

# **MANAGING PURCHASING OF NON-PRODUCT RELATED (NPR) GOODS AND SERVICES - ON HORIZONTAL FRICTIONS AND VERTICAL IGNORANCE**

**Luitzen de Boer  
Corina Pop Sitar**

## **Abstract**

This paper investigates the current practice with regard to the involvement of the purchasing department(s) in NPR purchasing. First we review the literature about NPR purchasing, and especially the major benefits and challenges of involving purchasing department in NPR purchasing. Furthermore the paper explores some theoretical explanations of why certain tasks regarding NPR purchasing should be attributed to a purchasing specialist and others should not. In order to refine the theoretical explanations we also conducted an empirical study. The findings of the empirical research are presented at the end of the paper. The main conclusion is that top management – at least in theory – could improve its grip on NPR-purchasing by more clearly creating the conditions for a self-regulating ‘economic system’ within the firm which offers internal departments different possibilities for organizing their respective purchasing activities. These conditions must allow for letting the internal customer be in charge of purchasing themselves, but also offer the possibility of buying purchasing assistance on a ‘market’ and/or developing co-operative relationships with a purchasing specialist.

## **Introduction**

Until recently, academic interest in purchasing was very manufacturing oriented with an emphasis on production buying. The purchasing of non-product related goods and services (NPR) has only gained limited attention from management and researchers (Fearon and Bales, 1995; Telgen and de Boer, 1995).

NPR goods and services are known by many names: indirect goods and services, goods not for resale, non-bill of materials. No matter how they are called, the NPR purchases include all goods and services other than raw materials, production items, and MRO supplies, such as: capital equipment (e.g. vehicles, lathes, etc); services (e.g. health care plans, insurance, advertising, legal assistance, and telecommunications).

The obvious characteristic of NPR goods and services is that they are not used in the primary production processes. They are purchased in order to support and facilitate all other activities within the organization. Non-product related purchases have a number of characteristics (Telgen and de Boer, 1995):

- they comprise a wide range of goods and services, which are often purchased from an even larger number of suppliers;
- they are often time consuming as many are non-standardized items which are usually purchased in small orders;
- they show high end user involvement in the tactical purchasing phase which leads the NPR purchasing process to be spread out all over the company;
- in total there is a lot of money involved in NPR purchasing; however NPR typically receives limited management attention.

A dominant factor to be considered with regard to the importance of NPR purchasing is the yearly amount of money involved. In many services and government organizations such as banks, accounting firms, and hospitals, the total purchase volume can be regarded as purchasing expenditures on non-product related goods and services. In industrial and retail organizations this will naturally not be the case because a considerable part of the total purchase volume consists of purchasing for primary process. However, in the purchasing of NPR goods and services huge amounts of money are involved.

Large corporations typically spend over 30 % percent of their revenues on NPR purchases. AT&T, for example, found out that they spent 60% of their \$20 billion-a-year purchasing bill on NPR goods and services such as travel and car-rental, real estate, computer hardware and software, services, office furniture and supplies, services, cleaning materials, etc. Another example is Xerox who spent almost 73% of their \$6 billion-a-year total spend on NPR goods and services (Rozemeijer and van Weele, 1996).

Another typical factor regarding NPR purchasing is the low attention from top management. NPR purchasing is not seen by managers as a necessity, compared to the purchasing of items and services for the primary process. As a consequence, structural attention and management of purchasing of NPR goods and services is not considered as a tool for improving effectiveness and reducing expenditures. Because of the lack of clear and direct insight in the size and contents of the purchasing volume of non-production items and services, managers are missing out opportunities for adding value to their organizations. Is top management sufficiently aware of what is going on in the company? Who buys what? Where? With what frequency? Etc.

Obviously, top management cannot and should not want to know about every purchasing transaction. On the other hand, leave it completely to the departments seems a too costly strategy, given the time and money involved.

Therefore, the question arises: what is the optimal control approach for top management regarding NPR purchasing? What do they need to know and how do they get this information? One of the obvious control tools would be to involve one or more purchasing professionals (e.g. a professional purchasing department). However, there appears to be very little research on this topic.

The main objective of our paper is to investigate the current management control practice with regard to the involvement of purchasing department(s) in NPR purchasing. In a later stage we hope to draw further on this and formulate and design rules for improved management and control.

