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**The impact of effective management on the efficiency of supply chains in Saudi
Arabia**

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أثر الإدارة الفعّالة على كفاءة سلاسل الإمداد في المملكة العربية السعودية

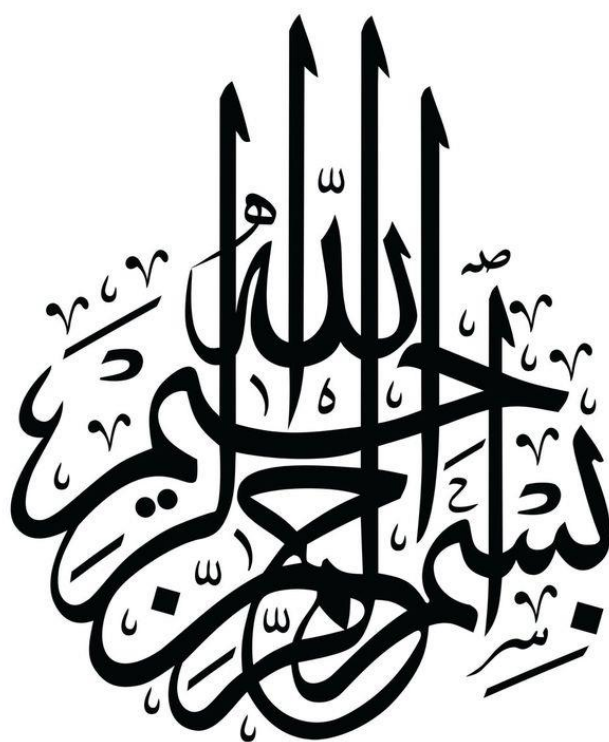
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شكراً وتقديراً

الحمد لله حمداً كثيراً، والصلاة والسلام على أشرف الأنبياء والمرسلين سيدنا محمد عليه أفضل الصلاة وأتم التسليم وبعد:

أتقدم بالشكر والتقدير لجامعتنا الموقرة جامعة ميدأوشن ممثلة في مؤسسها معالي المستشار الأستاذ/ ناصر الحميميد، ومديرها الدكتور/ محمد أحمد . الذين اتاحوا لنا هذه الفرصة لمواصلة الدراسة والوصول لهذه المرحلة.

كما أتقدم بجزيل الشكر والعرفان للدكتور/ وليد سليمان والدكتور/ الفيصـل عبد الحميد على جهودهم ونصائحهم وتقديمهم لنا كل الدعم لاستكمال هذا البحث.

كما أشكر جميع أعضاء هيئة التدريس الذين علمونا العلم بكل صدر رحب خلال الفترات السابقة ولم يخلوا علينا بتقديم العلم والمعرفة الذي نفعنا في دراستنا وحياتنا .

وختاماً أشكر كل من ساهم في ظهور هذا العمل من دعم وتوجيه.

واسأل الله لي ولكم كل التوفيق ،،،

الباحثون

تركي القرني

رائد المدني

1. Introduction

Emerging in the face of a dynamic environment of international trade, the effective control of supply chains is the key to organizations' success and a medium for transparent interaction and participation and the use of needed resources. The significance of supply chain efficiency must be recognized in the changing economic systems of Saudi Arabia, particularly while there is high technology development and market dynamics. All the problems, ranging from regulations to managing cultural differences, can be resolved if the managers perform their work properly. The goal of the Saudi Arabian case is to establish a partnership between supply chain efficiency and management effectiveness. The study is concerned with the critical evaluation of the existing practices, starting with the critical areas and moving to possible ways forward. This study will provide useful information for the audience of industry players, policymakers, and academia. Instead of increasing the knowledge base in supply chain management, the research also intends to build organizational resilience and competitive ability in Saudi Arabia's business environment by investigating the link between management methods and supply chain performance.

1.1 Research Problem

The practical case studies the varied supply chain management operational processes appropriate for the distinctive Saudi Arabian geography. First, this research aims to exhaustively research the SCM practices that already exist in the Kingdom. The following areas will be covered: technology adoption, partnership with suppliers, and logistics, which will then be highlighted as the main organizational strategies and their effectiveness in improving the company's performance (Mahdaly N.A & Adeinat S., 2022). In addition, research is conducted to identify and study critical points that directly affect the efficiency of a supply chain in Saudi Arabia. These challenges are infrastructural barriers, regulatory challenges, implementation of technological innovations, and cultural constraints, all of which are crucial factors that determine the landscape of the operational system (Azmi et al., 2022). Furthermore, a study was also conducted on the non-direct effects on the efficiency of the supply chain by advocating for data analysts instead of managers at the senior management level to increase organizational effectiveness (Elgendy, 2021). Ultimately, the study will be trying to uncover techniques that we can use in the search for the undesirable aspects of the supply chain and how we can draw maximum benefits from available resources utilizing an efficient management style, the results of which can be used by industry workers and policymakers alike (Zimon et al., 2019). This study aims to add to the body of knowledge on supply chain management, helping articulate the strategic direction better in the context of business dynamism in the Saudi business environment.

1.2 Research Importance

The study provides significant contributions to advancing knowledge in fields including supply chain management, organizational behavior, and business strategy by modeling the nuanced relationship between effective management techniques and supply chain effectiveness within the framework of Saudi Arabia. This research increases our understanding of the interplay between management strategies and efficiency and provides practical insights into management practices and the decision-making process in business management and operations.

1.3 Research Objective

To achieve its objectives, the study will address the following questions:

- 1- What are the prevailing supply chain management practices in Saudi Arabia, and how do they contribute to organizational efficiency?

