

Working Paper Series

**MNEs in Emerging Economies:
What Explains Knowledge Transfer to Local Suppliers**

Axele Giroud

Working Paper No 02/28

October 2002

The working papers are produced by the Bradford University School of Management and are to be circulated for discussion purposes only. Their contents should be considered to be preliminary. The papers are expected to be published in due course, in a revised form and should not be quoted without the author's permission.

APBDRU Discussion Paper

**MNES IN EMERGING ECONOMIES:
WHAT EXPLAINS KNOWLEDGE TRANSFER
TO LOCAL SUPPLIERS**

Dr. Axèle Giroud
Lecturer in International Business
Bradford University School of Management
Emm Lane
Bradford
BD9 4JL
Email: a.l.a.giroud@bradford.ac.uk
Fax: 00-44-1274-546866
Tel: 00-44-1274-234329

ABSTRACT

Studies on inter-firm knowledge and technology transfer focus on cases where transfer does take place. There is, to date, no study that focuses on MNEs supply networks in emerging economies, with an emphasis on explaining why transfer to locally-owned suppliers may or may not take place. Yet, from a host country's perspective, such findings would be of primary importance to identify various types of companies and inter-firm relationships; this represents crucial information to enhance countries' policies towards maximising benefits from MNEs' presence in the economy. This paper endeavours to cover this gap. The data presented was gathered by means of a mail survey in the Malaysian Electrical and Electronics sector. The use of a logistic regression model enables to distinguish between MNEs that transfer knowledge and technology to their locally-owned suppliers, and those that do not. A series of explanatory factors is established, highlighting the differences between cases where transfer occurs, and cases when it does not.

INTRODUCTION

The issue of MNEs networks and subsequent spillover effect in host emerging countries has received increasing attention from academic scholars. The majority of studies focus on inter-firm transfers, from one company to its local partners in the host emerging economy. Backward and forward spillover effects, on the other hand, have received little attention. When considering backward links between MNEs and their local suppliers, some studies have been carried out but they often focus on subcontracting relationships. Studies that consider the backward network created by the MNEs in the emerging economies usually adopt the case study approach. This has enabled to increase knowledge about the specific relationships established between a foreign firm and local companies. Yet, these studies omit to take into account foreign firms that are established in the emerging economies, but have little or no local spillover impact on the host economy through supply networks. This second group of foreign firms may not purchase any direct input locally, or, when they do, may not enter into any further relationships with the local suppliers, notably by transferring knowledge and technology. By tackling a larger number of firms, and gathering data on their local purchasing behaviour directly from the foreign subsidiary, we are able to analyse all firms, were they to have local direct purchase or not, and were they to transfer knowledge and technology to their local suppliers or not. The study in this paper is unique, in as much as it identifies factors that explain why foreign firms may or may not transfer knowledge to their local suppliers. In this article, we are not looking at the intensity or the degree of knowledge transfer between buyers and suppliers. We look at whether or not some transfer occurs, and when it does what factors can explain this.

The emphasis rests on the factors explaining the existence of knowledge transfer between MNEs subsidiaries and their local suppliers. The data was gathered amongst foreign firms established in the Malaysian Electrical and Electronics industry. The purchasing practices of 95 foreign firms are analysed, and a logistic regression model is used to determine the factors that influence the existence of knowledge transfer between foreign firms and their local direct suppliers. The paper begins with the analysis of MNEs network creation; we define networks and the types of relationships that may be created through close inter-firm relations. The concept of knowledge transfer is then defined, within the realm of supply networks, and the type of knowledge likely transferred to

suppliers. Finally, although there is no previous study that specifically identifies factors affecting the existence of MNEs-supplier transfers in host developing countries, we focus on the factors identified in the literature as influencing the level of buyer-supplier knowledge transfer. The second half of the paper presents the data and methodology used to identify the key factors explaining the existence of knowledge transfer.

THEORETICAL BACKGROUND

The current study addresses itself primarily to the activities of MNEs' subsidiaries in host economies, inter-firm network creation and resulting knowledge transfer, that relates to issues of host countries' capabilities' development. Much of the existing focus resides in the functions and integration of subsidiaries within MNEs (Birkinshaw, 2000) and knowledge flows between subsidiaries and their parent company (Gupta and Govinrajan, 2000). Yet, a significant number of scholars has started to perceive the MNEs as a network system (Andersson and Forsgren, 1996, 2000; Nohria and Goshal, 1997; Rugman and D'Cruz, 2000), with subsidiaries creating a bundle of relationships with companies in host economies.

