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Handling measurement issues and strategic directions in Kraljic's purchasing portfolio model

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Abstract

Kraljic's purchasing portfolio model, which was introduced in 1983, still is the dominant approach in the profession. Contrary to the growing use of the Kraljic matrix, there are problems and unanswered questions with respect to measurement and strategic issues. Based on explorative case studies, the critique of Kraljic's model has been disputed and refuted to a large extent. This study describes the solutions of experienced practitioners to the problems which have been put forward in literature. The case studies point out which measurement methods are possible and which supplier strategies are feasible, including additional strategic movements of commodities *within* the matrix. The research findings indicate that there is no simple, standardized blue print for the application of the portfolio analysis. It requires reflecting on results, critical thinking and sophistication of purchasing management.

Keywords: Purchasing strategy; Portfolio management; Supplier relations

1. The Kraljic approach

Recently, purchasing portfolio models have received considerable attention from academic and business world (e.g. Gelderman and Van Weele, 2002, 2003; Leonard and Spring, 2002; Åhman, 2002; Dubois and Pedersen, 2002; Zolkiewski and Turnbull, 2001; Nellore and Söderquist, 2000; Wynstra and ten Pierick, 2000; Gelderman, 2000, 2003; Croom, 2000; Bensaou, 1999; Lilliecreutz and Ydreskog, 1999; Olsen and Ellram, 1997). Obviously, not all products and not all buyer–supplier relationships are to be managed in the same way. In general, purchasing portfolio models aim at developing differentiated purchasing and supplier strategies. Kraljic (1983) introduced the first comprehensive portfolio approach for purchasing and supply management. Kraljic's approach includes the construction of a portfolio matrix that classifies products on the basis of two dimensions: profit impact and supply risk ('low' and 'high'). The result is a 2×2 matrix and a classification in four categories: bottleneck, non-critical, leverage and strategic items, see Fig. 1.

Each of the four categories requires a distinctive approach towards suppliers. Non-critical items require efficient processing, product standardization, order volume and inventory optimalization. Leverage items allow the buying company to exploit its full purchasing power, for instance through tendering, target pricing and product substitution. Bottleneck items cause significant problems and risks which should be handled by volume insurance, vendor control, security of inventories and backup plans. A further analysis of the strategic items is recommended. By plotting the buying strengths against the strengths of the supply market, three basic power positions are identified and associated with three different supplier strategies: balance, exploit, and diversify. The general idea of Kraljic's model is to minimize supply risk and make the most of buying power (Kraljic, 1983, p. 112).

Although other models have been developed, Kraljic's approach subsequently became the dominant approach to what the profession regards as operational professionalism Cox (1997, p. 270). Lamming and Harrison (2001, p. 596) confirmed that Kraljic's matrix remains the foundation of purchasing strategy for many organizations across different sectors. Purchasing portfolio models have gained ground in both academic

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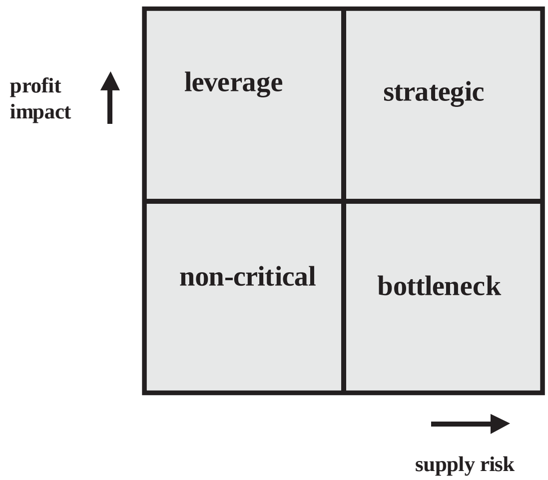

Fig. 1. Dimensions and categories in the Kraljic matrix.

research as well as in practice (Nellore and Söderquist, 2000, p. 246). In the course of time, the Kraljic approach has entered many textbooks on purchasing and supply management. In contrast with a growing acceptance and use of purchasing portfolio models, there are problems and unanswered questions.

2. Critique and unanswered questions

In general, decisions based on portfolio models are proven to be *sensitive* to the choice of dimensions, factors, and weights. Day (1986) concluded that *measurement* is considered to be the Achilles' heel for all portfolio models. What is exactly meant by 'profit impact' and 'supply risk'? How could or should we measure these dimensions in practice? Nellore and Söderquist (2000, p. 246) pointed at the risk that the variables used in portfolio analysis might not be accurate proxies for the dimensions they are supposed to measure. Theory does not provide prescriptions or procedures for measurement, leading Ramsay (1996, p. 15) to conclude that these concepts are 'actually made up of a number of nebulous concepts without operational dimensions'. Olsen and Ellram (1997, p. 105) emphasized that the weighting of each factor is the most important part of the implementation process, but at the same time very subjective. The decision-makers must come to an agreement on the relative importance of each factor. Besides that, there are usually demarcation problems with respect to the measurement of key variables. What is the exact distinction between 'a high' and 'a low' supply risk? If we have problems discriminating between categories, then the classification of products will be arbitrary and so will be the provided recommendations. Homburg (1995, p. 829) concluded that recommendations should be applied with reserve, especially if a product is positioned near a demarcation line. De Boer (1998, p. 4) suggested a fully customized approach: organizations should determine their own criteria and their own specific threshold values.

The introduction of the Kraljic portfolio approach can be considered as a major breakthrough in the development of professional purchasing. Syson (1992, p. 213) concluded that Kraljic's approach represents 'the most important single diagnostic and prescriptive tool available to purchasing and supply management'. However, others find the Kraljic approach counterproductive, providing recommendations either to exploit power (Olsen and Ellram, 1997, p. 106), or to avoid risk associated with the supplier exercising power (Dubois and Pedersen, 2002, p. 40). It is argued that the complexity of business decisions does not allow for simple recommendations. How could one deduce strategies from a portfolio analysis that is based on just two dimensions? (e.g. Heege, 1981, p. 23; Dubois and Pedersen, 2002, p. 40). In addition, several authors have described and presented similar portfolio models, be it from a rather normative and deterministic perspective: one overall purchasing strategy for *each* cell/category (e.g. Elliott-Shircore and Steele, 1985; Syson, 1992; Van Weele, 1992; Hadeler and Evans, 1994). From such publications it might be assumed that *all* strategic items should be managed by means of (strategic) partnerships. We must conclude that this would be in variance with Kraljic's intention, considering the three different supplier strategies for the strategic quadrant.

Often, the *suppliers' side* of the buyer–seller relationship is considered as a disregarded element in Kraljic's model. The Kraljic approach does not explicitly take into account the possible strategies and reactions of suppliers (Heege, 1981, p. 23; Kamann, 2000, p. 1). In a critical review of the Kraljic approach, Dubois and Pedersen (2002, p. 35) argued that purchasing portfolio models using 'given products' as a point of departure, in addition to a dyadic perspective, may be counterproductive where purchasing efficiency is concerned. Nellore and Söderquist (2000, p. 264) confirmed that it is imperative for any portfolio use to indicate the characteristics of the supplier with regard to the specification generation, the required relationship and the required type of specification for a given component. The design of a product entails issues that are not explicitly considered in portfolio models. Obviously, whether the product is developed by the supplier, the customer or developed jointly impacts on the relationships between parties (Araujo et al., 1999). Mismatches between buyer and seller are likely to occur if one does not take into account how a supplier (i.e. a marketing or sales manager) assesses the situation. And vice versa of course. A partnership is only possible if that is the strategic intent of both parties.