

INVESTIGATING GLOBAL SUPPLY CHAIN OPERATIONS: AN EMPIRICAL STUDY OF A TAIWANESE COMPANY IN SCOTLAND

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Abstract: *The purpose of this study is to explore global supply chain management operations from the empirical study of a Taiwanese company in Scotland. The literature review covers from the global supply chain management, suppliers' selection and the relationship with suppliers. In order to find out the research questions:*

1. How can global supply chain operations be run in a branch company?
2. What criteria are used to choose suppliers in a branch company?
3. What is the relationship with suppliers in a branch company?

This study uses semi-structured interviews to answer these research questions, with the case study company being a Taiwanese firm in Scotland.

This company operates their supply chain very efficiently, and also follow their customers to choice their local suppliers. The relationship with their local suppliers is only focus on the business relationship. The results of this study suggest that this company should have more focus on building partnerships with their local suppliers in order to obtain more competitive advantages and reduce costs.

Keywords : Global supply chain management (GSCM), integration supply chain, suppliers' selection, buyer and supplier relationship

1 INTRODUCTION

This study examines the international partnerships undertaken by a Taiwanese electronics company that has some of its supply chain in Scotland. Taiwan is an island economic style and conducts much of its business internationally. In particular, Taiwanese electronic companies are famous for operating as OEM (Original Equipment Manufacturer) for other companies around the world.

Ideally, OEM companies should set up branches near their target market. Scotland is ideally located for access to the EU market, and the regional government encourages foreign enterprises to invest there. However, after a foreign company decides to set up business in Scotland, one key issue is how to establish a supply chain and how to choose local suppliers. Consequently, the literature review in the next section will include a look at global supply chain management (GSCM), supplier selection and the relationship with suppliers.

2 Literature review

2.1 GSCM

Nowadays, supply chain management has become considerably more complicated, especially with regard to global supply chain management. Ritchie and Brindley [14] offered three models of a global competitive approach to supply chains : a strategic global and national competitive environment, industry structures and supply chains, business level strategies and processes and skills. Firms seek to undertake the global marketing based on their industry structure and rely on their supply chain channel. According to this, companies need to map their strategic plans in order to modify the processes and skills for global supply chain management. In addition, Motwani *et al.* ⁽¹¹⁾ noted that "*Global supply chain management (GSCM) allows firms to make full use of intellectual capital and knowledge base for*

research and development, engineering and market research". Global supply chains are obviously more complex than ones restricted to one country, as they involve international supply chain management and the interaction between different cultures. This raises issues related to integration, information transfer, competitive advantage, risk, supplier selection and supplier relationships along the whole supply chain channel. The critical issue is how firms to employ their competitive advantage from global supply chain management to run a global marketing.

Since the 1980s, integration has received considerable attention in the field of supply chain management (Fabbe-Costes and Jahre⁽⁶⁾). Supply chain integration means linking the main processes that take place along the chain. Kim⁽⁸⁾ stated that, initially, the purpose of integration is to lower costs. Subsequently, internal and external supply chain integration is necessary to make sure that quality standards can be maintained, and this relies on sharing information among key partners in the chain, and building up long-term commitments with each other.

In light of this, Power⁽¹²⁾ wrote that **"the integration of supply chain processes through investment in cooperative arrangement and technologies is difficult to separate from, or consider independently of, the strategic positioning or organizations"**. Consequently, integration is not only managing the flow of products, but also a matter of coordinating information flows in technology firms (Power [12]). The integration engages in recreation in global supply chain management. Daniels et al. [5] analysed the reasons for international collaboration, and listed four of them, as follows. First, firms can reduce costs and focus on their core competencies. Second, firms can increase their competitive advantages. Third companies can link vertical and horizontal supply chain partners together. Finally, companies can work together to get more information from all of their partners.

In writing about these four reasons, or drivers, for collaboration. Chopra and Meindl⁽⁴⁾ notes that, **"Information is the supply chain driver that serves as the glue allowing the other three drivers to work together to create an integrated, coordinated supply chain"**. Information is thus a kind of bridge to link the supply chain partners together and allow their interactions to take place more smoothly and effectively.

As Christopher and Lee⁽²⁾ pointed out : **"The key to improved supply chain visibility is shared information among supply chain members. Traditionally companies have tended to subscribe to the view that "information is power" and to interpret the phrase as meaning power is diminished if that information is shared."** Thus it can be that sharing information is becoming more significant, and this is one reason for supply chain partners' to work more closely together (Tikman et al.,⁽¹⁶⁾).

2.2 Supplier selection

Suppliers are chosen according to various selection criteria (Motwani et al.,⁽¹¹⁾), such as working to improve quality, lower costs, speed up delivery and increase revenues within the supply chain management, and each of these has attracted considerable attention from both practitioners and researchers (Lihong and Goffin,⁽⁹⁾).

When a firm sets up branches in other countries, the resource acquire is one of strategic diagram as like the local market information, labour, materials suppliers support and customer services. The main reason for constructing a global supply chain is so that a firm has more access to the global market and more support from their key suppliers.

2.3 Relationships with suppliers

Following the process of supplier selection , it is necessary to work on the resulting relationships in order to enhance the partnerships and increase knowledge transfer (Giannakis,⁽⁷⁾). Maintenance of the relationship is not only the suppliers' responsibility, but also the customers', as both sides needs to learn more about the other if they are to satisfy their own requirements and gain competitive advantages (Redonda and Fierro,⁽¹³⁾).

