

Literature Review on Green Supply Chain Management and Competitive Advantage in Manufacturing Companies in Jordan

Omar Talal Almereb

Ph.D. Student, School of Management, Universiti Sains Malaysia, Penang, Malaysia,
Email: omartalal@student.usm.my

Prof. Dr. Noorliza Binti Karia

Associate Professor, School of management, Universiti Sains Malaysia, Penang, Malaysia,
Email: noorliza@usm.my

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Abstract

There has become a comprehensive awareness among stakeholders of the potentially life-ending effects that industrial companies can perpetuate through their operations. As a result, these reasons prompted industrial companies to reconsider how to go about green operations. Customers have become aware of the culture of green practices, and their preference for the low prices they can get from companies that are environmentally ignorant in their operations. Hence, this study aims to test the relationship between green supply chain management practices and competitive advantage in the Jordanian industrial sector. The methodology of the current study was through an extensive search of research and papers published in databases such as Scopus, Google Scholar, and Web of Science. In this study, detailing the dimensions of green supply chains is also another goal. The results of the study showed that internal green supply chains (Internal environment management, eco-design) and external green supply chains (Green purchasing, customer cooperation, investment recovery) It has a positive role in achieving competitive advantage (cost advantage and differentiation advantage) in the industrial sector. This study will provide fruitful insight for industrial companies and valuable recommendations for future research.

Keywords: Green Supply Chain Management (Gscm), Competitive Advantage (Ca)

Introduction

There has become a comprehensive awareness of governments and consumers of the effects that industrial companies can perpetuate through their operations, which can end their lives and the emergence of chronic diseases for them. As a result, these challenges prompted

industrial companies to look at their operations, improve them, and move towards making them green. As customers have become aware of the culture of green practices and the application of environmentally friendly practices in preference to the low prices that they can receive from companies that are ignorant of the environment in their operations (Boronat & Pérez, 2020). In turn, he declares that industrial companies need to apply green practices and preserve the environment in their operations to gain a competitive advantage in the markets and avoid legal accountability from governments (Karia & Asaari, 2016; Arsawan et al., 2021). As Green Supply Chain Management (GSCM) considers a sustainable strategy to preserve the environment and achieve a sustainable economic competitive advantage in the markets (Wahat & Idris, 2012). This study deals with the field of internal and external GSCM as a promising future field of research and its impact on competitive advantage (cost advantage and differentiation advantage) in a developing country such as Jordan.

The purpose of this paper is to discover the impact of GSCM practices on competitive advantage in the Jordanian industrial sector by reviewing and summarizing the existing literature. It was found that previous studies on the application of GSCM in influencing competitive performance in Jordan are vague and need further research and some suggestions for future research.

Objectives of the Study

- 1: To determine the relationship between of internal green supply chain management and cost advantage.
- 2: To determine the relationship between of internal green supply chain management and differentiation advantage.
- 3: To determine the relationship between of external green supply chain management and cost advantage.
- 4: To determine the relationship between of external green supply chain management and differentiation advantage.

Literature Review

RBV Theory

The RBV theory explains that companies adopting sustainable practices, applying green in their operations, and possessing rare and valuable materials make them excel and achieve sustainable competitiveness. Advantage in markets (Barney, 2001; Hart, 1995). RBV also stimulates environmental initiatives and collaborates with suppliers and customers to achieve environmental sustainability, leading us to create a sustainable competitive advantage (Hart & Dowell, 2011). Previous studies have confirmed the ideas of RBV theory, where sustainability and institutional implementation of GSCM are key factors in achieving competitive advantage (UDDIN 2021; Han & Huo, 2020).

Green Supply Chain Management

Green standards and environmental sustainability have recently attracted attention and expanded to include all sections of the supply chain and operations (Khaksar et al., 2016). Previous studies and literature have confirmed that green supply chain practices can be applied to all stages of the product life cycle, starting from raw materials and transportation and the end of the product's arrival to customers and its subsequent recycling. Beamon (1999, p.332) defines a green supply chain as "the extension of the traditional supply chain to include activities that aim at minimizing environmental impacts of a product throughout its entire

cycle, such as green design, resource saving, harmful material reduction and product recycle and reuse". Also, Torielli et al. (2011) GSCM is defined as a way for companies to make their operations environmentally friendly. In the same context, they see Kim and Min (2011) that GSCM is the development of traditional supply chain operations to be environmentally friendly in all its parts, including suppliers, transportation of raw materials, storage, manufacturing, design, and distribution of products in an environmentally friendly manner. The researchers had some different views on the dimensions of green supply chain practices. According to Pham &Pham (2017) and study, four dimensions of the green supply chain are green purchasing, green manufacturing, green distribution, and reverse logistics. Eltayeb et al. (2010) supposes through their study that there are three dimensions to the green supply chain: green purchase, green production and investment recovery. Through previous studies, the researcher sees multiple classifications of GSCM. To achieve a green supply chain that supports the environment, the researcher in this study used the most common classification, which is classified into five dimensions GSCM and constitutes internal environmental management, Eco-design, investment recovery, green purchasing, cooperation with customers (Zhu et al., 2008; Bhatia and Gangwani, 2021; Alghabshehet al., 2022).

