

POSSIBLE KINDS OF VALUES ADDED BY THE PURCHASING DEPARTMENT

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Abstract

Value-based purchasing focuses the decisions of purchasing professionals on the creation of value, rather than on the traditional objectives of cost savings and efficiency. Most of the purchasing researchers see purchasing as a strategic contributor to the added value of the organizations. But only a few contributions discuss the possible kinds of values that the purchasing department could actually add to the organization. This paper tries to fill this gap and reviews the traditional and strategic concepts of values added by purchasing and the factors affecting value added. Furthermore the paper presents a conceptual model of factors affecting value added by the purchasing department. In order to discover the influence of these factors on the capacity of the purchasing department to add value to the organization, we conducted an empirical study. The preliminary findings of the empirical research are presented at the end of the paper.

Value is becoming more important to the organization

Driven by the fearful competition on the marketplace, organizations are giving more attention to the 'value' concept. They are attempting to increase the value of their products and services and reduce non-value-added activities, both in terms of cost and in number. One function that has a tremendous impact on these efforts is purchasing. The role purchasing plays in the organization is crucial, and the outcome of the purchasing decisions made can have a profound impact on the value of the organization.

In the value chain analysis developed by Porter (1985), procurement is viewed as a support activity, that contributes to the competitive advantage of a business unit by adding value. The purchasing function uses various inputs to perform value-adding processes (market and value analyses, sourcing, negotiation, etc) and to provide output like quality, services, materials, etc. If purchasing performs these activities effectively, this output provides the organization with a competitive advantage (see figure1). The value-chain demonstrates that the purchasing function has a major role in adding value to the organization.

Most of the purchasing researchers see purchasing as a strategic contributor to the added value of the organizations. But only a few articles/researchers discuss the possible kinds of values that the Purchasing Department could actually add to the organization.

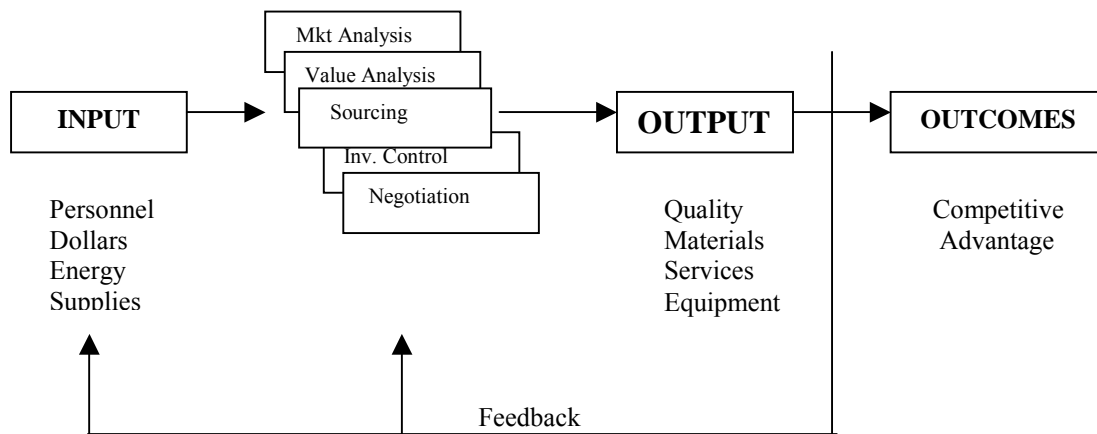


Figure 1: Identify the value-adding processes (Source: Dumond, 1994)

Literature review on value added

Many authors discuss the 'value' concept but there are many differences in the way they define and treat the concept. When it first appeared, the use of 'value added' was put forward as an alternative to *profitability* or *return on investment* supported by accountants who were seeking an alternative measure of company performance (Wood, 1978). So, purchasing performance on providing added value to the company was measured and evaluated on changes in the purchasing price of materials and the cost of the departmental operation.

