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# **Antecedents and Performance Consequences of International Outsourcing**

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## **Abstract**

The outsourcing of intermediate products to international suppliers is believed to improve firm performance. We investigate this claim and test key dimensions of the decision to outsource internationally using survey data on 200 manufacturing firms located in the Netherlands. We find that most international outsourcing is intra-regional in nature. Furthermore international outsourcing is a consequence of a firm's ability to search and evaluate foreign suppliers, which is co-determined by its size, multinationality, and frequency of cross-border communications. Finally, no performance effects were observed for international or global outsourcing. We conclude international outsourcing is a balancing act between lower production costs abroad and lower transaction costs locally.

## **Key words**

Firm performance, intermediate products, international outsourcing, regionalisation / globalisation

## **Optimal sourcing strategies?**

Since the 1980s, the preferences of managers and management scholars on the optimal sourcing strategy of a firm have changed significantly in two respects. First, firms have moved away from vertical integration towards increased outsourcing, in the conviction that lean and flexible (manufacturing) firms that ‘stick to their knitting’ and focus on their core competencies perform better (Quinn and Hilmer, 1994). Second, fitting with the era of globalisation of the 1990s, firms were advised to use ‘global sourcing’ principles, by picking best-in-world external suppliers, as a means to improve competitiveness (Monczka & Trent, 1991; Quinn & Hilmer, 1994). Implementing both or either of these preferences has important consequences for the strategy, structure and performance of multinational corporations. Anecdotal evidence on best-practice firms, like Honda, indicates that some firms have both implemented and benefited from global outsourcing. But there is little substantive evidence to support such claims for a wide range of firms or sectors particularly not for the behaviour of firms outside the US. In addition, no clear distinction is made between outsourcing within and outside a trade region, such as the European Union (EU), although the two are qualitatively different. Therefore it is of great interest to further understand what it is that drives different forms of international outsourcing and how international outsourcing ties in to a firm’s performance.

This paper addresses a number of deficiencies in the existing International Business (IB) literature by assessing the antecedents and performance consequences of international outsourcing of intermediate products. The research questions for the present study are twofold: what are the reasons for outsourcing intermediate products internationally and what are the performance implications of international and global outsourcing? Answers to these questions help us better understand inward patterns of internationalisation and by knowing what the antecedents of international outsourcing are, we can better advise firms how much

international outsourcing is appropriate for them. We define outsourcing as the procurement of supplies from legally independent entities (suppliers). First we examine the literature on the antecedents and performance consequences of international outsourcing, culminating in five hypotheses on international outsourcing that guide our study. These hypotheses are centred on the notion that firms differ in their ability to search and evaluate foreign suppliers (Webster and Wind, 1972; Rangan, 2000). Then we present and analyse research findings from a sample of 200 leading manufacturing businesses operating from the Netherlands. Finally the implications, limitations and possible extensions of the present research are presented. Overall, we conclude international outsourcing is to a large extent a balancing act between lower transaction costs locally and lower production costs internationally.

### **The increasing prevalence of global sourcing**

To evaluate whether academic interest in global sourcing has increased, we investigated the ProQuest database to identify peer reviewed articles on (global) sourcing. Over the entire 1970-1985 period, only 29 articles featured the issue of 'sourcing'. Before 1986, there is not a single article containing both 'global' and 'sourcing'. Starting with the seminal article by Kotabe and Omura (1989), the interest in global sourcing rose rapidly. From 1989 to 2000, the average yearly number of articles on 'sourcing' rose to 35, while that on 'global' and 'sourcing' rose to seven. Thus the interest in global sourcing in leading academic journals has risen substantially since the mid-1980s, indicating global sourcing has become an important IB topic. Increasing academic interest is paralleled by the number of hits on global sourcing in non-peer reviewed articles, implying there is also a rising interest among practitioners. Searches on related words like 'international purchasing' seem to generate similar findings (Trent and Monczka, 2003).

The earliest reference to international sourcing in general appears to be Leff's (1974) article, which is concerned with the production location decisions of US firms seeking international expansion. Leff argued that plant location is essentially optimised by playing off currency fluctuations. In the late 1970s, more work emerged on the international sourcing pattern of firms, focusing on intra-firm exports using trade data (Lall, 1978) and on production for final markets (Buckley & Pearce, 1979). From the late 1980s onward, the discussion shifted to include the outsourcing of components (e.g. Kotabe and Omura, 1989). Kotabe and Swan (1994) published empirical evidence on the growing importance of international sourcing for firms in the US, focusing on intra-firm exchanges. For some 2,000 firms with about 18,000 foreign affiliates Kotabe and Swan calculated an offshore sourcing ratio, which measures the importance of foreign production activity as a part of the firm's total production (sales). They found that the offshore sourcing ratio increased from 6.2% in 1977, to 7.8% in 1981, and 10.3% in 1989.