Internal GSCM

Internal environment management (IEM)

IEM is the practice of developing green supply chain management as a strategic organizational imperative through commitment and support of the imperative from senior and mid-level managers (Sahoo & Vijayvargy, 2021; Zhu et al., 2008).

eco-design (ED)

ED requires that manufacturers design products that minimize consumption of materials and energy, that facilitate the reuse, recycle, and recovery of component materials and parts, and that avoid or reduce the use of hazardous products within the manufacturing process (Sahoo & Vijayvargy, 2021; Green et al., 2012).

External GSCM

Green purchasing (GP)

GP focuses on cooperating with suppliers for the purpose of developing products that are environmentally sustainable (Sahoo & Vijayvargy, 2021; Zhu et al., 2008).

customer cooperation (CC)

CC requires working with customers to design cleaner production processes that produce environmentally sustainable products with green packaging (Sahoo & Vijayvargy, 2021; Green et al., 2012).

Investment recovery (IR)

IR requires the sale of excess inventories, scrap and used materials, and excess capital equipment (Sahoo & Vijayvargy, 2021; Zhu et al., 2008; Green et al., 2012).

Competitive Advantage

Companies can reach a sustainable competitive ability by adapting to their external environment by differing from competitors in technological advantages and by achieving customer satisfaction and their preferences (Wainaina, 2020). They reported Blackburn et al. (2004) that the competitive advantage helps the company increase sales, sustainability and continuity in the markets, as well as owning the largest market shares. Sustainable Competitive advantage can be defined as the situation owned by the company in terms of

consideration, distinction, and uniqueness from competitors in the market (Al-Hawajreh and Attiany, 2014). The sustainable competitive advantage can also be defined as that the company has a better economic value than its competitors in the same field of production or services (Porter, 1996). There is no very clear and explicit definition of competitive advantage (Cegliński, 2016; Sigalas & Economou, 2013). They adopted Jia and Wang (2018) the dimensions of competitive advantage in their study as a general competitive advantage (quality, cost, flexibility, unique) and an environmental competitive advantage (a sustainable competitive advantage that works on avoid environmental hazards). In this study, we adopted the dimensions of the studies Porter (1985) and Mathu (2021) confirmed that the competitive strength of the company is in two ways: cost advantage and differentiation advantage.

Cost advantage

The cost advantage is referred to as the ability of the company to provide products that are similar or better than the characteristics of the products of its competitors in the market, but at a better and lower price (Wang et al., 2011). Emphasizes Porter (1980) that companies should not follow the lowest cost strategy in the aspects of quality, advertising, research and development of products, as it affirms that these factors achieve the cost advantage in addition to the advantage of difference. They found Spanos et al. (2004) that the application of the cost advantage in companies is easier and returns more profits. Low prices of products attract the attention of customers, sometimes without regard to their quality.

Differentiation advantage

Differentiation is referred to as the company's ability to provide products or services that have characteristics or benefits that are superior to those of its competitors (Wang et al., 2011). Explained Acquaah (2011) that the company should distinguish itself from its competitors through quality, application of modern technology, flexibility, dedication to providing good customer service, innovation and others to achieve a unique competitive advantage for the company. However, companies that use this feature give high prices to their products, due to the value added tax of the product, which distinguishes it from other products (Wang et al., 2011).

GSCM and Competitive Advantage

Internal GSCM and Competitive Advantage

Internal GSCM are created and executed to lessen environmental harm, and this is the company's internal responsibility (Zhu et al., 2013). However, Companies must understand that internal GSCM enforcement goes beyond environmental responsibilities. They affirm Yang et al. (2013) that businesses can improve their competitive edge in the marketplace by implementing internal green practices. Internal environment management and eco-design succeed in developing confidence among consumers and proving product differentiation through the environmental quality of products and their non-impact on the environment, thus increasing purchases and this in turn enhances the competitive advantage of the company (Lee and Lim, 2020). Likewise, eco- design is taken into account during the manufacture of products, as they are easy to disassemble and recycle later, and production processes are designed to reduce energy depletion, which always aims to obtain high-quality products at a lower cost (Staccione, 2018). Also, Marhamati and Azizi (2017) agrees with previous studies that internal GSCM is one of the factors for achieving a sustainable

competitive advantage for companies by reducing costs and disposing of waste in an environmentally friendly manner that benefits companies.