Farmer (1987) writes about the traditional concept of value of purchasing which was obtaining the right materials in the right quantity, for delivery at the right time and right place, from the right source, with the right service, and the right price. Later on the strategic concept of the value of purchasing was explored by Ellram (1994). She sees purchasing as a strategic business function integrated within the strategic planning process.

Nowadays, value-based purchasing focuses the decisions of purchasing professionals on the creation of value, rather than on the traditional objectives of cost savings and efficiency.

The advent of E-commerce and other information technologies enlarges more and more the kinds of values that purchasing department can add to the company, because:

- the purchasing department transfers the operational activities to the users and concentrates on strategic and value adding activities
- they streamline the entire purchasing process (especially the operational part), eliminate all non-value adding activities
- they offer the possibility of a tighter control over the entire process
- they offer powerful databases which hold all supplier details and end-users' profiles, track all activities and enable the provision of comprehensive and flexible management reporting
- etc.

We can observe that the purchasing role in providing added value has evolved and has been modified along with the importance and the place taken by purchasing in organizations. In figure 2 the main values added by purchasing are related to each of the evolution stages towards purchasing maturity (van Weele, 1998).

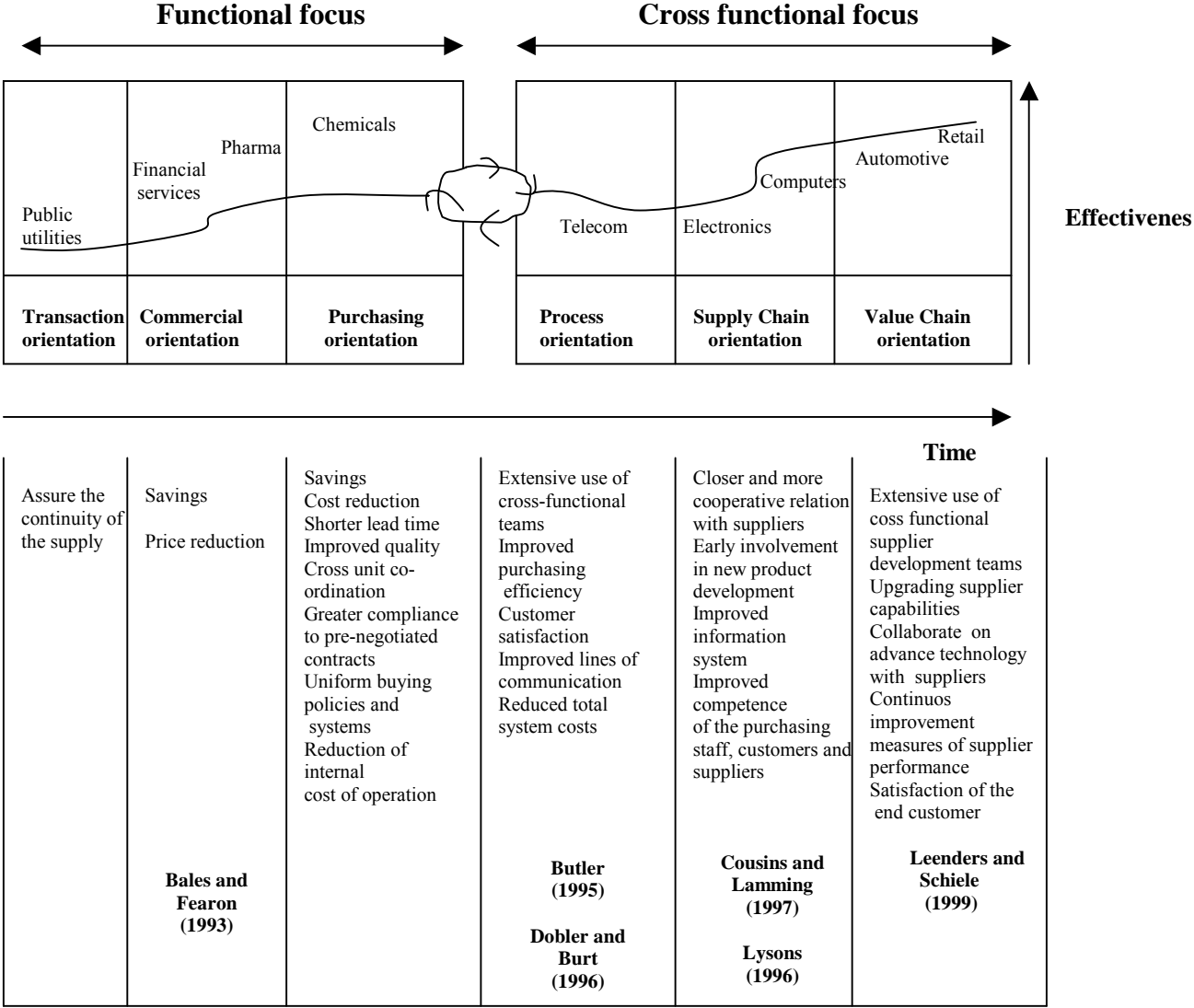


Figure 2: Main value added by purchasing structured in purchasing development model (adapted from van Weele et. al.,1998)

In the first stage the main value added by purchasing is assuring the continuity of the supply. In the second stage the purchased items have increased in importance in a company’s cost structure and purchasing is charged with minimizing materials costs and adding savings to the bottom line. In stage three the emphasis lies on cross unit co-ordination and the main values added by purchasing are greater compliance with pre-negotiated contracts, uniform buying policies and systems and capturing the benefits from internal co-ordination. In the next stage there is an extensive use of cross-functional teams and purchasing’s main focus is on

reducing total systems cost and satisfying the internal customer. In the supply chain orientation stage purchasing is characterized by strategic supplier selection, long-term relationships design, supplier network management and early involvement in the new product development process. In the final stage the main goal is to design the most effective and efficient value chain possible to serve the end customer. This last stage is characterized by an extensive use of cross- functional supplier development teams and a close collaboration on advance technology with suppliers.

