Capabilities Theory (DCT) suggests that organizations are able to thrive as a result of their ability to ‘sense’ the environment, ‘seize’ new opportunities, and ‘reconfigure’ organizational resources to deal with uncertainty and environmental turbulence (Teece, 2007, 2018). In this context, CPM is a critical operational capability that supports organizations in operating during periods of stress, enhancing their ability to respond, coordinate, and adapt to decisions. Companies that handle pressure well during a crisis are likely better equipped to stay innovative and run smoothly under pressure. These capabilities can therefore help organizations to be agile, responsive to strategy, and therefore competitive in very uncertain environments.

An alternative theoretical lens is offered by Organizational Resilience Theory (ORT), which offers an additional theoretical perspective on how the organization reacts in crisis situations and under operational pressure. ORT is about the organization's capability to withstand shocks, sustain operations, and continue functioning both before and after disruptive events (Duchek, 2020). Organizations that are resilient are typically flexible, adaptable, and have good coordination of operations in stressful situations. This approach suggests that crisis pressure management can contribute to organizational resilience, helping to ensure stability, responsiveness, and innovation even when facing operational challenges and environmental changes.

Although there is growing academic focus on the concepts of crisis management, organizational resilience, and innovation, there still remains a lack of investigation of the direct link between CPM and IBP in developing economies and high-risk industrial sectors. Previous research has focused



mainly on crisis management, organizational performance, and operational efficiency, with less research focus on the impact of pressure management capabilities on innovative organizational practices. Moreover, despite the operational risk, environmental concerns, and market volatility, empirical studies within the mining sector are still limited.

This relationship is important to consider within the context of the Jordanian mining industry because of the complexity and uncertainty involved in operations in the industry, especially those of APC and JPMC. Industry organizations face a constant threat of environmental hazards and changes, market volatility, and disruption of operations that demand constant change and organizational flexibility. Therefore, the understanding of the process of CPM contribution to IBP could give profound theoretical and practical insights into the process of organizational innovation and adaptability in a highly uncertain industrial environment.

So, the present study intends to study the impact of CPM on IBP in the Jordanian mining sector. The study is of theoretical contribution as it brings together DCT and ORT in order to understand the sustainability of innovation and entrepreneurial-oriented practices for organizations under crisis-related pressure. From a practical point of view, the study offers suggestions that could help managers and decision makers to improve their organizations' responsiveness, continuity, and innovativeness in crisis situations.

Innovative Business Practices in Crisis Environments

The significance of IBP has grown as organizations face uncertainty, environmental turbulence, and quickly changing market situations. In times of crisis, organizations must go beyond traditional methods of operation and become more adaptable, flexible, and opportunistic to maintain competitiveness and organizational continuity. In general, IBP is an organization's ability to create and execute innovative concepts, refine processes, discover new opportunities, and drive organizational change and growth in dynamic environments. Based on the current study, IBP is considered a multidimensional construct that comprises innovation and entrepreneurship, and both dimensions are found to make a contribution to the adaptability of an organization, the behavior of the organization members, and the strategic responsiveness of the organization (Al-Aqrabawi, 2023; Kör et al., 2021).

Innovation and entrepreneurship have been a subject of much scholarly research since the early work of Joseph Schumpeter, who highlighted the importance of innovation in transforming organizations and economies. While the concepts of innovation and entrepreneurship are different, most of the previous research has regarded them as complementary organizational capacities that enable long-term competitiveness and flexibility (Brem, 2011; Zhao, 2005). Entrepreneurship is often linked with opportunity recognition, proactive strategic behavior, and risk-taking tendencies (Lumpkin & Dess, 1996; Miller, 1983), while innovation is concerned with the development and implementation of new or improved products, services, processes, and organizational structures. These dimensions constitute the pillars of innovative organizational practices that can enable organizations to operate in volatile and uncertain environments.

IBP becomes more relevant in situations of crisis, when organizations are compelled to reassess the usual activities, reprioritize resources, and deal with a high degree of uncertainty. While crises can have adverse impacts on the stability and operation of the organization, they can also generate opportunities for experimentation, strategic renewal, and organizational change (Bundy et al., 2017). Crisis situations often reveal organizational flaws and inefficiencies, prompting organizations to



become less rigid, more responsive to operations, and to seek out new solutions. Organizations that are able to adapt to crisis conditions are likely to be better prepared to maintain their competitiveness and organizational performance over time.

In addition, organizational learning and adaptability are key factors in building the resilience of IBP in crises. Organizations that can capture the lessons from disruptive events and apply those lessons to future organizational practices are more likely to be good at adapting to and continuously improving (Argyris & Schön, 1998; Mitroff & Anagnos, 2000). In crises, flexibility and adaptability toward new ideas are more likely to enable organizations to continue innovating and acting entrepreneurially in the midst of uncertainty. As a result, adaptive organizations are more likely, overall, to turn crises into opportunities for organizational development and strategic renewal.