External GSCM and Competitive Advantage

External GSCM practices are directed towards integrating the relationship, first with suppliers through green purchasing, and finally with customers (Zhu et al., 2013). Porter (1985) and Vachon and Klassen (2006) confirms that the competitive advantage of companies can be enhanced through cooperation with suppliers and customers. Like that, collaborating with clients to create and produce environmentally friendly products can lead to cost advantages (Laari et al. ,2018). And, owning high quality products and thus achieving the advantage of differentiation from competitors (Alghababsheh et al., 2022; Hadid, 2019). As a result, Dangelico and Pontrandolfo (2015) recommend companies build a relationship with customers to achieve a different competitive advantage over. Equally important is the view of Al-khawaldah et al. (2022) and Alzubi and Akkerman (2022). Green procurement and collaboration with suppliers to obtain environmentally friendly and rare raw materials has an impact on achieving competitive advantage for companies. The studies presented previously confirmed that external GSCM has a positive relationship with competitive advantage (Al-khawaldah et al.,2022; Alzubi and Akkerman,2022; Hadid, 2019; Laari et al.,2018).Furthermore, investment recovery aided in achieving an environmental and economic competitive advantage by reducing product costs and achieving customer satisfaction and loyalty by selling non-working machines and excess materials to be recycled by other companies (Toffel, 2004).

Conceptual framework

The conceptual framework of the study from the above literature reviews, the following conceptual framework is developed for the current study: The achievement Factors included in the conceptual framework are Green Supply Chain Management (GSCM), competitive advantage (CA). (Fig. 1)

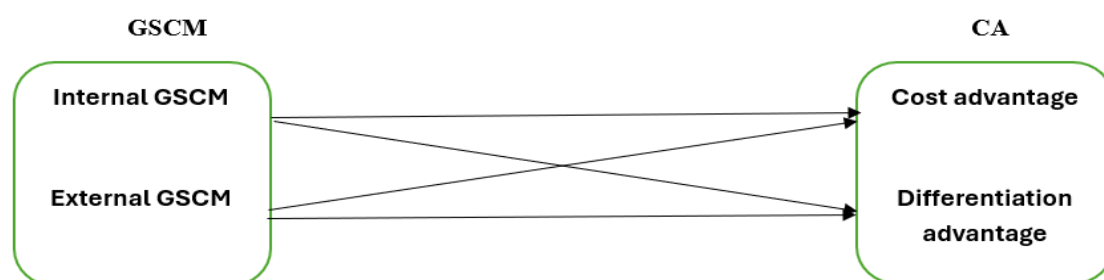


Figure 1 Conceptual framework

Source: Researcher, 2024

3.Jordanian industry sector

As industry is one of the largest contributors to environmental pollution, it has caused a significant impact on the environment and humans (Wang and Yang, 2021). However, the industrial sector in Jordan is considered an essential pillar of support for the national economy, thanks to its significant contributions to social and economic development in Jordan. These advantages are evident in its direct contribution of 25% of the GDP, and through its close connection and ability to operate and stimulate a number of other sectors.

Its contribution amounts to about 40% of the GDP (JCI, 2023). Therefore, companies began to widely adopt the green color in the industrial sector (Wang and Yang, 2021).

Methodology

To study the success variables related with GSCM, the literature review paper used a methodological approach that was concentrated on completing a systematic and complete investigation of pertinent academic literature.

The methodology of the current study included an extensive search of research and papers published in databases such as Scopus, Google Scholar, and Web of Science, by using keywords and related search terms such as GSCM practices or GSCM. To ensure relevance and currency, inclusion criteria were limited to peer-reviewed journal articles and academic publications within a limitation time frame.

Conclusions

This study aims to conduct a comprehensive review of the literature to investigate the impact of applying GSCM practices on competitive advantage in Jordanian industry. GSCM practices, as a strategy for environmental protection, can make the industrial sector reduce greenhouse gas emissions, reduce polluting waste and save energy consumption, thus achieving a competitive advantage. Also, the importance of GSCM on competitive advantage has been widely discussed in research and adopted in practice (UDDIN, 2021; Jia and Wang, 2018). However, the results of previous studies on the relationship between GSCM and competitive advantage are still inconsistent (Razzak, 2023; UDDIN, 2021; Lin et al., 2020). Therefore, this study will explore the relationship to obtain new, more comprehensive results. Future studies could take into account some other factors that could enhance competitive advantage with GSCM, such as leadership, digital transformation, and green knowledge.

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