# THE IMPACT OF SUPPLY CHAIN INNOVATION, RISK MANAGEMENT CAPABILITIES, KNOWLEDGE MANAGEMENT, COMPANY CULTURE, AND CORPORATE SOCIAL RESPONSIBILITY ON COMPETITIVE ADVANTAGE (A STUDY ON JORDAN PHOSPHATE MINES CO JPMC)

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## THESIS APPROVAL PAGE

I certify in my opinion that the thesis presented by Iyad Abdel Rauof Oklah ALSHEYAB entitled “THE IMPACT OF SUPPLY CHAIN INNOVATION, RISK MANAGEMENT CAPABILITIES, KNOWLEDGE MANAGEMENT, COMPANY CULTURE, AND CORPORATE SOCIAL RESPONSIBILITY ON COMPETITIVE ADVANTAGE (A STUDY ON JORDAN PHOSPHATE MINES CO JPMC)” is well suited in terms of scope and quality as a thesis for a Master of Science degree.

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This thesis is accepted by the examining committee with a unanimous vote in the Department of Business Administration as a Master of Science thesis.

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The degree of Master of Science by the thesis submitted is approved by the Administrative Board of the Institute of Graduate Programs, Karabük University.

Assoc. Prof. Dr. Zeynep ÖZCAN .....
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## DECLARATION

I thus affirm that this thesis is the product of my own research and all information presented has been acquired and elucidated in adherence to the academic guidelines and ethical principles stipulated by the institution. Furthermore, I hereby affirm that all assertions, findings, and materials that are not original to this thesis have been appropriately credited and referenced verbatim.

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**Name Surname:** Iyad Abdel Rauof Oklah ALSHEYAB

**Signature:**

# FOREWORD

I am most grateful to God, who has given me good health and the capacity to finish my studies. I have been granted good health and the ability to pursue my educational goals effectively. At some point in the future, we will become anything we desire, regardless of the specific time, location, age, or novelty.

Neither the journey has commenced nor the path has concluded, and my success is solely the will of God. The most exquisite moment is when one is enduring patience and weariness bear fruit. Only those who endure prolonged suffering truly appreciate the value of the reward. No one can reach a place of rest without traversing the uphill bridge of fatigue. Thus, the benefits of this world and the hereafter are contingent upon exertion. Consuming salt voluntarily is preferable to relying on someone else to provide honey.

I dedicate this work to my father, who has provided me with love, security, and a sense of purpose. I also dedicate it to my mother, who has been a constant source of support and guidance. To my siblings, who have always been there for me, and to my teachers and colleagues, who have played a significant role in shaping my future. I am grateful to all those who have shown me love and concern, and I offer them the results of my humble effort. I sincerely thank them and pray that God blesses us all with opportunities for goodness and success.

# ABSTRACT

This comprehensive study investigates the impact of supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility (CSR) on competitive advantage within the Jordan Phosphate Mines Co (JPMC). As businesses operate in increasingly complex and competitive environments, understanding the multifaceted drivers of competitive advantage becomes critical. Employing a robust quantitative analysis, this research explicitly targets the abovementioned factors to discern their collective and individual contributions to enhancing competitive advantage at JPMC, a key player in Jordan's phosphate mining industry. The study's results provide compelling empirical evidence supporting the hypothesis that each factor significantly contributes to competitive advantage. Supply chain innovation emerged as a pivotal element, with findings indicating that innovative supply chain practices account for a substantial portion of the variance in competitive advantage. Similarly, risk management capabilities, knowledge management, and company culture were critical drivers, each demonstrating a strong positive correlation with competitive advantage. Notably, CSR was identified as having a profound impact, suggesting that socially responsible practices are not just ethical imperatives but also strategic investments that can yield significant competitive benefits. These findings underscore the importance of these factors in fostering a competitive edge and highlight their synergistic effects within the specific context of JPMC. This study extends the existing body of knowledge and offers valuable practical implications for industry practitioners and academic researchers by providing detailed insights into how these strategic dimensions influence competitive advantage in the Jordanian phosphate mining sector. The research reaffirms the significance of integrating comprehensive strategic practices to sustain and enhance competitiveness in a challenging industry landscape.



**Keywords:** Supply Chain Innovation; Risk Management Capabilities; Knowledge Management; Company Culture; Corporate Social Responsibility; Competitive Advantage.

# ÖZ

Bu kapsamlı çalışma, Ürdün Fosfat Madenleri Şirketi (JPMC) içinde tedarik zinciri inovasyonu, risk yönetimi yetenekleri, bilgi yönetimi, şirket kültürü ve kurumsal sosyal sorumluluk (KSS) gibi faktörlerin rekabet avantajı üzerindeki etkisini araştırmaktadır. İşletmeler giderek daha karmaşık ve rekabetçi ortamlarda faaliyet gösterdikçe, rekabet avantajını sağlayan çok yönlü sürücülerin anlaşılması kritik hale gelmektedir. Sağlam bir nicel analiz kullanarak, bu araştırma özellikle söz konusu faktörleri hedef almakta ve JPMC'de rekabet avantajını artırmaya yönelik kolektif ve bireysel katkılarını ayırt etmeyi amaçlamaktadır; JPMC, Ürdün'ün fosfat madenciliği endüstrisinde ana oyunculardan biridir. Çalışmanın sonuçları, beş faktörün de rekabet avantajına önemli katkılarda bulunduğuna dair ikna edici ampirik kanıtlar sağlamaktadır. Tedarik zinciri inovasyonu, özellikle yenilikçi tedarik zinciri uygulamalarının rekabet avantajındaki varyansın büyük bir kısmını oluşturduğunu gösteren bulgularla, belirleyici bir unsur olarak ortaya çıkmıştır. Benzer şekilde, risk yönetimi yetenekleri, bilgi yönetimi ve şirket kültürü de kritik sürücüler olarak bulunmuş ve her biri rekabet avantajı ile güçlü pozitif bir korelasyon göstermiştir. Özellikle, KSS'nin özellikle derin bir etkisi olduğu belirlenmiş, bu da sosyal sorumlu uygulamaların sadece etik zorunluluklar değil, aynı zamanda önemli rekabetçi faydalar sağlayabilen stratejik yatırımlar olduğunu öne sürmektedir. Bu bulgular, söz konusu faktörlerin rekabetçi bir üstünlük sağlamada önemini vurgulamanın yanı sıra, JPMC'nin özel bağlamı içindeki sinerjik etkilerini de öne çıkarmaktadır. Bu stratejik boyutların Ürdün fosfat madenciliği sektöründe rekabet avantajını nasıl etkilediğine dair detaylı içgörüler sağlayarak, bu çalışma mevcut bilgi birikimini genişletmekte ve hem endüstri uygulayıcılarına hem de akademik araştırmacılara değerli pratik sonuçlar sunmaktadır. Araştırma, zorlu bir endüstri manzarasında rekabetçiliği sürdürmek ve artırmak için kapsamlı stratejik uygulamaların entegrasyonunun önemini yeniden teyit etmektedir.

**Anahtar Kelimeler:** Tedarik Zinciri Inovasyonu; Risk Yönetimi Yetenekleri; Bilgi Yönetimi; Şirket Kültürü; Kurumsal Sosyal Sorumluluk; Rekabet Avantajı.

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## SUBJECT OF THE RESEARCH

The impact of supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility on competitive advantage (a study on Jordan phosphate mines Co JPMC)

## PURPOSE AND IMPORTANCE OF THE RESEARCH

The research on "the impact of supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility on competitive advantage (A Study on Jordan Phosphate Mines Co JPMC)" holds paramount importance and serves a multifaceted purpose in the contemporary business landscape. By dissecting how various facets such as supply chain innovation, risk management, knowledge management, company culture, and corporate social responsibility influence competitive advantage, this study not only sheds light on the strategic imperatives that drive organizational success in the mining sector but also contributes to the broader discourse on sustainable and resilient business practices. Specifically, targeting JPMC provides a unique insight into the challenges and opportunities within the phosphate mining industry, offering valuable lessons for similar entities in resource-intensive sectors.

## METHOD OF THE RESEARCH

This study employs a quantitative methods approach, combining quantitative data analysis and qualitative case studies to examine the impact of supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility on competitive advantage at Jordan Phosphate Mines co. JPMC. A survey was employed in this study. Statistical tools and content analysis techniques are used to analyze the data, ensuring a comprehensive understanding of the variables involved.

## HYPOTHESIS OF THE RESEARCH / RESEARCH PROBLEM

The study hypothesis for (Supply Chain Innovation, Risk Management Capabilities, Knowledge Management, Company Culture, Corporate Social Responsibility, and Competitive Advantage posits that these five variables significantly influence a company's competitive advantage. Specifically, it suggests that advancements in supply chain innovation, enhanced risk management capabilities, effective knowledge management, a robust company culture, and dedicated CSR practices collectively strengthen JPMC's position in the competitive landscape of the phosphate mining industry. This hypothesis aims to explore the synergistic effect of these components on achieving and sustaining a competitive edge.

## POPULATION AND SAMPLE (IF AVAILABLE)

130 top management with competitive advantage were chosen as the sample size.

## SCOPE AND LIMITATIONS / DIFFICULTIES

This study primarily encompasses an in-depth analysis of Jordan Phosphate Mines co (JPMC), focusing on how supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility impact its competitive advantage. While this targeted approach allows for a detailed exploration within a specific industry context, it also introduces limitations, including the generalizability of findings to other sectors or geographical locations. Furthermore, the study may encounter difficulties accessing proprietary or sensitive company data, which could impede the comprehensive assessment of internal processes and strategies. The dynamic nature of the global market and external factors such as economic fluctuations and regulatory changes also pose challenges in isolating the effects of the variables under investigation, potentially affecting the study's outcomes and interpretations.

# 1. INTRODUCTION

## 1.1. Background of The Study

In today's rapidly changing landscape, cultivating an organization's competitive advantage is challenging (Jansen, Vera, Crossan., 2009). The extent to which a corporation may surpass its competitors will be contingent upon possessing a competitive advantage (Mishra & Yadav, 2021). In order to achieve a competitive advantage, contemporary organizations must continuously strive to grow within the context of extensive and profound global integration, a distinct superiority that a company possesses over its rivals. Utilizing rare and invaluable skills will give firms a distinct advantage over their rivals (Dyer, 1996). According to Sirmon et al. (2007), technology and capital reserves, often used to gain a competitive advantage, can be easily duplicated. Barney (2001) highlighted the essential components of identifying a demanding, unique, and relevant source of competitive advantage. In addition, companies presently encounter diverse risks, including complex shifts within corporate governance; the focus areas include deregulation, national integration, and modifications to environmental and financial frameworks. Enterprises face the essential challenge of enhancing their competitive advantage in that environment. To maintain a competitive advantage, it is essential to manage global supply chains as a cohesive unit effectively, ensuring effective risk control measures, especially those related to perils related to transportation (Baryannis et al., 2019) .Revilla and Saenz (2017) show that the tendency results from modern supply chain efficiency practices, minimal inventory, supplier expansion, and centralized distribution that leverages global sourcing and utilizes digital technologies. Managing supply chain risks is the capacity to effectively respond to the increasing number of risk variables in the contemporary environment. Businesses should prioritize increasing supply chain innovation to effectively manage supply chain deployments and reduce risk processes and technologies. This can be achieved through a challenging process that utilizes supply chain management processes and aims to discover new ways of managing supply chains more efficiently (Lee & Schniederjans., 2011). Supply chain innovation plays a crucial role for suppliers by enhancing their ability to manage risks, improve operational efficiency, anticipate and plan, and monitor purchases throughout the supply chain.

Integrating supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility is pivotal in shaping a company's competitive advantage in the modern business landscape (Yuan & Cao, 2022). Supply chain innovation involves implementing new and advanced processes, technologies, and strategies to enhance operational efficiency and customer satisfaction (Lee et al., 2011). This is complemented by robust risk management capabilities, essential in mitigating the risks associated with global supply chain operations, such as logistical disruptions, market volatility, and regulatory compliance (Alfaqiri et al., 2019). In this context, knowledge management pertains to the methodical management of knowledge and resources inside an organization to enhance decision-making and foster innovation. This involves harnessing collective expertise and data to drive strategic improvements in supply chain processes (Pérez-Salazar et al., 2017).

Additionally, company culture and corporate social responsibility are increasingly recognized as critical components in achieving competitive advantage. A company culture that fosters innovation, agility, and a proactive approach to risk management significantly enhances a company's ability to adapt to market changes and efficiently manage its supply chain (Abeysekara et al., 2019). Corporate social responsibility, focusing on ethical practices, sustainability, and community engagement, further strengthens a company's brand and reputation. In today's environmentally and socially conscious market, corporate social responsibility initiatives in supply chain operations can increase customer loyalty, attract socially conscious investors, and differentiate a company from its competitors (James, 2021). When effectively integrated, these elements create a comprehensive approach that addresses supply chain management's operational and strategic facets and aligns them with broader organizational values and societal expectations, reinforcing a firm's competitive position in the market.

Continuing the comprehensive approach to enhancing competitive advantage through various facets of supply chain management, it is essential to explore how these components interact and reinforce each other (Gattorna et al., 2017). The synergy between supply chain innovation and risk management capabilities makes companies more resilient and responsive to market changes and disruptions (El-Baz & Ruel, 2021). For instance, innovative supply chain practices powered by digital technologies

like artificial intelligence and the Internet of Things can provide predictive insights, enabling companies to anticipate and manage risks more effectively. Being proactive in risk management is a distinguishing factor in competitive sectors (Thun & Hoenig, 2011).

Furthermore, the role of knowledge management in this matrix is critical. It effectively utilizes internal and external information, optimizes supply chain processes, and fosters a culture of continuous improvement and innovation (Dharmayanti et al., 2023). When knowledge management is aligned with supply chain operations, it leads to more informed decision-making, better risk assessment, and a more agile response to market demands. Company culture is the bedrock that supports these efforts. A culture that values innovation, transparency, and collaboration encourages employees to actively contribute to and engage with supply chain improvements and risk management strategies(Solaimani & van der Veen, 2022). It fosters an environment where new ideas are welcomed, and best practices are shared, leading to a more dynamic and efficient supply chain operation. Building on this integrated framework, it becomes evident that the synergy among supply chain innovation, risk management, knowledge management, company culture, and corporate social responsibility is both additive and multiplicative in enhancing competitive advantage.

This multi-dimensional approach allows companies to navigate the complexities of the global market more effectively and sustainably. In supply chain innovation, embracing advanced technologies and innovative practices is crucial. However, implementing these innovations must be underpinned by a robust risk management strategy. This strategy is greatly enhanced by effective knowledge management, which ensures that the data and insights gained from innovative practices are correctly analyzed, shared, and utilized (Du Plessis, 2017). This fosters a culture of informed decision-making and strategic foresight, which is crucial for maintaining resilience in supply chain disruptions.

Moreover, the role of company culture in this framework cannot be overstated (Pettit, 2008). A culture that encourages experimentation, learning from failures, and collaboration across departments can significantly amplify the impact of supply chain innovations and risk management strategies (Liu et al., 2018). This culture nurtures

continuous improvement and adaptability in today's rapidly changing business environment.

Jordan Phosphate Mines Co (JPMC) enterprises' competitive advantage originates from their ability to overcome considerable challenges in adopting innovation, managing information, building company culture, and implementing corporate social responsibility throughout the supply chain. Furthermore, their robust risk management capabilities bolster their competitive advantage. Given Jordan's current state of profound and broad integration, the research findings substantially impact management. These discoveries can assist the organization in gaining a competitive advantage.

## 1.2. Problem Statement

Numerous organizations seek a competitive advantage in the current dynamic and fast-changing global market. Jordan Phosphate Mines Co (JPMC), a prominent participant in the mining industry, is tasked with preserving its competitive advantage in a field characterized by volatile market requirements, environmental considerations, and technical progress (El-Adaileh, 2020).

The phosphate sector has intricate supply chains encompassing several stages: extraction, processing, transportation, and distribution (Geissler et al., 2019). In the context of JPMC, the implementation of innovative practices within the supply chain is not solely focused on enhancing operational efficiency but instead serves as an imperative for the organization's sustainability and expansion within an industry that is significantly impacted by technological progress, environmental concerns, and geopolitical dynamics (Al-Rahahleh, 2020). The primary difficulty resides in the successful execution of inventive strategies that can maximize operational effectiveness, minimize expenses, and improve the overall efficacy of the supply chain (Sharma et al., 2020). Nevertheless, integrating novel technologies and methodologies frequently encounters challenges, such as substantial expenses associated with implementation, organizational reluctance towards change, and the necessity to harmonize with pre-existing systems and procedures (Bally & Cesuroglu, 2020). The phosphate business is exposed to various hazards, encompassing market volatility,

price fluctuations, and geopolitical concerns in crucial mining areas (Hamed et al., 2023). Developing strong risk management capabilities is of utmost importance for JPMC to properly navigate these risks (Mishchenko et al., 2021). This process includes not only the identification and evaluation of potential risks but also the formulation and execution of solutions aimed at minimizing their adverse effects (Bischoff et al., 2021). JPMC is tasked with developing a risk management system that possesses both breadth and adaptability, enabling the organization to promptly and efficiently address expected and unexpected obstacles (Nour et al., 2020).

In the dynamic and ever-changing landscape of the phosphate business, the effective management and utilization of information can be a substantial driver of competitive advantage (Jakov, 2023). For JPMC, this entails acquiring and retaining essential data while guaranteeing its availability and applicability for making informed decisions. The organization is confronted with the task of incorporating knowledge management into its operational framework in a manner that optimizes productivity, cultivates creativity, and facilitates strategic decision-making. Several obstacles impede the implementation of knowledge management at JPMC (Al-Rwajfeh, 2019). These barriers encompass cultural elements, such as a prevailing reluctance to share information, and technical challenges, such as the absence of a centralized platform for storing and retrieving knowledge. The cultural dynamics inside JPMC significantly impact the company's ability to execute supply chain innovations, successfully manage risks, and harness knowledge (Al-Rwajfeh, 2019). Cultivating a cultural environment that fosters innovation, risk consciousness, and knowledge exchange is vital for JPMC to adapt and flourish effectively within the phosphate sector. Nevertheless, cultivating such a culture might present difficulties, especially inside an organization with deeply ingrained customs and procedures. The transformation of corporate culture necessitates the implementation of both hierarchical directives and the active involvement and endorsement of personnel across all hierarchical strata.