The three research questions were derived for the literature review, presented above. Later in this paper, a case study company will be examined to learn more about these issues.

3 Research Methodology

Yin⁽¹⁷⁾ pointed out that a case study is an empirical investigation to examine the phenomenon under consideration. Consequently, this study will examine how a Taiwanese company operates its supply chain management in Scotland. In other words, this study is

undertaken to discover more real business phenomenon within global supply chain management and thus it is appropriate to apply a case study methodology.

The data collection process considers both the data sources and how researchers collect and analyze the evidence from 'primary' and 'secondary' sources. In contrast, the secondary resources discuss the period studied but are later in time and some are removed from the actual events. The secondary source reproduction, interpretation or critical material is established by the primary sources (Sapsford & Jupp, ⁽¹⁶⁾).

The research questions examined in this study were developed from the literature review, and are as follows:

1. How can global supply chain operations be run in a branch company?
2. What criteria are used to choose suppliers in a branch company?
3. What is the relationship with suppliers in a branch company?

The advantage of global supply chain operations is that they allow diversity in the international situation by distinguishing and using local differences as competitive advantages. Firms set up international branches in order to undertake global supply chain management, and effective supplier selection plays a critical role in this. Furthermore, how can the buyer's non-local supplier maintain the relationship and become adversaries to their local suppliers. In addition, how can buyers change their business behaviour to maintain good relationships with their suppliers in the branch company?

The findings of this study are presented as follows.

4 Case study

In 2007 an interview was held with the manager of a Taiwanese company which had set up a branch in Glasgow in 1998. The firm is an electronics company, and its main business is as an Original Equipment Manufacturer (OEM). The company very quickly agreed to participate in this research, because part of its culture is to assist Taiwanese students in the UK. However, one condition of its participation was that it should remain anonymous.

5 Discussion

5.1 GSCM

The company's supply chain is 90%-95% efficiently and the reason for this is that when the company makes sales forecasts the product lead time is generally correct. The 5%-10% inefficiency is because the company's customers may make a higher quantity of orders than the normal sales forecast. This company always lets its customers know their lead time for orders, and greater orders need to be confirmed with the company's manufacturing department. That is, we can see the supply channel is efficient in this company.

This company has undertaken a process of suppliers' integration, and has also integrated with its suppliers to create new products. In addition, their suppliers also co-operate with each other. The reason for this is so that the company will buy more materials and confirm the new products from them.

The company does not pass customer data to suppliers, but only transfers the normal orders to them, as it does not want to give out any confidential information. On the other hand, that is why the company has a contract with their suppliers with regard to this regulation if the company needs to pass some information on to them.

This company co-ordinates with its suppliers to develop new products. When the supplier has more power than this company in a particular market, the company always co-ordinates with the powerful supplier. The main advantage of this is that the firm can then learn more about new materials and new products in order to take advantage of new markets.

More than 50% of the company's products need technological support from specialist engineers, and thus it is very important to maintain support from suppliers. Consequently, the company implements a series of regular training courses and unregulated conferences for their main suppliers, so that they are better able to understand and communicate with each other.

5.2 Supplier selection

The company chooses some suppliers according to the customers' appointments. The key suppliers are chosen by considering their company's co-competence, since the company can assist their suppliers to get more competitive ability and understand their company's organisation culture. Their suppliers can meet

market demands and approve their company's strategy and policy in order to assist the company's growth.

5.3 Relationship with suppliers

The company appointed some employee to visit the suppliers' factories in order to monitor the quality of the products. However, the company does not get directly involved in the supplier's production process or schedule. The company only considers its own future plans when choosing suppliers. The company has a training course every six months for new products with their suppliers. The reason is their suppliers need to collaborate with the products and market development. In addition to this, the company also collaborates with their customer's suppliers for new products. That is why their local suppliers are always chosen from their customers. Yet, their local suppliers do not contact with their Taiwanese suppliers for new products because the company is a bridge among them.

6 Conclusions

This Taiwanese company operates their supply chain management very efficiently because they integrate and co-ordinate their suppliers very well, and are very cautious in how they transfer the information to their suppliers. In addition, their suppliers support the company with regard to providing information about new materials and new product technology skills. The company also trains their suppliers sometimes and often discuss various issues with them.

The company follow the customers' market strategy and consider the company's future market plans to choose their suppliers. It can be seen that their local suppliers are always chosen from their customers. And their local suppliers do not communicate with their Taiwanese suppliers. That is why their relationship with local suppliers in this branch company is only a business relationship.

In this study, the branch in Scotland has the same style as the head company which is in Taiwan with regard to running its supply chain, which is why the supply chain management is so efficient. Keeping the customer service spirits, their suppliers who are in Scotland follow their customers' requires. This means that they can also match customers' requirements for new products and also keep the orders.

Due to time and budget limitations, this research only interviewed and visited one

company in Scotland. The suggestions for this company to improve its supply chain management may be for it to build connections between its local and Taiwanese suppliers to get more competitive advantages. Future research can do more to investigate global supply chain management, especially with regard to culture differences within supply chains. Global supply chain management is becoming more important, not only to increase competitive advantages, but also as a way to lower costs in the current global economic turndown.

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