Kotabe (1992) first promoted global sourcing as a critical IB topic. He referred to global sourcing as sourcing for components as well as sourcing for final products, although the latter could also be referred to as global production. The sourcing part is defined as involving all actions and transactions needed to obtain a marketable product (Kotabe, 1992). What makes the transaction 'global', however, remains relatively unclear in most definitions. The definition given by Murray, Wildt and Kotabe (1995b) provides an example:

“Global sourcing involves setting up production operations in different countries to serve various markets, or buying and assembling components, parts or finished products world-wide”.

This definition suggests that all Multinational Corporations (MNCs) producing abroad one way or another engage in global sourcing. Similarly, domestic firms that use inputs from a number of countries apply global sourcing. It should not come as a surprise, therefore, that

these phenomena at the same time have been referred to as ‘international sourcing’, ‘multinational sourcing’ or ‘offshore sourcing’. International sourcing is defined as buying by a firm in one country from a firm in another country (Levy & Dunning, 1993) as is multinational sourcing (Birou & Fawcett, 1993). Offshore sourcing (Frear et al, 1992; Kotabe & Swan, 1994) has been applied to US firms that produce and purchase abroad and then export products to the US. Trent and Monczka (2003) presented a model in which international purchasing and global sourcing represent different stages with global sourcing being the most comprehensive stage.

But current use of the term global sourcing also creates confusion as authors often use the term global (out)sourcing when they refer to all sourcing outside the focal country. At this generic level the term international sourcing is most appropriate and the term global sourcing should perhaps not be applied to nearshore sourcing. Another problem is that none of the studies to date have addressed the effects of the formation of international trade regions like the North American Free Trade Agreement (NAFTA) and the EU. Most data gathering for these studies was undertaken before these regions fully materialised in the mid-1990s. It can be argued that regional integration agreements create particular institutions that lower transaction costs for regional sourcing compared to global sourcing. Thus regional sourcing could well have a lower threshold level than global sourcing, which makes it a relevant separate subcategory of international sourcing strategies. Hence we will distinguish between four different geographic types of outsourcing. Outsourcing is considered to be that part of all intermediate products which the firm sources from outside suppliers, regardless of the type of relation with suppliers. International outsourcing represents that part of outsourcing, which is sourced from outside the focal (home) country. Domestic outsourcing, in turn, only covers outsourcing from the focal country. Regional outsourcing involves outsourcing outside the focal country, but within a formal free trade region (also called Regional Integration

Agreement). Global outsourcing will be used for outsourced intermediate inputs from outside the own trade region, which could alternatively be called extra-regional outsourcing. Global outsourcing and regional outsourcing jointly form international outsourcing. Many firms, of course, will engage in some combination of domestic, regional and global outsourcing.

The literature on international sourcing, especially the work of Kotabe and associates, has offered several insights into its antecedents and performance consequences. Our study acknowledges these results but also takes a more narrow focus and concentrates on the international outsourcing of intermediate products. This implies that internal sourcing and the location of assembly of final products are not discussed. We will also refrain from discussing make-or-buy (ownership) decisions or relationship design (arm's length or partnership) issues. This particular focus allows for more discussion of how the supply base of firms is internationalising, in line with the empirical changes discussed in the introduction. International outsourcing has grown so rapidly in recent years that it now warrants consideration as a separate topic from international insourcing. Sourcing for final products is excluded because firms face different considerations when outsourcing intermediate products (components). Swamidass and Kotabe (1993) noted for instance that duty rates differ substantially between components and finished products.

### **Existing evidence**

The literature offers several insights into the antecedents of the sourcing location. Although earlier literature did not always specifically look at outsourcing, we believe it has important implications for this study. Empirical studies have demonstrated effects associated with the size of the home country, foreignness, home base, and product-life cycles.

#### *Size of the home country*

In general, the degree of internationalisation of production and sourcing is negatively related to the size of the focal country. Buckley and Pearce (1979), with a sample of 156 MNCs, found for Japanese companies a ratio of overseas sourcing to final markets of 2.4% and for French companies 8.0%. For Swiss (91.6%) and Benelux (70.7%) MNCs a much higher ratio was found. Wyckoff (1993) estimated the degree of internationalisation of sourcing on the basis of national input-output tables and found 13% of international sourcing for the US; 7% for Japan; and 34%, 37%, 38% and 50% for Germany, France, the UK, and Canada respectively. These data are based on fairly rough international trade statistics, which do not exclude intra-firm trade (sourcing from own units and related transfer-pricing effects) and re-imports of finished goods. Yet they reinforce the impression that country size is inversely related to international sourcing. Japanese firms show that high degrees of vertical de-integration, combined with a geographically isolated economy with no formal trade region membership, result in higher degrees of domestic outsourcing (Ruigrok & Van Tulder, 1995).