2- What are the primary challenges and opportunities affecting supply chain performance in the Saudi Arabian context?

3- How does big data analysis indirectly influence supply chain efficiency, and what are the implications for managerial skill development?

4- What strategies can enhance supply chain performance through effective management practices in Saudi Arabia?

1.4 Research Hypotheses:

Based on the identified issues and questions, the study formulates the following hypotheses:

1- H1: A positive correlation exists between adopting advanced technology and supply chain efficiency in Saudi Arabia.

2- H2: Regulatory constraints negatively impact supply chain performance but can be mitigated through effective management strategies.

3- H3: Managerial and analytical skill development positively mediates the relationship between big data analysis and supply chain efficiency.

4- H4: Implementing collaborative strategies with suppliers improves logistical efficiency and supply chain performance in the Saudi Arabian context.

1.5 Literature Review:

Current Supply Chain Management Practices in Saudi Arabia

Saudi Arabia has witnessed amazing changes in supply chain management techniques resulting from technological advances and globalization. For instance, Wagner et al. (2024) found that using blockchain, artificial intelligence, and other smart technologies has significantly increased visibility and ease of operation. Consequently, the main approach will be collaboration with suppliers who will expedite procurement processes and increase overall efficiency. More and more Saudi Arabian corporations are using supplier partnerships to innovate, save costs, and take over the risks of supply chain disruptions (Syed et al., 2020). Furthermore, a similar trend is also taking place in logistics efficiency, where firms are expanding their infrastructure in various routes and transportation systems to speed up the movement of goods and lower the lead time. Nevertheless, bringing big data to its optimum

requires technical abilities and managerial analytical skills (Hallikas et al., 2021). Translating Data into Actionable Insights requires a workforce with analytical competencies that allow informed decision-making

Challenges and Opportunities Impacting Supply Chain Efficiency

Despite the advances in supply chain management, Saudi Arabia still faces various obstacles, creating serious problems for its effectiveness and competitiveness. Non-tariff measures such as customs regulations and trade barriers may occasionally cause difficulty in trade, delay shipments, and, consequently, cause costs (Moradlou et al., 2021). Also, infrastructural problems, e.g., deficient transport infrastructure and port congestion, undermine smooth delivery and incur extra logistics costs. However, although obstacles are inevitable in this situation, there is a chance to move forward. Companies can leverage the effects of digital developments, including cloud computing and IoT devices, to enhance supply chain visibility and efficient inventory management (Sallam et al., 2023). Cultural considerations should also be given due attention, as what managers of firms must face when working with suppliers and buyers is the diversity in their cultural norms and customs.

Big Data Analysis and Managerial Analytical Skill Development

Big data analytics have been the game changer in supply chain management by unfolding unthought-of data about consumer behavior, market trends, and operations performance. Hallikas et al. (2021) commented that big data analytics indirectly impacts supply chain effectiveness by accurately forecasting demand, optimizing inventory levels, and identifying areas for improvement. Nevertheless, bringing big data to its optimum requires technical abilities and managerial analytical skills (Hallikas et al., 2021). Translating Data into Actionable Insights requires a workforce with analytical competencies that allow informed decision-making.

Strategies for Enhancing Supply Chain Performance

Given the challenges and opportunities presented above, companies in Saudi Arabia are putting in place various strategies to improve supply chain performance and remain competitive. Hasan et al. (2024) claimed that strategic cooperation with suppliers will bring suppliers closer, enhance communication, and trigger innovation. By aligning objectives and sharing information, companies can decrease lead times, minimize costs, and improve supply chain agility. Moreover, as part of technology infrastructure,

investments in warehouse automation and predictive analytics enable companies to increase visibility, optimize inventory management, and reduce risks (Hasan et al., 2024). In addition, sustainability in supply chain management is being acknowledged gradually, and companies are incorporating environmental concerns in procurement and logistics practices to reduce carbon footprint and enhance corporate social responsibility. Translating Data into Actionable Insights requires a workforce with analytical competencies that allow informed decision-making.

1.6 Research Methodology

In order to ensure it is properly designed and structured, the systematic approach for the literature review will be needed by using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) construct. Through the Prisma review method, the paper selection process will be rigorous and transparent to Saudi Arabia's supply chain management researchers. Only the latest sources, at most five years ago, which can be guaranteed to provide up-to-date and relevant information, will be considered (Xiang et al., 2021). Keywords related to the research topic will be used to perform web searching, such as: "supply chain management," "Saudi Arabia," "technology adoption," "collaboration with suppliers," and "logistical efficiency".

1.7 Research Limitations

The limitation of this study is the narrow literature review lens. While the topic and purpose are covered in the presented research, some relevant studies may be missed due to limited database coverage or search terms limitations. Another important issue in information retrieval is the time restrictions to only articles published within the last five years, which may exclude much relevant data from older studies (Page et al., 2021). Nonetheless, the study will ensure an implementation of the PRISMA guidelines and systematic review process to eliminate bias and enhance the validity and accuracy of the outcomes.

1.8 The General Perception of the research structure

The given research structure outlines an organized and thorough investigation on the impact of effective management on supply chain efficiency in Saudi Arabia. Such an investigation clearly defines its research objectives, hypotheses, and uses a systematic methodology for inquiry. A literature review, on modern articles filtered through the PRISMA framework, will ensure the incorporation of recent and relevant literature in the study. As part of the process, this study also identifies key problems and opportunities, along with the development of ways of optimization to address the problem.

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