Corporate Social Responsibility (CSR) is progressively emerging as a crucial determinant in the competitive positioning of enterprises operating within the mining industry (Ansu-Mensah et al., 2021). For JPMC, incorporating corporate social responsibility into its activities extends beyond compliance or reputation management. Instead, it is centered on establishing enduring values that are environmentally, socially, and economically sustainable. This entails considering environmental

consequences, implementing ethical principles, and actively contributing to the well-being of the communities in which the firm conducts its operations. The primary objective for JPMC is to effectively integrate its corporate social responsibility endeavors with its overall business strategy, bolstering its competitive advantage and making meaningful contributions toward social and environmental sustainability. The interaction between the five pillars of supply chain innovation, risk management, knowledge management, business culture, and corporate social responsibility generates a multifaceted and ever-changing context in which JPMC conducts its operations (Fioroni, 2019). Each element not only possesses its inherent impact on the company's competitive advantage but also exerts impact on, and is impacted by, the other elements within the system. For example, implementing efficient risk management practices can encourage the adoption of more ambitious supply chain innovations. Similarly, a robust organizational culture can enhance knowledge management efforts and foster the development of more significant corporate social responsibility projects.

This study is significant as it offers a comprehensive examination of multiple factors that impact competitive advantage in the context of the Jordanian mining sector. By focusing on JPMC, a key player in the industry, the study provides practical insights that could be applied to similar organizations globally. The expected outcomes include a better understanding of how integrated approaches to supply chain management, risk mitigation, knowledge sharing, cultural dynamics, and social responsibility can collectively enhance competitive positioning. The findings are anticipated to offer valuable guidance for strategic decision-making in JPMC and other mining companies, contributing to their resilience and success in a competitive and ever-changing global market.

## 1.3. Research Question

The study questions were derived from the problem related to competitive advantage indicated earlier.

1. Does the supply chain innovation impact on competitive advantage of Jordan Phosphate Mines Co JPMC?

2. Do the risk management capabilities impact on competitive advantage of Jordan Phosphate Mines Co JPMC?
3. Does knowledge management impact on competitive advantage of Jordan Phosphate Mines Co JPMC?
4. Does the company culture impact on competitive advantage of Jordan Phosphate Mines Co JPMC?
5. Does corporate social responsibility impact on competitive advantage of Jordan Phosphate Mines Co JPMC?

## 1.4. Research Objectives

The research objectives are derived from the problem mentioned above statements regarding the factors that have the potential to improve the competitive advantage:

1. To determine the impact of supply chain innovation on competitive advantage in Jordan Phosphate Mines Co JPMC.
2. To determine the impact of risk management capabilities on competitive advantage of Jordan Phosphate Mines Co JPMC.
3. To determine the impact of knowledge management on competitive advantage of Jordan Phosphate Mines Co JPMC.
4. To determine the impact of company culture on competitive advantage of Jordan Phosphate Mines Co JPMC.
5. To determine the impact of corporate social responsibility on competitive advantage of Jordan Phosphate Mines Co JPMC

## 1.5. Study Signification

This study's importance is examined from two distinct yet interconnected viewpoints: the importance of theory and the importance of practice.

### 1.5.1. Significance to Theory

The study investigating the impact of supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility (CSR) on competitive advantage at Jordan Phosphate Mines Co. (JPMC) holds significant theoretical implications. It contributes to the existing body of knowledge by offering a holistic and integrated view of how these diverse yet interrelated components interact within a specific industry context. In isolation, theoretical frameworks in supply chain management often focus on individual aspects, such as innovation or risk management. This study, however, provides an opportunity to explore the synergistic effects of these elements when combined, offering a more comprehensive understanding of how they collectively influence a firm's competitive edge. For instance, the relationship between supply chain innovation and risk management in the mining industry, a sector fraught with unique risks and challenges, could provide novel insights into theory. Additionally, integrating knowledge management and company culture into this equation offers a richer perspective on internal organizational dynamics and their impact on supply chain efficiency and effectiveness.

By exploring how CSR initiatives can complement and enhance competitive advantage in the context of JPMC, the study extends theoretical discussions around the strategic role of CSR in business operations. It also contributes to an evolving narrative that sees CSR as an integral part of a company's value proposition rather than a peripheral activity. This research can thus provide a valuable reference point for future studies in supply chain management, particularly in sectors like mining, where environmental and social factors are increasingly critical. Overall, the study’s findings have the potential to enrich academic discourse and provide new directions for research in the fields of supply chain management, corporate strategy, and business ethics.

### 1.5.2. Significance to Practice

The practical significance of the study is particularly noteworthy for industry practitioners. For a company like JPMC operating in the highly specialized and

competitive phosphate industry, the insights derived from this study are invaluable in guiding strategic decisions and operational improvements. Exploring supply chain innovation offers practical solutions for enhancing efficiency, reducing costs, and improving responsiveness to market dynamics. Such innovations could range from adopting new logistical technologies to revamping supply chain processes, providing JPMC with actionable strategies to stay ahead in a rapidly evolving industry. Additionally, the study's focus on risk management capabilities offers practical insights into how JPMC can better anticipate, mitigate, and manage the risks inherent in the phosphate industry, from market volatility to environmental and regulatory challenges.

This study's practical relevance extends to knowledge management, company culture, and corporate social responsibility (CSR). By examining how effective knowledge management practices can be implemented, the study provides JPMC with strategies to leverage its intellectual capital for competitive advantage. This aspect is crucial in ensuring that valuable knowledge and data within the organization are effectively utilized for decision-making and innovation. Moreover, the emphasis on company culture offers a roadmap for JPMC to cultivate a workplace environment that supports innovation, risk awareness, and ethical practices, which are vital for long-term success. Finally, the study's exploration of corporate social responsibility (CSR) in the context of JPMC provides a practical framework for integrating social and environmental responsibility into the company's core business strategy. This enhances JPMC's reputation and brand value and aligns the company with the growing global emphasis on sustainable business practices. In summary, the findings of this study are poised to offer JPMC and similar organizations in the industry tangible, actionable strategies to enhance their competitive position and growth.

## 1.6. Research Scope

The research thoroughly analyzes how these complex aspects interact and enhance the company's competitive edge in the global phosphate sector. The study encompasses the complex interactions between internal operational strategy and external market factors. The research focuses on supply chain innovation, analyzing

how JPMC may integrate new methods into its supply chain to enhance competitive advantage (A Sharabati et al., 2020).

This aspect is crucial in understanding how JPMC can maintain a competitive advantage in an industry characterized by rapid. Risk management capabilities form another critical area of this research. The study intends to investigate how JPMC can create robust methods to effectively recognize, evaluate, and reduce risks in the phosphate business, which is highly influenced by geopolitical tensions, environmental restrictions, and market volatility. Additionally, the research investigates the role of knowledge management in enhancing JPMC's competitive advantage. This encompasses how JPMC acquires, stores, and utilizes knowledge to improve its supply chain operations and overall competitive advantage (Jum'a, 2023).

The study examines the impact of company culture and corporate social responsibility (CSR) on JPMC's competitive advantage. It is essential to understand how the company's cultural values, beliefs, and practices impact its approach to supply chain management, risk management, and knowledge management. This includes assessing the impact of leadership, employee engagement, and organizational structure on the company's ability to innovate and manage risks. Moreover, the study will analyze the strategic role of corporate social responsibility (CSR) in JPMC's operations. This will involve exploring how the company's social and environmental initiatives comply with regulatory standards and contribute to its competitive advantage. The comprehensive scope of this research aims to provide a holistic view of the interconnected factors influencing JPMC's competitive stance, offering valuable insights for both academic and industry practitioners.

## 1.7. Key Terms Definition

1. **Competitive Advantage** Ansoff was a pioneering scholar who described dominant advantage as the unique qualities or specific characteristics of particular market products that grant a company a robust competitive stance (Eriksen & Mikkelsen, 1996).
2. **Supply Chain Innovations** are complicated processes that cope with environmental unpredictability and adapt to consumer requirements by

implementing new technology to enhance organizational operations in novel ways (Lee et al., 2011).

3. **Risk Management Capabilities** are fundamental components of organizational resilience, encompassing a range of strategies and processes designed to identify, assess, and mitigate potential risks (Rød et al., 2020).
4. **Knowledge Management** At its core, knowledge management involves identifying what knowledge exists within the organization, where it is stored, how it can be accessed, and how it can be best used to meet the company's objectives.
5. **Company Culture** is the unique blend of values, beliefs, behaviors, and practices that define how a company operates and interacts with its employees, customers, and the wider community (Graham et al., 2022).
6. **Corporate Social Responsibility** is a business model that helps a company be socially accountable to itself, its stakeholders, and the public (Zaman et al., 2022).

## 1.8. Thesis Organization

1. **Chapter 2** analyzes this document, which includes definitions, interpretations, arguments, and the results of their thorough investigation of the subjects. The study creates ideas about how certain contextual circumstances may affect understanding of the studied subject. The extensive conceptual framework of the research demonstrates the conceptual model and its guiding hypothesis.
2. **Chapter 3** focuses on the conceptualization and planning of the data-gathering operation. This section offers a detailed account of the research techniques and methodologies that served as the foundation for the study. The study explained the sampling approach used to choose the respondents and the sample composition of the study participants. In addition, the study outlined their methodology for data collection and specified the equipment employed for this purpose.
3. **Chapter 4** discusses using descriptive statistics to analyze demographic data, regression models, correlation tests, and the assessment of essential reactions**.** The primary purpose of this study, as explained in this chapter, is to

achieve this using these methods and, in addition, to consider the promising outcomes.

4. **Chapter 5** focuses on the results, findings, recommendations, and proposals derived from the study analyses.

# 2. LITERATURE REVIEW

## 2.1. Introduction

This study aims to determine the elements that impact the Jordanian Phosphate Mining Company's (JPMC) competitive advantage. This chapter focuses on the literature relevant to the subject, such as supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility, which are the independent and dependent variables (competitive advantage). This chapter reviews and correlates to the competitive advantage of the Jordanian Phosphate Mining Company (JPMC). This chapter generally discusses the definitions of variables, hypotheses, theoretical frameworks, and theories.

## 2.2. Jordanian Phosphate Mining History

Jordan is a relatively tiny economy in the Middle East that is now developing. According to the United Nations Development Program, Jordan is classified as having a "medium human development." The mining sector is mainly focused on the extraction of phosphate and potash. Since gaining independence in 1946, these minerals have been crucial in generating national income and fostering economic prosperity in Jordan (Al Rawashdeh & Maxwell, 2013). As the primary producer of phosphates in the Middle East, Jordan plays a crucial role as an exporter to global markets. Jordan is currently listed as the sixth largest producer and the second largest exporter of phosphate, according to the Jordan Phosphate Mines Company in 2008. The country exports this mineral to over thirty countries (Alrawashdeh, 2012)

Although phosphate reserves were initially found in Jordan in 1894, the Jordan Phosphate Mining Company (JPMC) currently holds the exclusive rights as the primary producer (Titi et al., 2019). It is active in the global market and has positioned itself as a leading supplier for the international fertilizer sector. Currently, it runs three mines, namely the Hassa, Al Abiad, and Elshidiya mines, all located in the Southern region of Jordan, which is considered the country's most economically disadvantaged area.

The presence of phosphate-rich deposits in Jordan was initially identified in 1908. According to estimates, phosphate-bearing deposits are found at varied depths

across over 60% of Jordan's land(Cook et al., 1990). The Jordanian Phosphate Mining Company (JPMC) began its phosphate mining operations in the Al Ruseifa region in 1935. Mining operations were expanded in 1962 at Al Hassa and 1979 at Al Abiad. JPMC initiated digging in the Elshidiya area in 1988 and began production in 1989 (Abed et al., 2008). The overview of the historical development of phosphate mining in Jordan is based on earlier and recent studies conducted from the initial discovery of phosphate deposits to the present day that form a wide phosphate belt stretching from north to south Jordan, as shown in figure 1.

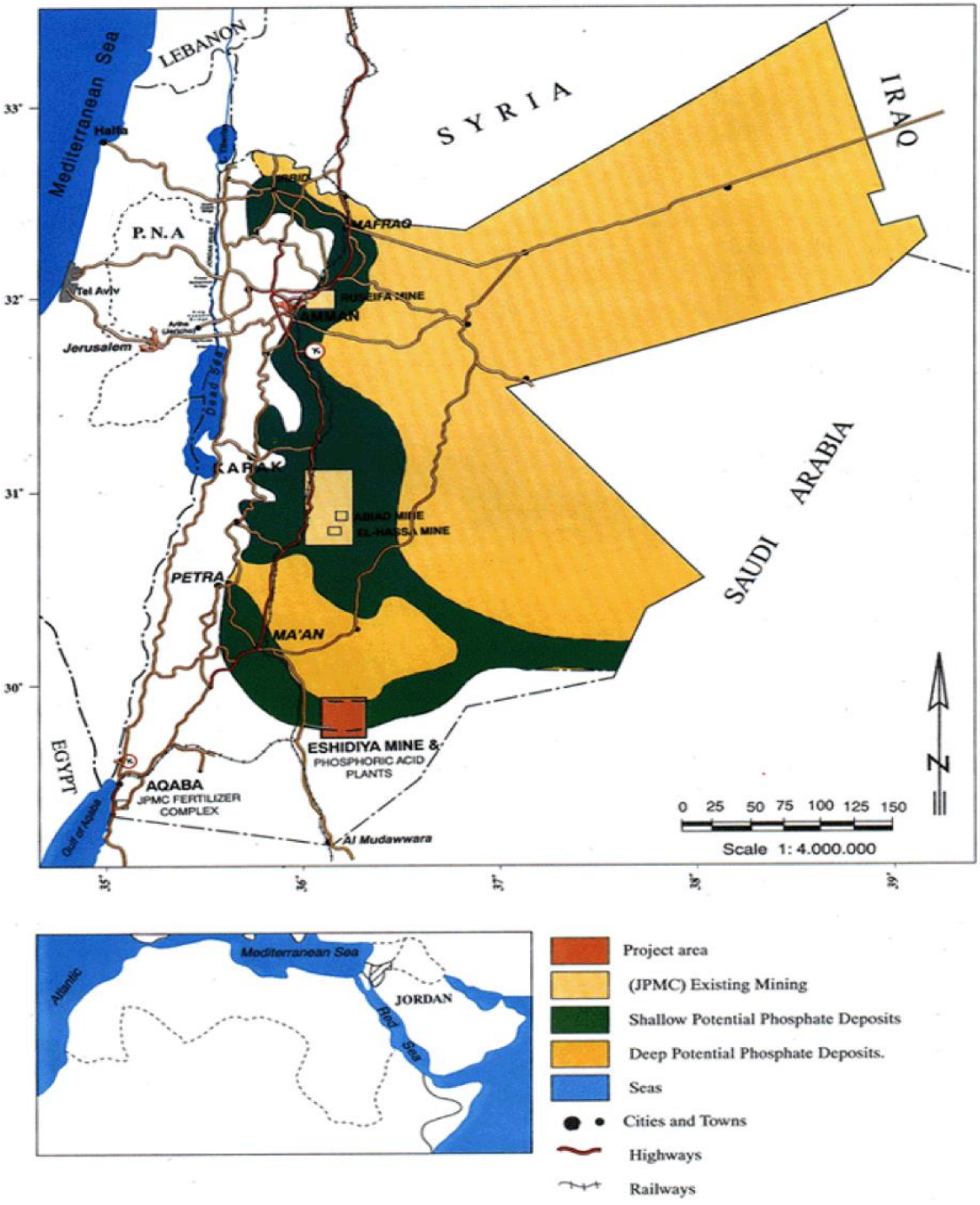

**Figure 1:** Phosphate Location Map and JPMC's

## 2.3. Historical of Jordanian Phosphate Mining Company(JPMC)

The Jordanian Phosphate Mining Company (JPMC) plays a pivotal role in Jordan's economy and global presence in the phosphate industry (Fioroni, 2019). Established in 1949, the company has a long and storied history in the exploration, mining, and marketing of phosphate rock, a critical component in fertilizer production (Teaiwa, 2014). The JPMC was founded as a publicly traded business in 1953 and began its activities in 1962. JPMC was founded to harness Jordan's considerable phosphate reserves, among the largest in the world (Al-Rahahleh, 2020). Over the decades, the company has grown significantly, contributing to the national economy through exports and the development of the mining sector in Jordan (Alsharari, 2017). JPMC's journey through the years has been marked by expansion and modernization. In the early years, the company focused on exploring and identifying significant phosphate deposits within Jordan (Gurdon, 1988). Following these initial explorations, JPMC began developing mining infrastructure and capabilities to extract and process phosphate more efficiently (Titi & Al Rawashdeh, 2019). This period was characterized by investments in mining equipment, developing processing facilities, and establishing transportation networks to move the phosphate to export terminals and domestic users (Faajir & Zidan, 2016).

In addition to its mining activities, JPMC has played a critical role in developing the industrial sector in Jordan (Tarawneh, 2016). The company's operations have created numerous jobs and stimulated growth in related industries, including transportation and logistics, machinery, and chemical processing (Koh & Dolgui., 2020). JPMC's impact extends beyond the economic realm; it has also contributed to the social development of the regions where its mining activities are located, often providing essential services and infrastructure to local communities. Today, the Jordanian Phosphate Mining Company is a critical player in the global phosphate market, with its products exported to various countries worldwide (Mehahad & Bounar, 2020). The company focuses on sustainable mining practices, technological innovation, and expansion into new markets (Sánchez & Hartlieb, 2020). JPMC's ongoing commitment to environmental stewardship, community engagement, and

economic development reflects its integral role in Jordan's economy and its position as a responsible corporate citizen in the global mining industry (Jum’a, 2023).

Although phosphate reserves were initially found in Jordan in 1894, the Jordan Phosphate Mining Company (JPMC) currently holds the exclusive production rights. Since then, it has been active in the global market and has positioned itself as a leading provider for the international fertilizer sector. Now, it manages three mines, namely the Hassa, Alabyiad, and Elshidiya mines, all located in the Southern region of Jordan, considered the country's most economically disadvantaged area. Despite the mining sector's relatively small contribution to employment, the Jordan Phosphate Mining Company (JPMC) stands out as one of the nation's largest employers (Hala Zawati, 2020). The Jordanian government divested 37 % of JPMC to the Brunei government in March 2006. The Jordanian government presently possesses approximately 26 % of the business's capital, while the owners actively manage the enterprise. In addition to producing phosphate rock, JPMC manufactures other downstream products like phosphoric acid, Di-ammonium phosphate, and Aluminum fluoride. Its primary rivals include Syria, Morocco, Tunisia, Egypt, the USSR, and Togo. Jordan relies heavily on phosphate as a significant source of revenue. Alongside potash, the items produced by the nation's mining sector are the primary outputs. In 2008, the mining sector accounted for 3% of the gross domestic product and 14% of merchandise exports in the national economy, according to the Central Bank of Jordan.