#### *Foreignness and home base effect*

Based upon a survey of 43 Japanese and 28 European MNCs active in the US, Swamidass and Kotabe (1993) calculated component sourcing locations. For manufacturing in the US, 64.3% is sourced within the US, 29.9% from the home country, 1.8% in other developed countries and 4% in less developed countries. For manufacturing in the home country with subsequent exports to the US, they found 6.5% sourcing in the US, 88.5% sourcing in the home country and 2.5% each in other developed countries and less developed countries. Murray, Kotabe and Wildt (1995b) surveyed 104 US subsidiaries of European and Japanese Fortune 500 companies. On average these companies sourced 73.7% of their components from the US, 15.9% from the home country, 7.6% from other developed countries and 2.8% from less developed countries. Other studies provided less detailed, but similar, findings (Birou and

Fawcett, 1993; Monczka & Trent, 1991). Thus we see that foreign subsidiaries apply more international sourcing than domestic firms do and have a preference for suppliers from their home country. This internationalisation pattern may be related to local supply clusters or industrial districts (Porter, 1998) at home. In addition, foreign subsidiaries will be more familiar with home-based components. Swamidass and Kotabe (1993) also concluded that differences in the home base matter, as Japanese and European firms display different international sourcing patterns. They suggested that this finding can be attributed to differences in the strength of the home supply bases of European and Japanese firms.

#### *Product-life cycle and international sourcing*

At the industry level Swamidass and Kotabe (1993) found that although the product life cycle stage (Vernon, 1979) of an industry has no effect on internationalisation strategies as such, it does determine where products are sourced. Their dependent variable (Swamidass and Kotabe, 1993, p.89) was “a percentage of total value of components sourced from five possible locations”. One of their propositions suggests that the size of local sales figures into the decision where components are sourced. But the costs of sourcing components induced a drive towards less developing countries and high tariff barriers promoted local sourcing.

In conclusion, some knowledge has been generated on the antecedents of international outsourcing. But few findings have been based on formal statistical tests. Some of the evidence presented is simply an interpretation of descriptive data other authors have presented. Furthermore these three variables only present part of the picture. There are plenty of other potential reasons for explaining international outsourcing (cf. Dunning, 1993), including strategic asset or capability-seeking in the form of a cooperative relation with a highly specialised best-in-world supplier; resource or efficiency seeking in the form of lower labour and production costs overseas; or escape arguments such as attempts to circumvent

local environmental regulation through outsourcing abroad. This leads to many potential explanations, none of which appear to have been explicitly tested and all of which presumably take on different meaning in different industry contexts. For instance the labour intensity required for the production of components will determine how much of an effect lower labour costs in far-away locations have on international outsourcing.

Testing these variables would be most appropriate in a multi-industry study. But this choice necessitates that a specific subset of variables is selected in order to keep the research model manageable. We have decided to build around existing work in seeking to obtain additional as well as deeper insights. The work by Swamidas and Kotabe (1993) provides a good basis for this. They studied both insourcing and outsourcing. We will attempt to confirm some of their propositions, while extending their work by investigating the impact of related variables. Specifically, we posit that a firm's supplier location choice will be influenced by the firm's search and evaluation costs, a longstanding notion in industrial marketing (Webster and Wind, 1972) and international business (Rangan, 2000). While a foreign supplier's production cost levels will generally be lower and the quality of its products may or may not be higher, the transaction cost levels attached to international transactions are almost invariably higher (Rangan, 2000). Because foreign suppliers, when compared to local suppliers, are less likely to be known by the focal firm and even less likely to have been a partner in previous exchanges, there are higher transaction costs attached to finding out about international outsourcing opportunities. But some firms may be better able to deal with search and evaluation than others. The ability to search and evaluate foreign suppliers can therefore differ between companies. Our hypotheses can be seen as predictions of how search and evaluation costs differ, based on certain characteristics, specifically the firm's size, home base, multinationality and frequency of communicating about international outsourcing opportunities. The hypotheses thus attempt to address unanswered or ignored questions in

current literature. Furthermore we will test the impact of international outsourcing of intermediate products on firm performance. The performance dimension has not been formally tested before although there have been tentative statements concerning it, as will shortly be discussed. From a managerial point of view these questions are highly relevant as they can help answer managerial dilemmas about how much a specific firm should outsource internationally. For policy makers concerned with domestic supplier networks an understanding of the conditions under which firms outsource internationally is also beneficial.

### **Antecedents of international outsourcing**

The literature review showed that those firms most likely to use international sources are subsidiaries of foreign firms, given their more extensive social networks outside the focal country. The presence of these networks makes it relatively cheaper for foreign firms to outsource abroad as they need not engage in transaction cost increasing socialisation processes and can refrain from complicated formal contracts. These firms are therefore able to combine their home and host supply bases. Domestic firms are more likely to be focused on existing networks within national boundaries given their unawareness of foreign sources and their lack of foreign experience. Following Rangan (2000), a lack of knowledge leads to the screening out of foreign sources (the search problem), while a lack of previous interaction will increase uncertainty over a partner's reliability and fears of opportunistic behaviour (the deliberation problem). Empirical support for this mechanism is based in the finding that firms are much more likely to trade with nearby domestic partners than with nearby foreign partners (Rangan, 2000). Subsidiaries of foreign firms will be faced with the deliberation problem in their host environments, which is partly what makes them opt for home-based outsourcing. While Swamidass and Kotabe (1993) did not explicitly investigate this, a comparison of their data with other data on international sourcing provides some indirect support for the argument

that foreign firms will more easily overcome search and deliberation problems than local firms and will display a more international outsourcing pattern.

H<sub>1</sub>: Being a foreign (host) firm is positively related to outsourcing internationally.