The importance of IBP becomes more pronounced in high-risk industries like mining, where businesses are constantly faced with operational, environmental, and market pressures. Operational disruptions, environmental regulations, economic volatility, and global market uncertainty are just a few areas where mining firms like APC and JPMC can be vulnerable. In this context, organizations need innovation and entrepreneurial skills to ensure long-term competitiveness, strengthen responsiveness, and ensure the continuity of operations. Thus, the creation of IBP not only helps in the growth of the organization but also plays a crucial role in the survival and adaptability of the organization in an uncertain business environment.

Although large volumes of literature have emerged on both crisis management and innovation in organizations, few empirical studies have focused specifically on IBP in the mining industry in Jordan. Previous research in the sector has mainly concentrated on production efficiency, economic performance, or operational management, but few studies have paid attention to innovation-oriented organizational practices and adaptive capabilities in crisis situations (Al-Aqrabawi, 2023; Al-Arqan, 2018; Al Rawashdeh et al., 2016). Moreover, there is scant research on the relationship between crisis-related organizational capabilities and IBP, especially in industries that are high in uncertainty and operational complexity.

Thus, the present study aims to add to the current literature by studying IBP in relation to crisis situations in the Jordanian mining industry. More specifically, the study examines how organizations can maintain innovation- and entrepreneurship-oriented practices during unstable, crisis-related situations. The study, in this process, offers both theoretical and practical knowledge of how organizations can leverage crisis situations to become innovative, adaptive, and strategic for future organizational growth.

Dynamic Capabilities Theory (DCT)

In the business environment of today's fast-changing and uncertain environments, Dynamic Capabilities Theory (DCT) was developed by Teece et al. (1997) to explain how organizations maintain their competitiveness. The theory focuses on the ability of the organization to continuously reconfigure, integrate, and adapt valuable resources to changes in the environment, in addition to having them, to achieve organizational success. Helfat et al. (2007) have identified three key processes of the organization, which are manifested by dynamic capabilities, including: detecting environmental opportunities and threats, responding to them through strategic actions, and reconfiguring organizational resources and capabilities to remain competitive (Eisenhardt & Martin, 2003; Ferreira et al., 2020).



This is relevant to the current study because CPM is a very relevant adaptive organizational capability in crisis situations. In times of crisis, organizations must make quick decisions, manage resources effectively, keep operations going, and be able to react to unpredictable and stressful situations. For DCT, a well-managed crisis situation is more likely to leave organizations flexible and responsive in action during disruptive times. This is a feature that enables firms not only to survive in times of crisis but also to continue to maintain their innovation and organizational effectiveness during periods of instability (Helfat et al., 2007; Teece, 2018).

In the Jordanian mining industry, the organizations of APC and JPMC function in a highly complex, external economy and a highly uncertain environment. Thus, the capacity to handle pressure in times of crisis is crucial to maintain operational stability and enable innovative organizational practices. Good crisis pressure management helps to mobilize resources in an effective and rapid manner, to coordinate and adjust operational activities to meet new conditions. Thus, DCT serves as a suitable theoretical background for the understanding of how CPM can assist in the enhancement of IBP by promoting organizational responsiveness, adaptability, and strategic execution in the context of crises.

Organizational Resilience Theory (ORT)

ORT is the theory of how an organization can resist disruption, absorb shocks, and continue to function in a crisis situation. Resilient organizations are those that are not only able to withstand a disruptive event but also learn and evolve afterward to become stronger and better equipped to meet the demands of the future and future crises (Duchek, 2020). The theory emphasizes several key characteristics of organizations that are resilient: adaptability, flexibility, operational continuity, effective decision-making, and the ability to operate in uncertain environments.

The theory also suggests that crises are not just a threat to an organization's survival but also an opportunity to improve an organization and to build its capabilities. In general, organizations that are more resilient are better able to maintain equilibrium, adjust production processes, and promote innovative solutions in times of uncertainty (Khudhair Abbas, 2025). In such an environment, the ability to manage stress effectively becomes a crucial tool for organizations to manage stress, keep control, and keep going during a crisis. Past research has highlighted the key role of operational performance and enhanced innovation in resilient organizations during disruption (Duchek, 2020; Garrido-Moreno et al., 2024; Williams et al., 2017).

The relevance of this particular study is important because of the high-risk industrial environment that APC and JPMC work in; the impact of operational, economic, and environmental challenges on organizations is high. In such an environment, the ability to keep crises under control becomes a key asset to ensure continuity and foster innovation in an organization. Resilience is not just about bouncing back from a crisis, but also about being responsive, flexible, and innovative in times of crisis (Kantur & İşeri-Say, 2012).