The capacity of corporations and nations to extract phosphate and other mineral resources competitively, creating fresh economic prosperity, is contingent upon their existing mineral reserves. This production generates economic prosperity that accrues to mining corporations and their shareholders, the government, local communities, and global phosphate consumers. Phosphate mining in Jordan is a significant aspect of the mining industry, accounting for 0.08% of the country's GDP in 2017 (Saleh & Rawashdeh, 2021). With a production capacity of seven million tons per year, it ranks as the sixth-largest global producer of phosphate (Hellal et al., 2019; Minh Ngoc et al., 2022).

## 2.4. Competitive Advantage

The concept of competitive advantage has a longstanding and well-established history in strategic literature. Ansoff (1965) is the first academic to define competitive advantage as the unique characteristics or distinctive properties of various product markets that afford a company a strong competitive position.

The seminal event that laid the groundwork for the concept of competitive advantage in business strategy was Porter's publication on competitive advantage in 1985. Although he does not explicitly define competitive advantage, he suggests that it arises from a company's capacity to offer exceptional value to its customers. Porter suggests that superior value can be achieved by giving lower pricing than competitors for similar advantages or providing unique benefits that justify a higher price. This perspective indicates a link between Ansoff's 1965 interpretation, which connects the genesis of competitive advantage with the concept itself, and Porter's view, which associates competitive advantage with the value derived from subtracting the cost from the benefits received. Porter also discusses the crucial choice companies must make between pursuing a cost leadership or differentiation strategy to secure a competitive advantage. It is posited that a competitive advantage grants a company a dominant stance over its rivals in the industry.

Consistent with Yamin et al.'s research in 1999, the low-cost strategy aims to reduce costs whenever possible, whereas the differentiation strategy aims to improve quality and reputation. This approach emphasizes the strategic choices companies must make to either become the cost leader by cutting costs or to differentiate themselves through superior quality and a more substantial reputation, thereby creating a unique position in the market.

Several strategies enhance competitive advantage, including accelerating product release, reducing delivery time, increasing order completion rates, improving customer information quality, optimizing capital deployment, and minimizing marketing lead time (Porter Michael, 1985). These measures can be utilized to ensure a competitive advantage. To enter the market, the initial product or service requires a competitive advantage (Obeidat et al., 2021). In addition, according to the resource-based view (RBV), organizations that possess a variety of resources have a competitive advantage over their rivals by effectively leveraging their natural

strengths, strategically capitalizing on environmental opportunities, mitigating external risks, and addressing internal weaknesses (Sigalas et al., 2013). In order to acquire a competitive advantage, resources need to be scarce, not easily duplicated, and effectively coordinated, based on the company's ability to effectively handle and allocate resources (Sharma, Kaur, Singh., 2020). These resources will undergo modifications based on the companies' environmental conditions and general strategic direction(Akter et al., 2021).

Competitive advantage pertains to a company's ability to defend itself against its rivals (Porter, 1998). A firm's important aspect for distinguishing itself from competitors is its ability to measure and differentiate itself. Tracey et al. (1999) identified critical metrics for evaluating performance: on-time delivery, competitive price/cost, good quality, suitable quantity, and flexibility (Chileshe & Phiri, 2022). Moreover, several studies have highlighted the importance of time-based competition in gaining a competitive advantage (Dagnino et al., 2021).

Sigalas and Pekka-Economou (2013) have delineated two streams that establish the conceptual limits of competitive advantage in strategic management to classify all definitions according to their primary contributors. Competitive advantage is described as achieving outstanding performance, including high profitability compared to others, returns exceeding the average, a disparity between benefits and costs, superior financial results, economic profits, positive differential profits exceeding opportunity costs, and a gap between product market demand and marginal cost. Competitive advantage is defined in the second perspective by examining the variables or forces that contribute to it. These drivers include unique characteristics of different product marketplaces, including leadership, differentiation, geographies, technologies, product features, and a unique combination of business resources and competencies (Sigalas et al., 2013).

## 2.5. Supply Chain Innovation

Supply chain innovations are intricate operations that address unforeseen external factors and fulfill consumer requirements by utilizing novel technologies to enhance organizational procedures in innovative ways (Hokey, 2015). The authors contended that advancements in the supply chain are a relational occurrence

encompassing culture and collaboration across different organizations (Ojha et al., 2016). Research has demonstrated that introducing supply chain innovations in the service sector can result in benefits such as a consistent competitive edge, enduring growth, and improved services (Isaksson et al., 2010). The authors claim supply chain innovations entail distributing activity sets and making new investments across channel members. This is done to increase revenue by enhancing service efficacy and to optimize combined profits by lowering expenses through improved operational efficiency (Bello et al., 2004).

Supply chain innovations encompass a broad range of definitions (Wamba et al., 2015), highlighting the significance of innovations across all product and service sectors for introducing new services. Lee et al. (2011) consider supply chain innovations as instruments for boosting organizational processes through effective supply chain management by improving coordination among distributors, manufacturers, customers, and suppliers. Adapting swiftly to dynamic business contexts, adopting new operational methods, controlling costs, maintaining consistent quality, and reducing lead times are essential (Hokey, 2015).

Swink and Schoenherr (2015) noted that a company's capacity to utilize its innovative capabilities depends on its strict adherence to established processes; this facilitates convenient access and sharing of information throughout the organization via well-defined regulations, structures, processes, and interdisciplinary teamwork. Supply chain entities can organize and plan for contingency strategies effectively. It is suggested that enhancing supply chain innovations through process compliance involves effectively integrating supply and demand-side knowledge, drawing on the absorptive capacity framework (Cohen & Levinthal, 1990).

Supply chain innovations encompass advancements in information technology, related technologies, marketing strategies, and logistic procedures. These innovations enhance services' effectiveness and operational efficiency, boost sales, and optimize combined profitability. According to this concept and a resource-based view, supply chain innovations involve three main innovation activities: innovative efforts focused on logistics, marketing, and technical development (Bello et al., 2004).

Logistics-oriented innovation activities involve developing novel and beneficial logistics-related services tailored to a specific target audience. The audience can be

classified as either external, where innovations aim to enhance consumer satisfaction, or internal, where innovations aim to enhance operational efficiency (Flint et al., 2005; Grawe et al., 2009). As per the findings of Chen and Paulraj (2004), an efficient logistics system ensures that firms have access to necessary space and time resources, guarantees the availability of required goods at the correct time and location, and minimizes inefficiencies in the organization. This requires a strong and coordinated exchange of information between partners in the supply chain. Concurrently, advancements are managed by a central hub for the distribution of goods, typically carried out by a prominent corporation with complete authority (Wong & Ngai, 2019).

## 2.6. Risk Management Capabilities

Risk management has been utilized since the inception of human civilization and is still developing. Risk management has its origins in the corporate insurance industry. At the start of the twentieth century, insurance managers were initially employed by large enterprises, such as railroads and steel manufacturers(Khan et al., 2020). As capital investment increases in several sectors, insurance contracts have become crucial in the financial strategies of businesses operating in those industries. It would be incorrect to claim that risk management developed organically because of firms buying insurance (Smith & Merritt, 2002). The emergence of risk management as a separate strategy represented a notable and revolutionary shift in thought and practice, aligning with a shift in perspectives on various insurance systems. Risk management was initially introduced in the literature in 1956 in the Harvard Business Review (Kelly, 2018).

Risk Management (RM) involves a systematic and organized strategy for identifying, evaluating, and managing risks at various project phases to minimize potential negative impacts. This structured approach aims to achieve optimal risk reduction, mitigation, and control, as outlined by (Wang et al., 2010). According to the Project Management Institute (PMI, 2004), the key to success lies in an organization's proactive and consistent commitment to addressing risk management throughout the project lifecycle. Establishing the maturity level of Risk Management Capability (RMC) becomes particularly crucial for construction organizations, given the inherently high-risk nature of their operations.

Channar et al. (2015) point out that risks are inherent and unavoidable in all business and economic endeavors. Bromiley et al. (2014) emphasize the significance of risk management in the management profession, both in academic research and practical application. As referenced by Channar et al. (2015), risks arise when the execution and outcomes of business activities become uncertain and unclear, particularly affecting entrepreneurs and small to medium-sized enterprises (SMEs). According to Shafiq and Nas (2010), risks are essential to the business landscape, making them inevitable and critical for the survival and growth of firms and entrepreneurial ventures. Also cited in Channer, Abbasi, and Maheshwari (2015) emphasize that taking risks is crucial for entrepreneurs seeking success and companies aiming to secure a competitive edge and improve performance.

Fathiyyah and Muflih (2023 and Pulka and Shukri Bakar (2018) highlight that minimizing risks is a common objective among businesses striving to boost profitability and enhance overall organizational effectiveness.

According to (Harland et al., 2003), the risk is the likelihood of facing harm, damage, loss, injury, or other adverse outcomes. Jüttner et al. (2003) characterize risk as both a "variation" and a "disruption." In the context of risk management, Tariqullah & Habib (2001), as cited in (Channar et al., 2015), describe it as a process involving the assessment of risks using various strategies and methods. This process aims to identify all potential risks, pinpoint critical ones, and propose implementation strategies to address them.

Rejd (2021) views risk management as the systematic approach through which an organization identifies potential loss exposures and selects the most suitable techniques to handle and mitigate such exposures. Tummala and Schoenherr (2011) offer a perspective that sees risk management as the organizational process of identifying and analyzing threats, exploring alternative courses of action, and either accepting or mitigating those threats. According to Bogodistov and Wohlgemuth (2017), risk management is essentially the set of processes designed to navigate and control risks to minimize the unpredictability of a company's returns and ensure its survival (Bromiley et al., 2015) view risk management as encompassing the identification, assessment, and management of potential threats. Additionally, they emphasize the importance of critical internal communication, decision-making, and monitoring processes that

enable the organization to deal with these challenging events effectively. In simpler terms, risk management involves handling and minimizing uncertainties to secure the success and continuity of a business.

Mu et al. (2014) contended that Risk Management Capability (RMC) encompasses the processes, data, tools, and organizational culture that enable effective risk management. They emphasized the importance of organizations clearly understanding their current approach to risk to establish goals, outline processes, and monitor progress in enhancing their RMC (Risk Management Research and Development Program Collaboration, 2002). A mature RMC is posited to contribute to cost reduction and improved profitability (Mu et al., 2014).

## 2.7. Knowledge Management

Knowledge management entails recognizing and utilizing the combined knowledge inside an organization to enhance the firm's competitiveness (Rogh, 1998). Knowledge management is the ongoing process of effectively managing various types of knowledge to address current and future demands, use existing and acquired knowledge assets, and create new possibilities. In addition, the advantages of knowledge management are frequently discussed only concerning the company or the person making decisions rather than considering the impact on individuals inside the business or other interested parties (Quintas et al., 1997).

Simplifying, knowledge stems from the dynamics of power. The definitions of what we consider as knowledge and the frameworks enabling it are influenced by power relations. Those who set these frameworks shape knowledge and accumulate power through this process (Woroniecki et al., 2020). According to Takeuchi and Nonaka (2000), knowledge is a fluid process where individuals assert their beliefs to edge closer to the truth, suggesting that knowledge inherently depends on its context. They argue that "all knowledge is local knowledge," emphasizing the situational nature of understanding. Knowledge management is an organized method to align an organization's goals, architecture, and processes to efficiently leverage knowledge towards learning and creating value for its customers and the community (Migdadi, 2021).

Knowledge can be seen as a result of power dynamics. Knowledge management involves information, communication, human resources, intellectual capital, and brands (Rastogi, 2000). Knowledge management addresses many challenges, such as usefulness, applicability, and amount. Developing an organizational capacity that may involve substantial costs is crucial. It does not include the administration of all knowledge that now exists. It includes creating and implementing plans, improving business processes, and supervising the evaluation and improvement of current information and its effective management (Alavi & Leidner, 1999). Knowledge management involves strategically organizing an organization's staff, technology, procedures, and structure to increase value by using existing knowledge and fostering innovation. This coordination is achieved through generating, distributing, and using information, along with integrating valuable insights and optimal methods into the corporate memory to facilitate continuous organizational learning (Omotayo, 2015). Knowledge management is a cooperative and unified method for developing, acquiring, arranging, retrieving, and utilizing the intellectual resources of a company (Bebbington & Gray, 2001).

Knowledge management transforms information into practical knowledge and ensures it is easily accessible and valuable for those who can utilize it (Bailey & Clarke, 2000).

Darroch and Mcnaughton (2002) define knowledge management as a managerial process that generates or procures knowledge, regulates knowledge dissemination, and enhances knowledge utilization for the organization's long-term benefit. As to the writers, a company that demonstrates expertise in knowledge management strongly emphasizes knowledge and, therefore, embraces knowledge management as a core business concept that impacts its managers' strategies.

## 2.8. Company Culture

According to Akpa, Asikhia, and Nneji (2021), culture can be defined as the collection of distinctive traits that define and differentiate an organization from others. Culture, in a broader sense, can be defined as the set of beliefs and behaviors that are perceived to contribute to success and are thus imparted to new members (Schein, 1990, 2017). The culture of a group can be defined as a collection of commonly held

fundamental beliefs and values that the group has developed through addressing challenges in adapting to the external environment and integrating internally. These established views and ideals have demonstrated their efficacy and are transmitted to new members as the correct approach to understanding, reasoning, and responding to such difficulties (Schein, 2017).

Saad and Kau (2020) define culture as the comprehensive and ever-evolving set of values, ethics, rules, and knowledge systems a community develops to achieve its collective objectives. The strength of corporate culture relates to the degree and depth of employees' embrace of the prevailing values and assumptions within the firm. These values are further solidified through long-standing artifacts, therefore rendering it challenging for those values to undergo any alteration.

Company culture refers to the collective views and values shared inside a firm (Crémer, 1993; Van Den Steen, 2010); this leads to camaraderie and increased individual empowerment among individuals inside an organization (O'Reilly & Chatman, 1996). Organizational culture encompasses a fusion of collective principles, convictions, mindsets, and actions delineating how individuals engage and collaborate. The unspoken conventions dictate how interactions, decision-making, and the general work environment are conducted (Etalong & Chikeleze, 2023).

Company culture encompasses:

Values and beliefs serve as foundational principles that shape the decisions and behaviors of an organization (Ferguson & Milliman, 2008).

Behavior and Communication are how people interact, communicate, and collaborate within the company (Lewis, 2006).

Traditions and Rituals are any established customs or rituals that contribute to the company's identity (Sueldo & Streimikiene, 2016).

Employee Engagement is the level of involvement, enthusiasm, and commitment employees have toward their work and the company's goals (Masih et al., 2013). A strong company culture aligns with the organization's values and goals, fosters a positive and productive work environment, and impacts employee behavior and interactions. Most authors agree that "corporate culture" refers to the values, beliefs, and behavior patterns forming an organization's core identity (Belkaci &

Mekbel, 2021). A “strong” culture that encourages the participation and involvement of an organization’s members appears to be one of its most important assets.

## 2.9. Corporate Social Responsibility (CSR)

The term "Corporate social responsibility" is initially defined as the act of conducting business in alignment with the desires of shareholders, typically involving maximizing profits while adhering to legal and ethical standards and societal norms (Friedman, 1970).

According to Sanil Hishan et al. (2020), hierarchical CSR may be defined as the systematic implementation of economic, legal, moral, and philanthropic measures by firms that impact the well-being of stakeholders directly affected by the firm's activities. Although its definitions may differ, CSR often encompasses actions a company takes to benefit individuals, communities, and society that surpass the legal obligations imposed on the organization.

According to Barnea and Rubi (2010), CSR programs are wasteful and potentially harmful if they do not enhance business value. CSR remains a widely discussed topic concerning whether investments add value, reduce value, or have no impact on value. Discussions regarding CSR are expanding without a definitive agreement on its definition or significance. Howard Bowen is often credited as the originator of the modern concept of CSR in his influential 1953 text, where he defined it as the responsibility of business individuals to align their policies, decisions, and behavior with the societal objectives and values deemed favorable.

The Commission of the European Communities (Moczadlo, 2015) defines CSR as voluntarily incorporating social and environmental concerns into business activities and relationships with stakeholders such as shareholders, NGOs, suppliers, customers, and state authorities. Swaen et al. (2008) table 1 provides various definitions of CSR, often described as a voluntary initiative by a company and its executives, driven by the firm's self-interest.

**Table 1:** A few definitions of CSR as a concept

| No | Years | Definitions |
|---|---|---|
| **1** | McGuire, (1963) | CSR posits that a firm has commitments to society beyond economic and legal responsibilities. |
| **2** | Friedman, (1970) | CSR involves utilizing resources and engaging in activities to boost profits, provided that the company adheres to fair competition principles and refrains from deceptive or fraudulent practices. |
| **3** | Davis and Blomstrom, (1975) | CSR is the responsibility of managers to safeguard and enhance society's overall well-being in addition to their organization's interests. |
| **4** | Carroll, (1979) | CSR comprises the economic, legal, ethical, and discretionary expectations society imposes on corporations at a particular time. |
| **5** | Jones, (1980) | CSR is the concept that firms are responsible for society groups beyond shareholders, legal requirements, or union agreements. |
| **6** | Maignan, Ferrell and Hult, (1999) | CSR is when firms take on the economic, legal, ethical, and discretionary duties that stakeholders have placed on their actions. |
| **7** | McWilliams and Siegel (2001) | CSR stands for business acts that benefit society beyond the company's self-interests or legal requirements. |
| **8** | Gendron, (2002) | CSR involves the various relationships that a company upholds with its stakeholders. The discussed facets of social responsibility include community investment, employee relations, job creation and retention, environmental concerns, and financial performance. |
| **9** | Kotler and Lee, (2005) | CSR is a company's dedication to enhancing the well-being of its community by adopting specific voluntary initiatives and expanding its resources. |

At times, CSR is seen as a duty stemming from the agreement between businesses and society (Jones, 1980), while in other instances, it is perceived as a response to the various expectations and stresses that firms encounter (Carroll, 2021; Maignan et al., 1999).

CSR conceptions differ in terms of the entities companies are deemed responsible for shareholders (Friedman, 1970), various stakeholders (Gendron et al., 2013; Jones, 1980; Maignan et al., 1999), or society at large (Carroll, 2021; Davis & Blomstrom, 1975). Garriga and Melé (2004) proposed a typology that outlines four basic techniques in CSR research:

The first group (Friedman, 1970; Jensen, 2017; McWilliams & Siegel, 2001) views CSR as an instrumental strategy to help a company achieve specific economic goals, such as maximizing shareholder value and creating a competitive advantage for long-term profitability. Various studies have attempted to demonstrate a favorable relationship between corporate social responsibility and financial success (Roman et al., 1999; Waddock & Graves, 1997).

A second group (Andriof & McIntosh, 2017; Davis & Blomstrom, 1975; Donaldson & Dunfee, 2017; Matten et al., 2003; Wood & Logsdon, 2017) Embraces a political perspective on CSR, viewing firms as social organizations that wield power responsibly to safeguard their operating permits.