Our paper is organized as follows. The first part contains a literature review on managing NPR purchasing. Next, we explore some relevant theories in search of explanations for the limited involvement of purchasing specialists in NPR purchasing. The next part contains a presentation of the preliminary findings of an empirical study investigating the current level of management control regarding NPR purchasing. More specifically, we investigate the mechanisms in organizations to make a choice on whether or not to involve the purchasing department in certain NPR purchasing decisions/actions. To what extent is top management using this as a control tool? At the end of the paper we draw tentative conclusions.

## Literature review

A number of previous studies (U.S. Bureau of the Census, 1991; Fearon and Bales, 1995) indicate that the role of the Purchasing Department is much smaller in the purchase of nontraditional (non-product related) goods and services than commonly believed. These 'nontraditional' (non-product related) areas, such as insurance, utilities, consultancy, travel and advertising, are likely to be purchased without the involvement of professional buying practice and skills. For example, the Center for Advanced Purchasing Studies (CAPS) in a study in 1993 (Fearon and Bales, 1993) found that in a surprisingly large percentage of firms, the Purchasing Department had no input to the purchase of nontraditional goods and services (e.g. in 39% of the firms, there was no involvement in the purchasing of services, in 55% of the firms there was no involvement in the purchasing of utilities).

Similarly, in another study made in 1995, Center for Advanced Purchasing Studies (CAPS) found that from the total of \$ 140.3 billion purchased by the 116 organizations, only 41 percent was spent by the purchasing department, 59 percent was spent outside of the purchasing department. From these 59 percent: 41.55 percent was spent by some other nine departments (transportation, finance, administration, human relations, etc.) and for 17.45 percent the study couldn't identify the buyers. The research highlights the purchase dollars spend of the total 116 organizations for the largest ten goods and services. The purchasing department apparently had very little input in the purchase of the majority of services and also had a smaller input in the purchase of non-product related goods.

In Michels' view (1996), a purchasing department can be involved in three different ways: (1) purchasing can be directly involved in NPR purchasing; (2) purchasing can act as an internal consultant/advisor for NPR purchase buyers; (3) purchasing can act as a cross functional team member dealing with nontraditional expenditures.

Results of a recent Purchasing Magazine survey of 1000 corporate buyers nationwide show that purchasing departments take on many activities for service procurement that were once left to the using departments. From a total of 1000 respondents: 70 percent were involved in contract negotiations; 63 percent were involved in supplier selection; 58 percent were involved in contract management; and 5 percent were involved in setting specifications.

As the study shows, the purchasing department has become more involve in the tactical procurement of NPR goods and services. Apparently, these purchasing departments have started to realize that there are numerous opportunities in the NPR procurement and that they have the skills and expertise to ensure that the company receives the best value. In the

following table we have tried to synthesize the major reported benefits of involving the purchasing department in the NPR purchasing process.

insert table 1 here

While benefits of involving purchasing department in the NPR purchasing process may be numerous there are also several major challenges of involving purchasing department in the NPR procurement (see table 1).

Summarizing, the literature suggests that:

- purchasing's involvement in NPR is still very limited and problematic;
- involvement could offer many advantages, including offering increased control to topmanagement;
- purchasing involvement is subject to horizontal resistance and vertical ignorance.

In other words: top management does not seem to actively use the purchasing department as a means for keeping sufficient control on NPR purchasing. In order to get a better understanding of how purchasing's involvement comes about, we attempt to transfer some basic insights from (inter-) organizational theory onto the topic of organizing NPR-purchasing.

## **Contemplating on some theoretical explanations**

The question of how Purchasing's involvement – limited as it may be – comes about, points to a fundamental problem in the scientific study of organizations, namely the problem of specializing “.. in that particular manner and along those particular lines, which will lead to organisational efficiency” (Simon 1976, p. 23). The particular lines Simon refers to are (a) purpose (b) process (c) clientele or (d) place. As Simon argues, the choice for one line of specialisation will inevitably compromise the efficiency obtained in the others. From the previous section, it seems that specialisation along the line of NPR-purchasing *processes* constitutes a rather rare case.