DCT and ORT put together offer a complete theoretical backdrop to grasping how CPM can add to the comprehension of IBP in a crisis condition and an exceedingly unpredictable organizational setting. DCT is focused on adaptive and operational capacities of responding to change in the environment, while ORT focuses on resilience, continuity, and organizational stability during stress. These theories collectively contribute to the argument of improving the innovation and entrepreneurial business practices in Jordan's mining sector through effective crisis pressure management.



Review of Literature

CPM has emerged as a growing topic of interest in organizational and management research because of the high rate of crisis, uncertainty, and disruption in organizations today. In general, the concept of CPM is the capacity of an organization to regulate stress, coordinate resources, ensure the continuity of operations, and respond to high-pressure situations (Ayad, 2015; Mahmoud, 2017). In high-risk and complex industries like mining, crisis management is of critical importance due to the uncertainties, operational risks, and constant external pressures.

Some research has indicated that the ability to deal with crisis pressure effectively is the basis for stabilizing and sustaining organizational performance during disruptive situations. According to Al-Abdlat and Al-Shura (2020), effective pressure management is a part of organizational responsiveness, while a firm's capacity to keep its business running effectively during a crisis is also enhanced. Likewise, Matabs et al. (2022) state that well-designed crisis management mechanisms can significantly help an organization to lessen uncertainty and enhance the way it coordinates internally during a crisis. The results demonstrate that CPM is not just an organizational defensive function but also an operational trait with an impact on other organizational outcomes.

Also, there is a strong focus on the positive and negative organizational implications of crisis-related pressure in the literature. Anderson et al. (2014) describe how high and uncontrolled levels of pressure can have a dampening effect on creativity, cognitive flexibility, and innovation in organizations. They also contend that the well-controlled and controlled pressure can trigger adaptive behaviour, problem solving, and innovative solutions. This interpretation is also backed by Amabile and Pratt (2016), who state that although stressful situations have a negative effect on creativity, stress in a controlled environment can enhance motivation, concentration, and creative production. Therefore, the organization's ability to effectively manage and/or channel pressure-related stress significantly influences the organization's impact, in general.

CPM is often associated with organizational responsiveness and continuity in crisis and resilience research. Organizations that can adapt their behavior during crises have a higher chance of keeping performing and looking for new opportunities when facing uncertainty, according to Wenzel et al. (2020). Likewise, Ducheck (2020) states that resilient organizations need to establish processes that enable them to withstand shocks and keep businesses running during emergencies. This shows that CPM is a key factor in enhancing organizational resilience and continuity in crisis situations.

The notion of IBP has also been subjected to a considerable amount of research in the literature of organizational management and strategic management. In general, IBP is the ability of an organization to develop, adopt, and implement new concepts, processes, and entrepreneurial approaches to enhance the effectiveness and competitiveness of the organization and its long-term performance (Vuori & Huy, 2016). IBP is a multidimensional phenomenon that has been well conceptualized in the literature as innovation and entrepreneurship-oriented organizational behavior.

Practices related to innovation are often linked with the adaptability of the organization, strategic renewal, and opportunity recognition. Organizations able to sustain innovation tend to be more agile in responding to change in the environment and are more likely to be competitive in dynamic business contexts (Al-Aqrabawi, 2023). Likewise, Teece (2007) suggests that innovation firms depend on dynamic capabilities that enable them to sense the environment, seize opportunities, and reconfigure their resources to face environmental uncertainty. This view sees innovation as a process rather than as



a one-off construction, and as a capacity of an organization rather than a product(Eisenhardt & Martin, 2003).

For high-risk industries like mining, IBP starts to be relevant since an organization is constantly faced with operational, environmental, and economic challenges. Incorporating innovative practices has been proposed by research as a way for organizations in uncertain environments to remain flexible in their operations and enhance their organizational resilience (Chen et al., 2021). Garrido-Moreno et al. (2024) also highlight that innovation plays a critical role in the adaptability and sustainability of organizations in crisis situations. IBP is thus becoming seen as a necessary organizational competence to deal with uncertainty and maintain competitiveness.

Recent research has focused on the connection between CPM and IBP. There is existing literature that indicates that organizations that may manage pressure during a crisis are more likely to carry on innovation and adaptive organizational behavior during times of disruption. Anderson et al. (2014) suggest that under certain conditions, innovation can be induced by hostile work conditions, provided that there are efficient internal stress-management mechanisms in place. Likewise, Wenzel et al. (2020) report that organizations that are able to be flexible and operate effectively in crisis situations are better able to spot opportunities and adjust to fluctuations.