A third study area (Donaldson & Preston, 1995; Gladwin et al., 1995; Phillips et al., 2017) has embraced a CSR viewpoint founded on ethical principles to guide decision-making towards the common good.

Finally, integrative studies (Carroll, 2021; Swanson, 1995; Wartick & Cochran, 1985; Wood, 2017), based on the idea that organizations adapt to their environment, influence their long-term survival and growth underpinning theories.

### 2.9.1. Resource-Based View (RBV)

The Resource-Based View (RBV) theory emphasizes the firm's unique and hard-to-replicate qualities as crucial factors for achieving superior performance and competitive advantage (Barney & Arikan, 2008). Resources that are not easily transferable or acquirable necessitate a significant learning curve or a substantial shift in organizational environment and culture, are more likely to be distinctive to the firm and, thus, harder for competitors to replicate. The Resource-Based View (RBV) has effectively pinpointed how a firm's resources and capabilities are sources of long-lasting competitive advantage (Barney & Arikan, 2008; Wernerfelt, 1995). Resources and capabilities are essential for competitive advantage (Rumelt et al., 1991). Strategic assets are valuable resources (Amit & Schoemaker, 1993; Barney & Arikan, 2008). The Resource-Based View (RBV) theory states that possessing and managing strategic assets is crucial in determining whether firms will achieve higher profits and gain a competitive advantage.

The RBV highlights organizations' competitive business environment but adopts an inside-out approach by initially analyzing the firm's internal environment(Pianese, 2021). RBV is frequently considered a viable alternative to Porter's five-force model. RBV prioritizes utilizing a firm's internal resources and competencies when developing a strategy to attain long-lasting competitive advantages in the market (Al-Shammari, 2023). Firms make strategic choices in their external business environment based on their internal resources and competencies. The capabilities of specific organizations enable them to enhance the value in the customer value chain, innovate new goods, and venture into new marketplaces (Matthyssens, 2019). When a corporation prioritizes its capabilities as the most essential factor in creating competitive advantages, it will concentrate on reconfiguring its value chain operations (Madhani, 2019). This is essential because it allows for the identification of the skills inside the value chain activities that provide it with a competitive advantage. RBV leverages the organization's internal resources and skills. Resources are the inputs that enable organizations to carry out their functions (Hardina, 2021).

### 2.9.2. Origin of Resource-Based View

RBV paradigm examines how firms attain a lasting competitive edge by analyzing their resources (Assensoh-Kodua, 2019). The statement implies that a company's distinctive characteristics, which are hard to duplicate, form the basis for exceptional achievement. These distinctive assets, necessitating substantial knowledge acquisition or adaptation of cultural norms, are challenging for rivals to imitate. The Resource-Based View idea posits that an organization's success or failure is influenced by its possession of unique resources and capabilities. (Davis & DeWitt, 2021). Valuable, rare, inimitable, and non-substitutable resources help organizations create and maintain competitive advantages (Purba et al., 2023). An organization can be seen as a collection of physical, human, and structural resources. These resources are the primary source of sustained competitive advantage, leading to long-term better performance. (Ying et al., 2019).

To achieve a competitive edge and ensure consistent performance, a resource must satisfy the 'VRIN' criteria. Below is an elucidation of the 'VRIN' criterion:

1. Valuable resources provide substantial strategic benefits to the organization. Resources are helpful when they help businesses take advantage of market opportunities or reduce market risks. Having a resource is only advantageous if it enhances or adds value to the firm.
2. Rare resources are scarce and hard to find among the company's current and potential competitors. Thus, resources must be rare or unique to have a competitive advantage. Resources shared by several businesses in the market do not provide a competitive edge, as they cannot create and execute a unique business strategy compared to other rivals.
3. Imperfect imitability is the inability to copy or imitate necessary resources successfully. Various barriers can impede the imperfect imitability process, including difficulties in acquiring resources, ambiguous links between skill and competitive advantage, and the intricacy of resources. Resources can only provide a lasting competitive advantage if other firms cannot acquire them.
4. Non-substitutability (N): Resources are non-substitutable if another resource cannot replace them. In this circumstance, competitors cannot achieve the same level of performance by replacing resources with other possibilities.

Each organization has a variety of resources and competencies. To improve understanding of resources, it is crucial to distinguish between various types of resources. A helpful approach for organizing resources is dividing them into two clear categories: tangible and immaterial (Table 2).

**Table 2:** Types of Resources and Capabilities

| | **Tangible resources and capabilities** |
|---|---|
| **Resources** | **Examples** |
| **Financial** | - Ability to generate internal funds<br>- Ability to raise external capital |
| **Physical** | - Location of plants, machines, offices, and their geographic locations<br>- Access to raw materials and distribution channels |

| | |
|---|---|
| **Technological** | - Possession of patents, trademarks, copyrights, and trade secrets |
| **Organizational** | - Formal planning, command, and control systems<br>- Integrated management information systems |
| | **Intangible resources and capabilities Examples** |
| **Resources** | **Examples** |
| **Human** | - Managerial talents<br>- Organizational culture |
| **Innovation** | - Research and development (R&D) capabilities to innovate new products, processes and services<br>- Capacities for organizational innovation and change |
| **Reputational** | - Perceptions of product quality, durability, and reliability among customers<br>- Successful product branding and positioning with a satisfied and loyal customer base<br>- Reputation as a good employer<br>- Reputation as a socially responsible corporate citizen |

Sources:(Barney, 1991; Hall, 1992)

RBV is essential as it focuses on internal resources and capabilities as crucial factors for gaining a competitive edge. This theory examines how several study components, including supply chain innovation, risk management, knowledge management, business culture, and corporate social responsibility, impact an organization's development and maintenance of valuable resources (Madhani, 2010).

Strategic assets are resources of high value (Amit & Schoemaker, 1993; Barney, 1991). The Resource-Based View theory states that possessing and managing strategic assets ultimately leads to certain firms achieving higher profits and gaining a competitive edge over others. Three primary inquiries are made regarding resources to determine their influence:

1. Is the resource or capability valuable?
2. Is it unevenly dispersed across rival companies?

3. Is it somewhat mobile?

Figure 2 illustrates that a sustainable competitive advantage is only achievable when the three issues are confirmed.

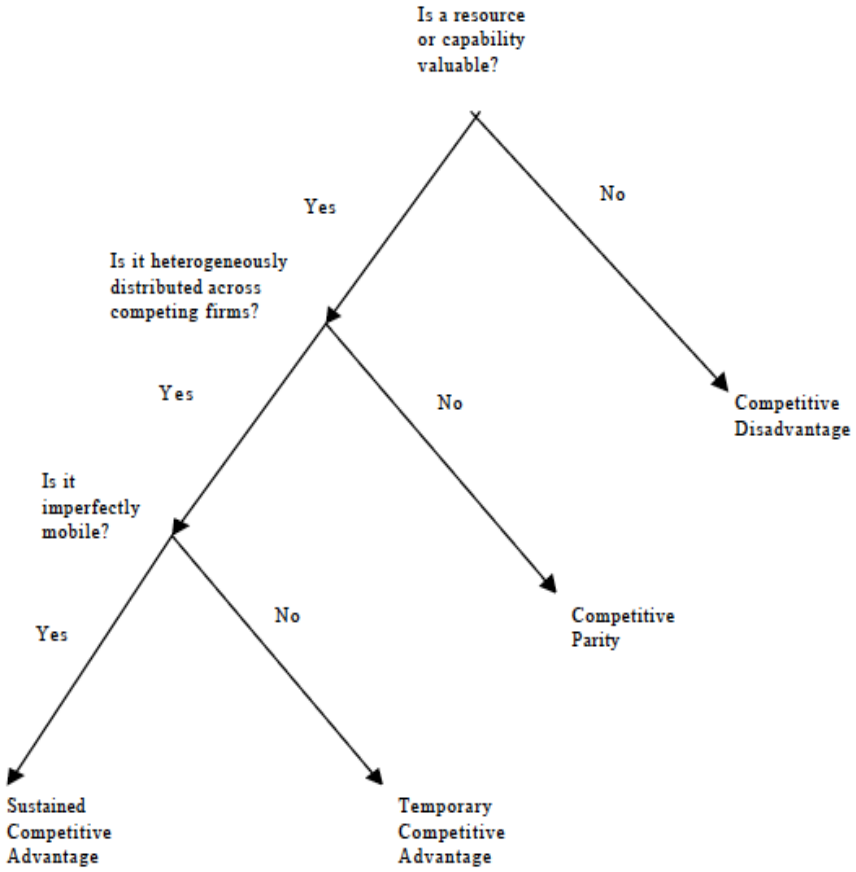


**Figure 2** illustrates the process of identifying resources and capabilities within the organization.

Determining a resource's value is typically validated through two main approaches. First, Low-cost resources are valuable resources that can help firms reduce expenses and contribute to revenue growth. Compared to competitors, these resources can be allocated to adopt innovative methods to enhance efficiency, effectiveness, customer happiness, and cost reduction. Valuable resources can be allocated to adopt innovative methods to enhance an organization's performance compared to its competitors (Barney et al., 2001).

The second question regarding Resource distribution involves determining whether the valuable resource is accessible without restrictions, leading to competitive

parity. Firms with limited resources may reach a point of breaking even, while those with abundant resources are expected to generate profits (Michalisin et al., 1997). Discrepancies in resources possessed by firms can be traced back to factors such as market entry timing, diverse knowledge bases, products, learning processes, and strategic decisions made over time (Peteraf, 1993).

The third and final question evaluates the potential competitive advantage of the material provided by examining the mobility or inimitability of a resource. Highly mobile resources provide a temporary competitive advantage, as they can change ownership (Mata et al., 1995). A firm's competitive advantage is contingent upon possessing strategic assets that outperform its competitors, and the longevity of this advantage relies on the diversity of these resources (Michalisin et al., 1997).

## 2.10. Hypothesis Formulation

### 2.10.1. The Impact of Supply Chain Innovation on Competitive Advantage

Supply chain innovation involves using interconnected processes external to the organization to provide new and innovative solutions to handle uncertainty and disturbances in business environments (Kocabasoglu-Hillmer et al., 2023). Businesses cultivate crucial competencies to surpass their competitors in providing service to clients to achieve a lasting competitive advantage. A competency key refers to a unique set of skills and abilities developed inside an organization, such as agile and creative innovation (Langholf & Wilkens, 2021). Organizations outperform their competitors based on the quality and promptness of their customer service. Competitive advertising in this context involves a firm with more excellent resources and capabilities to lower costs, improve operational efficiency, and offer more value to customers than its competitors. Supply chain innovation refers to an organization's inclination to encourage experimentation, new ideas, and inventive methods for introducing new products or technology processes. Innovation allows a corporation to exceed customer expectations. Upgrading enhances organizations' operational effectiveness and allows them to create a distinctive, diverse, and difficult-to-replicate mechanism (Nguyen, 2023). According to Adnani et al. (2023), Businesses are starting to see supply chain innovation as a vital and necessary element for maintaining competitiveness. Distanont and Khongmalai (2020) Businesses often utilize various

strategies to enhance their competitive edge, including improving quality, enhancing reliability, innovating new goods, enhancing customer service, and minimizing lead times. Therefore, showcasing how companies get a competitive edge by excelling in supply chain innovation is essential (Afraz et al., 2021). The study proposes a hypothesis drawing on previous debates and empirical data:

**H1:** Supply chain innovation has a positive impact on competitive advantage.

### 2.10.2. The Impact of Risk Management Capabilities on Competitive Advantage

Proactively improving risk management capabilities gives organizations a competitive edge by fostering a strategic approach to identifying risks and assisting in supply chain resilience to avoid unnecessary interruptions (El Ayoubi & Radmehr, 2023). To excel in a volatile business environment, companies must handle risks to achieve differentiation and cost efficiency effectively. The ability to handle risk may not yield the anticipated competitive advantage. Some organizations may not fully employ risk management skills because they consider them unnecessary investments. Managers prioritize risk management over lower costs, operational interruptions, and increased value to gain a competitive edge through controlling expenses (Wadho & Chaudhry, 2018). Firms may effectively respond to unexpected events and create opportunities for unique value by implementing strategic risk management systems. This also helps reduce the expense of transferring risk by enhancing negotiation power and expanding the client pool. Hence, the company can expand its market share by leveraging its competitive advantage. According to Kwak et al. (2018), organizations must engage in supply chain innovation and improved risk management to maintain a competitive advantage by ensuring their resources surpass those of their competitors. The study proposes a hypothesis drawing on previous debates and empirical data:

**H2:** Risk management capabilities have a positive impact on competitive advantage.

### 2.10.3. The Impact of Knowledge Management on Competitive Advantage

Empirical data indicates that knowledge management positively and considerably influences competitive advantage, and research findings suggest that competitive advantage positively and significantly impacts corporate performance (Suasih, Ni & Wijaya, 2021).

Bhardwa (2019) found that knowledge management capabilities, encompassing knowledge acquisition, conversion, implementation, and maintenance, are essential for creating a competitive advantage. Ferraris et al. (2019) shed a notable correlation between competitiveness and competence in knowledge management. The profound effects of internal and external knowledge management on competitive skills were revealed. Rehman et al. (2022) demonstrated a significant positive correlation between Knowledge Management (KM) infrastructure capabilities and their impact on organizational Competitive Advantage (CA). Sonmez Cakir and Adiguzel (2020) confirmed that having the ability to share information is essential for obtaining success in knowledge sharing. An inadequacy in employees' ability to share information could lead to the firm losing its competitive advantage.

Bibi et al. (2021) suggested that contingent work could aid in gathering and generating valuable knowledge in dynamic environments, resulting in a competitive edge for the company. Khan et al. (2020) stated that acquiring knowledge leads to a competitive advantage by utilizing that knowledge. Acquiring information through partnerships is vital for developing new products in high-tech industries, as it involves integrating and combining specialized knowledge from several technology fields. Knowledge acquisition boosts new product development by broadening and deepening relation-specific knowledge, speeding up product development, and encouraging young technology-based firms to create new products for key customers.

Khan et al. (2020) discovered that the four elements of knowledge management knowledge acquisition, knowledge exchange, knowledge implementation, and knowledge preservation - contribute to creating a competitive advantage. Arsawan et al. (2022) determined that a company that accumulates, shares, and effectively utilizes knowledge will likely develop a competitive edge. Additionally, The extent and longevity of a company's competitive advantage can be determined by the level of protection of its knowledge when applied to current objectives (Mahdi et al., 2019).

Knowledge becomes a source of competitive advantage when it is scarce and inimitable.

Information technology-supported knowledge management systems are crucial to knowledge management initiatives. It aids in identifying decentralized knowledge and expertise, converting knowledge into tangible forms, and making information available for local use within the organization for knowledge reuse and development (Muhammed & Zaim, 2020). Utilizing knowledge management leads to cost savings and can provide a competitive advantage (Lam et al., 2021). These empirical results enable us to posit the following research hypotheses:

**H3**: Knowledge management has a positive impact on competitive advantage.

### 2.10.4. The Impact of Company Culture on Competitive Advantage

Company culture is a significant resource within an organization that provides a structured environment for personnel to acquire, develop, and exchange knowledge while doing their job duties. In knowledge management, corporations continuously learn and leverage knowledge (Hock-Doepgen et al., 2021). Possessing data and the ability to leverage it for business growth are crucial (Chen, 2019). Significant attention has been focused on developing and enhancing organizational knowledge as a valued asset using the most effective ways. Culture is crucial in enhancing staff productivity and problem-solving skills through knowledge-sharing activities (Upadhyay & Kumar, 2020). Company culture plays a significant role in influencing employees' willingness to share knowledge and maintain their motivation in the workplace, ultimately leading to increased productivity (Eidizadeh et al., 2017).

This results in a skilled workforce that is essential for company growth. Knowledge is currently recognized as a critical element for achieving a competitive advantage, and sharing knowledge is essential for creating and transforming knowledge into beneficial outcomes (Azeem et al., 2021). An analysis of 100 leading companies found that culture plays a crucial role in enhancing firm performance and guiding a corporation to attain a competitive advantage (Warrick, 2017). Researchers commonly acknowledge that company culture is considered a fundamental skill that enhances firm competitiveness (Chatterjee et al., 2018; Wang et al., 2019). Schwartz

and Davis state that a company's culture significantly influences its capacity to achieve goals and objectives, particularly during strategic shifts (Azeem et al., 2021). Company culture allows industrial firms to operate more effectively or efficiently than their competitors. A knowledgeable team can effectively integrate the company's values (Azeem et al., 2021), and it becomes an efficient instrument for generating and maintaining products, services, and procedures that result in a competitive advantage (Tufan & Mert, 2023). Building on the insights gleaned from the existing literature discussed above, the study formulates the following hypotheses:

**H4**: Company culture has a positive impact on competitive advantage.

### 2.10.5. The Impact of Corporate Social Responsibility on Competitive Advantage

Early studies argue that investing in CSR will lead to higher operational costs and put firms at a disadvantage compared to those who do not engage in CSR. McWilliams and Siegel (2001) investigated the stock price of 14 enterprises engaged in CSR for at least three years (Dutzi et al., 2021). They discovered that companies that prioritized meeting stakeholders' interests experienced increased operating costs, resulting in a significant decrease in their stock prices compared to the overall market trend. Nevertheless, the study's findings show a growing positivity trend (Yannan et al., 2022). Shi created an empirical model that used companies' mean annual value to assess financial performance and their social investment, including corporate philanthropy and environmental preservation, to indicate CSR (Shi et al., 2023). The study concluded that CSR did not have a substantial adverse effect on competitive advantage. In the 1990s, the increase in investment and the societal effects of CSR highlighted the positive influence of CSR on companies' competitive advantage (Abreu et al., 2021). According to Kotler and Lee's Dow Jones Development Index study, SR positively impacts enterprises (Barauskaite & Streimikiene, 2021).

Specifically, CSR enhances firms' social image and reputation, influences the loyalty and satisfaction of stakeholders, and confers a more robust competitive edge in the market compared to organizations that do not partake in CSR initiatives (Olaleye, 2023). Researchers have also discovered that engaging in CSR practices can enhance competitive advantage by reducing transaction friction and costs by establishing trust

between customers and sellers (Ndemena & Qutieshat, 2022). Today, many experts believe that CSR is a significant asset that brings both economic benefits and non-monetary rewards, such as corporate reputation and customer happiness (Ahmad et al., 2022). As a result, it creates a distinct competitive advantage for businesses. Waddock and Graves argued that CSR and competitive advantage are interconnected (Rasheed & Ahmad, 2022). Businesses can gain economic success and social advantages by investing in CSR in certain areas or engaging in innovative activities such as producing new products, services, processes, and value chains in a competitive market (Porter & Kramer, 2006). Corporate social responsibility strengthens organizational dedication and decreases human resource expenses by improving business reputation and fostering employee engagement (Stahl et al., 2020). This, in turn, contributes to the development of shared ideals related to society and the economy. The study formulates the following hypotheses:

**H5:** CSR has a positive impact on competitive advantage.

## 2.11. Research Model Development

The established concepts and relevant studies about the topic under investigation have been thoroughly examined and incorporated into the development of the research model. Figure 3 visually represents the model crafted for this study, outlining the independent variables (supply chain innovation, risk management capability, company culture, knowledge management, and corporate social responsibility) and the dependent variable (competitive advantage). However, there are five direct antecedents of competitive advantage; Figure 3 in the subsequent section displays the research model.