The basic concept of networks refers to socially binding ties between actors at the individual or the organisational level. At the individual level, social or personal networks usually refer to a collection of individuals where exchanges occur based on shared norms of trustworthy behavior, or simply as a support system that provides access to information or assistance (Zhara et al., 1999: 71). Yeung (1998: 8) emphasises the notion of embeddedness. When applied to the world of international business, this means that a MNE is embedded in on-going networks of diverse relationships - economic, social, cultural and political; and the MNE maintains relationships with many other companies, creating the network. The MNE may have a central role in the network, or, the network may impact on the MNEs activities. The MNEs plays a central role across boundaries, with its capacity to coordinate activities at national and international levels. This can be linked to Porter's theory (1986, 1990, 1998), whereby companies get involved in a variety of economic activity using constituting factors, such as inputs, raw materials, labour, capital and other production factors, to provide an output or a product. The competitive advantage encompasses the entire value system, that is the entire array of activities involved in the production and use of a product. This value chain is composed of close and on-going interactions with the suppliers and buyers.

This complex set of interlinkages represents the network, and if the network goes beyond national borders, one may speak of an international production system (Morsink, 1998: 21). The systems view approach pays attention to partial internalisation and its possible implication, in so far as a linkage between two activities is rarely independent and it leads to cross effects, therefore when each linkage is embedded in a system of other linkages, cross-effects are created (Casson, 1990, 2000).

In this paper, we focus on the concept of inter-organisational networks as a formal or contractual relationships among firms, and more specifically in terms of obligational linkages such as subcontracting or referrals (Hollingsworth, 1990). Following Yeung's (1998) typology of networks, one ought to consider *ownership* (amount of corporate stocks and shares owned legally by an individual or institutional investor), *influence* (ability of individuals or institutions to affect the outcome of corporate decision-making, but it does not involve corporate governance) and *control* (either through capital, technology, production requirement or labour). This approach allows acknowledging the intra-firm and extra-firm networks, although the purpose of this paper is centred around the inter-firm networks.

In the context of supply relationships within the MNE network, a key area of study is that of the decision to 'make' or 'buy' inputs. The make/buy decision is developed in the *Transaction Cost* theory, taking the boundary of the firm into account (Williamson, 1995, 1991). Transactions range from discrete market exchange at one extreme to centralised hierarchical organisation on the other. When firms wish to protect knowledge or when uncertainty is high, they may resort to vertical integration. Such concepts are also tackled in the context of traditional MNE theories (Buckley and Casson, 1976). The systems' view tackles the notion of the firm's boundaries, recognizing the costs and benefits of internalization (Casson, 2000). Finally, the picture can not be complete without considering the distinction between local and foreign partners as a MNE's subsidiary uses both local and foreign sources of supplies.

We address the position of a MNE that maintains linkages with partners, through in-between forms of relationships. The supply relationship develops into a partnership, whereby partners are perceived as collaborators, in order to minimise costs (Dyer, 1997; Dyer and Singh, 1998). In such situation,

MNEs possess asset specificities and would be ready to share those with the suppliers, through for instance investment in training of its own and/or the supplier's personnel, installation of tools and equipment. Asset specificities of the MNE subsidiary depend to a large extent on that of its parent firm. There is an important link between parent companies and their subsidiaries, as embodied in the intra-firm network, or internal networks' organisations. Technological knowledge in the subsidiary is received from the parent firm or developed internally in the organisation. The external links created by the subsidiary often depend on the internal policy decision-making established by the parent firm.

Although purchasing has had an increasing place in today's company's strategy, it is to be expected that there may be various purchasing patterns according to the country in which the TNC operates, and according to the level of economic development of the host economy (ILO/UNCTC, 1988, Halbach, 1989). TNC subsidiaries will create sufficient backward linkages with local firms, if the local firms are developed enough, and if the cultural similarities between firms also bring firms to co-operate more easily with local partners (Hallém and Wiedersheim-Paul, 1993).