We also suggest that multinational firms, with past international experience, will have been exposed to a much wider scope of international outsourcing opportunities. For MNCs the costs of search and evaluation abroad will be substantially lower because they already have establishments there. Once firms have gained enough experience with international networks their international outsourcing strategy becomes focused on combining the best elements of various countries. Selling a substantial volume of products in other countries also increases the likelihood that firms become familiar with potential suppliers. Local market intelligence often can lead to knowledge on local suppliers, because these are also suppliers to local competitors or may become potential competitors themselves.

Firms that have created international production networks can use uncertainty regarding supply conditions like currency fluctuations or variations in technological trajectories between countries to create real options (Kogut and Kulatilaka, 1994). Under these conditions, switching opportunities between countries can be created, providing firms with additional flexibility and an improved ability to deal with political or economic shocks. Having a more international production strategy thus also triggers more international sourcing strategies. In the mid-1990s, Ford Motor Company attempted to do something similar when it engaged in its world car project. For Toyota, the decision to withdraw from its global car ambition in the 1990s, reveals a comparable but reversed reasoning: the below average international spread of its production and marketing

networks in the automotive sector and the decreasing threat of a ‘fortress Europe’ lowered its inclination to develop a global car (See Carillo et al., 2004).

H<sub>2</sub>: Being a multinational firm is positively related to outsourcing internationally.

A further extension of this last hypothesis is to consider how the multinational firm is organised with respect to outsourcing, especially how it communicates about potential international outsourcing opportunities. One well-known distinction regarding the internal organisation of multinational companies is between multi-domestic and global companies (Bartlett and Ghoshal, 1989) where the former operate on a country-by-country basis while the latter operate as one global firm. In the multi-domestic company there is little to no communication between managers within various countries. In global companies, management essentially operates as one entity and exchanges all possible information. Where firms find themselves on this continuum can have important consequences for their extent of international outsourcing.

In particular, in those firms that frequently communicate across borders there will be more exchange of information between sourcing managers concerning international outsourcing opportunities. This is bound to lower the search and evaluation costs because managers can then use their colleagues in a foreign supplier’s country to gather information about that supplier. Since their colleagues will be much better informed communication can lower costs and improve the effectiveness of decision-making. This will make it feasible to increase the use of international suppliers.

H<sub>3</sub>: The frequency of international communications concerning outsourcing is positively related to outsourcing internationally.

Another important effect not previously investigated is the relationship between size of the firm and international outsourcing. The size of firms is an acknowledged factor in many types of decisions. Likewise, it can be expected to be a key factor in determining the extent of international outsourcing. Larger firms are less likely to find suppliers of the required scale in one country. Larger firms are also more likely to manufacture in multiple countries. So they are more likely to be exposed to international competition and international suppliers. Large firms may be more eligible to receive price reductions when outsourcing from the same supplier globally. Firms like Siemens and Shell have set up global purchasing offices with the explicit intent of realising such scale benefits through international and global outsourcing. Larger firms will require larger volumes from suppliers, making the range of possible suppliers smaller, which forces them to look abroad more often. Finally it may be beneficial to outsource larger volumes of intermediate products from a single supplier due to scale economies in purchasing, transportation and distribution. This supplier need not always be located in the same country. Smaller firms, on the other hand, may have a hard time outsourcing internationally (Scully and Fawcett, 1994). Smaller firms outsource internationally typically when they require highly specialised inputs. This, however, is likely to be only a small part of their inputs and similarly applies to larger firms (Dunning, 1993). Thus the fourth hypothesis on the antecedents of international outsourcing is proposed as follows.

H<sub>4</sub>: Firm size is positively related to outsourcing internationally.

### **Performance consequences of international / global (out)sourcing**

The previous discussion on the antecedents of international outsourcing now enables a treatment of its consequences. To date, the relationship between international or global outsourcing and performance has been problematic. There is a lack of empirical studies

linking international outsourcing and performance. While there is a wide and growing range of studies looking at the performance consequences of the outsourcing or make-or-buy decision in general (Leiblein and Miller, 2003), the impact of the location dimension of outsourcing on performance is seldom addressed. Scully and Fawcett (1994) are a rare exception. However, their study focused only on the perceived advantages and challenges to successful global sourcing by simply measuring averages on a set of managerial responses to the statement that international sourcing has improved the firm's overall performance. Alguire, Frear, and Metcalf (1994) provided some evidence to suggest that international sourcing is undertaken to cut costs and improve performance but this study faced similar measurement problems. The empirical observation that international outsourcing has strongly increased in the 1990s nurtures the impression that managers have done so because they expected it to increase their firm's performance. Conceptual arguments in favour of a positive relation also suggest so. Quinn and Hilmer (1994) argued that through international outsourcing firms open up a much larger pool of suppliers and can pick 'best-in-world' suppliers. International outsourcing allows for a wider search and more competition among suppliers leading to higher levels of efficiency. Fawcett and Scully (1998, p.1) stated that "by sourcing globally from the best suppliers available, firms can increase the value of the products that they produce while simultaneously reducing the cost of the final delivered product". Kotabe (1998) acknowledged that Pacific Rim outsourcing might have delivered U.S. firms particular efficiency advantages. Kotabe and Swan (1994, p.134) suggested that "the extent of offshore sourcing seems to be positively related to the firm's global market share", although offshore sourcing referred to internal transfers here. The OLI framework of Dunning (1993) implies that global outsourcing of standard goods may yield more efficiency than domestic or international outsourcing, although Dunning (1993) also suggested that transportation and governance costs are higher with international outsourcing. Other counter