The activities where purchasing is seen to add value have evolved over the ten last years (contrast Bales and Fearon, 1993 and Leenders and Schiele, 1999). Many researchers (Bales and Fearon, 1993; Dobler and Burt, 1996) focus their attention on tactical activities of satisfying the customer by improving the efficiency and effectiveness of the purchasing function. This approach it is only internally focused because they are taking into consideration only the activities undertaken by the purchasing department of the company in question

Because purchasing makes the link between a company's suppliers and its customers, it is not only internally focused but also externally. In these circumstances, it would be more appropriate to adopt a broader view and understanding of the possible values added by purchasing to the company. In this purpose, the value chain developed by Porter in 1985 demonstrates the importance of external influences on providing value and how the customer relationship determines this value. The value-chain analysis developed by Porter demonstrates that the purchasing function, which interacts with both the firm's internal and external environment, has tremendous potential to provide value (not only internally but also externally).

Leenders and Schiele (1999) take a broader view of the values added by the purchasing department and classify them into four main categories:

- values added to the organization (for e.g. improved performance, controlled costs, etc.)
- values added to the purchasing process (for e.g. purchasing process facilitation, and fairer, more defendable supplier evaluation, etc.)
- values added to the specifier (for e.g. better understanding of their needs, having available an extra resource to rely on, having access to information about the market place and the service, etc.)
- values added to the supplier (for e.g. helped them understand what was needed and how they could improve themselves, etc.)

Based on the literature review we have selected five main categories of values added by the purchasing department but the values added that should go into these categories depend on the specific characteristics of each purchasing department, its position, importance and way in which is organized.

We have selected the following categories of values added which we consider to be representative and important for every organization:

- better contracts
- improved purchasing efficiency
- customer satisfaction (improved quality and service)
- closer and more cooperative relationships with suppliers

- reduced costs, improved quality and increased time to market resulting from an early involvement of the purchasing department in the new product development process (NPD).