By inter-firm co-operation, or in-between forms between hierarchy and integration, we mean that the lead firm will be ready to create strong links with its suppliers. Knowledge is gained through experience and learning, part of which may derive from information. Through external supply network creation, MNEs may exchange information, and in some case transfer knowledge to their local suppliers. Knowledge can be codified or tacit. Codified knowledge is embodied as published materials or as tangible forms (physical goods, such as capital goods in the form of machinery and equipment). Tacit knowledge, on the other hand, refers to non-codified knowledge, such managerial skills, technical skills and know-how. The transfer of tacit knowledge is becoming very important and involves acquiring new skills and technical and organisational capabilities (UNCTAD, 1999); yet, the transfer of codified knowledge remains the most common form of transfer (Lall, 1993; Chen, 1994; Buckley et al. 1997; Kumar, 1998). Knowledge transfers comprise transfer of technology and know-how from one firm to another (Mirza, 1998, Bresman et al., 1999), or possible benefits through the long-term relations and the exchange of information. We focus on the indirect mode of knowledge transfer, through external network

creation in the host economy, keeping in mind that knowledge transfers are most likely to occur where MNEs perceive there are benefits to be gained, such as improved quality, reduced costs or improved services (Dunning, 1993). Knowledge transfer to local suppliers can be substantial and important to the local economic development of the host economy (Halbach, 1989; Wong, 1991; Ismail, 1999; Driffield and Noor, 1999; Crone and Roper, 2001; UNCTAD, 2001).

LITERATURE AND HYPOTHESES BUILDING

The main aim of this paper is to investigate the reasons why MNEs transfer knowledge or not to their local suppliers. We examine backward linkages of MNEs in the Malaysian Electrical and Electronics sector. Because no similar studies have been performed before, we build our hypotheses from the literature tackling the supply patterns and existing knowledge transfer from MNEs to their local suppliers.

Company-related factors

From the discussion above, we emphasised the importance of the intra-firm network for the supply strategy adopted by the subsidiary in the host country. Two specific issues can be pointed out, first the role and significance of the subsidiary; second its links to other parts of the intra-firm network through intra-firm exchange of supply. The first point can be represented in terms of size of the subsidiary. One way to evaluate the size might be to assess the weight/volume of the subsidiary's production (or annual sales for a particular product range/group) as a share of the overall size of the company world wide. Another indicator might be the size of the subsidiary in terms of employment. This lead to our first hypothesis:

Hypothesis 1: *The size of the subsidiary will explain why the firm may or may not transfer technology to its local suppliers.*

The second point is related to the dependence of the subsidiary in terms of the origin of its supply. This is also related to the purchasing strategy, and will be covered in the next sub-section.

It should be added that backward linkages and the resulting relationships depend to a large extent on the choice of products manufactured in the subsidiary (ILO/UNCTC, 1984). The life cycle of the product is a powerful explanation element in the propensity of a firm to resort to external sources of supplies. Halbach (1989) emphasises the specific nature of the electronics industry. The

electrical and electronics industry is often cited as being based largely on assembly work, which often lead to the creation of international subcontractors. It is not only the industry, but also the nature of the product manufactured and/or the production stages transferred to the developing country that lead to various linkages. Firms were found to subcontract 10 to 20 % of their activities in high-tech electronics, but only 20 to 40 % in the consumer electronics and 50 to 80 % in the household electrical appliances (Halbach, 1989). It can therefore be said that the industry concerned, as well as the type of product manufactured are important factors in the determination of local backward linkages (O'Brien, 1993; Rasiah, 1989).

Hypothesis 2: *The type of product manufactured is likely to explain whether a subsidiary will transfer knowledge to its local suppliers.*

There seems to be a tendency for foreign firms, especially export-oriented firms, to increase their local business purchase as their operations in the given host country mature, provided the local business environment is conducive to such behaviour through a rapid economic growth and a healthy investment climate (Lim and Pang, 1982, 1991). In Thailand, Supapol (1995) shows that joint ventures with a primary interest in the domestic market tend to source more locally than export-oriented TNCs, in line with the results of Pangestu et al. (1992).