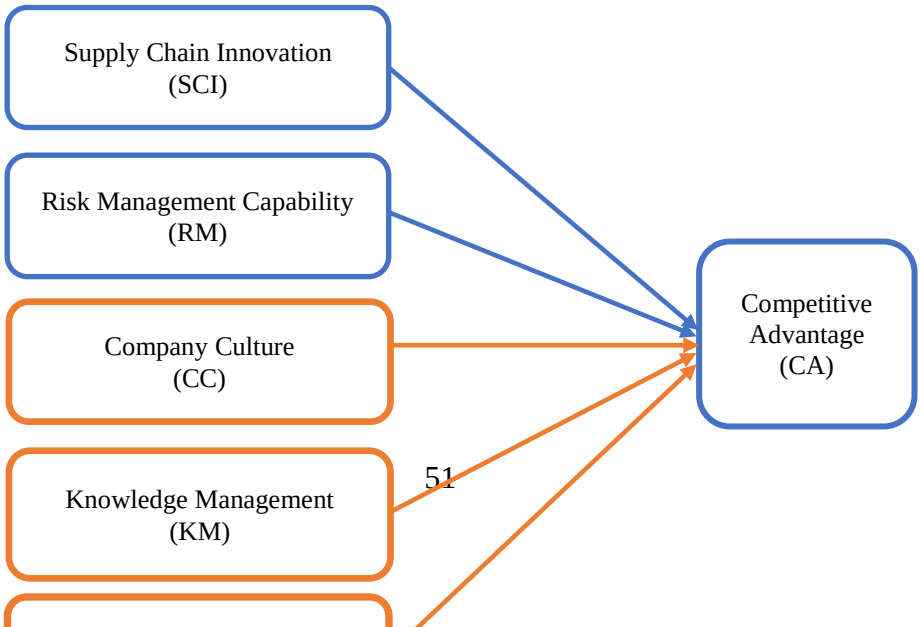

**Figure 3:** Research Model

## 2.12. Summary of Chapter

This study and previous research on Supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility provided helpful insights for the current study. There is extensive documentation on competitive advantage, which includes supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility. This chapter examines past studies on supply chain innovation theories, risk management competence, knowledge management, company culture, and CSR and their impact on competitive advantage.

# 3. RESEARCH METHODOLOGY

## 3.1. Introduction

This chapter offers an overview of the research methodologies, theoretical framework, and hypothesis development derived from an extensive review of existing literature. The aim is to elucidate the relationships between various elements, including independent and dependent variables. The questionnaire served as the primary tool for data collection to fulfill the research objective.

## 3.2. Research Design

A research design is a structured framework or model for conducting research tasks. This text outlines the essential procedure for acquiring valuable data and information to construct or address research inquiries. Essentially, it is a comprehensive strategy that outlines the methodology for conducting this research. The current study utilizes a quantitative research methodology as it is the most appropriate method for this type of investigation. The quantitative method involves analyzing certain variables to provide numerical data that may be applied to the broader population (Finnerty et al., 2013). Quantitative research collects and analyzes participants' data to draw easily understood conclusions about the studied topic. The outcomes are measurable and depend on the author's ability to present convincing arguments to support the theory and findings. It pertains to a method that heavily relies on systematic empirical relationships to enhance information. This form of research relies on a foundation and initial assumption that results in precise components, hypotheses, and inquiries, employing assessment, observation, and analysis of theories (Creswell & David Creswell, 2018). This study employed descriptive measurement techniques and survey methodologies. This study employed a descriptive methodology to investigate the impact of supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility on competitive advantage. According to Aithal and Aithal (2020), the questionnaire is a method of gathering data from a subset of the research population for measurement purposes. Hence, the data would be gathered by disseminating the questionnaire to the Jordan Phosphate Mines Co (JPMC)**.**

## 3.3. Population and Sample

This section explains the estimated population size and the process of determining the sample size for this research. Furthermore, the sample frame and techniques are further improved to enhance comprehension of the topic. In research, the term "population" refers to the entirety of individuals, occurrences, or other entities that are the focus of investigation and must be examined (Bougie & Sekaran, 2020). According to Casteel & Bridier (2021), A population is a group of persons with comparable features and other identifiable characteristics that a researcher may examine and analyze. The population refers to the overall group from which the sample is selected, encompassing various entities such as households, organizations, and individuals to whom the survey results need to be generalized. The study focuses on managers employed at the (JPMC) as the target population.

## 3.4. Sample Size Determination

The sample size must be sufficiently large to yield precise estimations of the population's characteristics and produce reliable findings for the inquiry. (Mcmillan et al., 1993). As suggested by (Bougie & Sekaran, 2020), to ensure accurate findings, it is necessary to have a sufficiently extensive and inclusive sample size that enables a meaningful evaluation of the significant characteristics of the entire population. This will result in the practical culmination of the research endeavor. Hence, the prevailing concept that arose from this previous investigation is duly acknowledged (Morgan, 2012). Based on the HR department of the company (2023), the total number of top-level management (such as chief executive officer, chief marketing officer, chief sales officer, chief technology officer, president, managing director, vice-president, and chief operating officer) in JPMC currently amounts to more than 130 of top management. Therefore, when determining sample size (Morgan, 2012), By adhering to the processes outlined in the sample determination table, a sample size of 97 top management was selected for this inquiry. This study aimed to calculate sample size to enhance the sample's accuracy and reliability. This approach was adopted to minimize errors in the sample size and overcome the challenges of low response rates commonly encountered in survey studies. The technique employed in this study for refining the sample size is a widely utilized method (Zhu et al., 2021).

**Figure 4:** Sample size calculation.

| *N* | *S* | *N* | *S* | *N* | *S* |
|---|---|---|---|---|---|
| 85 | 70 | 440 | 205 | 4000 | 351 |
| 90 | 73 | 460 | 210 | 4500 | 354 |
| 95 | 76 | 480 | 214 | 5000 | 357 |
| 100 | 80 | 500 | 217 | 6000 | 361 |
| 110 | 86 | 550 | 226 | 7000 | 364 |
| 120 | 92 | 600 | 234 | 8000 | 367 |
| 130 | 97 | 650 | 242 | 9000 | 368 |
| 140 | 103 | 700 | 248 | 10000 | 370 |
| 150 | 108 | 750 | 254 | 15000 | 375 |
| 160 | 113 | 800 | 260 | 20000 | 377 |
| 170 | 118 | 850 | 265 | 30000 | 379 |
| 180 | 123 | 900 | 269 | 40000 | 380 |
| 190 | 127 | 950 | 274 | 50000 | 381 |
| 200 | 132 | 1000 | 278 | 75000 | 382 |
| 210 | 136 | 1100 | 285 | 1000000 | 384 |

**Source:** Business Research Methods: A Skill-Building Approach (Bougie & Sekaran, 2019).

### 3.4.1. Sample Techniques

Given the impracticality of including the entire top management population, a convenience sampling approach was adopted. Convenience sampling is a method where the first available primary data source is utilized for the research without additional requirements. In essence, this sampling method involves selecting participants wherever they are easily accessible and typically in a convenient manner. In convenience sampling, no specific inclusion criteria are identified beforehand, and all eligible subjects are invited to participate (Kothari, 2004). Convenience sampling offers several benefits: (i) Simple sampling process and easy research; (ii) Useful for pilot studies and hypothesis generation; (iii) Enables quick data collection; (iv) Cost-effective compared to other sampling methods. This study distributed the questionnaire to the respondents (top management) at the Jordanian Phosphate Mining Company (JPMC).

## 3.5. Elements of Analysis

The analysis focuses on the entities being analyzed within a particular case study. This research investigates the influence of supply chain innovation, risk

management competencies, knowledge management, corporate social responsibility, and company culture on competitive advantage at Jordan Phosphate Mines Co JPMC.

## 3.6. Data Collection Method

Data can be gathered in a survey through many methods. The primary data for the statistical analysis in this research was collected by distributing a questionnaire to the senior management of Jordan Phosphate Company. The company's HR department (2023) includes data from a selection of employees (Sun et al., 2022). The study utilized the provided facts to establish that the top management of JPMC consisted of about 130 individuals.

The data collection method employed in this inquiry facilitated the accumulation of a substantial volume of information at a specific moment. The study employed quantitative measurement to validate the study's findings and aid in comprehending the investigation's results. The study chooses to employ Google Forms to gather the completed questionnaires due to its expediency and efficiency in time management. This collecting method is particularly advantageous as it is expected to yield a high response rate.

## 3.7. Measurement of Instruments

The primary data for this study is obtained using a survey questionnaire that is disseminated to identify respondents who will primarily answer the key research questions. Data was collected from several sources, including previous studies (articles). Descriptive data analysis is mainly utilized to comprehend phenomena and identify study gaps. It also aids researchers in constructing a comprehensive literature review and fortifying the research framework. A data instrument tool refers to the tools researchers utilize to collect information to analyze the issue being studied, aiming to arrive at a definitive conclusion. The current study used a questionnaire as the instrument for collecting data.

This study activity involves using and modifying the measurement technology based on current pertinent investigations (Churchill et al., 1999). Consequently, the study model consists of six variable definitions: supply chain innovation, risk

management capabilities, knowledge management, company culture, corporate social responsibility perceptions, and competitive advantage. The study employed the 5-Likert scale measure, as presented in table 3.

**Table 3:** The five Likert.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neither | Agree | Strongly Agree |

### 3.7.1. Supply Chain Innovation

Supply chain innovations refer to intricate procedures that address environmental unpredictability and cater to client demands by employing novel technologies to enhance organizational processes in novel manners (Qiao et al., 2023; AL-Khatib, 2023). In table 4, the study assesses the overall level of supply chain innovation using seven specific factors.

**Table 4:** Supply Chain Innovation Items.

| Ser. | Code | Attributes |
|---|---|---|
| **1** | SCI1 | We adopt and encourage new products in the supply chain. |
| **2** | SCI2 | We exploit new products and processes in the supply chain. |
| **3** | SCI3 | We invest heavily in new technology and use it to innovate products in the supply chain. |
| **4** | SCI4 | We encourage new employee ideas in the supply chain. |
| **5** | SCI5 | We radically adjust its strategy to adopt innovation in its activities in the supply chain. |
| **6** | SCI6 | We improve the current technology in the supply chain. |
| **7** | SCI7 | We improve its existing products and operations in the supply chain. |

**Source**: Adapted from (AL-Khatib, 2023; Qiao et al., 2023).

### 3.7.2. Risk Management Capabilities

Risk management capabilities are the systematic evaluation and utilization of various company tactics and methods to identify and address potential risks. It involves identifying the most significant risks and developing plans to effectively manage and mitigate them (Rehman & Anwar, 2019; Sax & Torp, 2015).

**Table 5:** Risk Management Capabilities Scale Items.

| Ser. | Code | Attributes |
|---|---|---|
| **1** | RMC1 | JPMC has a policy for handling significant risks that could affect its ability to reach its strategic objectives. |
| **2** | RMC2 | We have standard procedures in place for identifying significant risks and opportunities. |
| **3** | RMC3 | Risks and opportunities are analyzed to determine how they should be managed. |
| **4** | RMC4 | We have standard procedures in place for launching risk-reducing measures. |
| **5** | RMC5 | We regularly prepare risk reports for the top management and the board of directors. |
| **6** | RMC6 | We have standard procedures for monitoring the developments in significant risks and the risk-reducing measures launched. |

Source: Adapted from (Rehman & Anwar, 2019; Sax & Torp, 2015).

### 3.7.3. Knowledge Management

Knowledge management encompasses a diverse combination of tactics, tools, and methodologies, some of which are not novel. Education, training, and artificial intelligence techniques include historical examples of utilizing knowledge repositories, encompassing strategies such as storytelling, peer-to-peer mentoring, and learning from mistakes. Knowledge management integrates a blend of approaches inspired by the design of knowledge-based systems, incorporating structured knowledge acquisition methods from subject matter experts along with the utilization of centralized knowledge repositor instructional technologies (Lam et al., 2021; Chergui et al., 2020; Lee & Choi, 2003; Liao et al., 2011).

**Table 6:** Knowledge management Scale Items.

| Ser. | Code | Attributes |
|---|---|---|
| **1** | KM | JPMC creates new knowledge for application across functional boundaries. |
| **2** | KM | JPMC creates operations systems for application across functional boundaries. |
| **3** | KM | JPMC has a standardized reward system for sharing knowledge. |
| **4** | KM | JPMC engages in processes of integrating different sources of knowledge across functional boundaries. |

**Source**: Adapted from (Lam et al., 2021; Liao et al., 2011).

### 3.7.4. Company Culture

Company culture is the collective identity of a company, encompassing shared values, beliefs, attitudes, and behaviors. Observable, espoused values and underlying assumptions characterize it. Managers are essential in influencing and strengthening company culture, promoting more involvement and dedication to the organization's objectives (Lam et al., 2021; Lee & Choi, 2003)

**Table 7:** Company culture Scale Items.

| Ser. | Code | Attributes |
|---|---|---|
| **1** | CC1 | JPMC members are satisfied with the degree of collaboration. |
| **2** | CC2 | There is a willingness to collaborate across organizational units within JPMC. |
| **3** | CC3 | JPMC members have reciprocal faith in others' abilities. |
| **4** | CC4 | JPMC members have reciprocal faith in others' behaviors to work toward organizational goals. |
| **5** | CC5 | JPMC provides various formal training programs for the performance of duties. |
| **6** | CC6 | JPMC encourages people to attend seminars, symposia, etc. |

**Source**: Adapted from (Lam et al., 2021; Lee & Choi, 2003).

### 3.7.5. Corporate Social Responsibility

In his seminal work, Friedman (1970) initially defines CSR as conducting business in alignment with the desires of shareholders, which primarily involves maximizing profits while adhering to society's fundamental principles, encompassing

legal and ethical norms. According to Carroll (1979), hierarchical CSR refers to the economic, legal, moral, and charitable actions of companies that impact the well-being of stakeholders.

**Table 8:** Corporate social responsibility Scale Items.

| Ser. | Code | Attributes |
|---|---|---|
| **1** | CSR1 | JPMC always respects the norms defined in the law when carrying out its activities |
| **2** | CSR2 | JPMC is concerned with fulfilling its obligations vis-à-vis its shareholders, suppliers, distributors, and other agents with whom it deals |
| **3** | CSR3 | JPMC promotes equal opportunities to all without discrimination in gender, disability, race, religion, etc. |
| **4** | CSR4 | JPMC ensures that the respect of ethical principles has priority over economic performance |
| **5** | CSR5 | JPMC avoids compromising ethical standards in order to achieve corporate goals |
| **6** | CSR6 | The employees of JPMC behave ethically/honestly with customers |
| **7** | CSR7 | JPMC provides full product information to customers |
| **8** | CSR8 | JPMC plays a role in our society that goes beyond the mere generation of profits |

**Source:** Adapted from (Shah & Khan, 2020).

### 3.7.6. Competitive Advantage

Competitive advantage is a well-established and long-standing idea in strategic literature. Ansoff (1965) was the first academic to describe competitive advantage as the unique characteristics or specific properties of specific product markets that provide a company with a strong competitive position. Porter (1985) does not offer a precise definition of competitive advantage but highlights that it comes from a company's capacity to create outstanding value for its consumers. States that exceptional value can be achieved by providing lower pricing than competitors for equivalent advantages or by giving unique benefits that justify a higher price (Saeidi et al., 2019).

**Table 9:** Competitive Advantage Scale Items.

| Ser. | Code | Attributes |
|---|---|---|

| | | |
|---|---|---|
| **1** | CA1 | The quality of the products that JPMC offers is better than that of its competitors. |
| **2** | CA2 | JPMC is more capable of R&D and innovation than its competitors |
| **3** | CA3 | JPMC has better managerial capability than its competitors |
| **4** | CA4 | JPMC 's profitability is better than that of its competitors |
| **5** | CA5 | JPMC's corporate image is better than that of our competitors |
| **6** | CA6 | JPMC is much more flexible (regarding the risks and challenges) than its competitors |
| **7** | CA7 | Overall, JPMC 's growth is better than that of its competitors |

**Source:** Adapted from (P. Saeidi et al., 2019; S. P. Saeidi et al., 2015)

## 3.8. The Technique of Data Analysis

Data analysis is the systematic process of evaluating, cleaning, inspecting, manipulating, and modeling data to reveal important information, draw conclusions, and assist decision-making. The study utilizes SPSS version 26.0 for data analysis in this study assignment. SPSS version 26.0 includes capabilities like reliability testing and correlation analysis suitable for this study's analysis.

### 3.8.1. Reliability Analysis

Assessing dependability is the initial stage in the validation testing procedure (Wells & Wollack, 2003); reliability analysis evaluates the internal consistency of measurement items. The process involves calculating the Cronbach alpha reliability coefficients to examine and test the new dimension of items. The Cronbach alpha value is a statistical measure that evaluates the internal consistency of the questionnaire items (Cronbach, 1951). Cronbach's alpha runs from 0 to 1, with values close to 1 indicating good consistency (Wells & Wollack, 2003). Standardized tests with large stakes require internal consistency coefficients above 0.90, and standardized exams with smaller stakes necessitate internal consistency coefficients beyond 0.80 or 0.85. The suggested minimum value for the dependability coefficient is 0.70 or higher (Lehman & Rourke, 2005; Wells & Wollack, 2003; Bougie & Sekaran, 2020); a reliability analysis was conducted, where a coefficient below 0.60 is considered poor,

while a coefficient of 0.80 or higher is considered good. Table 10 provides a summary of the reliability coefficients found for the items.