arguments against a positive relation between international outsourcing and performance, relate in particular to the increased transaction and logistics costs that can offset the lower production costs attached to international outsourcing. Firms may find it difficult to govern international supply relations effectively because of language, cultural and institutional differences or simply because of large distances. Kotabe (1992, p.47) concluded that sourcing location might not matter very much in the long run. It matters more to assess whether items are sourced internally or externally than to look at where they are sourced. Kotabe (1998) suggested the efficiency advantages from Pacific Rim outsourcing might turn into effectiveness disadvantages in the long run. Earlier, Kotabe and Omura (1989) had concluded that production location does not matter for performance, neither for assembly nor for components sourcing. So arguments for as well as against a positive link between international / global outsourcing and firm performance have been given. Since the link has not been tested we do so for both international and global outsourcing.

H<sub>5a</sub>: International outsourcing is positively related to the performance of a firm.

H<sub>5b</sub>: Global outsourcing is positively related to the performance of a firm.

## **Research methods**

There is a lack of data on international outsourcing. Furthermore, most empirical measurement has taken place in the late 1980s and early 1990s, and most of the firm level data on global sourcing are from US companies or foreign companies operating in the US. Sourcing research in the EU has mostly been confined to descriptions of particular outsourcing relations and networks (Ford, 1998). There does not appear to be any systematic evidence on (the performance of) international outsourcing strategies of firms in European countries. In addition, most studies have not specifically looked at external supply relations abroad. Thus few studies offer a sophisticated account of the location dimension of

outsourcing. The lack of reliable data (as already noted by Swamidass & Kotabe, 1993) combined with conceptual ambiguity leaves ample room for misunderstanding.

In an attempt to overcome these deficiencies, a survey on international outsourcing strategies was mailed to 787 managers of the largest manufacturing firms located in the Netherlands in late 2000 and early 2001. The Netherlands is a good location for a study on international outsourcing since it is a small and open economy with substantial foreign investments in various manufacturing industries. Globally, the Dutch economy has the largest combined presence of home and host multinationals (Van Tulder, 1998). If global or international outsourcing is not a dominant strategy in this country, it is even less likely to be found in larger EU member states with more substantial domestic supply bases. The sample firms were those manufacturing members of NEVI, the Dutch association for purchasing management, for which additional and detailed background information could be obtained from Statistics Netherlands (CBS).

The survey was pre-tested through several interviews and consultations. Two rounds of mail surveys were sent out following the regular procedures (Dillman, 1978). Afterwards, up to 2,000 telephone calls were made. Reasons for non-response included the following: Survey was not delivered (19); survey inappropriate for firm (67); and survey inappropriate for individual (30). Thus a total of 116 firms was dropped from the sample when calculating the effective response rate. A total valid response of 204 was obtained, of which 200 were in time to be used for the current analysis. If at least 80% of the survey was completed, a response was seen as valid. The effective response rate for the survey is  $204 / 671 * 100\%$ , or 30.4%. Using the CBS data it appeared non-response bias was not a problem since turnover, number of employees, extent of outsourcing, and profitability did not differ significantly between respondents and non-respondents.

## *Measures*

Respondents were asked to identify their largest product by turnover. For this product the countries of origin among which the total outsourced volume (in monetary terms) was distributed were collected. The question was "Out of 100% of all the volume your firm sources externally, what percentage stems from the Netherlands, Belgium / Luxembourg, Denmark / Finland / Norway / Sweden, Germany / Austria / Switzerland, France / Italy / Spain / Portugal, UK / Ireland, Greece, Central and Eastern Europe, US / Canada / Australia, Japan, rest of Asia, and rest of world". The answers were used to establish the degree of internationalisation of the supply base and to distinguish between domestic (Netherlands only), regional (EU), foreign or international (outside the Netherlands), and global (outside of EU) outsourcing. Thus the dependent variable for hypothesis 1 through 4 and the independent variables for hypotheses 5<sub>a</sub> and 5<sub>b</sub> were created. To measure performance, the dependent variable in hypotheses 5<sub>a</sub> and 5<sub>b</sub>, the measures used by Murray et al. (1995a) were replicated. Accordingly, firms were asked to compare the financial performance (ROS and ROI) and market performance (market share and sales growth) of their product with their three largest competitors. Given the strongly positive correlations between these measures, they were aggregated to form one performance variable using all four items (Cronbach  $\alpha$  value of .66).