In this section we discuss some classic – yet somewhat arbitrarily chosen – contributions on this issue and attempt to specifically relate them to the problem of organising NPR-activities and in particular NPR-purchasing.

A true classic treatise on specialisation is of course Smith's *Wealth of Nations* (1999). Smith argues that specialisation occurs for three reasons. Firstly, specialisation enhances someone's skills and thus leads to increased productivity. Secondly, specialisation reduces time required for shifting from one activity to another. Finally, specialisation facilitates automation. As a result, markets emerge where every craftsman offers the surplus of his specialisation to other craftsmen in need of this and he buys from products from their specialised activities what he needs himself. Full specialisation however is limited by the extent of the market: “..when the market is very small, no person can have any encouragement to dedicate himself entirely to one employment” (Smith 1999, p 121).

In any sufficiently large organisation, a specific professional purchasing department or structure becomes viable as a specialist supplier of certain purchasing services because it attracts sufficient demand, especially administrative and ordering-related activities. However, the majority of purchasing activities – especially tactical purchasing tasks – apparently shows too much diversity to justify internal specialist suppliers for each individual item or service. Diversity is a typical feature of NPR-purchasing and the size of the internal ‘market’ is therefore often (too) small.

Based on his article from 1972 about inter-firm organization, Richardson (1999) argues that it is top management’s task to set up within the firm an economic system in which activities can be co-ordinated in different ways comparable to ways by which firms relate to each other. More specifically, Richardson discusses three basic ways of arranging intra-firm activities: (a) by central direction (b) by means of market transactions and (c) by means of co-operation.

Furthermore, in Richardson’s view the preference of one arrangement over another depends on two basic characteristics of the set of activities under consideration: (a) the extent to which activities are complementary in relation to each other and (b) the extent to which activities are dependent on similar resources or skills. Two activities are said to be complementary if they represent different phases of a process of production and need matching (Richardson 1972). Activities are closely complementary if the matching becomes more intricate and one activity is specifically directed to another activity (Richardson 1972). A somewhat crude interpretation of Richardson’s theory is shown in the table below.

insert table 2 here

Closely complementary activities that require similar knowledge and resources should preferably be organised within one organisational unit, i.e. central direction. They require careful coordination, hence the case for integrating the supervision. Richardson does not specifically discuss the case of complementary and similar activities, hence leaving the appropriate co-ordinating mechanism indetermined. However, as two adjacent activities become dissimilar, i.e. requiring different sources of knowledge and skills, other ways of co-ordination become more appropriate. Dissimilar and complementary activities are better co-ordinated through a market-like system where activities are organised in separate units and each unit buys the required amount of complementary service when needed from a supplier of that service – internally or externally. In case of closely-complementary activities however, this is difficult because of the more complicated interface between the activities. The dissimilar nature of the activities makes it difficult to rely on central direction whereas the delicate interface between the activities prohibits uncoordinated reliance on a suitable supplier on a market. Therefore, the latter case asks for a more co-operative mode between the ‘buying’ department and the ‘supplying’ department through in advance matching of plans.

insert figure 1 here

Now suppose that Richardson’s theory can be translated one-on-one to our problem of organising NPR-purchasing activities inside an organization. How would the different types of purchasing department involvement look like and under which conditions would they occur? A free interpretation of table 2 for the case of NPR purchasing is shown in the figure below.

Starting point for the analysis is the basic (new task) purchasing cycle consisting of (1) specifying the need (2) selecting a supplier (3) negotiating the specific terms (4) formulating the terms in a contract and (5) ordering the product or service.

In case of closely complementary but similar purchasing activities, it makes most sense to organize these under a central direction. In other words: the specific department or person in the organization using or working with the product or service under consideration directs the process. An effective execution of that part of the purchasing process for that particular NPR-product or service does not rely on – nor benefits from - specific purchasing skills available elsewhere.

In case of closely complementary and dissimilar purchasing activities, some form of co-operation between the department ultimately using the NPR-product or service and a ‘specialized’ purchasing department is most viable. The involvement of a Purchasing specialist is necessary – or beneficial – because of the need for certain specific skills, which are not available within the department using the NPR item or service. However, due to the intricate link between the activities the service of the Purchasing specialist has to be secured in advance and cannot be called in just-in-time without any planning.

