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Competitive Advantage Fostering Supply Chain Innovation

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Abstract
The purpose of this study is to examine the level and relationship between competitive advantage (CA) and supply chain innovation (SCI) among manufacturing firms in Malaysia. Manufacturing supply chain needs to innovate constantly for maintaining their position in the marketplace and also to fight uncertainties. In line with following objectives, this study employs a quantitative research approach which will utilities stratified sampling technique and self-administered questionnaire survey. The respondents for this survey will be the senior managers (top management) in operations management from manufacturing firms in Malaysia and data was gathered by questionnaires and evaluated by SPSS. The results of the study can be useful for supply chain practitioners and manufacturers in integrating the right supply chain management and competitive advantage on improving SCI. Also, the result will suggest successful way to be implemented in order to obtain competitive advantage and foster supply chain innovation in manufacturing industry in Malaysia.

Keywords: Supply Chain (SC), Supply Chain Management (SCM), Competitive Advantage (CA), Supply Chain Innovation (SCI), Manufacturing Firms

Introduction
Every business has been pushed to be innovative due to the competitive pressure and turbulent business environment (Osterwalder & Pigneur, 2010). Being innovative are really important nowadays as to show the different and specialty of produce business or services in order to attract more revenue (Johnson, 2010). According to Meyer (2017), supply chain represents a cognizant exertion by the firm to develop and run supply chains in the most compelling and productive way conceivable. As our society becomes more innovatively situated, we see expanding specialization.
Specialized master information, instant communication, and cheaper transportation also to cultivate specialization and around the globe supply chains (Heizer, 2017). It just does not pay for a firm to undertake to do everything itself. The skill that comes with specialization exists up and down the supply chain, including esteem at each step. When individuals of the supply chain collaborate to attain high levels of client fulfilment, we have a colossal drive for effectiveness and competitive advantage (Russell, 2008). Competition in the 21st century is not between companies; it is between supply chains. Innovation is often characterized as resulting from market pull or technology push (Narayanan 2001).

Within the to begin with case, innovation happens when there's a market demand for it; within the moment case, it is the accessibility of an unused innovation that drives advancement. Innovation thrust and market pull innovation propose diverse parts and obligations for distinctive firms inside the supply chain, based on their vicinity to the end consumer or their specialized ability (Petrick, 2007). Moreover, according to Teece (2010), field of logistic view the innovation as a temperature control technology which had a huge impact on the way companies do business, as these innovations impacted the estimate of the esteem organize. In order to developing innovative supply chains, Mentzer (2004) found that the firm must determine its various capabilities of logistics. As logistics are a crucial component of supply chain (Mentzer, 2004), firms are incapable to develop an innovative supply chain without integrating the dominant logistics capabilities. Particular physical distribution process and practices need to bound together to ensure undisrupted flow of materials from suppliers to customers (Stock, 2000). Industrial firms frequently have time and space utilities made being accessible through efficient logistics integration (Flynn, 2010).

Research Gap

A statement report from 1th Malaysia Plan 2021 – 2025 (Malaysia EPU, 2020), government will be focusing on improving the ecosystem and enhance imperatives which raising innovation and productivity to next level in manufacturing supply chain. Supply chain management has been viewed as an important ecosystem to other functional areas and has been regarded as a strategic move on its own (Liu et al., 2018; Wang, 2015). In today’s highly competitive global market, the potential for growth is very promising and the development and continuing evolution of the supply chain role are obvious in the past few decades (Gundlach, 2006; Harvey, 2016). Particularly in Malaysia, there are the remarkable expansion of the supply chain in manufacturing industry. Supply chain has gotten to be a critical driving drive within the improvement of the world economy (Wang et al., 2015; Azar, 2017). In fact, supply chain innovation (SCI) had as of now winded noticeable and recognized as a basic calculate of competitive advantage in other advanced countries (Jaafar, 2008; Ali, 2008; Mohamad, 2011).