Theoretically, DCT offers valuable insight into the link between CPM and IBP. In uncertain environments, organizations need skills in sensing changes in the environment, in grasping opportunities, and in the reconfiguration of resources, explains (Teece, 2007, 2018). These capabilities can be reinforced through effective crisis pressure management, with a view to enhancing operational responsiveness, coordination, and quick decision-making during a crisis. Simultaneously, ORT is able to demonstrate that organizations that are able to withstand shocks and remain functional when there is a crisis have a higher chance of adapting and improving their organizational practices in the long term (Duchek, 2020). This implies that in crisis situations, CPM can serve to facilitate innovation and adaptive organizational behavior.

Despite the ever-increasing body of literature related to crisis management and innovation, there has been little empirical research on the direct link between CPM and IBP in the mining sector, especially in developing economies like Jordan. The past studies have mainly been on crisis management or innovation, but not a lot of integration between the two constructs. Furthermore, the majority of the current studies have focused on manufacturing, healthcare, or technology industries, and high-risk industrial industries like mining have not been widely studied. For this reason, the present study strives to add to the literature by investigating the relationship between CPM and IBP in the mining sector in the Kingdom of Jordan, particularly in the field of APC and JPMC.

Research Gap

While there have been many preceding studies on crisis management, organizational resilience, and innovation, there are some important gaps in existing literature. First, there are only a limited number of empirical studies that have specifically investigated the relationship between CPM and IBP, especially in high-risk industries like the mining industry. Previous studies have been mainly concerned with crisis management as an organizational process, rather than examining the impact of pressure management capacities on innovation-oriented business practices.



Second, the majority of the current literature has focused on developed economies and service industries, and few studies have focused on industrial and mining companies in developing countries like Jordan. This sets up a contextual distance between the way crisis pressure is dealt with and the maintenance of innovation in unstable situations within organizations in resource-intensive industries. Third, past research has not included DCT and ORT in the analysis of the linkage between CPM and IBP. Thus, the theoretical knowledge about the role of crisis pressure management in achieving organizational adaptability, operational continuity, and innovative organizational behaviour at the same time is still limited. In view of these, the present study aims to address the above gap by empirically investigating the effect of CPM on IBP from an integrated DCT and ORT perspective in the context of APC and JPMC. Based on this gap, this study aims to test the following research hypothesis:

H₀₁: There is no statistically significant effect of CPM on IBP in APC and JPMC.

Research Method

This section presents the methodological procedures used to investigate the impact of CPM on IBP in Jordan's mining sector. The methodological framework was formulated to make sure that the collected data is accurate, reliable, and valid in order to give empirical evidence that can be tested to prove the research hypothesis.

Research Design

The study employed a quantitative descriptive-analytical design to examine the relationship between CPM and IBP at Arab Potash Company and Jordan Phosphate Mines Company. The quantitative approach was deemed suitable for the study as it concerned the analysis of measurable constructs of the organizational and the testing of the interrelationships between these constructs through statistical tests. Organizational and management studies often employ quantitative research designs because they allow researchers to test hypotheses, measure objectively, and analyse the relationships between variables statistically (Creswell & Creswell, 2017).

Population of the Study

The target population included employees of the two largest mining organizations in Jordan (APC and JPMC). The companies were chosen for their strategic position in the Jordanian mining sector and the challenging operating conditions. In such situations, organizational issues of crisis management, pressure handling and innovation are of especially significant relevance.

The combined number of workers in the two companies was 4,111 (1,700 employees at APC and 2,411 employees at JPMC). The study population consisted of employees who work in managerial, supervisory, or operational roles, as they are directly engaged in organizational practices and activities related to the crisis and innovation. A clear definition of the study population is crucial for the suitability of sampling and methodological procedures (Bryman, 2016).

Sampling Method

To obtain more representative samples, stratified random sampling was used in the study. Respondents were randomly selected proportionally from two strata: Company-affiliated (APC) and Non-company affiliated (JPMC). Stratified sampling is especially appropriate for heterogeneous populations because of the ability to achieve greater accuracy in the representation and to minimize sampling error relative to simple random sampling methods (Saunders et al., 2009; Sekaran & Bougie, 2016).



Sample Size Determination

The required sample size was calculated with the Krejcie and Morgan (1970) sampling table for finite populations. A minimum sample size of 351 respondents was recommended at a 95% confidence level and a 5% margin of error based on the number of employees in the population ($n > 4,000$). A total of 411 questionnaires were sent out to boost the chances of getting full responses and to reduce the effect of missing out on questionnaires. Approximately 95% of the questionnaires (391) were returned, a relatively high response rate for organizational survey research.

