Purchasing strategies in the Kraljic matrix—A power and dependence perspective

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Abstract

Kraljic's purchasing portfolio approach has inspired many academics to undertake further research into purchasing portfolio models. Refined models typically recommend one purchasing strategy for each portfolio quadrant. Yet, it has been shown that purchasers make a clear distinction between alternative purchasing strategies within each quadrant. The fundamental assumption of portfolio models seems to be that differences in power and dependence between buyers and suppliers exist. Still, little is known about how these concepts influence the choice for a specific purchasing strategy. In this paper, 'relative power' and 'total interdependence' for a number of portfolio-based purchasing strategies have been quantified empirically, using data from a comprehensive survey among Dutch purchasing professionals. The survey data largely confirmed the hypotheses that were deduced from the literature.
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1. Introduction

Purchasing portfolio models have received much attention in the recent literature about professional purchasing. One of the most famous portfolio models was introduced by Kraljic (1983). His model has had a broad influence on professional purchasing (see the evidence of Kamann and Bakker, 2004; Gelderman, 2003). It also inspired many academic writers to undertake further research into portfolio models (e.g. Gelderman and Van Weele, 2002, 2003, 2005; Dubois and Pedersen, 2002; Zolkiewski and Turnbull, 2002; Nellore and Soderquist, 2000; Wynstra and ten Pierick, 2000; Croom, 2000; Bensaou, 1999; Lilliecreutz and Ydreskog, 1999; Olsen and Ellram, 1997; Wagner and Johnson, 2004; Dyer et al., 1998).

According to Kraljic (1983) a firm's supply strategy depends on two factors: (1) profit impact and (2) supply risk. Other scholars have introduced variations of the original Kraljic matrix (e.g. Elliott-Shircore and Steele, 1985; Syson, 1992; Hadeler and Evans, 1994; Olsen and Ellram, 1997). The proposed matrices are very similar to the Kraljic matrix in that they employ comparable dimensions, and derive equivalent recommendations. Typically, these matrices give only one recommendation for each portfolio quadrant, namely: form partnerships for strategic products; assure supply for bottleneck products; exploit power for leverage products and ensure efficient processing for non-critical products. However, a recent study into the actual use of the matrix by professional purchasers pointed out that purchasers make a clear distinction between several strategies *within* each quadrant (Gelderman and Van Weele, 2003). Purchasers identify: (1) strategies to hold their position in the quadrant and (2) strategies to move to another position. However, the conditions determining the choice for a specific purchasing strategy within a quadrant are yet unclear.

The fundamental assumption of all portfolio models seems to be the occurrence of differences in power and dependence between buyers and suppliers (Dubois and Pedersen, 2002). Kraljic (1983) does not explicitly deal with issues of power and dependence. However, some of his recommendations obviously refer to the power structure ('exploit power'). Others are aimed at reducing the dependence on suppliers ('diversify'). Moreover, Kraljic

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(1983, p. 112) stated that the general idea of the portfolio approach is to "minimize supply vulnerability and make the most of potential buying power". It seems that power and dependence play a significant role in the Kraljic approach. The relative power and dependence position of buyers and suppliers are therefore expected to be factors of importance in explaining the conditions that influence the choice of purchasing strategy within each quadrant.

Until now little is known about the conditions that influence the choice of purchasers to either hold their position in the quadrant or move. Moreover, little is known about the way in which power and dependence in buyer–supplier relationships enter the Kraljic matrix (Gelderman and Van Weele, 2003; Dubois and Pedersen, 2002). Empirical research on the impact of power and dependence on buyer–supplier relationships is even scarcer. Therefore, it is critically important to examine the power and dependence positions of buyers and suppliers for the various purchasing strategies that have been identified in each quadrant of the portfolio matrix.

The goal of this paper is to empirically test several hypotheses that are deduced from the literature on power and dependence. This will be done with respect to the purchasing strategies in each quadrant of the Kraljic purchasing portfolio matrix. In order to do this we have defined the concepts of power and dependence in terms of buyer's and supplier's dependence. Subsequently, we have developed constructs for buyer's dependence as well as supplier's dependence. Our empirical analysis is founded on a survey among 250 purchasing professionals. On the basis of the survey data we have assessed power and interdependence in buyer–supplier relationships. In general terms this study contributes to a better understanding of the (perceived) power and interdependence in buyer–supplier relationships.

The organization of the paper is as follows. First we will give a brief overview of the Kraljic approach and, on the basis of recent literature, we will identify hypotheses with respect to power and dependence for each strategy used in practice (Section 2). Furthermore, we will operationalize power and dependence into measurable variables and formulate hypotheses (Section 2). In Section 3 we will present our survey design and design constructs for our key variables. The results of our survey are presented in Section 4. Section 5 will conclude and give suggestions for further research.

2. Conceptual background and hypotheses

2.1. The Kraljic purchasing portfolio matrix

Kraljic (1983) advised managers to guard their firms against damaging supply interruptions and to deal with continuous technological change and economics growth. In his seminal paper he called attention to the need for companies to attain more effective supply management. He proclaimed that "purchasing must become supply manage-

ment" (Kraljic 1983, p. 109). In his article he presents a figure in matrix format ("Exhibit I") that classifies the 'stages of purchasing sophistication' within companies. The matrix identifies four stages: (1) purchasing management; (2) materials management; (3) sourcing management; and (4) supply management. Kraljic (1983, p. 111) argues that supply management is particularly relevant in the case that the supply market is complex and the importance of purchasing is high.

In the second part of his article Kraljic (1983) proposes a four-stage approach as a framework for developing supply strategies for single products or product groups. In the first stage, a company classifies all its purchased products in terms of profit impact and supply risk. Subsequently, the company weighs the bargaining power of its suppliers against its own power. Then, the company positions the products that were identified in the first stage as strategic (high profit impact and high supply risk) in a portfolio matrix. Finally, it develops purchasing strategies and action plans for these strategic products, depending on its own strength and the strength of the supply market. Three general purchasing strategies are recommended: exploit (in case of buyer dominance), balance (in case of a balanced relationship), and diversify (in case of supplier dominance). It should be noted that Kraljic focuses on strategic products, for the other item categories Kraljic merely formulated a number of 'main tasks'. Other scholars have filled this gap (e.g. Van Weele, 2000; Syson, 1992; Elliott-Shircore and Steele, 1985). They have refined the 'matrix' and elaborated on the 'main tasks' for bottleneck, non-critical and leverage items. In addition, they have formulated strategic recommendations, resulting in an overall purchasing strategy recommendation for each portfolio quadrant (see Table 1). This matrix is commonly referred to as Kraljic's portfolio matrix (e.g. Olsen and Ellram, 1997; Lilliecreutz and Ydreskog, 1999; Van Weele, 2000; Gelderman, 2003). With the help of this matrix, professional purchasers can differentiate between the various supplier relations and choose strategies that are appropriate for each category and thereby effectively manage suppliers (Nellore and Soderquist, 2000).

A recent study by Gelderman and Van Weele (2003) paid attention to the experience of purchasing professionals with the use of the portfolio matrix in practice. On the basis of three in-depth case studies they found that practitioners

Table 1
The Kraljic purchasing portfolio model (modified from Kraljic, 1983, p. 111)

Profit impact	Supply risk	
	Low	High
High	*Leverage items*	*Strategic items*
	Exploit purchasing power	Form partnerships
Low	*Non-critical items*	*Bottleneck items*
	Ensure efficient processing	Assure supply