However, managing the supply chain innovation has been a neglected area of business activity in Malaysia (Nagarajan & Sošić, 2008; Chen & Krajbich, 2018). Within the past, companies are not mindful of the advantage of having an effective ecosystem and in this way have not given adequate need to the improvement of viable SCI techniques. If this continuously persist, then it will affect the operation and production of an organization, where the uncontrollable disruptions would lead to poor profitability of the company. Therefore, to remain competitive in the market, manufacturers must quickly respond to customer demands.

Narayanan and Moritz (2015), Rezaei, Pandari, and Azar, (2017) have illustrated how the developing complexity of the supply chain has come about in higher desire of benefit among
customers. The company’s supply chain must be innovative to meet the ever-changing customer needs (Hong & Jeong, 2006; Tarafdar & Qrunfleh, 2017). Furthermore, the study of competitive advantage has developed as an unmistakable field in giving organizations with techniques to construct long-term innovation in supply chain (Azadi et al., 2014; Boon & Paul, 2006; Mortensen et al., 2008). Competitive advantage in the service supply chain is another rising point. Liu, Wang, Shen, Yan and Wei (2018) and has the ability to advance the enhancement of organizations (Ajmera & Cook, 2009; Zhang et al., 2015).

Summarization of research gap of this study

- **Supply chain innovation** - The results suggest that SCI research was originally concentrated in the United States and did not receive much attention in Europe and Asia, until more recently (Yuan et al., 2018)
- **Competitive advantage** - There is far too little knowledge available on the role of Competitive advantage in influence of supply chain innovation (Chen, 2018; Cassia & Minola, 2012; Rasmussen, 2014)

**Overview of Supply Chain**

Supply chains endeavour to preserve inner wellbeing and natural sustainability utilizing the ability to self-correct based upon data from the outdoors atmosphere (Vachon, 2007). Therefore, both interior and exterior element are vital to make an all-natural maintainability via supply chain. Handheld and Nichols (1999) had prescribed that supply chain management integrates all the activities connected with the stream and transformation of goods, from basic material suppliers to end consumers. Additionally, consist of all data flows up and down the supply chain (Lambert et al., 1998). Geyer and Jackson (2004), concur that the supply chain is a set of trade compounds that directly includes in the upstream or downstream flows of products, services, and information from a secure to a customer. This interpretation establishes the consumer at final thought of the supply chain and shows a direct generation worldview that anticipate stable inputs of natural resources and a boundless capacity to absorb waste.

**Issues of Supply Chain in Manufacturing Industry**

There are the common problems were identified as globally was about the talent, technology and innovation (Fawcett et al., 2008). Supply chain management influence manufacturing firms in array of methods, counting the accessibility of inputs required for production procedures, expenses and earnings of manufactured items, firm infrastructure and ways in which companies connected with their suppliers and consumers (The Houston Chronicle, 2009). Organizations are having inconvenience finding and retaining individuals with the specialized and expository abilities required to profitably oversee and move forward their supply chains. Where abilities must be developed internally, attracting and retaining highly-skilled talent through energetic encounters and steady challenges are key (Grossman, 2019). Back to fact, today’s manufacturers confront a lengthy listing of troublesome supply chain obstacles counting broadening demand irregularity, stock spreading, manufacturing capability constraints, raising threats both nature and human based, more ecological conformity controls, strongly worldwide competition, increasing customer expectations and a lack of talent (Canitz, 2018). Supply chain challenges could adversely affect the performance of an organization (Ali, Rahman et al., 2018).
Competitive Advantage

Competitive advantage is the extent to which the company has the ability to produce a solid position over its rivals (Subba, 2006). It comprises capacities that permit the company to identify itself from its rivals and is a result of critical management decisions (Thatte, 2007). The empirical literature has actually been really reputable in identifying price/cost, top quality, conveyance, and also flexibility as essential competitive abilities (Subba, 2006). On top of that, current research have included time-based competition as an basic competitive need. Research by Stalk (1998); Vesey (1991); Handfield and Pannesi (1995); Kessler and Chakrabarti (1996); and Zhang (2001) identifies time as an additional resource of competitive advantage. Competitive advantage exists when a firm incorporates a product or service that is viewed by its target market customers as common than that of its competitors. Competitive advantage is made up of the action outcome and managerial decisions which result within the organization’s predominance execution when compared to those of their rivals (Barney, 1991; Guimaraes et al., 2016).