Hypothesis 3: *The market-orientation of the firm will impact on the existence of a subsidiary's knowledge transfer to its local suppliers.*

Although no study comes out with a clear conclusion on potential differences between nationality of firms and backward linkages, it is worth comparing various results. Chen (1990) argues that developed country firms seem to be more dependent on their parent firm and on intra-firm trade, and have a smaller proportion of local supplies than firms from the NIEs. This may be true in so far as these firms tend to produce more labour intensive products, for which the use of high quality inputs may be of less importance. However, this further depends on other factors, the most important one being the length of time spent in the host country. As the subsidiary will first try and establish its image as a producer, it is likely to import a greater share of its inputs at the beginning of the production. For Japanese firms, although they are expected to exhibit the highest degree of subcontracting, they are the least

aggressive in promoting the establishment of locally-owned supplier firms since they already rely on well established Japanese suppliers (Lim and Fong, 1982, 1977; Dobson, 1993; Dobson and Yue, 1997). Although American firms do not imitate Japanese supplier networks (they are more open to outside suppliers including those used by the Japanese), increasingly they are investing in long-term relationships in order to achieve exacting quality standards. The American practice of recruiting local executives seems helpful in developing such linkages. These recruits tend to have local knowledge and contacts that are of considerable assistance in creating supplier relationships (Dobson, 1993).

Hypothesis 4: *The origin of the parent company will influence the decision of buyer-supplier knowledge transfer by the subsidiary.*

Purchase-related factors

Considering the limited amount of local purchase and the type of products purchased locally, e.g. low-technology-intensive products, the most common type of contractual relationship between TNCs and their local suppliers is the off-the-shelf contract. Subcontracting is said to bring the highest benefits, however the tendency towards increased long-term contractual relations make suppliers special partners, and such partnerships also lead to substantial benefits (Supapol, 1995).

Hypothesis 5: The type of contractual relationship will explain the existence of a subsidiary's knowledge transfer to its local suppliers. Subcontractors should be more likely to receive knowledge.

Additionally to the type of contractual relationship, some authors enhance that the number of suppliers is also indicative. For instance, Wong (1991) specifies that to attain a maximum benefit for both buyers and suppliers through knowledge transfer, it may be necessary to reduce the number of suppliers and to seek to maintain a reasonably long-term relationship.

Hypothesis 6: *Knowledge transfer is more likely to occur if the MNE has a limited number of suppliers, or even one single supplier per item purchased.*

The parent company or regional headquarters may decide upon supplies, and there may be little local purchasing involved by the foreign subsidiary in the host economy if supplies are centrally purchased or produced by other entities of the networks, then redistributed towards the manufacturing/

assembling locations. Although the level of internal supply may explain primarily why a subsidiary may or may not purchase locally, it also indicates the overall firm's supply strategy. Thus,

Hypothesis 7: *The level of internal supply will explain to a degree the reason why a subsidiary may or may not transfer knowledge to its local suppliers.*

Time factor

In looking at backward linkages, it is important to pay attention to the length of time spent by the firm in the host country. The first time consideration is the age of the plant. There is a strong relationship between the age of the plant and the backward linkages in the host country (McAleese and McDonald, 1978). This shows that there is a learning process at work for the foreign firm in its first years of operation in the host country. Secondly, the age of the production of the product is to be looked at, together with the type of production carried out by the firm. The foreign firm may change its output mix, production process for various reasons. Variations in input prices may trigger such a change, or, as mentioned above the learning curve of the foreign firm in the host country. Local sourcing will further depend on the stage of development of the local industry. The firm needs to establish credibility as a producer. Therefore, local inputs may be included after the operation has proved successful. Home country suppliers may themselves be encouraged to locate in the host country. Alternatively, the subsidiary may choose to expand its operations vertically. It may however occur that an indigenous supplying industry develops. This phenomenon is directly related to the importance of the supplier support system and to the favourable economic climate in the host country.

Hypothesis 8: *The length of time spent in the host country is likely to impact on the purchasing pattern of a subsidiary, hence will impact on the existence of buyer-supplier knowledge transfer.*

The discussion carried out above helps in framing the specific aim of this paper. The modern concept of networks shows that members may benefit from strong relationships. In the context of a MNE's subsidiary, it creates a supply network in the host economy, which may lead to knowledge transfer to the local company when it is optimal to do so. The knowledge transfer between partners in the supply network can include codified or tacit knowledge. Finally, while there is no study that would highlight the specific

factors likely to influence the factors explaining the existence of knowledge transfer between the foreign subsidiary and its local suppliers, the literature is abundant in explaining when foreign subsidiaries may supply locally. For the purpose of this study, we therefore link factors likely to encourage foreign subsidiaries to supply locally, to the existence of transfer. This assumption is linked to the recent trend of companies worldwide to treat purchasing as a strategic activities, and within the concept of network development, companies are therefore inclined to consider suppliers as business partners, and are more likely to share knowledge with these partners.