The first four categories of values added are based on Leenders and Schiele (1999). Basically we took one aspect from each of their categories of values added. But we would miss something if we didn't take into consideration also the role of the purchasing department in the new product development process, especially in today's environment when everything is evolving so fast. That is why the last category of values added that we have selected is the contribution of the purchasing department in the areas of quality, cost and time to market resulting from an early involvement of the purchasing department in the NPD process.

Factors affecting value added

The role of the purchasing function in increasing the value of the organization's products and services is discussed by Dumond (1994) in "Moving towards value-based purchasing". The author identifies three groups of organizational variables that she claims to have the largest effect on a company's ability to perform value-based purchasing:

- the performance measurement system – which establishes the means and motivation for effective value chain management;
- functional interaction – allows purchasing managers to increase value by focusing on the internal users that need to be linked to the external environment;
- access to external information – allows purchasing professionals to increase the value of a firm's products and services by linking the internal user with the external environment.

Each of these three variables has been investigated in 21 manufacturing firms in a variety of industries. Based on the results of her study, Dumond concludes that the current purchasing environment does not support value-based purchasing. In order to develop an environment that will support and encourage value-based purchasing, a series of changes have to be considered by senior management:

- focus individual purchasers on customers' needs and identify value-adding processes;
- develop a performance measurement system that emphasizes quality, process improvement, and customer satisfaction;
- integrate purchasing into the firm's communication system;
- educate not only individual purchasers but also their customers.

Cousins and Lamming (1997) consider that the activities of the purchasing department are nowadays more strategic and diverse in nature and therefore a more extensive set of competencies is required for the purchasing department in order to add value to the organization. They also consider that the changes in the purchasing function (becoming a strategic function of the organization which has tremendous potential to add value to the organization) have been driven by improvements in information technology, globalization of businesses and the need for organizations to become truly lean in order to remain competitive.

In Rozemeijer's view (2000) the main factors that have an impact on purchasing synergy and on creating corporate advantage in purchasing are: corporate strategy, purchasing maturity, corporate organization and business context.

Based on these findings from literature we have tried to group the factors affecting the values added by purchasing department into the following conceptual model (see figure number 3).