Primary Data

A structured self-administered questionnaire was used for primary data collection, which was obtained electronically via Google Forms. Online questionnaires are widely used in quantitative organizational research as they provide an accelerated collection of data, minimize manual data entry, and provide more access for respondents (Dillman et al., 2014). Furthermore, self-administered questionnaires enable the participants to complete the questionnaire without making themselves known and at their own time, which helps to minimize social desirability bias (Bryman, 2016; Saunders et al., 2009).

The questionnaire items were derived from the relevant studies that have been conducted and validated on related issues of crisis management, adaptation to the organization, and innovation practices (Al-Abdalat & Al-Shura, 2020; Al-Awadhi & Al-Awadhi, 2020; Al-Subaie et al., 2022; Ayad, 2015; Mahmoud, 2017; Matabs et al., 2022). The instrument used in the present study was designed based on the theory and conceptual framework of the study.

The questionnaire was also examined by academic experts and organizational and management research specialists to enhance the content validity and make the questionnaire clearer. Furthermore, a pilot study, which focused on 30 employees from the target population, was performed before the final distribution process. Following the pilot results and expert feedback, some minor amendments were made to facilitate the understanding of the wording and consistency of the items of the instrument, and increase overall reliability.

Operationalization of Variables

Independent Variable: Crisis Pressure Management

CPM is the ability to make adaptive decisions, coordinate resources, and implement containment and escalation procedures during times of stress, uncertainty, and pressure in a crisis situation (Al-Abdalat & Al-Shura, 2020; Ayad, 2015; Mahmoud, 2017; Matabs et al., 2022). The construct was operationalized through six measurement items that assessed the organization's capacity to control pressure, sustain operational continuity, be effective under pressure, and act in sync during a crisis. Finally, the construct highlights the organization's ability to remain stable and responsive to environmental and operational changes (Al-Abdalat & Al-Shura, 2020; Al-Awadhi & Al-Awadhi, 2020; Al-Subaie et al., 2022; Ayad, 2015; Mahmoud, 2017).

Dependent Variable: Innovative Business Practices

The idea of IBP was conceived as a multi-dimensional concept involving both innovation and entrepreneurship in the Jordanian mining sector. Ten items were used for each dimension to capture the organization's ability to create, embrace, and act upon new ideas, initiatives, and business practices that will enhance the competitiveness of the organization and the effectiveness of its operations. The construct shows the way the organization is able to be creative and recognize opportunities, adapt in a proactive manner, and renew strategically. In accordance with the literature, IBP was defined as a



mixture of practices related to innovation and practices related to entrepreneurship in the organization (Vuori & Huy, 2016).

Data Analysis Techniques

Data collected was analysed by IBM SPSS Statistics software. To evaluate the reliability and validity of the measurement scales, as well as to test the proposed research hypothesis, several statistical techniques were used. First, Cronbach's Alpha was calculated to evaluate the study constructs' internal consistency and reliability. Exploratory Factor Analysis (EFA) was then performed to explore the factor structure of the measurement items and to aid construct validity. Furthermore, skewness and kurtosis statistics were analysed for data normality and appropriateness of the data for parametric statistical analysis. Pearson correlation was then conducted to check the direction and strength of the relationship between CPM and IBP. Lastly, simple linear regression was used to analyse the influence of CPM on IBP in APC and JPMC.

Data Analysis

This section discusses the study's findings and the relationships between CPM-IBP. Preliminary statistical tests assess the measurement tools' reliability and validity, followed by a demographic profile of respondents and descriptive and inferential statistical tests to examine the study's premise.

Preliminary Statistical Tests

Before hypothesis testing, preliminary statistical tests assessed data appropriateness and quality. The study used reliability, exploratory factor analysis, normality, and correlation tests to confirm its statistical methods.

Reliability Analysis (Cronbach's Alpha)

The internal consistency and reliability of the study variables were assessed using Cronbach's Alpha. Reliability coefficients greater than 0.70 indicate that measurement items consistently measure the target constructs.

Table 1: Cronbach's Alpha Reliability Coefficients for Study Variables

Variables	No. of Items	Reliability Coefficient (α)
CPM	6	0.876
Innovation	10	0.807
Entrepreneurship		0.832

Table 1 demonstrates that all study variables have good internal consistency, as indicated by Cronbach's alpha values. CPM's Cronbach's alpha coefficient was 0.876, indicating dependability. Entrepreneurship and innovation have reliability ratings of 0.832 and 0.807, respectively. The scores are above 0.70, suggesting the reliability and validity of the study's scales for statistical analysis.

Exploratory Factor Analysis (EFA)

The construct validity of the measurement items was examined using EFA to determine whether the items were appropriately categorised under their respective constructs. The sufficiency of the sample and the suitability of the data format employed for factor extraction were also examined. The construct



validity of the measurement items was assessed by EFA to determine their appropriate grouping under respective constructs. The sample's adequacy and the data structure's appropriateness for factor extraction were both evaluated.

