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Some issues of supply management integration

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The study explores the factors contributing to an integration project concerning global supply management. Four factors based on the literature are defined and hypotheses established accordingly. The relationships between the defined factors and supply management integration are analysed by means of linear regression analysis using data from 100 Finnish firms. The results of the analysis are discussed in the light of a case study from the forest industry. Thus, both methodological and data triangulation are applied. Skilful internal cooperation is found to be the main positively influencing factor. According to the results of linear regression analysis, internationality, strategic status and financial value of supply management have no significant influence on integration. However, the findings from the case study do suggest that a readiness for change among supply management staff and environmental forces plays a considerable role in global supply management integration.

1. Introduction

It has suggested in previous research that supply management strategies, such as supply management integration, information sharing and collaboration between supply chain members, have a strong impact on organisations (Carter and Narasimhan, 1996; Ogden et al., 2005). Global firms have adopted the strategy of supply management integration and there is also an apparent integration trend in the field of supply management (Johnson and Ivey, 2003; Richter, 2003; Atkinson, 2004). The integration of supply management is often discussed in terms of centralisation and decentralisation and several studies have examined the advantages and disadvantages of the former. It has been found that centralisation strengthens control and coordination and results in economies of scale and stronger negotiation power (Matthyssens and Faes, 1997; Arnold, 1999; Faes et al., 2000). However, the organisational design should reflect and follow the strategic decisions of top-level management and it is therefore a strategic action to improve the firm's competitiveness. Corporate acquisitions, outsourcing and the relocation of manufacturing to low-cost countries have contributed to the decentralisation of supply management in recent decades, but the demand for efficiency and the complexity of supply networks have turned firms towards the internal integration of supply management.

There are several studies classifying the organisational structures of global supply management (such as Giunipero and Monczka, 1997; Arnold, 1999; Leinonen, 1999). These studies do not, however, emphasise the terms and circumstances under which the implementation of new supply management structures has succeeded or failed in following the strategic aims of top-level management. This study focuses on the issues of the supply management integration and examines the factors that may have an impact on an integration project. The aim is to identify dimensions that are positively related to the integration level and therefore contribute to the implementation of a global integration project.

The study is structured as follows. First, the concept of supply management integration in the global context is clarified. The literature on supply management structures in global organisations is reviewed, general modes of managing organisational change are presented and hypotheses are established. Second, the hypotheses are tested on data collected from 100 Finnish firms. Third, a case study from the forest industry is brought into the discussion on the results. Thus, both data and method triangulation (Denzin and Lincoln, 2000) are used to obtain in-depth understanding of the phenomenon and to increase the validity of the results (Yin, 2003). Finally, the conclusion summaries the results, offers some managerial implications and gives suggestions for future work.

2. Theories and hypotheses

Transaction cost economics (TCE) (Coase, 1937; Williamson, 1979, 2008) is a widely used theory in studies of corporate

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governance structure. According to the principles of TCE, transaction costs affect firms' decisions concerning how they organise their activities, whether to move towards vertical integration or to prefer market exchange. High transaction costs, uncertainty and asset specificity drive firms towards vertical integration. The pressure to integrate supply management derives, more or less, from these factors suggested in TCE theory. Environmental uncertainty, difficulties in information sharing and high transaction costs encourage firms to move towards functional integration. A decentralised organisational structure, in turn, is justified only if it minimises the sum of transaction costs.

There are, however, other factors contributing to the implementation of an integration project, which TCE-based arguments do not explicitly cover. The resource-based view (RBV) of the firm (Penrose, 1959; Wernerfelt, 1984; Barney, 1991) is a theoretical framework for understanding how competitive advantage is achieved by focusing on the internal organisation. According to this view, competitive advantage derives from unique and valuable resources. Resources are defined as specific physical, human and organisational assets that can be used to implement value-creating strategies. Teece et al. (1997) have enlarged the concept of RBV and defined dynamic capabilities as the firm's ability to integrate, build and reconfigure internal and external skills and knowledge in rapidly changing environments. Makadok (2001) has further defined capabilities as a firm's capacity to deploy resources by using organisational processes to achieve its goals. It could therefore be concluded that the implementation of a global supply management integration strategy is highly dependent on the internal capabilities of the organisation and the way the resources are deployed. Furthermore, Luo (2002) has described specific organisational characteristics that are associated with integration, pointing out that the degree of integration could be explained in terms of the firm's strategic capabilities, organisational infrastructure and strategic intent. Thus, there are both environmental- and industry-specific factors and firm-specific internal factors that may affect the level of integration.