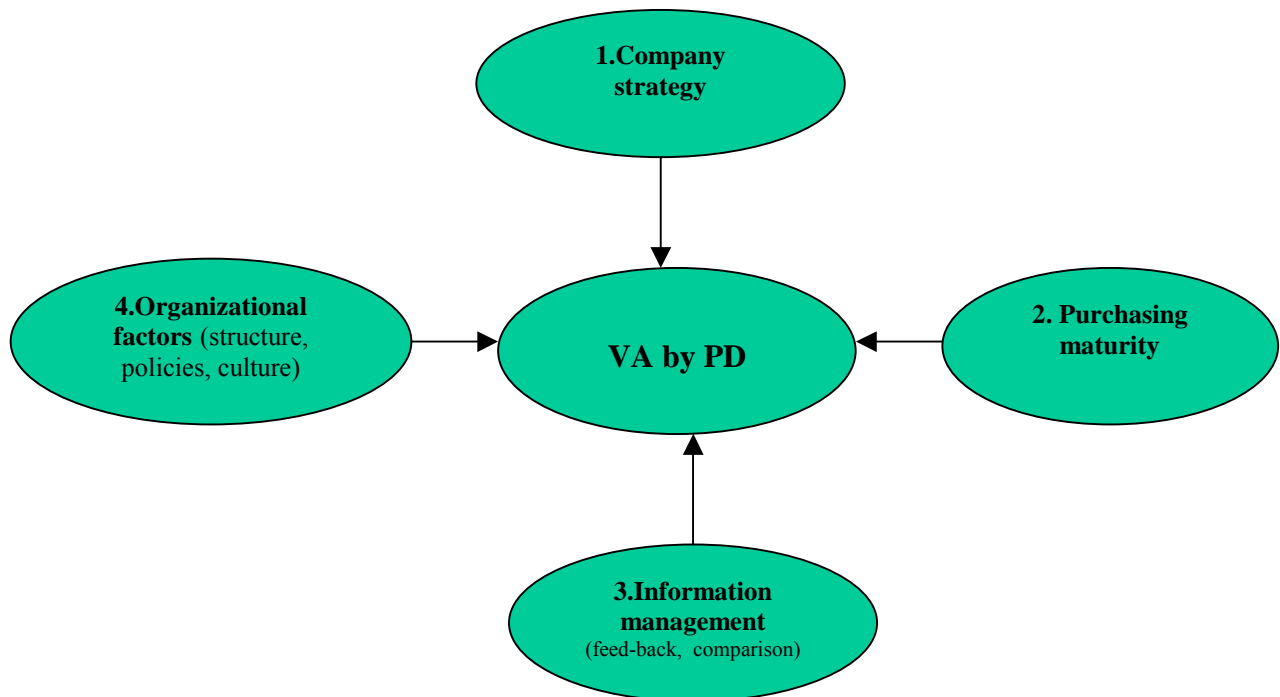


Figure 3: Conceptual model of factors affecting value added by PD

Hypotheses

In order to discover how these factors influence the capacity of the purchasing department to add value to the organization we operationalized the factors and the values added. In order to do this we have formulated statements for each factor and each value added. The statements are very simple and allow only a yes or no response. For example, the factor measurement and information management is operationalized as: "in our company we frequently analyze data on purchasing and suppliers and act on it". The complete operationalization is given in appendix A.

As a preliminary field test we surveyed 24 purchasing managers who are (regional) board members of NEVI, the dutch purchasing association. We asked for a yes or no response for all

the statements formulated. Then we studied the dependence between the values added and the factors affecting value added.

For the different combinations of factors affecting value added and values added we tested the hypothesis (H_0) that a particular factor is independent from a particular value added. In order to test H_0 we used Pearson's χ^2 statistics (appendix B).

