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A MODEL FOR MEASURING THE IMPACT OF BUSINESS INTELLIGENCE SYSTEM ON THE AGILITY OF THE SUPPLY CHAIN

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Abstract

This study examines the influence of Jordanian Arab Potash Company's business intelligence system on the supply chain's agility. The population of this study consists of managers with diverse administrative specializations. As the firm's principal resource, consumers are the focus of every endeavor to develop the Arab potash company in Jordan; consequently, knowing the consequences of a business intelligence system is crucial and extremely vital. Arab potash companies still require research in order to better serve their clients. In light of this, the primary objective of this study is to build a theoretical framework for examining the important factors that may influence the primary impact of a business intelligence system on enhancing the supply chain agility of an Arab potash organization in Jordan. The conclusion of the report provides a comprehensive illustration of the proposed research model.

Keywords: Business intelligence system, supply chain management, Agility, Customer satisfaction,

1. INTRODUCTION

Organizations are interested in the supply chain because of its potential to reduce costs while increasing the timeliness and accuracy of product delivery (Craighead et al., 2020). The supply chain plays an essential role in the prosperity of businesses, which in turn benefits consumers and advances society (Barakat S., 2022).

In today's worldwide economy, many businesses are racing to keep up with the competition (Ahmad & Mustafa, 2022). This necessitates reengineering the systems and procedures adopted by enterprises to respond to customers and beneficiaries rapidly and credibly inside and outside the organization (Hammouri Q et al., 2022). (Tallon et al., 2022). When it comes to accomplishing this goal, information and communication technology (ICT) is indispensable. Through the use of ICT, businesses have been able to better coordinate their internal operations and those of their suppliers and customers (Irfan et al., 2019).

Companies need improved supplier and customer harmony in order to be more nimble across the strategic, tactical, and operational levels (Al Humdan et al., 2020). This takes a level of collaboration beyond within a single organization alone. Facilitating a flexible supply chain will help accomplish this goal. One definition of supply chain agility is "the integration of supply chain awareness of changes (opportunities/challenges) - both internal and external -

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with supply chain capability of using resources in responding (proactively/reactively) to such changes, all in a timely and flexible manner" (Ahmad H. et al., 2017).

Maintaining strong ties with one's suppliers, distributors, and other business partners is made possible by an agile supply chain, which in turn allows for the discovery of new market openings (Mukhsin & Suryanto, 2021). Supply chain agility is greatly aided by the widespread adoption of information and communication technologies (Al Humdan et al., 2020). While this is going on, both the supply chain's roles and the capabilities of ICT will change and adapt (O'Leary, 2020). Various forms of ICT, from the most basic to advanced business intelligence skills, provide essential assistance for the supply chain (Richter et al., 2022).

Business intelligence (BI) "is a set of enterprise decision support technology designed to help people like executives, managers, and analysts make better and faster decisions" (Ahmad H. et al., 2018) Business intelligence (BI) facilitates decision-making by allowing for the aggregation of data, integration of different types and sources of data, storage and processing of massive amounts of data, the discovery of novel knowledge, and the development of accurate forecasts (Hanandeh A. 2017). Through the use of the insights gained through BI, businesses are better able to act strategically (Ahmad & Mustafa, 2022). That is, BI aids management in making decisions in dynamic environments by drawing on insights from complex data analysis (Awawdeh et al., 2022). This, in turn, allows the supply chain to offer a competitive advantage by assembling information and knowledge swiftly and in a timely manner, thus capitalizing on opportunities presented by sudden uncertainties and disruptions of markets (Elgendy, 2021).

Developing countries, in particular, have paid scant attention to the role of BI in attaining an agile supply chain (Duche-Pérez et al., 2022). The goal of this project is to provide the groundwork for future research into the impact that BIS might have on the responsiveness of the supply chain at a Jordanian Arab potash company. Future research using the Arab potash firm in Jordan as the unit of analysis should assess the efficacy of this strategy, it is argued. The researchers hope to produce a survey in the near future for users or organizations to complete in order to put the framework to the test in a real-world situation and verify the findings of earlier studies about the link between study factors.

2. LITERATURE REVIEW

2.1. Business Intelligence System

The problems that companies had while trying to own and manage big data were summed up by its volume, quality, accuracy, and validity. Therefore, the business intelligence strategy has evolved as an effective and novel approach to acquiring an edge in the market by discovering and extracting previously unrealized value (Al-Zagheer H. et al., 2022). Business intelligence systems (BIS) substantially facilitate an organization's storage, management, analysis, and weaving of its data in order to get insights and generate unique goods and services (Ahmad H. 2021). Organizations are using analytical business intelligence tools because of the complexity of the process required to achieve business performance, the difficulty of current work without

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the extensive use of technological systems, and the ability of organizations to deal with and analyze big data and try to extract new values (Setiawan et al., 2021). By storing data in data warehouses, categorizing it, ensuring its accuracy, and searching for new relationships between data, organizations can gain the capability to extract new ideas, support the decision-making process, solve complex and intractable problems, and finally provide new services and products to customers (Ahmad & Mustafa, 2022).