Firm size was measured by the logarithm of the annual outsourcing budget, since size tends to be non-normally distributed. Unfortunately no reliable measure of firm turnover was available but sourcing budget appears to be the size measure most directly relevant to sourcing behaviour. Foreignness was measured as a dummy variable taking on the value of 1 for host firms. Due to the relatively small number of foreign firms (41) it is not possible to statistically test country-by-country differences. Being a multinational was measured by the presence of establishments in other countries. International communication was a reverse

coded item where sourcing managers were asked to identify the frequency of contact between them and their colleagues (daily, weekly, monthly, hardly ever, never).

Various control variables were applied. The degree of product innovation was added, using the measures of Murray et al. (1995a). Product innovation, in their study, was shown to positively impact firm performance. A Cronbach  $\alpha$  value of .80 was obtained in factor analysis by using two out of three proposed items. The degree of standardisation of inputs into the firm's product was also included, since it is often suggested (for instance by Murray et al., 1995a) that standardised products are the best fit for international sourcing. Standardised designs lower the costs of transacting since foreign suppliers will be more familiar with product designs. Respondents were asked to provide the percentage of production costs derived from standardised, off-the-shelf, inputs. Dunning (1993) suggested there might be a U-shape pattern since there is also global outsourcing of high-tech products. These could be sourced based on the widest access to the best firms globally or through co-operation with selected local suppliers. As suggested earlier, outsourcing and not global outsourcing may be driving performance. The degree of outsourcing was adapted from Murray et al. (1995a), as the percentage of total production costs supplied by external suppliers. A measure of the overall strategy of the firm based on the Miles and Snow (1978) typology of defenders, analysers, prospectors, and the mixed type as proposed by Shortell and Zajac (1990) was used in the performance equations in a belief that general strategy matters to firm performance. Finally the industry in which the firm operates was defined similar to Woodward (1965) as a three-way dummy between small batch industries like clothing, process industries like chemicals, and large batch and mass production industries like electronics. The classical Woodward typology is useful for our purposes because it captures key differences in the production process, which ought to lead differences in sourcing strategies as well. Small batch industries require highly skilled artisans and much labour input. Process industries, on the

other hand can to a large extent be automated. Mass production industries involve the assembly of complex products that require the input of multiple components and for which just-in-time principles are important. Woodward (1965) argued that production continuity is of great importance to managers. Disruptions of lean production systems can have a greater impact on performance than disruptions of vertically integrated systems, which are more robust. International outsourcing of intermediary inputs is a less preferred option under these circumstances as supply chain instability becomes very costly (Levy, 1995). Mass production industries increasingly adopt Just-In-Time principles. In the mass production industry, cooperation with suppliers is more important than in unit and small batch industries or process industries. Cooperation is easier to realise if both parties are located close to each other since face-to-face contact improves the quality of relations. Generally speaking, the complexity of production in the large batch and mass production industry may be too great to accommodate international outsourcing of intermediary inputs. Therefore international outsourcing is perhaps a less preferred option in large batch and mass production industries.

## **Findings**

Table 1 presents the means and correlations between key variables in this study. The means on international and global outsourcing provide support for the recent regionalisation debate in IB (e.g. Rugman, 2001, Rugman and Verbeke, 2004). Internationalisation of the supply base is mainly limited to other EU countries, with the exception of a few firms and industries. In fact, only 11% of outsourcing stems from other areas of the world. Of all outsourcing, domestic outsourcing from within the Netherlands stands at around 55%, while 34% is sourced from other EU countries. The 2002 introduction of the Euro and the 2004 enlargement by ten low-wage countries with substantial supply bases will likely stimulate regional outsourcing further.

*Insert table 1 around here*

*Antecedents of international outsourcing*

We estimate the effects of various predictors on international outsourcing in table 2.

*Insert table 2 around here*

Empirical support is found for hypotheses 2, 3, and 4, while hypothesis 1 has the appropriate sign but lacks significance. The evidence for hypotheses 2 and 4 is particularly strong, suggesting that MNCs indeed outsource internationally much more than purely domestic firms do and that frequent international communication is an important vehicle for doing so. The evidence for hypothesis 3 confirms that larger firms outsource more internationally. Among control variables we see that some international outsourcing is explained by the industry. Firms in the mass production industry, with their complicated products, appear to benefit from proximity to suppliers and are less eager to engage in international outsourcing. Empirical support for hypothesis 1 was not found and this might be due to the relatively limited number of foreign (host) firms in the sample (41). The degree of outsourcing is positively related to foreign outsourcing and almost significant, so perhaps parties that actively outsource rely more on international outsourcing. Standardisation is not related to foreign outsourcing, nor could the curvilinear relation suggested by Dunning (1993) be confirmed in additional analyses.

### *Performance consequences of global and international outsourcing*

Table 3 presents the results of the hierarchical regression analyses on firm performance. The model tests and explains variance and indicates that several dummy variables as well as the product innovation measure are significantly related to firm performance in the first model. When adding international outsourcing in the second model no additional explanatory value was obtained. The same applies for global outsourcing in the third model. Thus hypotheses 5a and 5b, stating positive relations between firm performance and internationalisation and globalisation of the supply base, were rejected.