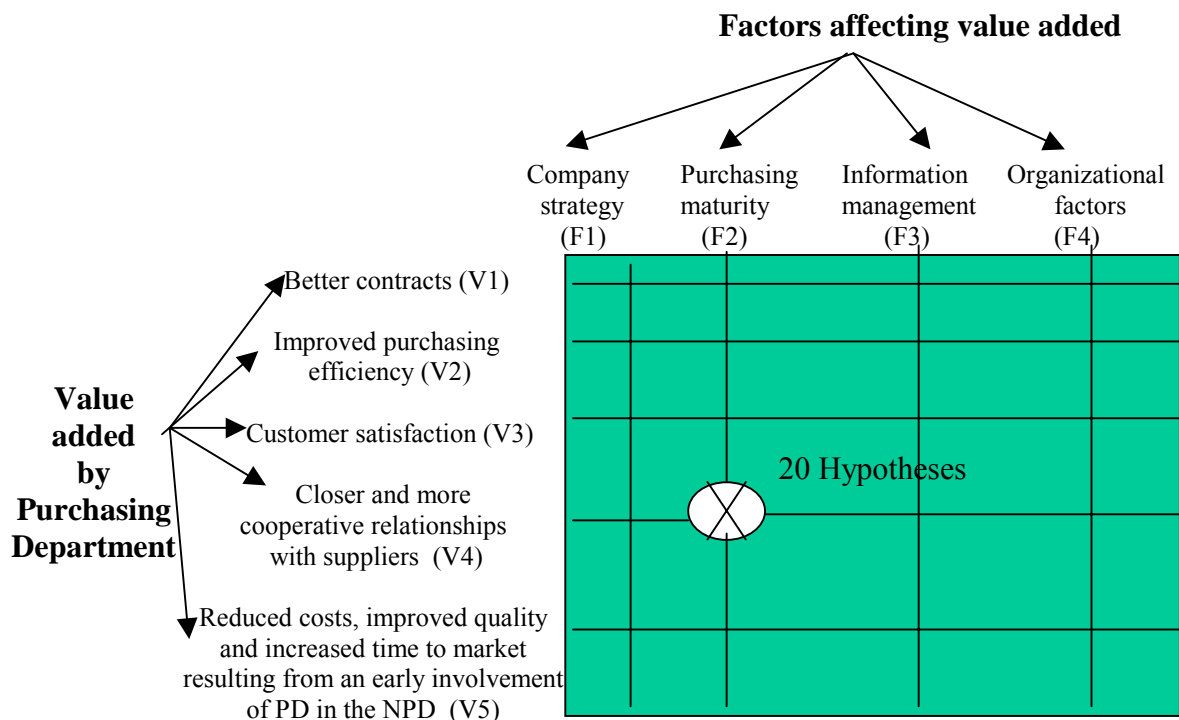


Figure 4: Factors affecting value added and the values added by the purchasing department

Preliminary findings

In figure number 5 the empirical results are presented. The gray areas pinpoint that there is a relation of dependence between a particular factor and a particular value added (H_0 is rejected at the 95% confidence level). The white areas show that there is a relation of independence between the factors and the values added.

These are only preliminary results because of the size of the sample we took (24 purchasing managers) and because we tested the operationalization of factors and values added. In testing the hypothesis (H_0) that a particular factor is independent from a particular value added we took a 5% confidence level.

Based on the obtained results it is interesting to see that purchasing maturity is a very important factor which affects all five values added by the purchasing department that we took into consideration. Furthermore, purchasing maturity positively affects all these five values added. This means that the higher the stage of development of the purchasing function is, the more values are added by the purchasing department to the organization.

Also, company strategy can affect the values added by the purchasing department (reduced quality, improved costs and increased time to market) resulting from an early involvement of the purchasing department in the new product development process. This applies especially for organizations that have a differentiation strategy.

We have also obtained some unexplained relations of dependence, like for example between the company culture (internally) and the relationships with suppliers (externally). We will further investigate this.