METHODOLOGY

The data

The data analysed in this paper was gathered by means of mail survey, conducted in the Malaysian Electrical and Electronics sector in the second half of 1996. A total list of 320 foreign companies established in the sector was compiled, by cross checking several directories. This list was supplemented by calling each company to identify the manager in charge of direct supplies. The response rate for the survey was 34 percent. 95 questionnaires were found useable and are analysed in this paper. 48 companies are Japanese, 27 are from the Asian Newly Industrialised Economies⁽¹⁾, European⁽²⁾ and North American firms, respectively, account for slightly less than one tenth of the sample, while the remaining two firms originate from Australia and New Zealand. The survey sample shows a high specialisation in specific products of the MEE. Malaysia manufactures a variety of parts and components, companies manufacturing and/or assembling those latter account for 60 % of the sample.

Operationalisation

The measures: factors and the existence of knowledge transfer

A list of questions related to technology transfer was drawn from the literature to assess and evaluate various types or means of transfer between foreign affiliates and their local suppliers. Firms that did not purchase direct components from local suppliers were not included in the statistical analysis. Types and modes of knowledge transfer are evaluated in terms of frequency of occurrence⁽³⁾. Types of knowledge transfer refer to product and process technology⁽⁴⁾ that can be transferred to local suppliers, while modes⁽⁵⁾ cover for the means through which knowledge may be transferred. Foreign Affiliates indicated whether each transfer took place frequently or not.

The dependent variable is a knowledge transfer indicator. This indicator takes all types of transfer into account, it includes twelve types and modes of knowledge transfer⁽⁶⁾. The indicator was calculated after running a Cronbach Alpha reliability test. Our knowledge transfer indicator has an alpha of .9396, with a similar standardised item alpha, showing very high reliability. The indicator is, for each company, the share of the various knowledge items frequently transferred. The share of the items transferred represents the degree of transfer between foreign subsidiaries and their suppliers. The *Transit* indicator is then the dummy of the share of transfer, that is 0 for firms with no transfer at all, and 1 for firms that show some transfer.

Several models were computed that showed higher level of classification rate, but the effect of independent variables on the dependent was then found insignificant. This is why we choose to present a reduced model with significant results for the selected independent variables. A correlation analysis was run among the selected variables to identify possible multicollinearity effect. All the correlations were low and insignificant.

Method and measures

The regression coefficients estimate the impact of the independent variables on the probability that the subsidiaries will transfer knowledge. The procedure that calculates the logistic coefficient compares the probability of firms transferring knowledge, with the probability that firms will not. This ratio can be expressed as

$$\frac{P(\text{transfer})}{P(\text{nottransfer})} = e^{(\beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_nx_n)}$$

Where 'a' is the intercept, β_1, \dots, β_n the regression coefficients and x_1, \dots, x_n the independent variables. The backward conditional elimination method was used. It removes variables that do not significantly improve the probability of the observed results. All variables were first entered in a block. We choose to present the reduced model, when only the best predictor variables are introduced in the model. Thus, the sample size of 83 firms is sufficient for the analysis, it is higher than the minimum of 20 observations required (Hair et al., 1999, p.282).

Reliability and validity

Correlation analysis was run to assess the degree of multicollinearity among the independent variables. While some of the correlations are significant, all are below +/- .40, and most are below .20. This confirms that multicollinearity

between independent variables will not occur, thus it will not affect the coefficients and will not interfere with the interpretation of the results.

RESULTS AND DISCUSSION

Local purchasing

Subsidiaries were asked whether or not they did carry out some direct purchase in Malaysia, or whether they imported all their direct supply, keeping only indirect supply locally. Within our sample, slightly less than 10% of the firms have no direct purchase at all. This is of crucial importance to this study, because firms with no local supply have no relationship with local direct suppliers, and will not be included in further statistical analysis on local transfers.

Country/Region of origin and the existence of buyer-supplier transfers

Table 1 is a summary of the descriptive statistics for the Transfer indicator. From this table, it is clear that many firms do not transfer any technology to their local direct suppliers, 38 percent of Japanese affiliates and 50 percent of NIE affiliates do not carry out any transfer at all, leading in this case to a indicator of zero.