Competence in business intelligence (BI) management is the collection of actions taken by leaders to convert organizational capabilities into valuable output and to back up competitive strategy (Yiu et al., 2020). A company's supply chain, in particular, may suffer from a lack of BI managerial competency (Hanandeh A, 2022). Managerial proficiency in business intelligence is widely recognized as a key facilitator of supply chain agility. This is because it covers a wide range of useful tasks, such as business analysis and decision making, information and knowledge management, company and staff management, and understanding of industry and competitive strategy (Burin et al., 2020). Supply chain agility (Kaur, 2021) and flexibility (Burin et al., 2020) and organizational agility (all three) have been shown to be significantly facilitated by managerial competency in business intelligence (BI) (Campos et al., 2019, Hanandeh A, 2022).

When it comes to achieving an agile supply chain, BI cultural competence refers to the extent to which a company treats information and knowledge as valuable tools in support of decision-making across the board (Sakas et al., 2021). In today's interconnected world, the capacity to bridge cultural gaps using business intelligence (BI) is critical (Pasaribu et al., 2022). Supporting business initiatives requires a culture of information and knowledge collection and sharing within businesses (Ganguly et al., 2019). According to studies, having culturally competent business intelligence (BI) is a key enabler of supply chain agility (Phutthiwat et al., 2020) and effective business processes (Al-Maaitah, 2018).

BI tools are more vital to firms as the importance of information and knowledge gathering, analysis, and sharing in decision-making processes rises across all levels of management and all business activities (Jayakrishnan et al., 2022). Businesses need a conducive environment and well-trained personnel to fully take advantage of BI's potential in fostering a flexible supply chain (Hanandeh A et al., 2021). Technical proficiency in business intelligence is a crucial factor in the success of BI systems (Mudzana & Maharaj, 2017). Dedi & Stanier (2017) and Miller (2019) both find that BI technical expertise is a crucial enabler of efficient organizational performance (Hammouri Q et al., 2022).

2.2 The agile of supply chain

The supply chain agility has been the subject of intensive study in both academic and business circles (Hanandeh A. et al., 2017). Agility in the supply chain is fundamental to establishing, maintaining, and expanding a company's competitive edge (Chen, 2019). Plus, having a flexible supply chain is good for corporate sustainability and logistics (Bicocchi et al., 2019). The term "supply chain agility" describes a company's ability to adapt to new circumstances,

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as well as its willingness to monitor and adapt to external factors in order to anticipate and prepare for potential disruptions (Gligor et al., 2019).

It's inevitable that something will happen that will cause a disruption to your plans. All links in the supply chain can be severely disrupted by events like political unrest, natural disasters, and supplier failures (Sakib et al., 2021). As a result, businesses need the ability to foresee change in order to address emerging issues and capitalize on emerging possibilities (Sheng et al., 2021). This necessitates the flexibility of the supply chain to speed up or slow down as needed and to inspire novel forms of customization on the part of the end users (Hanandeh A. et al., 2019). Doing so requires the supply chain's capacity to connect business processes both within the company and with its business partners (Bag et al., 2020).

Companies can benefit from an agile supply chain because it allows them to reduce manufacturing costs, enhance customer relationship management, and get rid of wasteful business procedures and activities, all of which contribute to the company's ability to stay competitive (Wu & Barnes, 2018). According to the findings, ICT can boost supply chain agility in both planned and unplanned ways (Al Humdan et al., 2020). Whereas traditional ICT can only back up reactive strategies, BI can back up both kinds of strategies (Poll et al., 2018).

3. DISCUSSION AND CONCLUSION

This study is mostly about the theoretical framework, which is based on research that has already been done in the field. In this study, we focused on how three variables of a business intelligence system (management skills, cultural proficiency, and technical proficiency) affect the agility of a supply chain in an Arab potash firm in Jordan. The proposed model is shown in the picture below.

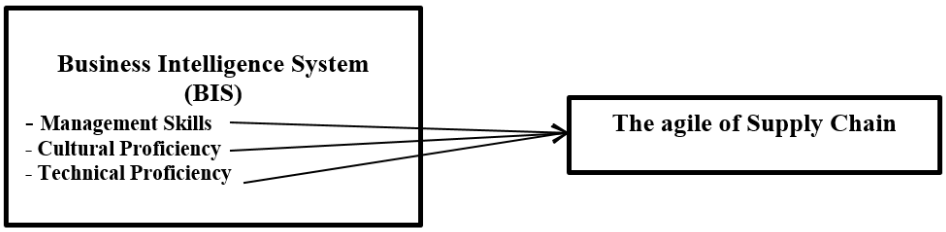

Figure1: Model Concept of the impact of Business Intelligence System on the agile of supply chain Adopted from (Obidat et al., 2023).

It is proposed that future study taking into consideration this model especially in the potash sector in Jordan. The researchers anticipate developing a survey in the near future for users or organizations to fill out in order to test the framework practically and confirm the results of previous studies regarding the impact of Business Intelligence systems on the agile of supply chain.

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