2.1. Integration of supply management in a global context

Supply management integration is defined in this paper as internally focused action aimed at aligning strategic supply management practices according to the company's goals (Narasimhan and Das, 2001). It is seen especially among global firms with geographically spread business units and plants, as a way of achieving better performance and improved efficiency. Consequently, it is considered as a strategic issue in firms. Its implementation involves processes, information, cross-organisational teams and relational integration (Paulraj et al., 2006). Process integration involves the cooperation with suppliers and therefore extends beyond the boundaries of the firm. Information integration includes two-way communication and the deployment of inter-organisational information systems. The cross-organisational team represents integration on the personnel level and includes the involvement of suppliers in the new-product development. Relational integration, in turn, implies a reduction in the supply base and the establishment of long-term relationships with fewer suppliers.

In the light of previous research, it could be concluded that an integration project of the supply management function in a global company does not only mean a change on the operative level: it implies strategic change in the supply policy. The search for a balance between integration and responsiveness may have a profound effect on the interest groups of a firm, both externally and internally. According to the previous literature supply management integration is a strategic issue and therefore has to be included in the global strategies of firms. In this study the status of supply management is used as an indicator of strategic supply management. The status of the supply management function is determined by the image it projects to the other functions of the firm, and by how important the supply management is seen from the management's point of view (Carr and Smeltzer, 1997). Moreover, Carter and Narasimhan (1996) point out that the image and status of supply management is driven by the impact it has on overall firm performance. It is therefore proposed as follows:

H1. The strategic status of supply management has a positive relationship with the integration of supply management.

2.2. Internationality of supply management

Internationality of supply management is defined in this paper as the extent to which firms buy raw materials, services and products from foreign market, and the magnitude and level of foreign supplier relationships (Mol et al., 2004). Supply management internationality is generally discussed in the context of global sourcing (Arnold, 1999; Bozarth et al, 1998). Birou and Fawcett (1993) and Trent and Monczka (2003) distinguish international sourcing from strategic global sourcing. They define the former as purchasing from abroad without coordination between the business units of a single firm and the latter as the coordination and integration of supply management requirements among business units worldwide. According to Quintens et al. (2006a) strategy formulation, organisational alignment and implementation processes are all parts of global supply management.

The antecedents of the choice of internationality in supply management have been widely studied. Davis et al. (1974) list the following seven factors that affect supply management goals and examine their influence on the choice of global versus local suppliers: product category, distance between the buyer and the supplier, government policies and regulations, nationalism, market vs. product pressure and the characteristics of supply industries and of the buyers. Quintens et al. (2006a) classify the supply management internationality antecedents under three categories: drivers, facilitators and barriers. Drivers are the factors that drive companies towards a global supply management decision, facilitators describe the conditions that ease the implementation of global supply management and barriers are factors that prevent it or slow it down.

Internationality of supply management has turned the focus of supply management from the firm's inputs to the whole supply process. It may be difficult in a complex organisation to effectively distribute relevant supplier information between business units. The skills and knowledge related to supply management and supplier management may be fragmented, which causes an increase in the costs and risks related to supplies and deliveries. Therefore, the target of global supply and supplier management is to reduce these risks by diffusing supplier information between units and functions, minimising transaction costs, creating value through internal capabilities and external resources, and reducing the risks of dependency and availability. In this management process supply management integration has a considerable role.

Rozemeijer (2000) and Faes et al. (2000) focus in their studies of global supply management coordination on global supply management synergy, how it can be defined and achieved. Also Hughes et al. (1998) have found it essential to capture the internal cross-business synergies between the supply management and other company functions in multinational companies. Quintens et al. (2006b) conceptualise the global supply management strategy as a multidimensional construct that is built upon standardisation, configuration and coordination. It could therefore