Table 2: Summary of Exploratory Factor Analysis Results

Construct	No. of	Factor Loading	Eigenvalue	Variance Explained
Innovation	10	0.679 – 0.779	6.389	12.778
Entrepreneurship	10	0.631 – 0.782	5.744	11.488
CPM	6	0.625 – 0.791	2.509	5.018
KMO = 0.900; Bartlett's Test of Sphericity: $\chi^2 = 5980$, df = 1225, $p < 0.001$				

Table 2 indicates that the factor loadings for all constructs were satisfactory, and the measuring items exhibited strong relationships with the constructs. The innovation factor loadings ranged from 0.679 to 0.779, accounting for 12.778% of the total variance, whilst the Entrepreneurship factor loadings ranged from 0.631 to 0.782, accounting for 11.488% of the total variance. The factor loadings of the CPM were acceptable, ranging from 0.625 to 0.791, and accounted for 5.018% of the variance. The Kaiser-Meyer-Olkin (KMO) was 0.900, indicating an adequate sample size. The Bartlett's Test of Sphericity was significant ($\chi^2 = 5980$, $p < 0.001$), indicating the appropriateness of the data for factor analysis. The results showed that the study instrument had good construct validity.

Normality Test of Data Distribution

The variables in the study were tested for normality to determine whether they followed a normal distribution. Skewness and kurtosis were analysed to assess whether the data were suitable for parametric statistical analysis.

Table 3: Skewness and Kurtosis of Study Variables

Construct	Mean	Std. Deviation	Skewness	Kurtosis	Interpretation
CPM	3.997	1.101	-0.855	0.151	Normal
IBP	3.943	1.060	-0.646	-0.019	

Both the CPM and the IBP had skewness values of -0.855 and -0.646, respectively, which were still within the acceptable range of normality, as demonstrated in Table 3. Similar to the previous example, the kurtosis values for CPM (-0.019) and IBP (-0.019) were close to zero, indicating that the distributions did not deviate significantly from normality. Based on these findings, it may be concluded that the data satisfy the assumptions related to parametric statistics, specifically correlation and regression.

Correlation Analysis

The direction and strength of the link between crisis pressure management and IBP were determined using Pearson correlation analysis.



Table 4: Pearson Correlation Matrix Among Study Variables

Variables	CPM	IBP
CPM	1.000	.491*
IBP	.652*	1.000
* Correlation is significant at the 0.05 level (2-tailed).		

There is a positive, statistically significant relationship between CPM and IBP ($r = 0.491$, $p < 0.05$), as shown in Table 4 of the results section. This result suggests a direct relationship between crisis pressure management and innovative business practices within the firms investigated. On top of that, there is a moderate positive correlation between the two variables, which provides some preliminary support for the study's hypothesis.

Demographic Profile of Respondents

According to the demographic statistics, 95% of respondents are male, and 5% are female. 30.5% of the respondents are between the ages of 31 and 39 years old, 24.5% are between the ages of 50 and 49 years old, 23.7 percent are between the ages of 40 and 49 years old, and 21.3% are less than 30 years old. When it came to education, the majority of respondents (44%) held a Bachelor's Degree, while 30% held a diploma and 23.3% held a Master's Degree. From the perspective of employment position, the majority of employees are supervisors (36.6%), followed by employees (33%), assistant managers (20.7%), and unit managers (9.7%). In addition, the findings indicate that the workforce is rather seasoned, with 29.5% of the respondents having between 10 and 15 years of work experience. Furthermore, 59% of the respondents are employed by JPMC, while 41% are under the employment of APC.

Descriptive Analysis

A descriptive analysis is conducted to assess the overall levels of the research variables by examining respondents' responses. To determine how respondents felt about the CPM and IBP, the analysis included calculating means and standard deviations.

Table 5: Descriptive Statistics of Study Variables

Variables	Mean	Std. Deviation
Crisis Pressure Management (CPM)	3.997	1.101
Innovative Business Practices (IBP)	3.943	1.060

Table 5 shows that the firms that participated in the research have a reasonably high mean score for CPM ($M = 3.997$, $SD = 1.101$). This indicates that the organizations are quite high on learning from crises and adjusting strategically to changing situations. In a similar vein, the IBP has a high mean value ($M = 3.943$, $SD = 1.060$), indicating that respondents, on the whole, believe that the organizations have business practices conducive to innovativeness and entrepreneurialism. The standard deviation values for both measures are close to 1, indicating that the respondents' perceptions exhibited a moderate degree of diversity.



Inferential Analysis: Simple Linear Regression

Simple linear regression is used to evaluate the influence of IBP on CPM. The analysis is being conducted to determine the extent to which CPM has contributed to predicting and improving innovative business practices in the study setting.