**Table 10:** Summary of Reliability Coefficient.

| Reliability coefficient | Remarks |
|---|---|
| Less than (0.60) | Poor |
| (0.70) | Acceptable |
| (0.80) | Good |
| (0.90) and more | Excellence |

**Source:** (Bougie & Sekaran, 2020).

### 3.8.2. Descriptive Statistics

The statistical analysis with a descriptive focus examines the overall opinions of respondents for each category of the questionnaire. It includes frequency, mean, percentages, and standard deviation (Bizzi et al., 2021). Descriptive statistics are favored due to their ability to accurately represent several attributes, including the behavior, characteristics, beliefs, and knowledge of individuals, groups, organizations, or circumstances. The current study explores firm behavior by collecting evidence to test a theory. Calculating the average, the middle value, and the measure of variability from interval data is a component of descriptive statistics, as previously mentioned (Lewin, 2005). The mean score and standard deviation are used to determine the prevalent trend and level of variation in the distribution of the data. Given that the Likert scale was utilized to assess the outcomes of the variables' measurement outputs, the mean score might be interpreted at many levels: Scores are categorized as high, moderate, or low. High scores are between 5.00 and 7.00, moderate scores range from 3.00 to 4.99, and low scores are between 1.00 and 2.99 (Oliveira et al., 2012).

**Table 11:** Summary of Descriptive Analysis.

| Mean score | interpretation |
|---|---|
| 1.00 – 1.99 | Low |

| | |
|---|---|
| 2.00 – 3.49 | Moderate |
| 3.50 – 5.00 | High |

**Source:** (Oliveira et al., 2012)

### 3.8.3. Correlation Analysis

Drawing from a previous investigation conducted by (Sekaran, 2016). The correlation is obtained by evaluating the variation in one variable concerning another set. The appropriate statistical approach is to ascertain the existence of any correlation between two variables (Bewick et al., 2003). According to Wahab et al. (2014) Furthermore, the R-value of the correlation coefficient pertains to three distinct objectives:

(1) The aim is to establish the statistical significance of the correlation coefficient.

(2) To measure the extent of correlation between variables.

(3) To identify the nature of the correlation between variables, discerning whether it is positive or negative.

According to their research (Coakes et al., 2010; Sekaran, 2016), several 1.0 or higher implies a 100% positive association. Alternatively, a perfect negative correlation is represented by a value of -1 (Coakes et al., 2010).

## 3.9. Summary

This chapter serves as a guide for the execution of the research. The first section focuses on the research design and processes, starting with the formulation of the questionnaire and the subsequent data collection. Additionally, this chapter offers a brief overview of the analysis tools customized for this research endeavor. After collecting questionnaire data, the study employs SPSS version 26.0 software to analyze and interpret the information. A detailed description of the research design, measurement, data gathering, and data analysis techniques is provided in this chapter, outlining the structure and processes involved in the research.

# 4. RESULTS AND FINDINGS

## 4.1. Introduction

This chapter is structured into three sections. The initial section addresses the demographics of the respondents, followed by the second section, which delves into the psychometric properties of the measurement scales employed in the study, focusing on Cronbach's Alpha Reliability Test. The third segment is dedicated to the analysis of the research hypotheses.

## 4.2. Response Rate and Demographic Profile

Interpreting the study findings relies heavily on the participants' response rate and demographic features. This section analyzes the rate at which respondents provided feedback and the demographic characteristics of the participants.

### 4.2.1. Response Rate

The study focused on analyzing the Competitive Advantage of employees at the Jordanian Phosphate Mining Company (JPMC) due to its reputation as one of the top choices within its industry in Jordan.

Following more than months of online data collection and through email involving the distribution of 130 questionnaires in the Jordanian Phosphate Mining Company (JPMC) in Jordan, 105 questionnaires were retrieved, while the remaining (25) were unreturned or incomplete, as shown in table 12.

**Table 12:** Summary of questionnaires distributed.

| Jordan | Total | Present (%) |
|---|---|---|
| Distributed questionnaires | 130 | 100 |
| Usable questionnaires | 105 | 80 |
| Unreturned/incomplete questionnaires | 25 | 20 |

### 4.2.2. Respondents Demographic Characteristics

Table 13 displays the demographic characteristics of the respondents, such as gender, age, education, occupation, experience, and income.

**Table 13:** Frequency and proportion of demographic data.

| | | Frequency | Percent |
|---|---|---|---|
| **Gender** | Male | 64 | 61.0 |
| | Female | 41 | 39.0 |
| | **Total** | **105** | **100.0** |
| **Age** | 21-30 | 19 | 18.1 |
| | 31-40 | 16 | 15.2 |
| | 41-50 | 41 | 39.0 |
| | 50th | 29 | 27.6 |
| | **Total** | **105** | **100.0** |
| **Education Levels** | Primary | 2 | 1.9 |
| | Secondary | 1 | 1.0 |
| | Diploma | 12 | 11.4 |
| | Bachelor | 21 | 20.0 |
| | H. Diploma | 4 | 3.8 |
| | Masters | 39 | 37.1 |
| | Ph.D. | 26 | 24.8 |
| | **Total** | **105** | **100.0** |
| **Occupation** | CEOs | 4 | 3.8 |
| | Operation Manger | 6 | 5.7 |
| | HR. Mangers | 6 | 5.7 |
| | Supervisors | 50 | 47.6 |
| | Support Staff | 6 | 5.7 |
| | Other Workers | 33 | 31.4 |

| | | | |
|---|---|---|---|
| | **Total** | **105** | **100.0** |
| **Experience** | 1-3 years | 19 | 18.1 |
| | 4-6 years | 12 | 11.4 |
| | 7-10 years | 20 | 19.0 |
| | Above 10 years | 54 | 51.4 |
| | **Total** | **105** | **100.0** |
| **Income (JD)** | Below 1000 JD | 25 | 23.8 |
| | 1000- less than 1999 JD | 66 | 62.9 |
| | 3000- less than 3999JD | 10 | 9.5 |
| | Above of 4000JD | 4 | 3.8 |
| | **Total** | **105** | **100.0** |

Indeed, table 13 provides a detailed breakdown of demographic, educational, occupational, experiential, and income characteristics of employees of the Jordanian Phosphate Mining Company (JPMC) in Jordan, offering insights into their diverse backgrounds. Regarding gender distribution, 64 participants (61.0%) were male and 41 (39.0%) were female. Age-wise, the participants were distributed as follows: 19 individuals (18.1%) were aged between 21-30 years, 16 (15.2%) were between 31-40 years, 41 (39.0%) were between 41-50 years, and 29 (27.6%) were over 50 years. Regarding education, 2 participants (1.9%) had primary education, 1 (1.0%) secondary, 12 (11.4%) had diplomas, 21 (20.0%) were bachelor's degree holders, 4 (3.8%) held higher diplomas, 39 (37.1%) had master's degrees, and 26 (24.8%) had PhDs. Moving to occupational roles varied: 4 were CEOs (3.8%), 6 operation managers (5.7%), 6 HR managers (5.7%), 50 supervisors (47.6%), 6 support staff (5.7%), and 33 other workers (31.4%). Experience levels were also diverse, with 19 participants (18.1%) having 1-3 years of experience, 12 (11.4%) with 4-6 years, 20 (19.0%) with 7-10 years, and 54 (51.4%) with over 10 years of experience. Finally, income levels were categorized as follows: 25 individuals (23.8%) earned below 1000 JD, 66 (62.9%) earned between 1000 and less than 1999 JD, 10 (9.5%) earned between 3000 and less than 3999 JD, and 4 (3.8%) earned above 4000 JD.

## 4.3. Reliability Analysis

According to Sekaran (2019), reliability testing evaluates a variable's consistency and stability, primarily using Cronbach's alpha as the vital tool. The coefficient of Cronbach's alpha nearing 1.00 signifies the high reliability of the data. Values below 0.70 are considered inadequate, while those exceeding 0.80 are considered satisfactory for data reliability (Sekaran, 2019).

**Table 14:** The reliability of Cronbach's alpha for the variables.

| No. | Variables | No. of items | Cronbach's alpha | Remarks |
|---|---|---|---|---|
| **1** | Competitive Advantage | 7 | 0.860 | Good |
| **2** | Supply Chain Innovation | 7 | 0.825 | Good |
| **3** | Risk Management Capabilities | 6 | 0.816 | Good |
| **4** | Knowledge Management | 4 | 0.822 | Good |
| **5** | Company Culture | 6 | 0.857 | Good |
| **6** | Corporate Social Responsibility | 8 | 0.832 | Good |
| | **Total** | 38 | 0.972 | Excellence |

Table 14 displays the instrument's stability assessed by Cronbach's alpha values for different variables. The table displays six unique variables, each linked to a particular quantity of objects and their corresponding values, emphasizing the reliability of each variable. The initial variable, "Competitive Advantage," consists of 7 items and demonstrates a Cronbach's alpha of 0.860, signifying strong reliability. The construct "Supply Chain Innovation," assessed using 7 items, demonstrates a Cronbach's alpha of 0.825, indicating good reliability. The third variable, "Risk Management Capabilities," consists of 6 items with a Cronbach's alpha of 0.816, indicating strong reliability. The construct "Knowledge Management," measured using 4 items, demonstrates strong reliability with a Cronbach's alpha of 0.822. The final variable, "Company Culture," with 6 items, demonstrates a reliability coefficient of 0.857, suggesting vital dependability. Finally, "Corporate Social Responsibility," assessed using 8 items, achieved a score of 0.832, which is likewise considered good.

The instrument includes 38 items and achieves an excellent cumulative Cronbach's alpha of 0.972, demonstrating high internal consistency and reliability across the variables.

## 4.4. Factor Analysis

The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity are statistical tests utilized to evaluate the appropriateness of data for factor analysis. The KMO measure is a statistic that shows the amount of shared variance among variables. The value might vary between 0 and 1, with a higher number suggesting increased eligibility for factor analysis. The KMO measure in this example is 0.940, indicating a high value. This suggests that the dataset is highly suitable for factor analysis since a significant proportion of the variance in the variables is likely shared.

**Table 15:** KMO and Bartlett's Test

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .940 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1168.953 |
| | Sig. | .000 |

Table 15 showcases the findings from the Kaiser-Meyer-Olkin (KMO) Measure of sampling adequacy and bartlett's test of sphericity. These tests are crucial for determining whether factor analysis suits a given dataset. The KMO value stands at 0.940, highlighting a high compatibility for factor analysis. This high score, approaching 1, implies that the dataset contains ample common variance and the variables are significantly correlated, making it highly suitable for factor analysis. Meanwhile, Bartlett's Test of Sphericity reveals an Approximate Chi-Square value of 1168.953 with a significance level 0.000. These figures are key as they challenge the null hypothesis that suggests the variables are independent and the correlation matrix is identical to an identity matrix. Given the substantial Chi-Square value and a significance level well below the usual cut-off of 0.05, the null hypothesis can be rejected. This indicates a meaningful relationship among the variables and confirms that the correlation matrix diverges from an identity matrix, further supporting the

dataset's appropriateness for factor analysis. Collectively, these statistical tests provide robust evidence supporting factor analysis to explore correlations and patterns in this specific dataset.

## 4.5. Descriptive Finding

To ascertain the validity and reliability of the variables, a summary of respondents' impressions was acquired, guided by the findings from descriptive analysis. Various aspects were subjected to descriptive analyses, encompassing competitive advantage measurement, supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility.

**Table 16:** Descriptive Statistics Results for Variables

| Variables | Code of Items | Mean | Std. Deviation |
|---|---|---|---|
| **Competitive Advantage** | CA1 | 3.59 | 1.062 |
| | CA2 | 3.67 | .957 |
| | CA3 | 4.01 | 1.070 |
| | CA4 | 3.76 | 1.005 |
| | CA5 | 3.86 | .837 |
| | CA6 | 4.12 | 1.026 |
| | CA7 | 3.72 | 1.005 |
| **Supply Chain Innovation** | SCI1 | 3.74 | .931 |
| | SCI2 | 3.92 | 1.124 |
| | SCI3 | 3.56 | 1.091 |
| | SCI4 | 3.80 | 1.023 |
| | SCI5 | 3.81 | 1.169 |
| | SCI6 | 3.81 | 1.127 |
| | SCI7 | 3.76 | 1.079 |

| | | | |
|---|---|---|---|
| **Risk Management Capabilities** | RMC1 | 3.79 | 1.149 |
| | RMC2 | 3.71 | 1.007 |
| | RMC3 | 3.70 | 1.073 |
| | RMC4 | 3.82 | 1.125 |
| | RMC5 | 3.53 | .961 |
| | RMC6 | 3.78 | 1.047 |
| **Knowledge Management** | KM1 | 3.75 | 1.133 |
| | KM2 | 3.63 | 1.021 |
| | KM3 | 3.64 | 1.161 |
| | KM4 | 3.82 | 1.133 |
| **Company Culture** | CC1 | 3.58 | 1.108 |
| | CC2 | 3.70 | 1.048 |
| | CC3 | 3.90 | 1.097 |
| | CC4 | 3.76 | 1.005 |
| | CC5 | 3.86 | .975 |
| | CC6 | 3.73 | 1.103 |
| **Corporate Social Responsibility** | CSR1 | 3.68 | 1.139 |
| | CSR2 | 3.71 | 1.081 |
| | CSR3 | 3.70 | 1.194 |
| | CSR4 | 3.78 | 1.092 |
| | CSR5 | 3.61 | 1.024 |
| | CSR6 | 3.96 | 1.028 |
| | CSR7 | 3.90 | 1.043 |
| | CSR8 | 3.59 | 1.141 |

Table 16 details the results of descriptive statistics for various variables comprising several items, and the table presents the mean and standard deviation for each item. This section assesses how respondents perceive their company's competitive advantage. The items cover competitive advantage, supply chain

innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility. The mean scores for these items range from 3.59 (CSR). The standard deviations, ranging from 0.837 (Competitive Advantage) to 1.070, indicate some variability in these perceptions. Supply chain innovation measures the degree to which companies adopt and encourage innovation within their supply chains. Mean scores range from 3.56 to 3.92, indicating a positive inclination toward supply chain innovation. The standard deviations (0.931 to 1.169) reflect differences in how respondents perceive their company's efforts in this area.

Risk management capabilities: this variable evaluates how firms manage risks relative to their strategic objectives. It includes policies for significant risks, standard procedures for identifying and managing risks, risk analysis, risk-reducing measures, risk reporting, and monitoring developments in significant risks. The mean scores here range from 3.53 to 3.82, suggesting a generally positive view of firms' risk management capabilities. However, the standard deviations (0.961 to 1.149) indicate that experiences and perceptions vary among respondents. Knowledge management: this part assesses how companies manage and integrate knowledge. It includes creating new knowledge, developing operation systems, having reward systems for knowledge sharing, and integrating different knowledge sources. Mean scores from 3.63 to 3.82 suggest a positive view of knowledge management practices. The standard deviations, however, indicate some variability in responses. Company culture: this variable measures satisfaction with collaboration, willingness to collaborate across units, faith in others' abilities and behaviors, and providing formal training and encouragement for seminar attendance. Mean scores range from 3.58 to 3.90, indicating a generally positive perception of company culture, especially regarding reciprocal faith and training programs. The standard deviations suggest varying degrees of agreement or experience among respondents. CSR assesses companies' adherence to ethical and social norms and responsibilities. It includes respecting legal norms, fulfilling obligations to stakeholders, promoting equal opportunities, prioritizing ethical principles, avoiding compromising ethical standards, ethical behavior with customers, transparency in product information, and societal roles beyond profit generation. Mean scores range from 3.59 to 3.96, indicating a generally positive view of CSR practices. The standard deviations indicate some variation in how respondents perceive these aspects.

## 4.6. Pearson Correlation Analysis

Using Pearson correlation analysis, the research investigated the significance of linear bivariate correlations among independent variables, such as supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility. Table 17 presents the results of this analysis for The Jordanian Phosphate Mining Company (JPMC) situated in Jordan. The main aim of the correlation analysis was to assess the strength of the relationship between each independent and dependent variable.

**Table 17:** Pearson's Correlation Analysis of Variables

| | **CA** | **SCI** | **RM** | **KM** | **CC** | **CSR** |
|---|---|---|---|---|---|---|
| **CA** | 1 | | | | | |
| **SCI** | .973** | 1 | | | | |
| **RM** | .943** | .953** | 1 | | | |
| **KM** | .859** | .866** | .861** | 1 | | |
| **CC** | .894** | .901** | .867** | .818** | 1 | |
| **CSR** | .964** | .963** | .949** | .870** | .899** | 1 |

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficients reported in table 17 are exceptionally high, predominantly exceeding 0.8 and often surpassing 0.9, indicating strong positive relationships. For instance, a correlation of 0.973 between CA and SCI suggests that companies recognized for their competitive advantage also tend to be acknowledged for supply chain innovation.

These strong correlations reveal that these business dimensions are deeply interwoven rather than separate entities. For example, a company known for effective knowledge management (KM) is likely to possess strong risk management capabilities (RM) and a proactive stance on corporate social responsibility (CSR). This

interconnectedness may stem from organizational strategies focusing on comprehensive growth across different areas and functions.

From a strategic viewpoint, the observed correlations imply that enhancing one aspect, such as competitive advantage, could benefit other areas, like supply chain innovation or company culture. This underscores the advantage of a holistic approach to business management, where bolstering one component can lead to advancements in multiple areas, highlighting the strategic value of integrating efforts across different facets of the business.

In summary, all the variables show strong to robust positive correlations. This implies that in this dataset, improvements or higher values in one variable are associated with increases in the others. For instance, a company scoring high in competitive advantage tends to score high in aspects like supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility.

## 4.7. Hypothesis Result of Direct Relationship of Variables

In the analyzed model, hypotheses were assessed through three primary metrics: the significance of Correlation Coefficients (R), the Coefficient of Determination ($R^2$), and Multiple Regression (Beta). Correlation coefficients, which vary from +1 to -1, were interpreted using a commonly accepted guideline: values between 0 and 0.2 indicate weak correlations, 0.3 to 0.6 signify moderate correlations, and 0.7 to 1 reflect strong correlations, as outlined by Brace et al. (2000). The Coefficient of Determination ($R^2$) quantifies the percentage of variance in one variable that can be predicted from the other variable, essentially gauging the predictive power of the model. On the other hand, Multiple Regression (Beta) assesses how a set of independent variables influences a dependent variable, enabling the testing of theories or models about how specific variables affect outcomes.

While the correlation coefficient ($R^2$) evaluates the degree of relationship between two variables, Multiple Regression looks at the dynamics between a set of variables and one outcome. The Coefficient of Determination ($R^2$) further sheds light on the linear relationship among variables. In this study, the Pearson Correlation

Coefficients were calculated for pairs of variables to ascertain the significance of the correlation coefficients. Meanwhile, Beta was determined using linear regression analysis to measure the impact of predictor variables on the criterion variable. Tables 19, 20, 21, 22, and 23 detail the initial primary hypothesis testing findings.