Complementary and dissimilar purchasing activities can however be called in when needed from Purchasing specialists – even from outside the firm. The Purchasing specialist within the firm charges a transfer fee which the Department requiring the NPR-item under consideration can compare to outside Purchasing specialists.

Based on the foregoing – somewhat brute – theoretical reasoning, we may speculate as to why in many NPR-cases the involvement of an internal Purchasing department will be problematic.

Assuming a very low level of purchasing awareness throughout the organization, the internal customers of NPR-items and services may often not distinguish between the required ‘content-knowledge’ and the required ‘process knowledge’. For example, they do not consciously separate knowledge about the function or technical properties of an item from the knowledge about how to best express this knowledge in a Request for Information. They will then not perceive certain purchasing activities as dissimilar and consequently tend to ‘central direction’ of the purchasing process, especially in case of closely complementary activities. The closely complementary nature may be strengthened by the high degree of end-user involvement, e.g. the specification of need is so ‘personal’ that supplier selection – the next activity – must be carried out in close co-operation. Insofar internal customers of NPR-items consider the purchasing activities dissimilar, the dependency will – again – relate to the content of the process rather than the procedural aspects of it. However, given the often-limited scale of each individual NPR-project, the required assistance will often have to come from outside the organization, as the ‘internal market’ is not large enough for maintaining such a specialist in-house. An internal purchasing department will only be successful for those activities which are considered dissimilar by the internal customers and which taken together generate sufficient demand.

Returning to the responsibility of topmanagement, its challenge will be to provide the necessary conditions for a more effective mix of (a) having internal customers taking care of

NPR purchasing themselves (b) allowing internal customers to call in last-minute expertise from internal or outside Purchasing specialists against transparent prices (c) stimulating co-operative relationships between internal customers and Purchasing specialists. We note that this mix is very similar to what Michels (1996) suggests.

In the next section we present a number of empirical examples of NPR-purchasing processes we collected. Based on this empirical material we aim to further refine the theoretical model developed in this section.

## Some empirical examples

We conducted three focussed interviews with (former) purchasing managers of three different organisations: (1) a former purchasing manager in a worldwide producer of electronic and domestic appliances (2) a purchasing manager in a hospital and (3) a former purchasing manager in a producer of complex navigation systems. Due to space restrictions we only show the summarised results of these interviews, see table 3.

Insert table 3 here

## Discussion and conclusions

Relating the findings from the interviews to the theoretical model and literature review, we arrive at the following conclusions.

- If topmanagement does not clearly communicate the different possibilities for professional (specialised) purchasing involvement, effective involvement from an internal purchasing department will remain problematic. The examples suggest that internal customers may refrain from involving the internal department, not so much because they believe the purchasing department has little value to offer but because they fear that involving the purchasing department will necessarily imply involvement from other internal customers. Another problem that becomes apparent from the interviews is that the lack of a clear structure for possible specialized purchasing involvement seriously harms topmanagement's credibility regarding future policies on NPR-purchasing.
- Reasons for not – or no longer – involving the internal purchasing department may include: (1) political considerations on behalf of the internal customer which have not so much to do with the purchasing department perse (2) gradual development within the internal customer's organisation of those purchasing skills which the purchasing department provided thus far (3) the internal customer's conviction that the required purchasing skills are not sufficiently dissimilar from his present skills and (4) the internal customer's conviction that outside help may indeed be beneficial but that the internal purchasing department does not have enough skills to be that 'outside' help and that a specialist consultant from outside the firm is required.
- Reasons for inviting – or allowing – the internal purchasing department to become involved in NPR categories which were previously outside their domain include (1) the internal customer's conviction that the internal purchasing department can add value by bundling demand from several internal customers and (2) turning to the purchasing

department as some kind of last resort after the internal customer's own efforts have failed. The first reason points to NPR items and services which are not too closely locked into the various internal operations.

- The internal purchasing department may also have to more consciously rethink its approach towards the internal customers in terms of the value they could add. In many cases, for examples regarding the purchasing of energy and ingredients for catering, the purchasing activities are closely complementary to the internal operations and/or require very specific (dissimilar) knowledge regarding the content. This suggests that the internal purchasing department would add most value by developing a dedicated co-operation relationship to this particular internal customer and/or facilitate the process of bringing in outside specialists. As mentioned before, given the wide variety of NPR items and services, the internal demand for specialist involvement in each individual item or service will simply be too small and infrequent to justify such an internal specialist.