Table 6: Regression Analysis of the Impact of CPM on IBP

Variable	B	Std.Error	T-statistic	Sig.
Constant	1.02	0.225	4.53	< 0.001
CPM	0.438	0.031	14.12	< 0.001
R	0.582			
R ²	0.339			
Adj.R ²	0.337			
S.E. regression	0.498			
F-statistic	199.5			
Sig. (F-statistic)	< 0.001			

The results in Table 6 revealed that CPM is positively correlated with IBP, and the correlation is statistically significant. The regression coefficient ($B = 0.438$) shows that there is a positive direct relationship between CPM and IBP, which means that CPM increases when IBP increases. The finding implies that organizations with the ability to cope with pressure during the crisis are more likely to be innovative and entrepreneurial in their business practices.

Constant ($B = 1.556$) is the baseline level of IBP when CPM is set to zero. The constant was also statistically significant ($T = 7.35$, $\text{Sig.} < 0.001$), but mainly functions in the regression model as the intercept of the equation.

The Standard Error of estimation for CPM (Std. The value of the error is small ($\text{Error} = 0.031$), which suggests that the regression coefficient is estimated with reasonable accuracy. Also, the T-statistic for CPM was 14.12, showing good predictive power of CPM in predicting IBP. The level of significance was less than 0.001, indicating that the relationship is statistically significant.

Moreover, the correlation coefficient ($R = 0.582$) shows a moderate positive correlation found between CPM and IBP. This indicates that there is a relationship between the improvement of crisis pressure management and innovative business practices in the organizations studied.

The coefficient of determination ($R^2 = 0.339$) shows that CPM explains about 33.9% of the variance in IBP. This percentage is considered to be an acceptable level of explanatory power in social science research, showing that CPM is an important factor influencing innovative business practices. The adjusted coefficient of determination (Adj. The $R^2 = 0.337$ is very close to the R^2 value, indicating that the regression model is stable and reliable.

The standard error of regression (S.E. regression = 0.511) also shows that the model is reasonably accurate in predicting IBP, with values reasonably close to the observed values. Furthermore, the regression model was significant overall ($F = 199.3$, $\text{Sig.} < 0.001$), which indicates that the overall model is valid for predicting IBP.



The results of this study can be used to conclude that CPM has a significant positive effect on IBP. Hence, the null hypothesis is rejected, and the alternative hypothesis is accepted, so that the contribution of CPM can be said to have a significant impact on the organization selected in order to improve innovative business practice.

Discussion

The results suggest that in organizations with improved capacity to cope with pressures related to crisis, CPM has a significant positive effect on IBP, which means that these organizations have greater capacity to maintain innovation and entrepreneurial practices in times of instability. The results also indicate, however, that the function of the CPM goes beyond just reducing pressure. More accurately, CPM seems to serve as an operational stabilizing mechanism to ensure that organizations remain responsive, co-ordinated, and continuous during a crisis, allowing space for innovative practice to flourish.

It is crucial that this interpretation is emphasized as the relationship between pressure and innovation is often debated in theory. Organizational pressure has often been considered a source of stress, rigidity, and less creativity in an organization; however, the findings of the present study suggest that under certain conditions, pressure could also act as a source for adaptive organizational behavior. For Anderson et al. (2014), innovative responses can occur in challenging environments when organizations have internal resources to manage uncertainty and operational stress. The present results are consistent with this view as they show that the positive impact is not due to pressure itself, but due to the organization's capacity to withstand and manage pressure in a manner that helps maintain operational effectiveness.

The findings are also consistent with Amabile and Pratt (2016), who argue that uncontrolled pressure will have a negative effect on creativity, while controlled and regulated pressure can have a positive effect on focus, motivation, and innovative achievement. For APC and JPMC, this implies that CPM probably plays a role in keeping the organization disciplined and efficient in its decision-making processes during a crisis, enabling innovative efforts to move forward even when there is some uncertainty of operations. Wenzel et al. (2020) also point out that companies that are able to adapt during crises have a higher chance of maintaining performance and finding new opportunities. The present results corroborate this idea in that CPM appears to be a process that enables the successful operation of an organization in times of crisis, especially in operationally intense industries like the mining industry.

On the other hand, the medium explanatory power of CPM indicates that the role of pressure management is not enough to support long-term innovation. The findings suggest that innovation during crisis is multidimensional and relies on other organizational capabilities than handling operational pressure, although CPM plays a significant role in IBP. Theoretically, the observation is significant as it indicates that CPM is more about the continuity of execution and organization than about bigger organizational changes. CPM can contribute to the effectiveness of organizations during crises, but on its own is not sufficient to ensure systematic learning or strategic renewal.