**According to the first hypothesis,**

**H1:** Supply chain innovation has positive impacts on competitive advantage.

**Table 18:** The results of the application of the regression supply chain innovation directly positively correlate with the competitive advantage

| Variables | B | T | Sig. | R | $R^2$ | F | Sig. |
|---|---|---|---|---|---|---|---|
| Supply Chain Innovation | .948 | 42.420 | .000 | .973[a] | .946 | 1799.425 | .000[b] |
| a. Dependent Variable: Competitive Advantage | | | | | | | |

The results presented in table 18 provide empirical evidence in support of Hypothesis 1, which posits that supply chain innovation positively impacts competitive advantage. The regression analysis conducted to explore the relationship between supply chain innovation and competitive advantage yields significant results. Specifically, the beta coefficient (.948) indicates a strong positive relationship between supply chain innovation and competitive advantage. The T-value (42.420) significantly surpasses the threshold for statistical significance, coupled with a Sig. (p-value) of .000, affirming that the relationship is highly significant and not due to random chance. Moreover, the model's explanatory power is substantial, with an R-squared value of .946, suggesting that supply chain innovation accounts for 94.6% of the variance in competitive advantage. This high R-squared value is further supported by an F-statistic of 1799.425 with a significance level of .000, indicating that the model fits the data well and that the results are highly reliable.

**The second hypothesis,**

**H2:** Regression risk management capabilities has positive impacts on competitive advantage.

**Table 19:** The results of the application of the regression risk management capabilities directly positively correlate with the competitive advantage

| Variables | B | T | Sig. | R | $R^2$ | F | Sig. |
|---|---|---|---|---|---|---|---|
| Risk Management Capabilities | .904 | 28.790 | .000 | .943[a] | .889 | 828.863 | .000[b] |
| a. Dependent Variable: Competitive Advantage | | | | | | | |

The findings from table 19 substantiate the second hypothesis, suggesting that risk management capabilities positively impact competitive advantage. A direct and positive correlation between risk management capabilities and competitive advantage is established through regression analysis. The beta coefficient (.904) reflects a strong and positive linkage, further supported by a T-value of 28.790, indicating that the relationship is not coincidental but statistically significant, with a Sig. (p-value) of .000. The model demonstrates a high explanatory power, as evident from an R-squared value of .889. This suggests that risk management capabilities explain approximately 88.9% of the variance in competitive advantage, highlighting the substantial role of effective risk management in achieving competitive advantage. The robustness of this model is further indicated by an F-statistic of 828.863 with a significance level of .000, ensuring the model's reliability and the strength of the relationship between risk management capabilities and competitive advantage.

**The third hypothesis,**

**H3:** Knowledge management has positive impacts on competitive advantage.

**Table 20:** The results of the application of the regression knowledge management directly positively correlate with the competitive advantage

| Variables | B | T | Sig. | R | $R^2$ | F | Sig. |
|---|---|---|---|---|---|---|---|
| Knowledge Management | .702 | 17.009 | .000 | .859[a] | .737 | 289.320 | .000[b] |
| a. Dependent Variable: Competitive Advantage | | | | | | | |

The analysis presented in table 20 strongly supports hypothesis 3, affirming that knowledge management positively impacts competitive advantage. The regression analysis demonstrates a direct and positive correlation between knowledge management and competitive advantage, as indicated by the beta coefficient (.702).

This suggests a significant relationship, further substantiated by a T-value of 17.009 and a significance level (Sig.) of .000, indicating that the findings are statistically significant and unlikely to be due to chance. The R-squared value of .737 reveals that knowledge management explains approximately 73.7% of the variance in competitive advantage, showcasing the substantial role that effective knowledge management plays in fostering competitive advantage. Additionally, the model's fit is confirmed by an F-statistic of 289.320 with a significance level of .000, highlighting the reliability of the model and the robustness of the relationship between knowledge management and competitive advantage.

**The Fourth hypothesis,**

**H4:** Company culture has positive impacts on competitive advantage.

**Table 21:** The results of the application of the regression company culture directly positively correlate with the competitive advantage

| Variables | B | T | Sig. | R | $R^2$ | F | Sig. |
|---|---|---|---|---|---|---|---|
| Company Culture | .815 | 20.255 | .000 | .894[a] | .799 | 410.259 | .000[b] |
| a. Dependent Variable: Competitive Advantage | | | | | | | |

The findings presented in table 21 strongly support hypothesis 4, suggesting that company culture positively impacts competitive advantage. The regression analysis indicates a direct and positive correlation between company culture and competitive advantage, as evidenced by the beta coefficient (.815). This indicates a robust relationship, further reinforced by a T-value of 20.255 and a significance level (Sig.) of .000, signifying that the results are statistically significant and not due to chance. With an R-squared value of .799, the analysis suggests that company culture accounts for approximately 79.9% of the variance in competitive advantage. This substantial percentage underscores the critical role that a well-defined and supportive company culture plays in achieving and maintaining competitive advantage. Furthermore, the model's fit is confirmed by an F-statistic of 410.259 with a significance level of .000, indicating a high reliability of the model and the strength of the relationship between company culture and competitive advantage.

**The Fifth hypothesis,**

**H5:** CSR has positive impacts on competitive advantage.

**Table 22:** The results of the application of the regression CSR directly positively correlate with the competitive advantage

| Variables | B | T | Sig. | R | $R^2$ | F | Sig. |
|---|---|---|---|---|---|---|---|
| CSR | .956 | 36.976 | .000 | .964[a] | .930 | 1367.207 | .000[b] |
| a. Dependent Variable: Competitive Advantage | | | | | | | |

The results outlined in table 22 provide strong empirical support for hypothesis 5, positing that Corporate Social Responsibility (CSR) practices positively impact competitive advantage. The regression analysis shows a direct and positive correlation between CSR and competitive advantage, with a beta coefficient of .956. This suggests a strong relationship, further evidenced by a T-value of 36.976 and a significance level (Sig.) of .000, indicating that the findings are highly statistically significant and not a product of chance occurrences. The model demonstrates an exceptionally high explanatory power, as indicated by an R-squared value of .930. This suggests that CSR activities explain approximately 93% of the variance in competitive advantage, highlighting CSR's critical role in enhancing a company's competitive positioning. The robustness of the model is underscored by an F-statistic of 1367.207 with a significance level of .000, affirming the reliability of the model and the strength of the relationship between CSR and competitive advantage.

## 4.8. Summary of Findings

The results of the multiple regression analysis are condensed and presented in the table to provide a summary of the study findings.

**Table 23:** Summary of Hypotheses

| The Hypotheses | Result | |
|---|---|---|
| **H1** | Supply chain innovation has a positive impact on competitive advantage. | **Supported** |
| **H2** | Risk management capabilities have a positive impact on competitive advantage. | **Supported** |

| | | |
|---|---|---|
| **H3** | Knowledge management has a positive impact on competitive advantage. | **Supported** |
| **H4** | Company culture has a positive impact on competitive advantage. | **Supported** |
| **H5** | Corporate Social Responsibility has a positive impact on competitive advantage. | **Supported** |

All study hypotheses are confirmed, supporting the acceptability of the suggested paradigm.

## 4.9. Conclusion

This chapter examines the hypotheses put out in Chapter Two. The study used SPSS for frequency table analyses, descriptive analysis, reliability, and validity. This chapter presented the hypothesized model to assess the goodness of fit indices and validate the connections among supply chain innovation (SCI), risk management capabilities (RM), knowledge management (KM), company culture (CC), corporate social responsibility (CSR), and competitive advantage (CA). The study conducted at The Jordanian Phosphate Mining Company (JPMC) confirmed that the independent variable influenced the dependent variable and validated all the provided hypotheses.

# 5. DISCUSSUON AND CONCLUSION

## 5.1. Introduction

The previous chapter presented the results of the hypotheses testing proposed in Chapter Two. In the present chapter, the results obtained are discussed congruently with the five research questions provided in the first chapter to achieve the thesis objectives. Based on the results obtained and the prior results reported in the literature, the researcher discusses the findings concerning the underpinning theories. The chapter also presents limitations, contributions, and recommendations for future studies.

## 5.2. Recapitulation of the Study

This study evaluates the effects of supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility. The study used a quantitative survey and applied a random sampling approach to choose the sample. Data was collected from Jordan Phosphate Mines Co JPMC employees who willingly participated in the study by completing a questionnaire. After two months of email correspondence, 130 questionnaires were delivered to participants associated with Jordan Phosphate Mines Co JPMC. Of the total, 105 questionnaires were obtained, while the remaining 25 were either not returned or incomplete.

## 5.3. The Relationship Between The Construct Variables

### 5.3.1. Supply Chain Innovation

The relationship between supply chain innovation and competitive advantage has been a research focus within business management and operations. In this context, the construct variables indicate a tangible link where advancements in supply chain processes and technologies directly contribute to an organization's ability to outperform competitors. This connection is underscored by a robust beta coefficient of .948, suggesting that even marginal improvements in supply chain innovation could substantially enhance competitive positioning. Such a strong positive relationship is

critical, providing empirical support for investing in and focusing on innovative supply chain practices. The statistical significance of this relationship, marked by a T-value of 42.420 and a significance level of .000, further cements the argument that the observed effects are unlikely to be the result of random chance. Instead, they indicate that supply chain innovation plays a pivotal role in shaping competitive dynamics, with an R-squared value of .946, illustrating that a vast majority of the variance in competitive advantage can be explained through this singular construct.

Comparatively, a previous study by Alabdali and Salam (2022) also explored competitive advantage (CAD); this study evaluated how digital transformation (DT) affects supply chain procurement (SCP). A LinkedIn poll of 221 supply chain (SC) experts was used in this quantitative investigation. PLS-SEM was used to evaluate the conceptual model using SmartPLS. The results showed that DT and SCP positively affect SCP and CAD. Supply chain procurement significantly mediates DT-CAD. The insights aid SC process digitalization decision-makers. Due to its complexity and wide range of internal and external stakeholders, the study suggests commencing an SC's DT with procurement. The findings indicate that digital procurement could modify SC in a competitive market. The study offers starting points for innovative procurement (procurement 4.0). Despite the frequency of SCP research, there is little data on how DT of procurement functions might maintain CAD.

### 5.3.2. Risk Management Capabilities

Risk Management Capabilities also positively affect competitive advantage, with a beta coefficient of .904, indicating a strong positive relationship—the T-value of 28.790 and a Sig. A level of .000 reinforces the statistical significance of this finding. An R-squared value of .889 means that risk management capabilities can explain about 88.9% of the variance in competitive advantage, underscoring the significance of effective risk management. The model is robust, as shown by an F-statistic of 828.863 with a Sig—level of .000.

According to a previous study by Saeidi et al. (2019), they also explored to examine the influence of Enterprise Risk Management (ERM) on Competitive Advantage (CA) by moderating the role of information technology dimensions, including Information Technology (IT) strategy and Information Technology (IT) structure. Eighty-four valid questionnaires were obtained through a self-administered

survey conducted at Iranian financial institutions. The findings of this study showed that ERM had a positive relationship with the firms' competitive advantage. The results also showed that IT strategy and structure directly affected the competitive advantage and moderated the ERM-competitive advantage relationship. This study extends previous ERM studies by considering Iran as a developing country, which is neglected in previous empirical research.

### 5.3.3. Knowledge Management

Knowledge Management positively impacts competitive advantage, with a beta coefficient of .702, suggesting a significant positive relationship—the T-value of 17.009 and a Sig. A level of .000 confirms the statistical significance of this relationship. The R-squared value is .737, meaning knowledge management accounts for approximately 73.7% of the variance in competitive advantage. This highlights the importance of managing knowledge effectively. The model's fit is confirmed by an F-statistic of 289.320 with a Sig—Level of .000.

A previous study by Kamya, Ntayi, and Ahiauzu (2010) also explored and examined the relationship between knowledge management and competitive advantage in a developing country, Uganda, focusing on the interacting influence of market orientation. A sample size of 718 organizations was selected from a population of 11,153 organizations using a simple random sampling method. Primary data were collected through a self-administered questionnaire. Descriptive and inferential statistics were used in the analysis. The findings show a positive correlation between knowledge management and competitive advantage, the relationship of which is greatly enhanced by the impact of interaction on market orientation. When appropriately responding to market-based knowledge, it augments the organization's competitiveness. In addition, this indicates that competitive advantage is best achieved through a combination of knowledge-based resources.

### 5.3.4. Company Culture

Company culture positively correlates with competitive advantage, as evidenced by a beta coefficient of .815. This indicates a strong positive relationship, further supported by a T-value of 20.255 and a Sig—lev of .000, proving its statistical significance. An R-squared value of .799 suggests that company culture explains roughly 79.9% of the variance in competitive advantage, highlighting its crucial role.

The model's reliability is demonstrated by an F-statistic of 410.259 with a Sig—-level of .000.

A previous study by Azeem and Sajjad (2021) explored and examined study empirically investigated the relationship between organizational culture, knowledge sharing, organizational innovation, and competitive advantage. Data were collected from 294 industrial managers, and PLS-SEM was used to validate data and examine the hypothesized relationships. Results revealed that organizational culture, knowledge sharing, and innovation positively affect competitive advantage. More specifically, organizational culture fosters knowledge-sharing and innovation activities among the workforce and links them with high-level business processes conducive to acquiring advanced manufacturing capabilities. The present study highlighted that organizational culture is indispensable for business operational success, and knowledge-sharing and innovation appear to be critical drivers for gaining competitive advantage.

### 5.3.5. Corporate Social Responsibility (CSR)

CSR practices are strongly linked to competitive advantage, with a beta coefficient of .956, indicating a strong positive relationship—the T-value of 36.976 and a Sig. The level of .000 underscores the high statistical significance of this finding. The R-squared value of .930 suggests that CSR activities explain about 93% of the variance in competitive advantage, emphasizing the critical impact of CSR. The model's robustness is highlighted by an F-statistic of 1367.207 with a Sig—level of .000.

A previous study by El-Garaihy and Albahussain (2014) explored that corporations face increasing pressure to operate socially responsibly. Corporate social responsibility initiatives are important regarding competitive advantage, financial results, customer behavior, and corporate reputation. Therefore, this study aims to examine the mediating role of consumer satisfaction and corporate reputation in achieving competitive advantage for corporates and then measure the impact on creating competitive advantage for corporations that apply social responsibility in the Kingdom of Saudi Arabia. The experimental results of the study have demonstrated that the initiatives of (CSR) are affected by economic, legal, ethical, and discretionary activities. The tests have also confirmed the direct relationship between the initiatives of (CSR) and competitive advantage as a strong positive relationship. The results of

this study emphasize the ability of customer satisfaction and corporate reputation to play an utterly mediating role between (CSR) and competitive advantage. Customer satisfaction also affects the achievement of competitive advantage. It involves direct and indirect relationships through corporate reputation. This has been concluded based on the results from a sample of 300 Saudi corporates. The results of this study indicate that (CSR) appears to be a practical strategic objective.

In summary, each variable—supply chain innovation, risk management capabilities, knowledge management, company culture, and CSR- has been independently verified to positively impact competitive advantage, demonstrating a significant portion of the variance in competitive advantage. These findings underscore the importance of these factors in achieving and maintaining a competitive edge in the market.

## 5.4. Theoretical Contributions

This study makes significant theoretical contributions to understanding how various organizational capabilities and practices impact competitive advantage, particularly within the context of Jordan Phosphate Mines Co (JPMC). The study provides a comprehensive view of the multifaceted dimensions of competitive advantage by examining the roles of supply chain innovation, risk management capabilities, knowledge management, company culture, and corporate social responsibility (CSR). The findings underscore the importance of these variables not in isolation but as interconnected elements that collectively contribute to a firm's competitive positioning. With its strong positive correlation to competitive advantage, supply chain innovation highlights the critical role of adaptive and efficient supply chain processes in today's volatile market. Similarly, the emphasis on risk management capabilities, knowledge management, company culture, and CSR practices points to the necessity for a holistic and integrated approach to achieving sustained competitive success.

Furthermore, the study enriches the existing literature by demonstrating the quantifiable impact of these factors within a specific industry and geographical context, offering insights into the practical implications of strategic management theories. The significant statistical evidence supporting the positive effects of these

variables on competitive advantage not only validates existing theoretical frameworks but encourages a reevaluation of how these elements are understood and implemented in practice. Notably, the robust empirical evidence provided for the positive impact of CSR on competitive advantage challenges traditional views of CSR as a cost center, instead positioning it as a strategic asset that can significantly enhance a firm's market position. Through this study, a nuanced understanding of the interplay between internal capabilities and external social responsibilities in crafting competitive advantage emerges, offering valuable perspectives for both scholars and practitioners aiming to navigate the complexities of modern business environments.

## 5.5. Managerial Implications

The synthesis of findings across five hypotheses presents a comprehensive view of strategic levers that managers and decision-makers at JPMC and similar companies can use to enhance their competitive advantage. These insights are not isolated but interrelated, suggesting that a holistic approach to strategic planning can yield substantial benefits. The strong positive relationship between supply chain innovation and competitive advantage highlights the need for managers to prioritize innovative practices within their supply chains. This could involve the adoption of cutting-edge technologies, the enhancement of logistics and operations, and the encouragement of a culture that fosters innovative thinking. The allocation of resources towards research and development, collaboration with technology providers, and promotion of an innovation-friendly company culture are crucial steps. The high R-squared value associated with supply chain innovation underscores its potential to improve competitive positioning significantly. Findings also emphasize the critical role of robust risk management capabilities. Managers should focus on developing and integrating comprehensive risk management frameworks, including advanced risk assessment tools, staff training on risk mitigation, and a proactive approach to identifying and addressing potential threats. This investment protects against losses and significantly enhances competitive advantage, as evidenced by the strong positive correlation between risk management capabilities and competitive advantage. Knowledge management has been identified as a critical determinant of competitive advantage. Investing in systems and processes that enable effective knowledge capture,

storage, dissemination, and utilization is paramount. Actions might include implementing knowledge management platforms, promoting a knowledge-sharing culture, and providing training to boost employees' knowledge-related skills. Such strategies can improve a company's innovative capacity, market responsiveness, and competitive advantage. The strategic importance of a supportive and positive company culture cannot be overstated. Managers are advised to cultivate a company culture that encourages innovation, ethical practices, employee engagement, and customer satisfaction. Efforts should be directed toward promoting diversity and inclusion, facilitating open communication, and aligning organizational values with daily practices. Such a culture significantly elevates competitive advantage by boosting employee performance and enhancing customer loyalty. Lastly, integrating CSR into the core business strategy is a powerful competitive advantage driver. CSR should be viewed not merely as a compliance requirement but as a strategic imperative. Investments in sustainable practices, community engagement, ethical labor practices, and environmental conservation can substantially improve a company's brand, customer loyalty, and operational efficiency. The compelling correlation between CSR activities and competitive advantage offers a strong argument for allocating resources toward socially responsible and sustainable practices. In conclusion, these findings collectively suggest that a multifaceted approach, encompassing supply chain innovation, risk management, knowledge management, company culture, and CSR, can significantly fortify an organization's competitive stance. Managers at JPMC and alike should consider these strategic areas as integral components of their business strategies to achieve and sustain a competitive advantage in the market.

