The impact of supplier development on buyer competitive advantage: A path analytic model

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Abstract

As manufacturing firms increasingly realize that supplier performance is crucial to their establishing and maintaining competitive advantage, supplier development has been a subject of considerable research in supply chain management. We develop and test a path model to explore how supplier development practices affect buyer–supplier performance from the buying firm's perspective in the context of Hong Kong's electronics industry. The results show that top management, supplier evaluation, and supplier strategic objectives are significant determinants of transaction-specific supplier development, and that buyers that have closer collaborative relationships with suppliers may strengthen their competitive advantage.

1. Introduction

Today's manufacturers tend to develop closer ties with their suppliers because cooperative buyer–supplier relationships are linked to significantly reduced cost, shorter lead-time, increased productivity, and enhanced quality (Dyer, 1997; Li et al., 2006; Ou et al., 2010). Supplier development is a kind of cooperation between a buyer and a supplier to seek continuous improvement in supplier performance and, at the same time, strengthen the buyer's competitive advantage (Hahn et al., 1990; Krause, 1997, 1999; Vickery et al., 2003; Wagner, 2011). As manufacturing firms increasingly realize that supplier performance is crucial to their establishing and maintaining competitive advantage, supplier development has been a subject of considerable research in supply chain management (SCM) (Giunipero, 1990; Monczka et al., 1993; Hartley and Choi, 1996; Goffin et al., 2006; Govindan et al., 2010).

Although previous research on supplier development has provided good insights into the use of certain supplier development activities, the antecedents, and the influencing factors (Lascelles and Dale, 1989; Hahn et al., 1990; Galt and Dale, 1991; Monczka et al., 1993; Watts and Hahn, 1993; Krause, 1997, 1999; Krause and Ellram, 1997a, 1997b; Krause et al., 2000; Yeung et al., 2005), much of the literature has been descriptive and case-based, with a primary focus on establishing supplier development programmes, investigating the characteristics and benefits of the programmes, and exploring the management of the programmes. In view of a growing consensus that direct supplier development plays a critical role in driving performance improvement and contributes strategically to overall organizational effectiveness (Leenders and Blenkhorn, 1988; Hahn et al., 1990; Monczka et al., 1993; Hartley and Choi, 1996; Krause, 1997; Chen et al., 2004), several studies have empirically examined the impact of supplier development programmes on performance. Krause et al. (2000) report that direct involvement in supplier development activities plays an important role in supplier performance improvement. Li et al. (2003) and Humphreys et al. (2004) use regression analysis to examine the relationships between supplier development activities and both supplier performance and buyer competitive advantage improvement. Although there many studies on supplier development, there has been no research proposing and testing a large and comprehensive model that portrays the interrelationships among the antecedents, supplier development activities, and buyer–supplier performance outcomes. In addition, all the previous research is conducted in the context of western countries.

We fill the above research gaps by conducting an empirical study that investigates the existing supplier development activities being undertaken by buying firms in the electronics industry of Hong Kong. We develop and test a path model that portrays the interrelationships among supplier development, its influencing factors, and buyer–supplier performance outcomes from the buying firm's perspective. The results of this research provide a better understanding of how antecedents and supplier development activities influence the success of supplier development programmes in the context of the Chinese business environment.
2. Literature review

We adopt Krause and Ellram's (1997a) definition of supplier development as “any effort of the buying firm with a supplier to increase the performance and/or capabilities of the supplier and to meet the buying firm's short and/or long term supply needs.” The extant literature indicates that buying firms typically improve suppliers’ performance and capabilities by: (i) increasing supplier performance goals (Monczka et al., 1993; Praehinski and Benton, 2004); (ii) providing the supplier with training (Galt and Dale, 1991; Carr et al., 2008); (iii) providing the supplier with equipment, technological support, and even investments (Monczka et al, 1993; Wisner, 2003); (iv) exchanging personnel between the buyer and supplier organizations (Newman and Rhee, 1990); (v) evaluating supplier performance (Giunipero, 1990; Watts and Hahn, 1993; Praehinski and Benton, 2004), and (vi) recognizing supplier progress in the form of awards (Galt and Dale, 1991; Höhn, 2010). Among these activities, providing buyer support in capital investments, offering advice on organizational procedures, and training of technical staff within an individual supplier are collectively defined as transaction-specific investment from the buying firm (Heide and Stump, 1995; Liu et al., 2009). They are also known as “direct supplier development” (Krause, 1999; Wagner, 2010).