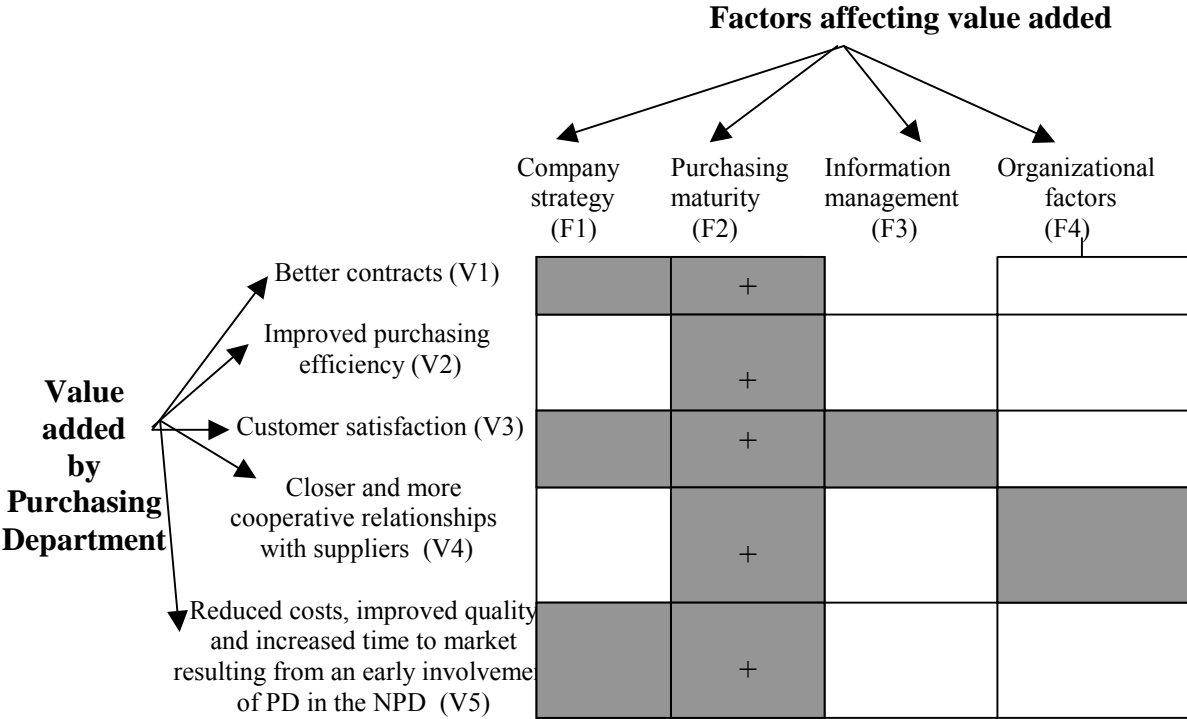


Figure 5: The relations of dependence and independence between the factors affecting value added and the values added by the purchasing department

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Appendix A

Operationalization of factors	
<i>Company strategy:</i>	
Our company strategy is cost leadership []	
(Porter, 1985)	differentiation []
	focus strategy []
<i>Purchasing maturity:</i>	
In our company purchasing is in the following stage of maturity:	
transaction orientation []	process orientation []
commercial orientation []	supply chain orientation []
purchasing orientation []	value chain orientation []
<i>Information management:</i>	
In our company we frequently analyze data on purchasing and suppliers and act on it.	
	Yes []
	No []
<i>Organizational factors:</i>	
Our company has a culture that encourages co-operation across business units.	
	Yes []
	No []
Operationalization of Values Added	
<i>Better contracts:</i>	
The involvement of the PD leads to better contracts.	
(Farmer, 1987)	Yes []
	No []
<i>Improved purchasing efficiency:</i>	
In our company we use efficient processes for contracting and ordering.	
	Yes []
	No []
<i>Customer satisfaction:</i>	
The PD is never too busy to respond to the internal customers' requests and provides services at the time it promises to do so.	
(Young and Varble, 1997)	Yes []
	No []
<i>Closer and more cooperative relationships with suppliers:</i>	
Our long term relationships with the suppliers add real value to the company.	
	Yes []
	No []
<i>Reduced costs, improved quality and increased time to market resulting from an early involvement of the PD in the NPD:</i>	
In our company purchasing becomes involved in the new product development process at the concept stage.	
(Wijnstra, 1997)	Yes []
	No []

Appendix B

In order to study the relation of dependence or independence between the factors affecting value added (noted with F) and the values added (noted with V) we assembled the results in what is called a 2*2 contingency table (Bickel and Doksum, 1997):

	F=0	F=1		
V=0	n ₀₀	n ₀₁	n ₀₊	n ₀₊ = n ₀₀ + n ₀₁
V=1	n ₁₀	n ₁₁	n ₁₊	n ₁₊ = n ₁₀ + n ₁₁
	n ₊₀	n ₊₁	k	

Where n₀₀ is the number of companies with F=0 and V=0 (number of companies which gave a NO response to the statements regarding the factor (F) and the value added (V)).

We consider the following statistics:

$$\sum_{\text{cells}} \frac{(\text{observed} - \text{expected})^2}{\text{expected}} = \chi^2$$

which is called Pearson's χ^2 statistics. Clearly χ^2 is a measure of the departure of the observed n₀₀ from their expectation n₀₊ n₊₀ / k under hypothesis H (H₀: F and V are independent).

In our case:

$$\chi^2 = \sum_{i=0}^1 \sum_{j=0}^1 \frac{(n_{ij} - \frac{n_{i+} n_{+j}}{k})^2}{\frac{n_{i+} n_{+j}}{k}} \rightarrow \chi^2 \text{ (chi-square with 1 degree of freedom)}$$

This means that χ^2 is approximately a χ^2_1 distribution.

Suppose that we determine the value of χ^2 . If $\chi^2 > 3.84$ (this value depends on the number of observations) then the hypothesis H₀ is not true, this means that F and V are dependent. In the case that $\chi^2 < 3.84$ then the H₀ is true and F and V are independent.

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