All in all, we conclude that top management – at least in theory – could improve its grip on NPR-purchasing by more clearly creating the conditions for a self-regulating 'economic system' within the firm which offers internal departments different possibilities for organizing their respective purchasing activities. These conditions must allow for letting internal customer being in charge of purchasing themselves, but also offer the possibility of buying purchasing assistance on a 'market' and/or developing co-operative relationships with a purchasing specialist. The lack of such conditions discourages internal customers to involve an internal purchasing department, even if the department could in fact add value. By the same token, the purchasing department is confined to being involved in a (often limited) number of cases where it is clear that bundling of demand will pay off for all parties involved. In addition to these obvious cases, the internal purchasing department could play a useful role as a liaison between the internal customers with their very specific requirements in terms of knowledge and skills and outside-specialists who can offer this specific assistance.

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## **References**

- Axelsson, B. and Wynstra, F., 2000. Companies buy services, don't they?. Proceedings 9<sup>th</sup> IPSERA Conference, London, Ontario, Canada, 42-53.
- Atkinson, W., 2000. Buyers are involved 'cradle to grave'. Purchasing Magazine, October 19, 75-77.
- Fearon, H.E. and Bales, A.W., 1995. Purchasing of nontraditional goods and services. CAPS Report, NAPM.
- Fearon, H.E. and Bales, A.W., 1993. CEOs'/Presidents' perception and expectations of the purchasing function. CAPS Report, NAPM.
- Michels, W. L., 1996. Nontraditional Purchasing needs nontraditional methods. NAPM's 81<sup>st</sup> Annual International Conference Proceedings, Chicago, IL.
- Nowikow, C., 1999. Revolution, or evolution. Supply Management, September 23, 26-32.

- Porter, A. M., 1999. Taking control of ‘indirect’ corporate spending. *Purchasing Magazine*, September 2, 55-60.
- Richardson, G.B. 1972. The organization of industry. *The Economic Journal* (82): 883-96.
- Richardson, G.B. 1999. What can an economist learn from managing a business? In: Dow, S.C and Earl, P.E. (Eds). *Economic Organization and Economic Knowledge. Essays in Honour of Brian J. Loasby. Vol. I, Cheltenham*, pp. 239-254.
- Simon, H.A. 1976. *Administrative behavior. A study of decision-making processed in administrative organisation. The Free Press. New York.*
- Smith, A. 1999 (first published 1776). *The Wealth of Nations. Books I-III. Penguin Books. London.*
- Telgen, J. and de Boer, L. ,1995. Developments in purchasing of non-production items. *Proceedings 4<sup>th</sup> IPSERA Conference, Eindhoven*, 1-8.
- U.S. Bureau of the Census, 1991. *Annual Survey of Manufactures(Washington, D.C.). Statistics for Industry Groups and Industries.*
- Weele, A.J. van and Rozemeijer, F., 1996. *Revolution in purchasing: building competitive power through pro-active purchasing. Philips Electronics, Eindhoven.*

## About the authors

Luitzen de Boer and Corina Pop Sitar. University of Twente Initiative for Purchasing Studies (UTIPS). P.O. Box 217 – 7500 AE , Enschede, The Netherlands. Tel: +31 53 4894090, Fax: +31 53 4892159, E-mail: [l.deboer@sms.utwente.nl](mailto:l.deboer@sms.utwente.nl); [C.E.Pop-Sitar@sms.utwente.nl](mailto:C.E.Pop-Sitar@sms.utwente.nl)

Major benefits of involving PD in the NPR purchasing	Major challenges of involving PD in the NPR purchasing
<ul style="list-style-type: none"> <li>- cost savings</li> <li>- service and quality improvement</li> <li>- improving product position in the marketplace</li> <li>- reducing product or service cycle time</li> <li>- improved process efficiency</li> <li>- greater compliance to pre-negotiating contracts</li> <li>- controlled costs</li> <li>- legal protection</li> <li>- a better informed and prepared supplier</li> </ul>	<ul style="list-style-type: none"> <li>- gaining the acceptance, confidence and cooperation of the using department</li> <li>- capturing attention of top management</li> <li>- developing a value proposition for key customers and management</li> <li>- limited availability of NPR purchasing data and information</li> <li>- difficulty to assemble teams and other resources needed to control NPR spending</li> <li>- rivalries among separate business units or managers</li> <li>- emotional issues that users have in terms of being comfortable with doing things in certain ways</li> </ul>