Competitive advantages pertain to a firm’s capacity to appear a better degree of competitiveness as compared to its rivals inside a given industry, such as being able to decrease price, creating distinct products or services, or way better satisfy customers (Porter, 2011). A company is stated to have competitive advantage when the existed or possible competitors cannot copy or it will take a toll much to mimic. Other than being essentially diverse contra from competitors, firms need to think about various trick victory components, such as having the ability to manage with natural changes and resist the actions of competitors (Aaker, 2008). In long term competitive advantage, companies procure feasible competitive advantage through their capacity in creating a set of primary competence so that they can benefit their focused on targeted customers better than their competitors. The most competence alludes to a set of special competence which is developed in a company in its fundamental areas, such as quality, customer service, innovation, flexibility, responsiveness so that it can surpass its competitors (Srivastava et al., 2013).

P: Competitive advantage has a positive effect on supply chain innovation

Supply Chain Innovation

A supply chain stands for a network of business that associated to transform basic materials right into finished goods and services and to supply them to end customers (Johnson, 2010). Literally it must be managed in the most streamlined and cost-effective way possible. Competitive pressures as well as rough business scenario thrust companies towards innovation. Innovation is essential for firms to react to fast changes in products and services along with customer’s demand and issues (Kim et al., 2015). Likewise, innovation is enhancements within the way that products and services, information and relationships flow within the network that should be done by companies for they to survive (Osterwalder & Pigneur, 2010). For the most part, innovation happens within processes, technologies, services, strategies and organisational structures (Rogers, 2003). The efficient functioning of SC is especially basic to those companies which endeavoured to progress their SC systems' viability (Azevedo, 2013).

Thus, SCI triggers time and expenses decrease, creating unique functional methods and dependable conveyance framework for adapting with developing adjustments in the business (Lee et al., 2011). Chapman et al. (2003), suggest that service sectors ought to centre on SCI for compelling conveyance service. Researchers agree that supply chain innovation aids companies to support their competitive position and move forward supply chain performance (Flint, Larsson, Gammelgaard, &
Mentzer, 2005; Franks, 2000; Krabbe, 2007; Lee et al., 2011). On top of that, innovation in supply chain is accepted to make strides operational effectiveness and upgrade service viability (Arlbjørn, 2011). Specifically, SC innovation includes technology-improved processes and strategies within the outbound SC as well as changes in product, process or service that either upgrades productivity or move forward final customer’s satisfaction (Seo et al., 2014). The advancement of worldwide supply chain management within logistic networks is fundamental because suppliers, leaders, managers, and team members need to create persistent strategies to mitigate supply chain disruptions (Varzandeh et al., 2016).

**Relationship Between Competitive Advantage and Supply Chain Innovation**

SC innovation underlines the request of the market industry which can result in an improvement of proposals for downstream consumers (Flint et al., 2008). Innovation in supply chain describe to a company’s penchant to lock in and sustain originalities, testing and inventive forms which will lead to brand-new, services or technical procedures (DeTienne et al., 2015; Shan et al., 2016). It’s a vital capacity that can offer assistance a company to outperform the expectations of customers. Deshpandé and Farley (2004) explained that innovativeness can bring endeavours superior execution, and offer assistance them to create products, strategies and management systems that are set apart, profitable, uncommon, separated and troublesome to mimic.