The literature generally supports the notion that supplier development plays a critical role in driving performance improvement in purchasing and contributes strategically to overall organizational effectiveness (Hahn et al., 1990; Monczka et al., 1993; Hartley and Choi, 1996; Liker and Choi, 2004). Therefore, there is an increasing interest in supplier development, which is driven primarily by the buyer's desire to improve supplier performance and to further the buyer's competitive advantage. Although several prior empirical research studies statistically test the relationship between supplier development and buyer–supplier performance (Krause et al., 2000; Li et al., 2003; Humphreys et al., 2004; Lettie et al., 2010) and report that direct involvement in supplier development activities plays an important role in buyer–supplier performance improvement, a sound theoretical framework is still needed for the buying firm to understand the performance implications of supplier development. Moreover, research on how different characteristics of supplier development influence the success of the organizations involved provides specific guidelines for practitioners to improve their buyer–supplier performance.

3. Theoretical background

The relationship between supplier development programmes and buyer competitive advantage can be established based on consideration of transaction cost economics (TCE) (Williamson, 1985). According to the traditional view of TCE, supplier development programmes that rely heavily on a single source are risky, particularly in a dynamic and uncertain business environment. The intention of a company to make transaction-specific investments is tempered by the fact that the more specialized a resource becomes, the lower its value in alternative uses (Dyer, 1996). Supplier development activities require more transaction-specific investments, leading to higher risks of opportunistic behaviours of suppliers (De Toni and Nassimbeni, 1999). Recent research in SCM, however, argues that transaction costs are also incurred from sustaining a relationship, including those engendered by negotiating, implementing, monitoring, and revising a contract. Krause (1997) maintains that supplier performance problems are associated with multiple sources, such as manufacturing defects and missed delivery dates, production difficulties, and failures in adhering to the buying firm's schedules. If the supplier's performance is deficient, the buying firm's competitive advantage may be compromised (Krause, 1999). Instead, supplier development programmes result in higher product availability, better delivery speed, and enhanced reliability of the buyer, which reduces the buying firm's uncertainty in operations, thus decreasing its total transaction costs in the long run (Krause, 1999; Liker and Choi, 2004). In addition, expectations of enduring relationships and long-term business opportunities created under the policy of supplier development should deter opportunistic behaviours of suppliers (Dyer, 1996; De Toni and Nassimbeni, 1999; Yeung, 2008). In addition, supplier development leads to closer cooperation between manufacturers and their suppliers in product design, which reduces engineering changes and operational costs, i.e., cost-related operational efficiency (Shin et al., 2000; Wu and Ragatz, 2010). Based on the above arguments, we postulate that supplier development improves the performance of the supplier directly, leading to closer cooperative buyer–supplier relationship and ultimately enhancing the buyer's competitive advantage.

In order to provide a better understanding of how supplier development practices affect buyer–supplier performance and buyer competitive advantage, we divide supplier development practices into (i) transaction-specific supplier development, which represents direct involvement of the buying company in developing its suppliers (Monczka et al., 1993; Krause, 1999; Li et al., 2007), and (ii) influencing factors of supplier development, which comprise the foundation and climate that support the effective use of transaction-specific supplier development. The influencing factors include top management support, effective communication, strategic goals, long-term commitment, supplier evaluation, trust in supplier, and supplier strategic objectives. All these factors have been found to influence the buying firm's philosophy towards its suppliers and its involvement in supplier development (Krause and Ellram, 1997a; Chen et al., 2004). In addition, this study focuses on the performance outcomes of supplier development along three dimensions, namely supplier performance, buyer–supplier relationship improvement, and buyer competitive advantage.

Fig. 1 displays the proposed model that portrays the possible interrelationships among transaction-specific supplier development, influencing factors of supplier development, and buyer–supplier performance outcomes. The seven boxes on the left contain the influencing factors of supplier development. At the centre is transaction-specific supplier development. The three boxes on the right represent performance outcomes.

Because of the exploratory nature of this study, we build the initial path model based on a series of cause-and-effect assumptions among the research constructs derived from the findings of an initial study and with reference to the literature. We also take the correlations among the research constructs into account when determining each path in the path diagram.

As indicated in Fig. 1, the influencing factors are expected to have both a direct effect on transaction-specific supplier development and performance outcomes, and an indirect effect through transaction-specific supplier development on performance outcomes.

The core practice of supplier development, transaction-specific supplier development is believed to make an important contribution to performance outcomes. We posit that transaction-specific supplier development exerts direct influence on all three aspects of buyer–supplier performance improvement. We discuss each of these components below.

3.1. Transaction-specific supplier development

This is the core practice of supplier development, which represents the direct involvement of the buying company in developing its suppliers (Krause, 1999). It encompasses the
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