The results from a DCT point of view show that CPM has a significant impact on the organization's capability to seize. Rapid mobilization, operational flexibility, and timely decision-making are all key components of the dynamic capabilities concept (Teece, 2007) and are essential to the management of crisis pressure. Companies that are able to do well when it matters seem to be better able to harness the



energy of a crisis and turn it into a chance. The result also suggests that CPM has a more significant relation with operational responsiveness than with capability transformation in the long term. This interpretation agrees with Teece (2018) that sustaining innovation is not about execution; it's about continuous learning and strategic reconfiguration.

After all, CPM looks to the coping stage of resilience development from the ORT vantage point. According to Duchek (2020), resilient organizations need to be able to take hits and keep going to be able to adapt and renew. These results indicate that CPM enhances this coping capability by helping organizations to stay stable and operating in crisis situations. Most significantly, successful pressure management could generate the organizational circumstances for development to adaptation and improvement. Such an interpretation follows Chen et al. (2021), Garrido-Moreno et al. (2024), and Kantur and İşeri-Say (2012), who argue that resilience is not only about surviving the disruptions but also about enhancing the organizational capacity under crises.

From an analytical perspective, the findings put CPM as an enabling operational capability in the context of the crisis–innovation relationship. It is its function to keep the quality of the execution, the responsiveness of the organization, and the coordination of operations under high pressure. This can be considered as an explanation for the fact that CPM has a strong impact on IBP, but only a moderate explanatory power. Successful innovation in a crisis may be as much a function of learning, adapting strategically, and reconfiguring resources over time as of being able to manage pressure.

Results thus add to the theory of integration of DCT and ORT, revealing the role of CPM as a connection between crisis pressure and innovative results. CPM does not directly create innovation, but rather it provides the operational conditions that allow for the continuation of innovation whilst the system is unstable. On a practical level, the results imply that organizations like APC and JPMC should think beyond defensive pressure management and consider it as an offensive tactic. Rather, the use of pressure management systems should be embedded in a wider organizational approach that promotes adaptability, coordination, and innovation in the event of a crisis.

Results overall suggest that, if supported by good organizational structures and adaptive management processes, CPM can be a strategic enabler of IBP. But it is only effective if the organization is able to reconcile the two elements, urgency and operational control, and short-term responsiveness with longer-term adaptation. This balance is the deciding factor between crisis pressure, which is an innovative organizational force, and pressure that is limiting innovative business practices.

Conclusion

Based on the results of the current study, it can be concluded that the CPM has a positive and significant effect on IBP in the mining industry in Jordan. The results indicate that companies with better crisis-related pressure management performance are more likely to develop innovative products, be responsive in their operations, and are more likely to keep on doing business in an entrepreneurial manner in unstable situations. This means that CPM is not only a tool to alleviate stress during a crisis but also a critical organizational asset that helps to ensure continuity, coordination, and innovation in the face of stress.

On a theoretical level, the results justify the propositions of DCT, since they confirm the need for organizational responsiveness, quick decision-making, and coordination of resources as key factors in enhancing innovative organizational progress. The findings suggest that organizations that can



function effectively in crisis situations are more likely to be able to capture opportunities and continue innovative practices at times of stress. The findings also corroborate the principles of ORT, for example that organizations that are resilient can be able to absorb shocks, be able to function, and adapt during stressful situations. This positive relationship between CPM and IBP indicates that pressure management can positively influence the organization to continue and improve in the case of a crisis.

From a practical perspective, the results point to the need to improve the crisis pressure management system in sectors with high risk, including mining. These results suggest that APC and JPMC can be enhanced to be more innovative by developing structured crisis coordination systems, enhancing adaptive leadership practices, enhancing communication and operational responsiveness, and creating flexible decision-making processes for crises. In addition, developing more defined processes around urgency and complexity can be helpful for stability and innovation during uncertain times.

Although these contributions have been made, there are some limitations of the study. The study was conducted only in selected mining companies in Jordan, meaning that the results might not be generalizable to other companies or locations. Second, the paper adopted CPM as an independent variable without taking into account other organizational factors that may affect the IBP effect, such as organizational culture, leadership, or technological readiness. Third, the cross-sectional design of the study does not enable the study to explore the changes in crisis pressure management capabilities over time or their effect on long-term innovation performance.

The model presented in this study could be expanded in future research to consider the mediation and/or moderation of other organizational variables in the relationship between crisis management capabilities and innovation. Longitudinal studies could be more informative on how organizations develop their pressure management capabilities over time and how these capabilities can help in terms of sustainable innovation. Further, comparative studies between sectors and countries could shed light on the role of different organizational and environmental factors in explaining the relationship between crisis pressure management and innovative business practices.

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