Study from Chen (2018) competitive advantage is positively related to supply chain innovation. Competitive advantage is very essential to a firm innovate their business supply chain and without knowledge, companies might be incapable to change sources right into outcomes (Hult et al., 2004). Hult et al. (2004) specified that managers can discover practical options to issues and obstacles via innovativeness, which assist business to sustain a competitive advantage and also aids prevent decreases. A lot more innovativeness can be a substantial enabler to produce worth and will certainly assist to react to customers’ demands, in creating modern abilities that permit to attain and maintain much better efficiency or remarkable success within progressively complicated, competitive and promptly altering setting (Calantone et al., 2002; Wang & Wang, 2012).

Thus, competitive advantage can lead to supply chain innovation. The competitive pressure that influences all commercial industries and the growth of network modern technologies have driven companies to create extraordinary center on overseeing the interrelations between distinctive business procedures (Zerbini & Castaldo, 2007; Arora et al., 2016; Kwon & Kim, 2018). This suggests a precise analysis of the SC as important device to powerfully evaluate whether and also to what level competitive advantage is fulfilled, sustained and guarded (Li et al., 2006; Mellat & Spillan, 2014).

**Related Theory Between Competitive Advantage and Supply Chain Innovation**

Transaction Cost theory may well be among the foremost critical organisation theories since the research that have actually been energized trough it (Williamson, 2007), and is one of the most points of view in organisational research (David & Han, 2004). The imperative commitment of Transaction cost economics to organisation theory, come about in a wide run of observational commitments (Macher & Richman, 2008), using transaction cost economics. The two essential drivers of Transaction Cost Economics are instability brought on by the exterior environment and prices, which contain of Coordination costs and Transaction costs (Fink, 2006). Instability and expenses, are affected by the human agent, a person recognized via bounded rationality and opportunism, (Williamson, 1981) in order to divide transaction costs. The Transaction cost framework may provide a method to play down
transaction costs. Hierarchy, meaning producing in-house, could be connected in case of high property uniqueness, securing the customer from high transaction costs, hybrid governance if there is a way to lessen transaction costs (Schiele, 2006). After a firm reach competitive advantage of their production and network, they can add innovation into supply chain.

The concept of SCM builds on the theories of the firm, especially transaction cost economics, Porter's value chain and the network approach, and has become established as a useful business paradigm (Croom & Vidal, 2018). It has been argued that the SCM area lacks sufficient theoretical underpinnings resulting in simplified conceptualizations of supply chains and their contexts, and furthermore, that theory may be helpful to uncover some of the complexity characterizing supply chains (Boerner, 2006). Transaction cost economics is an exertion to superior get it complex economic organization by specifically joining law, economics, and organization theory (Macher, 2008). As achieving an innovation in supply chain in arrange to be competitive in the market, transaction cost economics (TCE) is interested in the appropriation of financial task over alternate settings of company such as markets, firms, bureaus, and others. Genuine contrast regardless, orthodoxy and TCE remain numerous methods matches, one being fit to gathering in the context of basic market exchange (Vidal, 2018).

Framework

![Figure 1. Conceptual Framework](image)

Discussion

According to Chopra and Meindl (2015), the fact of supply chain systems nowadays incorporates not as it were competitors yet additionally collaboration considering that decision-makers within the supply chains should linked not just in regards to the product moves but also in terms of prices in order to please the customers (Hojati, 2012). According to Williams (2002), in building competitive advantage, a company needs to identify, acquire, and utilize resources effectively. In analyzing an essential resource for the company to lead the market, the firm should perform an internal and external transaction cost economics analysis.

Transaction cost economics would help identify all the needed costs to build the product internally. In addition, transaction cost economics would determine the costs of procuring the resource externally. Transaction cost economics analysis also reflects the resource-based view discussed by Dyer and Singh (1998), these authors stated that a combination of resources could provide a competitive advantage. When the firm achieves the competitive edge, the company needs
to proceed ventures in research and development to meet the changing demand of the customer faster than the competition (Moser & Blome, 2008).