*Insert table 3 around here*

### **Discussion and limitations**

Our findings indicate that foreign (host) firms do not outsource substantially more intermediate inputs abroad than local firms do. Manufacturing firms source key components from nearby places but may be willing to take more risks with other inputs as they contribute less to the total costs of the final product. We suggested that host firms may have problems adapting to local circumstances and constructing a local supply base may be costly in terms of the costs involved in finding local suppliers and building up relationships with these suppliers. However, one possibility that was not discussed was that foreign subsidiaries might, over time, have become more integrated into the local economy, so much so that their international outsourcing behaviour now resembles that of local firms. New manufacturing establishments by foreign firms are rare in the Netherlands, so these firms may have been around long enough to adapt to local circumstances. Some other subsidiaries were previously local firms but have now been acquired by foreign multinationals, which in the process may have inherited historical sourcing patterns. Furthermore having a strong home base for outsourcing

in place may not suffice as international outsourcing also requires an international supplier network. There is no reason to believe foreign firms have a stronger network of suppliers in other countries. Standardisation of required inputs is perhaps a rather crude measure. Other aspects of the product may be equally or more important, for instance the ability to easily communicate product designs across borders, which can be measured by the degree to which underlying design and production knowledge is explicit. Where it such knowledge is explicit international outsourcing is easier to implement.

Beyond the factors that were tested and discussed in this paper, other variables may induce international outsourcing. Internationalisation of outsourcing often is the consequence of historical conditions, in particular previous merger and acquisition activity. Firms composed of multiple units from different countries are more likely to outsource internationally through their larger combined network reach and extended foreign experience. By expanding across borders MNCs build an international partner network and with this international experience they become more likely to source from a multitude of locations. Thus it may matter how long firms have been engaging in international outsourcing internationally. A further antecedent of international outsourcing could be the physical and cultural distance of a firm to another country both of which could be negatively related to the propensity to outsource to that country. The present study found a clear bias for internationalisation from Germany with which relatively low cultural distance and strong economic ties exist, factors that contribute to lower costs of transacting.

The analyses suggest that although firms may gain from internationalisation of sales, assets and manufacturing, as most of the literature on internationalisation suggests, they do not gain noticeably from internationalisation of outsourcing, confirming some previous insights (especially Kotabe, 1992; Kotabe and Omura, 1989). This could be the result of measurement errors. The Cronbach  $\alpha$  value on the dependent variable of performance is low

which weakens the relation between internationalisation and performance. However, no relation whatsoever was found between internationalisation of outsourcing and performance, while other variables had a substantial effect on performance. Thus a slightly higher reliability threshold will most probably not produce different results. There are many possible factors influencing performance, of which international outsourcing is only one. Future research could look at a form of performance that is more closely related to outsourcing, such as reliability, quality or innovation. Such intermediate measures of sourcing performance, however, remain difficult to generalise across industries. The frequency of communication variable was limited to one question, which in itself is not problematic since it did not measure perception but rather fact. Yet it is unclear what is actually being communicated between the sourcing managers in various countries which limits the usefulness of the measure. Follow-up interviews demonstrated that the information exchanged with colleagues includes preferred supplier lists, prices and qualities of inputs abroad, sourcing methods, and possibilities for pooling demand. Thus it is easy to see why frequency of communication is related to the degree of international outsourcing.

These findings may be typical for the Netherlands or small countries in general as the degree of international and global outsourcing in small countries is significantly higher than in larger countries. However, there is no a priori reason to assume the reasons for international outsourcing would be different in smaller countries. Some similar findings emerged from earlier studies in larger countries. Smaller countries' experience perhaps provides a future outlook on larger economies. On the other hand the Netherlands is only one country with its own institutional context so obtaining further results in different settings is beneficial. Perhaps regional outsourcing, so prominent in this study, is only found in countries that take part in a strong regional integration agreement.

We cautiously conclude that our paper contributes to explaining international outsourcing and shows it is not a significant explanation of firm performance. Our interviews provided additional insights into problems that Dutch manufacturing firms have faced when sourcing from Central and Eastern Europe. Managers encountered severe problems in dealing with foreign suppliers and a foreign language, which underlines the importance of being able to manage far away partners. Managers may underestimate these types of transaction costs and attach too much value to production costs alone.

## **Conclusions**

In this study we adopted a search and evaluation perspective to analyse how dealing with foreign suppliers increases transaction costs, although it normally reduces production costs. Firms vary in their ability to search and evaluate foreign suppliers. Large and multinational firms, and those with frequent communications between various locations outsource more internationally. This finding suggests there may be something like a ‘capability to outsource internationally’. Further research may attempt to measure this capability more directly, for instance by documenting internal processes and practices firms use to outsource internationally (like Trent and Monczka, 2003). Our paper has clearly not addressed the question how firms structure their international sourcing operations for success.