Table 1: Major benefits and challenges of involving PD in the NPR purchasing

	Similar activities	Dissimilar activities
<b>Complementary activities</b>	Central direction / market (indeterminate)	Market
<b>Closely complementary activities</b>	Central direction	Co-operation

Table 2: Ways of co-ordinating activities (based on Richardson 1999)

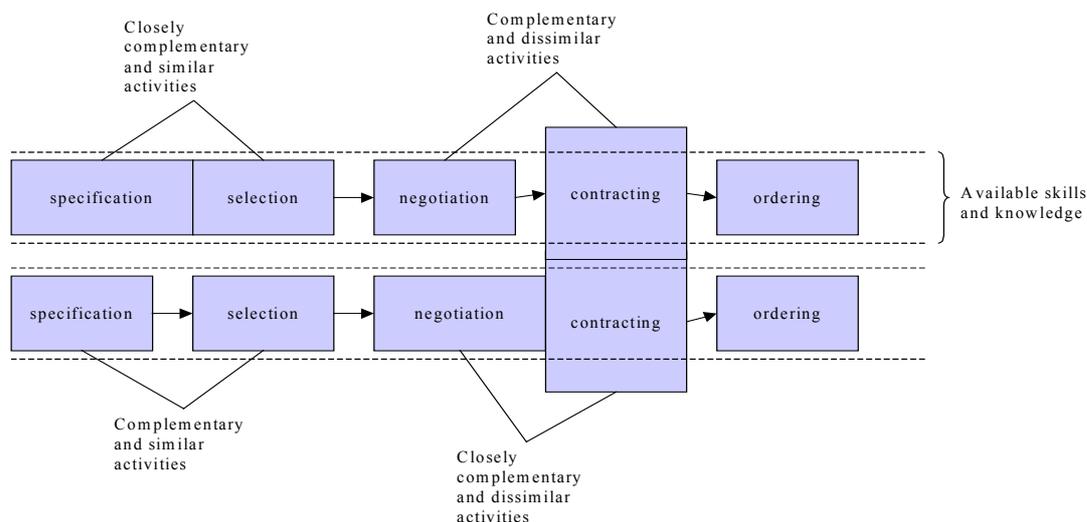


Figure 1: applying Richardson's (1972) model to purchasing activities  
 Source: C. Nowikow (1999); W. Atkinson (2000); A. Porter (1999)

	Electronics	Complex systems manufacturer				Hospital			
	Buildings	IT	Labor	Travel Management	Lease cars	Office supplies	ICT support	Interior decoration	Technical services
Formal policy	No formal policy	No formal policy	No formal policy	No formal policy	No formal policy	No formal policy	No formal policy	No formal policy	No formal policy
Loss of control - reasons  - initiators	-the power play -changes in organization structure  Technical and maintenance dep.	- organization changes - the polder model  Corporate PD		No loss of control	No loss of control	No loss of control	- internal customer was not satisfied with the support from system administrator Internal customer		
Gain of control - reasons  - initiators  -who else was involved  - Management support  - Benefits  - Challenges			Increased leverage power  Purchasing Manager  Chief of Personnel  Yes  Cost savings  Rivalries among separate BU	PD was feeling responsible for the large amounts of moneys involved Purchasing Department  Finance Department  Only after several attempts  Cost savings, legal protection Capturing attention of top management Limited availability of inf. over current contracts		PD wanted to arrange general contracts  Purchasing Department  'Buyers' from all over the company Yes  Cost savings  Limited availability of data about purchasing spend		Incapacity Conflicts with supplier  Board of Management  Legal Management  Yes	
Attempts - successful -reasons why they didn't succeed	No attempts	No attempts	No attempts		No Top manag. convince PD that Fin. Dep. is doing a good job				

Table 3: Summarized results of the interviews