The motivations for this move towards supplier rationalisation are based upon economics, partly upon the search for continuous quality improvement and innovation but also on a realisation that there is a limit to the extent to which multiple supplier relationships can be effectively managed. As a result of these changes in the supply chain there has emerged a growing inter-dependency amongst the parties in the chain. With this inter-dependency has come a realisation that cooperation and partnerships are essential prerequisites for the achievement of long-term mutual benefit. (Snehota, 2017).

Policy Implication and Contribution

This study has benefitted to all practitioners, academician, researchers, policy makers, and government administration in Malaysia and globally. First, manufacturers and supply chain practitioners may be able to use the contributing factors of the innovation of supply chain management to identify the industrial critical success factors. As such, these critical success factors will be identified as the key result area (KRA) to formulate key performance indicator (KPI) to measure the effectiveness and efficiency of the organisational resources and supply chain in total.

In this competitive market, an organization should be intelligent in utilizing the resources at hand and devising a plan to strive forward where all information at hand and with the coming of industry 4.0 that make it more challenging. An organization must be innovative in this era of technology which can be referring to supply chain innovation. As for the government, a researcher should start embrace more the supply chain management and integrate effort to promote supply chain innovation among manufacturing industry in Malaysia. This is in line with the third Industrial Master Plan (IMP) (2006-2020) in Malaysia which to enhance the capabilities on supply chain and make Malaysia a competitive nation. It also aligns with Eleventh Malaysia Plan (2016-2020) that aims to foster innovation in supply chain. Subsequently, the outcome would support the target of IMP which expecting manufacturing industry to grow at 5.6% annually and contribute 28.5% to GDP in 2020.

The objective of Third-IMP, which to reach a long-lasting international competitiveness via improvement and innovation of the manufacturing and service industry. Third-IMP play a major role in developing and promoting Malaysian brands to become globally competitive. It also aims in empowering sectors to concentrate on core proficiencies and toughness within local also international networks. An initiative may help in establishing innovative and imaginative human resources by matching the supply of skills and experience with demands requirements via enhancing the supply of practically competent, educated and ICT-trained labour force. They also support in empowering collaboration between preparing establishing and sector to maximize the usage of sources and centres.

This study also can be an eye opener for the government and industry to help Malaysia’s Education in promote more courses related to supply chain and logistics management to equip more professionals with the right supply chain knowledge, and to continuously embrace new technologies to keep up with global demand. Having a workforce with strong supply chain knowledge gives an added advantage to Malaysia, and it would enhance Malaysia’s reputation as the most ideal supply chain hub.
Conclusion

SCI is a modification in processes, technology, and network, indicating that SCI enhances competitive advantage and business efficiency (Wong & Ngai, 2019). Several studies revealing participating info sharing amongst supply chain members enhance competitiveness and efficiency of supply chains (Li, 2006). Afterword, selecting a strategy that exploits the competitive position will allow the investment in maintaining the competitive edge of the resources. Innovation addresses both sides of competitive advantage, market share, and profits. The product change allows the firm to achieve higher market share by being first to the market with a specified high demand product for the customer. Anderssen et al. (2008) pointed out that "creating innovative solutions goes beyond the improvement of adopting practices within other industries and by competitors" (Jajja, Kannan, Brah, & Hassan, 2017). Therefore, the competitive advantage is the encapsulation of firm execution, and the implementation of supply chain management can upgrade a firm’s competitive advantages and improve business performance. Therefore, the study from Jia and Wang (2019), competitive advantages are positively related to supply chain innovation.

In essence, findings provide authentic support for the proposition that competitive advantage will has a more effectual influence on supply chain innovation. Additionally, the study made an effort to adopt the theory of relational view which has relevance in supply chain research. Drawing from the results, it can therefore be put forward that the theory of relational view remains insufficient to ground alone some research within the supply chain literature. This study will clarify the applicability of the Transaction Cost Economics (TCE) Theory. The result of this study might be helpful to better understand how competitive advantage can be recognized to be translated into supply chain innovation.

References