The international outsourcing literature can be enhanced in several directions. Neither previous research nor the empirical data presented here indicate that global outsourcing is a common phenomenon. Despite much attention being diverted towards globalisation, regionalisation is a key process too. Outsourcing from the same economic region has clear advantages, for instance in terms of sharing institutional regimes and lower transportation and transaction costs. The institutional regime of regionalism not only lowers barriers for internal expansion, but also raises barriers for outside firms – including component suppliers. The

empirical evidence presented in this paper also suggests international outsourcing may not be the performance enhancing tool that some ascribe it to be. Examples of recent global outsourcing primarily relate to information technology services that are relatively easy to relocate, provided there are sufficient local capabilities (such as in the case of ICT in India). It is more appropriate to think of international outsourcing in terms of a balancing act between international production cost advantages and domestic transaction cost advantages than as a performance-enhancing tool. Therefore IB scholars ought to look more at the specific drivers of a range of international sourcing strategies. This study provided a first attempt in this direction.

Internationalisation of the supply base may not matter much in terms of obtaining superior results but this is obviously not the same as saying that it does not matter in terms of a firm's overall structure and strategy. Strategic international outsourcing can at times help a firm to establish a foothold in other markets or improve its legitimacy. MNCs shift from domestic to international suppliers and vice versa. Such shifts imply important managerial problems are faced in terms of how to deal with international inter-organisational relations. This opens up a fascinating new area of research.

From a managerial perspective several guidelines can be distilled from this study. In particular some heuristics can be developed to decide when (not) to outsource internationally. International outsourcing makes most sense for large and multinational firms within industry settings that allow for physical uncoupling. Using the internal network of the multinational to communicate supplier-related information across borders is a means to improve the ability to evaluate foreign suppliers. Quite possibly learning, experience, and organisational procedures also come into play here, although we did not investigate these. Thus firms can develop their own capability to outsource internationally in various ways. The development of an international outsourcing centre inside the firm can be one means. Such a centre could collect

experiences and disseminate relevant information to decision-makers. Another approach would be to carefully analyse the product portfolio of the firm and on that basis determine for each individual product how suitable it is for international outsourcing. By first outsourcing internationally the most obvious products, experience can be gained that can make it easier to then outsource internationally products that require more cooperation with suppliers.

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## Tables

	Mean	Standard deviation	1	2	3	4	5	6	7	8
1 Foreign outsourcing	44.61	31.55	1.000	.443**	.326**	-.022	.026	.126	.053	-.397**
2 Global outsourcing	10.7	19.99	.443**	1.000	.217**	-.003	-.099	.165*	.028	-.285**
3 Firm size	17.1	1.349	.326*	.217	1.000	.037	.031	.181*	.020	-.357**
4 Product innovation	8.74	8.746	-.022	-.003	.037	1.000	.006	.078	.277**	-.038
5 Standardization	47.5	34.77	.026	-.099	.031	.006	1.000	.004	.059	-.046
6 Outsourcing	50.0	31.66	.126	.165*	.181*	.078	.004	1.000	.114	-.076
7 Firm performance	13.1	2.081	.053	.028	.020	.277**	.059	.114	1.000	-.151*
8 International communication	2.35	1.380	-.397**	-.285**	-.357**	-.038*	-.046	-.076	-.151*	1.000

Table 1: Means, standard deviations and correlations of key variables (dummies excluded). \* significant at the 10% level; \*\* significant at the 5% level. N = 183-199.

	B (S.E.)
(Constant)	-1.029 (30.750)
Mass production industry	-8.750 (4.283)**
Foreignness	1.300 (5.102)
Outsourcing	.106 (.065)
Firm size	4.067 (1.654)**
Multinational	30.653 (6.231)***
Standardization	-0.0238 (.060)
International communication	-6.342 (2.098)***
F-test	8.543***
R <sup>2</sup>	.242
Adjusted R <sup>2</sup>	.214

Table 2: Regression model for foreign outsourcing. Shown are raw  $\beta$  values, standard errors and significance levels. \* Significant at the 10% level; \*\* significant at the 5% level; \*\*\* significant at the 1% level. N = 194.

	B (S.E.)	B (S.E.)	B (S.E.)
(Constant)	11.210 (2.120)***	11.433 (2.163)***	11.257 (2.173)***
Batch industry	.408 (.512)	.417 (.513)	.409 (.514)
Mass production industry	-.368 (.520)	-.340 (.524)	-.372 (.523)
Defender	.559 (.913)	.535 (.916)	.547 (.923)
Analysers	.910 (.478)*	.890 (.480)*	.904 (.483)*
Prospector	.929 (.453)**	.935 (.454)**	.926 (.455)**
Firm size	-.0549 (.119)	-.0754 (.125)	-.0576 (.122)
Outsourcing	.00772 (.005)	.007463 (.005)	.007706 (.005)
Product innovation	.197 (.056)***	.198 (.056)***	.197 (.056)***
Foreign outsourcing		.002783 (.005)	
Global outsourcing			.00007612 (.008)
F-test	3.444 ***	3.081 ***	3.045 ***
R <sup>2</sup>	.138	.140	.138
Adjusted R <sup>2</sup>	.098	.094	.093

Table 3: Hierarchical regression models for performance without sourcing location, with international outsourcing (outside Netherlands), and with global outsourcing (outside EU). Shown are raw  $\beta$  values, standard errors and significance levels. \* Significant at the 10% level; \*\* significant at the 5% level; \*\*\* significant at the 1% level. N = 180.