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Supplier development practice: Arising the problems of upstream delivery for a food distribution SME in the UK

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ABSTRACT

The paper aims to emphasize on the impacts of the supplier development on reducing the defects in supplier quality for a food distribution small-medium sized enterprise (SME). An empirical study was conducted to measure the performance of the suppliers in three different key performance indicators of the outsourcing and supplier's performance to arise the existing problems via information exchange, data collection and data analysis. It was found that supplier development through data and information exchange and better communication by any food distribution SME raises the problems more promptly. This can dramatically change the supplier's behavior to improve the quality of the supplier's service and products. It is suggested that more research is required to raise other key performance indicators and their related problems and to develop more improvement practices. Six sigma methodologies could be the potential good practices to be focused in future research studies. Supplier performance measurement, which encompasses data exchange and data collection, develops the systematic flow of information, which potentially improves the flow of goods and the whole food supply chain to address the final consumer satisfaction. The research took a novel approach in adopting some transport related key performance indicators of the food supply to the food distribution and retailing sector, which is almost a new approach in food industry.

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1. Introduction

Supply chain management (SCM) has always been a key element of a successful and competitive business. It consists of managing different levels of internal or external organizational transactions, which generally represent the flow of goods and flow of information. There have been different understandings of SCM most of which reflect the need for the customer development and logistics. Arguably, in its most advanced form, SCM is not a subset of logistics but is a broad strategy, which cuts across business processes both within the firm and through the channels required to reach the customer and involves the firm's suppliers[1]. It appears that supplier development alongside the customer development builds the structure of supply chain management. There have been different studies, which indicate that the proper management of supplier relationships constitutes one essential element on supply chain success [1–4]. The literature has emphasized greater collaboration between the firms and their suppliers to assure an efficient and successful supply chain [5].

Over the last decade, researchers have empirically investigated a variety of research issues that are related to supplier development activities. These issues include critical factors of supplier development [6,7]; the process of supplier development [8–10]; the factors that influence buying firm's involvement in developing their suppliers[11]; and the effect of technical support provided to suppliers on the performance of both suppliers [12,13] and buyers [14]. Supplier development, as an important construction block of the supply chain, has been adopted in this study to evaluate its effectiveness in a tailored industry with a variety of supply concerns.

This paper intends to focus on supplier development in order to investigate the effect of a systematic quality improvement strategy on improving the supplier's efficiency and supplier service quality in a food chain. One of the most common characteristics of the food chain is meeting the customer's requirement, which is challenging. This has been addressed in some literature [8–10] in which supplier development has been introduced as the effective way that improves supplier's capabilities to meet buyer's requirement. The most useful elements of

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supplier development, which potentially can improve the supplier's service quality are examined in this paper.

2. Supplier development

Supplier development was pioneered in the automotive industry such as Toyota and Honda, which are the masters at supplier development initiatives [15]. The relationship of supplier development practices with performance has been addressed in several studies [3,14,16].

The concept of supplier development has received considerable attention from researchers [1,3,17,18]. The obvious understanding of supplier development from these studies is the different approaches to defining supplier development.

Wagner [19] defined supplier development as supporting the supplier in enhancing the performance of their products and services or improving the supplier's capabilities [19]. Many researchers determined supplier development as an activity, which encompasses a long term cooperative effort by buyer firm with its supplier to increase the performance efficiency and/or capabilities of the supplier [6,19,20].

Supplier development is considered as improving the flow of information from the buyer in order to upgrade the suppliers of different tiers. Moreover, many studies [4] considered supplier development as the assisting activities to improve supplier's operations. These activities involved:

- supplier evaluation [14,21];
- award certification [14,22];
- providing training and technical assistance [22,23]; and
- establishing effective communication between parties [22,24–26]

There are also some other researchers that defined supplier development through different dimensions. For instance, supplier development has been considered as the purchasing management or procurement [3,27], and it has also been defined as the local supplying in which the number of suppliers are rationalized or/ and reduced to the minimum in order to establish the longer-lasting relationship with the supplier [3]. The latter definition is focusing on relationship management and building a trust based relationship with more reputable suppliers, while the former definition of Fung [27]and Cristobal et al. [3]covers every individual activity, which can improve the supplier's operation [3,27].

The buyers have a more discerning view of their purchasing relationship in order to make sure that their supplier adds value to the product and the service that they provide. Likewise, the supplier not only must provide a good quality product, but is liable to deliver a service quality, which will add value to the product. Service provision is also part of an effective supply chain alongside the flow of material from the supplier. De Toni et al. [28] suggested that the suppliers must show the adequate amount of technological knowledge/ability and the capacity to take care of R & D and design activities. Therefore, the supply chain network needs to be capable of information exchange and communication between customer and supplier. This critical issue has urged more researchers to examine different approaches and elements of supplier development. Supplier development divisions according to its application, context and structure have different approaches from a variety of researchers. Cristobal et al. [3] categorised supplier development in terms of its application and practices including basic, moderate and advanced supplier developments. The result of his study is consistent with some other researchers in this case [14,29] to promote the idea of complementary effect of these three approaches on performance. The application of these approaches depends on the resources of the buyer and level of relationship between the buyer and the supplier.

The buyer with limited resources is more prepared to apply basic supplier development practices including supplier evaluation, feedback, supplier selection and supplier awarding [3]

Lo and Yeung have analysed supplier development through the buyer's involvement in supplier's activities. Lo and Yeung [4] have indicated that supplier development can be applied both directly and indirectly by the buyer. Direct involvement, including awareness of supplier quality, reporting quality problems, evaluating supplier performance and providing feedback and technical assistance, is a more effective component in supplier development [4,19]. Indirect supplier development activities including evaluation and communication are closely linked to direct supplier development and could be regarded as the enabler of direct supplier development [9,14,30].

Krause et al. [9,14] have also indicated supplier development in two different efforts. The first effort is the reactive approach in which the measures are indicated in case of existing poor supplier capability. The second effort is a proactive or strategic approach in which supplier's performance is improved actively and for a long term, before problems happen [4]. It appears that the latter effort is more challenging, but more effective, since it needs a trust orientated relationship, more supplier's commitment and more buyers' resources. The mutual benefits of supplier development in both supplier and buyer have been acknowledged in many literature sources [7,31,32]. The improved supplier's operation is the most common benefit of supplier development, which results in improved product and service to the customer and transmitting the value added product and service to the downstream. This will increase the efficiency of the supply chain. Cannon [33] and Noordewier et al. [35] have indicated supplier development as the strategically important block to build a strong supplier management structure [19,33,34].

2.1. Benefits of supplier development

Cristobal et al. and Krause et al. [3,7] have focused more on the effect of supplier development on improved operation as the result of supplier development. Krause et al. [7] have suggested through a case study that supplier development could result in a 79% reduction in the number of product defects and a 14% increase in on-time delivery. Supplier development can also potentially be beneficial to the buyer's firm. As companies search for new opportunities to reduce costs and improve operational efficiency, relationships with their supply base have become a key asset in improving the profitability [32].

Wafa et al. have evaluated the effect of supplier development on JIT through analyzing different hypothesis about the impacts of some supplier development elements on the success of JIT. He concluded that all supplier development elements unanimously have positive correlation with JIT success [31]. Some other literatures directly pinpointed cost reduction for both supplier and buyer via reducing waste (rework and recall), time and paperwork as the result of supplier development practices [20,35,36].

2.2. Elements and practices of supplier development

Supplier development practices are the forming elements of building a strong supply management, which have been determined as the key successful factors of the supplier development by many literatures [3,4,27]. The key component of effective

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