## 5.6. Limitations

The collective findings from the study present a nuanced understanding of strategic factors influencing competitive advantage. However, it is crucial to acknowledge the limitations that may affect the interpretation and generalizability of these results. Firstly, the focus on JPMC as the study's context restricts the broad applicability of the conclusions drawn. The unique dynamics within different sectors could alter the relationship between supply chain innovation and competitive advantage, suggesting a need for caution when extrapolating these findings to other

industries. Secondly, the reliance on quantitative methods, while yielding significant insights, may not fully capture the qualitative nuances that underpin the constructs of supply chain innovation and competitive advantage. Qualitative aspects such as employee creativity, organizational culture, customer satisfaction, and the tacit knowledge inherent within an organization play pivotal roles that are not easily quantified.

Moreover, the study's external validity is potentially limited by regional and economic factors specific to the context of Jordan. These localized conditions may not translate directly to other geographical or economic environments, thus limiting the study's broader applicability. Additionally, applying regression analysis across various hypotheses, although providing valuable statistical correlations, may not adequately account for the complex and dynamic relationships between the studied variables. This methodological approach might overlook non-linear effects, the impact of unobserved variables, and the multifaceted nature of constructs such as company culture, risk management capabilities, and CSR practices. Each area possesses inherent complexities that a single quantitative measure may not fully encapsulate. Specific contexts, such as industry differences, organizational cultures, and geographic locations, further compound the potential limitations regarding the generalizability of findings. These contextual factors can significantly influence the effectiveness of strategies related to knowledge management, CSR, and the nurturing of company culture, highlighting the variability in how these strategies may impact competitive advantage across different settings. At the same time, the study provides valuable insights into strategic levers that can enhance competitive advantage; its limitations underscore the need for a cautious interpretation of the findings. Future research should address these limitations by incorporating diverse methodologies, expanding the scope to include multiple industries and regions, and exploring the qualitative dimensions of the strategic factors examined. This broader and more nuanced approach could offer a more comprehensive understanding of how organizations can achieve and sustain competitive advantage.

## 5.7. Research Determinants

The research is based on various crucial factors for comprehending its extent and profundity. Supply chain innovation is a critical factor that examines the impact of new tactics and technology breakthroughs in supply chain management on JPMC's competitive advantage. This entails analyzing the implementation of novel logistics technology, inventory management methodologies, and supplier relationship approaches. In addition, the research explores the function of risk management capabilities, evaluating the effectiveness of JPMC in identifying, assessing, and mitigating different operational and strategic risks. This is of utmost importance in the mining industry, where market volatility, environmental issues, and geopolitical variables are influential.

Another important aspect is knowledge management, which examines how JPMC acquires, disseminates, and efficiently utilizes knowledge to sustain its competitive advantage. This entails examining the mechanisms for disseminating knowledge within the organization and assessing their impact on decision-making and creativity. The research investigates how an organization's values, attitudes, and behaviors impact its overall performance and ability to adapt to change, making company culture crucial. Lastly, the study examines how JPMC's dedication to ethical principles, environmental sustainability, and social engagement in corporate social responsibility (CSR) enhances its competitive advantage. This entails evaluating how CSR actions align with the firm's overarching strategic objectives and how external stakeholders perceive the organization. Each of these aspects is crucial in understanding how different internal and external elements contribute to the competitive success of Jordan Phosphate Mines Co (JPMC).

## 5.8. Research Recommendations

Future research directions suggest a multifaceted approach to building on the current study's findings and addressing its limitations. Comparative studies that span different industries and geographical regions are essential to assess the universality and applicability of the established relationships across diverse contexts. This approach would validate the current findings and uncover industry-specific and regional nuances in how strategic factors like supply chain innovation, risk management capabilities, knowledge management, company culture, and CSR practices contribute to

competitive advantage. Incorporating qualitative research methods such as case studies, interviews, and ethnographic studies can provide deeper insights into the mechanisms through which these strategic factors influence competitive advantage. Qualitative analysis can uncover the subtleties of organizational dynamics, employee behaviors, customer interactions, and the contextual factors influencing the adoption and outcomes of these strategic initiatives. Examining the elements within supply chain innovation that most significantly impact competitive advantage could guide managers in prioritizing investments in technologies, processes, and collaborations.

Furthermore, exploring external factors like regulatory changes and technological advancements can offer a more nuanced understanding of their moderating effects on the relationship between strategic factors and competitive advantage. Investigating the differential impacts of various types of risk management practices, the role of technological advancements in enhancing knowledge management practices, and the evolving nature of company culture and CSR activities in response to societal expectations and regulatory environments are critical areas for future research. These investigations can provide actionable insights for managers and policymakers on effectively implementing and adapting these practices to achieve and sustain competitive advantage. Additionally, cross-industry and cross-cultural studies can help to identify the variability in the effectiveness of these practices, offering a broader perspective on the strategic management of competitive advantage. Longitudinal studies could elucidate how the importance and impact of these strategic factors evolve, especially in rapidly changing industrial and societal contexts. The need for a comprehensive and nuanced understanding of the relationship between strategic organizational factors and competitive advantage is evident. By addressing current studies' limitations and incorporating a mix of quantitative and qualitative methodologies, future research can significantly contribute to refining and expanding knowledge in this critical area of business strategy. This holistic approach will enhance theoretical frameworks and provide practical guidance for managers seeking to navigate the complex landscape of contemporary business competition.

## 5.9. Conclusion

The study comprehensively analyzes the multifaceted factors contributing to competitive advantage in a specific industrial and geographical context. The findings underscore the critical role of these five factors in enhancing a firm's competitive positioning, with each element showcasing a strong positive correlation to competitive advantage. This study concludes that for JPMC and potentially similar entities in the industry or region, prioritizing advancements in supply chain processes, cultivating robust risk management strategies, leveraging knowledge effectively, nurturing a supportive company culture, and engaging in responsible corporate social practices are not just beneficial but essential for maintaining and enhancing competitive edge.

Comparing these findings with previous studies reveals a consensus on the importance of these factors in achieving competitive advantage across different industries and geographical contexts. For example, supply chain innovation has been widely recognized as a critical driver for competitive advantage in numerous studies (e.g., Lee, H.L., "The Triple-A Supply Chain," Harvard Business Review, 2004), emphasizing the necessity for agility, adaptability, and alignment within supply chain processes. Similarly, the current study’s emphasis on the importance of risk management capabilities echoes the findings of Tummala and Schoenherr (2011) in "Assessing and Managing Risks Using the Supply Chain Risk Management Process (SCRMP)," which highlighted risk management as crucial for supply chain resilience and competitive advantage.

Moreover, the significant role of knowledge management in the current study aligns with the perspectives of Grant (1996) in "Toward a Knowledge-Based Theory of the Firm," suggesting that the ability to integrate and apply specialized knowledge is foundational to competitive success. The emphasis on company culture and CSR as critical components influencing competitive advantage also finds support in previous research. For example, Schein's (2010) work on organizational culture and leadership underlines the impact of culture on organizational effectiveness and competitiveness, while Porter and Kramer's (2006) concept of "Creating Shared Value" highlights the strategic value of CSR in reinforcing competitive advantage.

However, this study distinguishes itself by contextualizing these factors within the Jordanian phosphate mining industry, offering specific insights beyond the general applicability of previous studies. The strong statistical support for each factor's impact

on competitive advantage in JPMC adds to the empirical evidence, suggesting that these strategies are universally beneficial and critically effective in specific contexts.

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# APPENDIX A

## RESEARCH QUESTIONNAIRES

**Dear Respondents,**

You are invited to participate in this survey about **"IMPACT OF SUPPLY CHAİN INNOVATİON, RİSK MANAGEMENT CAPABİLİTİES, KNOWLEDGE MANAGEMENT,COMPANY CULTURE, AND CORPORATE SOCİAL RESPONSİBİLİTY ON COMPETİTİVE ADVANTAGE AT JORDAN PHOSPHATE MİNES CO JPMC":** This research is the fulfilment of completing my Master of Business Administration from Karabuk University, I would appreciate it if you could spare some time and think about completing the survey. I hope that you would corporate in completing the questionnaire to the best of your ability. This questionnaire consists of seven parts/sections. Part, one consists of questions about your demographic profile; continue with part two about Competitive Advantage, part three about Supply Chain Innovation, part Four about Risk Management Capability, part fife about Knowledge Management, part six about Company Culture, and part seven about Corporate Social Responsibility. All information provided in this survey will no means reflect the identity of the participants. It will be kept strictly confidential and will be used merely for academic purposes.

**THANK YOU**

Supply Chain Innovation Items

| |
|---|
| We adopt and encourage new products in the supply chain. |
| We exploit new products and processes in the supply chain. |
| We invest heavily in new technology and uses it to innovate products in the supply chain. |
| We encourage new employee ideas in the supply chain. |
| We radically adjust its strategy to adopt innovation in its activities in the supply chain. |
| We improve the current technology in the supply chain. |
| We improve its existing products and operations in the supply chain. |

Risk Management Capabilities Scale Items

| |
|---|
| JPMC has a policy for handling major risks that could affect the company ability to reach its strategic objectives |
| We have standard procedures in place for identifying major risks and opportunities |
| Risks and opportunities are analyzed as a basis for determining how they should be managed |
| We have standard procedures in place for launching risk-reducing measures |
| We regularly prepare risk reports for the top management and the board of directors |
| We have standard procedures in place for monitoring the developments in major risks and the risk-reducing measures launched |

Knowledge management Scale Items.

| |
|---|
| JPMC creates new knowledge for application across functional boundaries. |
| JPMC creates operations systems for application across functional boundaries. |
| JPMC has a standardized reward system for sharing knowledge. |
| JPMC engages in processes of integrating different sources of knowledge across functional boundaries. |

Company culture Scale Items.

| |
|---|
| JPMC members are satisfied by the degree of collaboration. |
| There is a willingness to collaborate across organizational units within JPMC. |
| JPMC members have reciprocal faith in others' ability. |
| JPMC members have reciprocal faith in others' behaviors to work toward organizational goals. |
| JPMC provides various formal training programs for the performance of duties. |
| JPMC encourages people to attend seminars, symposia, etc. |

Corporate social responsibility Scale Items

| |
|---|
| JPMC always respects the norms defined in the law when carrying out its activities |
| JPMC is concerned to fulfill its obligations vis-à-vis its shareholders, suppliers, distributors and other agents with whom it deals |

| |
|---|
| JPMC promotes equal opportunities to all, no discrimination in gender, disability, race, religion, etc. |
| JPMC ensures that the respect of ethical principles has priority over economic performance |
| JPMC avoids compromising ethical standards in order to achieve corporate goals |
| The employees of JPMC behave ethically/honestly with customers |
| JPMC provides full product information to customers |
| JPMC plays a role in our society that goes beyond the mere generation of profits |

Competitive Advantage Scale Items

| |
|---|
| The quality of the products that JPMC offers is better than that of its competitors. |
| JPMC is more capable of R&D and innovation than its competitors |
| JPMC has better managerial capability than its competitors |
| JPMC 's profitability is better than that of its competitors |
| JPMC's corporate image is better than that of our competitors |
| JPMC is much more flexible (regarding the risks and challenges) than its competitors |
| Overall, JPMC 's growth is better than that of its competitors |

**APPENDIX B**
**SPSS Results**

## Descriptives

### Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| CA1 | 105 | 1 | 5 | 3.59 | 1.062 |
| CA2 | 105 | 1 | 5 | 3.67 | .957 |
| CA3 | 105 | 1 | 5 | 4.01 | 1.070 |
| CA4 | 105 | 1 | 5 | 3.76 | 1.005 |
| CA5 | 105 | 1 | 5 | 3.86 | .837 |
| CA6 | 105 | 1 | 5 | 4.12 | 1.026 |
| CA7 | 105 | 1 | 5 | 3.72 | 1.005 |
| SCI1 | 105 | 1 | 5 | 3.74 | .931 |
| SCI2 | 105 | 1 | 5 | 3.92 | 1.124 |
| SCI3 | 105 | 1 | 5 | 3.56 | 1.091 |
| SCI4 | 105 | 1 | 5 | 3.80 | 1.023 |
| SCI5 | 105 | 1 | 5 | 3.81 | 1.169 |
| SCI6 | 105 | 1 | 5 | 3.81 | 1.127 |
| SCI7 | 105 | 1 | 5 | 3.76 | 1.079 |
| RM1 | 105 | 1 | 5 | 3.79 | 1.149 |
| RM2 | 105 | 1 | 5 | 3.71 | 1.007 |
| RM3 | 105 | 1 | 5 | 3.70 | 1.073 |
| RM4 | 105 | 1 | 5 | 3.82 | 1.125 |
| RM5 | 105 | 1 | 5 | 3.53 | .961 |
| RM6 | 105 | 1 | 5 | 3.78 | 1.047 |
| KM1 | 105 | 1 | 5 | 3.75 | 1.133 |
| KM2 | 105 | 1 | 5 | 3.63 | 1.021 |
| KM3 | 105 | 1 | 5 | 3.64 | 1.161 |
| KM4 | 105 | 1 | 5 | 3.82 | 1.133 |
| CC1 | 105 | 1 | 5 | 3.58 | 1.108 |
| CC2 | 105 | 1 | 5 | 3.70 | 1.048 |
| CC3 | 105 | 1 | 5 | 3.90 | 1.097 |
| CC4 | 105 | 1 | 5 | 3.76 | 1.005 |
| CC5 | 105 | 1 | 5 | 3.86 | .975 |
| CC6 | 105 | 1 | 5 | 3.73 | 1.103 |
| CSR1 | 105 | 1 | 5 | 3.68 | 1.139 |
| CSR2 | 105 | 1 | 5 | 3.71 | 1.081 |
| CSR3 | 105 | 1 | 5 | 3.70 | 1.194 |

| | | | | | |
|---|---|---|---|---|---|
| CSR4 | 105 | 1 | 5 | 3.78 | 1.092 |
| CSR5 | 105 | 1 | 5 | 3.61 | 1.024 |
| CSR6 | 105 | 1 | 5 | 3.96 | 1.028 |
| CSR7 | 105 | 1 | 5 | 3.90 | 1.043 |
| CSR8 | 105 | 1 | 5 | 3.59 | 1.141 |
| Valid N (listwise) | 105 | | | | |

**Correlations**

| | | CA | SCI | RM | KM | CC | CSR |
|---|---|---|---|---|---|---|---|
| CA | Pearson Correlation | 1 | .973** | .943** | .859** | .894** | .964** |
| | Sig. (2-tailed) | | .000 | .000 | .000 | .000 | .000 |
| | N | 105 | 105 | 105 | 105 | 105 | 105 |
| SCI | Pearson Correlation | .973** | 1 | .953** | .866** | .901** | .963** |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .000 | .000 |
| | N | 105 | 105 | 105 | 105 | 105 | 105 |
| RM | Pearson Correlation | .943** | .953** | 1 | .861** | .867** | .949** |
| | Sig. (2-tailed) | .000 | .000 | | .000 | .000 | .000 |
| | N | 105 | 105 | 105 | 105 | 105 | 105 |
| KM | Pearson Correlation | .859** | .866** | .861** | 1 | .818** | .870** |
| | Sig. (2-tailed) | .000 | .000 | .000 | | .000 | .000 |
| | N | 105 | 105 | 105 | 105 | 105 | 105 |
| CC | Pearson Correlation | .894** | .901** | .867** | .818** | 1 | .899** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | | .000 |
| | N | 105 | 105 | 105 | 105 | 105 | 105 |
| CSR | Pearson Correlation | .964** | .963** | .949** | .870** | .899** | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | .000 | |
| | N | 105 | 105 | 105 | 105 | 105 | 105 |

**. Correlation is significant at the 0.01 level (2-tailed).

## Regression of SCI

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .973[a] | .946 | .945 | .17190 |

a. Predictors: (Constant), SCI

b. Dependent Variable: CA

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 53.171 | 1 | 53.171 | 1799.425 | .000[b] |
| | Residual | 3.044 | 103 | .030 | | |
| | Total | 56.215 | 104 | | | |

a. Dependent Variable: CA

b. Predictors: (Constant), SCI

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | .243 | .086 | | 2.823 | .006 |
| | SCI | .948 | .022 | .973 | 42.420 | .000 |

a. Dependent Variable: CA

## Regression of Risk Management Capabilities

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .943[a] | .889 | .888 | .24561 |

a. Predictors: (Constant), RM

b. Dependent Variable: CA

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 50.001 | 1 | 50.001 | 828.863 | .000[b] |
| | Residual | 6.214 | 103 | .060 | | |
| | Total | 56.215 | 104 | | | |

a. Dependent Variable: CA

b. Predictors: (Constant), RM

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .453 | .119 | | 3.800 | .000 |
| | RM | .904 | .031 | .943 | 28.790 | .000 |

a. Dependent Variable: CA

## Regression of Knowledge Management

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .859[a] | .737 | .735 | .37853 |

a. Predictors: (Constant), KM

b. Dependent Variable: CA

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 41.456 | 1 | 41.456 | 289.320 | .000[b] |
| | Residual | 14.759 | 103 | .143 | | |
| | Total | 56.215 | 104 | | | |

a. Dependent Variable: CA

b. Predictors: (Constant), KM

**Coefficients[a]**

| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 1.213 | .158 | | 7.699 | .000 |
| | KM | .702 | .041 | .859 | 17.009 | .000 |

a. Dependent Variable: CA

## Regression of company culture

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .894[a] | .799 | .797 | .33095 |

a. Predictors: (Constant), CC

b. Dependent Variable: CA

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 44.934 | 1 | 44.934 | 410.259 | .000[b] |
| | Residual | 11.281 | 103 | .110 | | |
| | Total | 56.215 | 104 | | | |

a. Dependent Variable: CA

b. Predictors: (Constant), CC

**Coefficients[a]**

| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | .760 | .154 | | 4.921 | .000 |
| | CC | .815 | .040 | .894 | 20.255 | .000 |

a. Dependent Variable: CA

## Regression of CSR

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .964[a] | .930 | .929 | .19554 |

a. Predictors: (Constant), CSR

b. Dependent Variable: CA

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 52.277 | 1 | 52.277 | 1367.207 | .000[b] |
| | Residual | 3.938 | 103 | .038 | | |
| | Total | 56.215 | 104 | | | |

a. Dependent Variable: CA

b. Predictors: (Constant), CSR

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | .242 | .099 | | 2.453 | .016 |
| | CSR | .956 | .026 | .964 | 36.976 | .000 |

a. Dependent Variable: CA

## CURRICULUM VITAE

Iyad Abdel Rauof Oklah ALSHEYAB, graduated from the Department of Tourism Management, College of Tourism, Yarmouk University 2018, and is currently a master's student at Karabuk University.