Logistic regression model

In the reduced model presented below, only the best predictor variables are introduced in the model. Now, the sample of 83 observations provides a 16-to-1 ratio of observations to independent variables. The model converged after seven iterations. The results show that the model has a high and highly significant model chi-square (significance level of .0000), a good overall model fit, and a very good sensitivity. With an overall correct classification of 85.90 %, the model is highly significant(9). Our reduced model is more accurate at predicting cases where 'some transfer' takes place than otherwise; this is expected because of the larger size of the 'some transfer' group of subsidiaries. The model correctly predicts 90.38 % of the transfer phenomenon and 76.92 % of the cases when no transfer occurs.

Direction of relationship among variables

The most significant independent variables in the explanation of the overall transfer are the Size of subsidiary, the Purchasing strategy and the Country/region of origin. The positive sign indicates that the bigger the subsidiary, in terms of number of employees, the more likely it is to

TABLE 1: DESCRIPTIVE STATISTICS OF THE 'EXISTENCE OF TRANSFER' INDICATOR

	Country/Region of Origin						TOTAL	
	Japan		NIEs		Other Countries			
	Freq.	Col.%	Freq.	Col.%	Freq.	Col.%	Freq.	Col.%
No Transfer	17	37.8	10	50.0	1	5.6	28	33.7
Some Transfer	28	62.2	10	50.0	17	94.4	55	66.3

TABLE 2: PARAMETER ESTIMATES FOR REDUCED LOGISTIC REGRESSION MODEL

Variable Name	β	Wald	R	Significance
Size: number of employees now	.0015	6.5561	.2053	.0105*
Product manufactured		8.5530	.0715	.0733+
Active component	4.9656	1.1932	.0000	.2747
Passive component	1.1564	1.3139	.0000	.2517
Electromechanical component	.9719	1.0774	.0000	.2993
Consumer electronics	-3.1799	7.0073	-.2152	.0081**
Share of export market	.0222	3.6726	.1244	.0553+
Country/region of origin of subsidiary		6.2721	.1450	.0435*
Japanese origin	-.8002	.7603	.0000	.3832
Parent from NIEs	-2.4538	3.5752	-.1207	.0586+
Single supplier	-2.2985	5.6478	-.1837	.0175*

Notes:

- (1) Constant insignificant, removed from model.
- (2) Variables significant at *** for p<0.001, ** for p<0.01, * for p<0.05, and + for p<0.1,
- (3) Categories below compared to Other products category (see end note)
- (4) Purchasing strategy indicates companies which favour single supplier per item purchased, or various suppliers per item (see end note)
- (5) Share of export is share of final products manufactured by subsidiaries which is exported
- (6) Number of employees in the subsidiary represents Subsidiary size.

transfer some technology to its local suppliers. The negative sign for the purchasing strategy indicates that firms that favour a single supplier per input are less likely to transfer technology to their suppliers. Finally, within the Country/region of origin of the subsidiaries, Japanese is not a significant explanatory factor, whereas the negative sign for firms from the NIEs indicates that these firms tend to transfer less technology, and finally, Other firms tend to transfer technology.

Less significant factors in the explanation of 'some transfer' include the Export-orientation of the firm, and the Type of product manufactured. A positive sign indicates that the higher the share of export in the total market share of the subsidiary, the more likely it is to transfer technology to its local suppliers. Within the Types of product manufactured, the sub-category Consumer electronics is significant at the .01 level, with a negative sign. The companies that manufacture Consumer electronics products are less likely to transfer technology than other subsidiaries.

DISCUSSION OF THE RESULTS

Four hypotheses specified in this paper were confirmed, one showed opposite results to those expected, and three were not confirmed. The *first hypothesis* was confirmed, and the time spent in the host country is a significant factor in explaining when transfer will occur. The positive sign indicates that the longer the MNE spends in the host economy, the more likely it is to transfer knowledge to its local suppliers.

The *second hypothesis* was confirmed, with the type of product manufactured being significant in explaining when transfer occurs. The overall classification Product Manufactured is significant at the 0.1 level, but some product subcategories show higher levels of significance. Each item is evaluated against the Other Product sub-category. Consumer Electronics shows a high level of significance, and a negative sign. This product category is highly standardised, and often only involves final assembling process. The transfer of knowledge is less likely to occur under these circumstances.

Market-orientation was found mildly significant in explaining the existence of buyer-supplier knowledge transfer. There is a positive relationship, which indicates that when MNEs export their products, they are more likely to transfer knowledge.

Hypothesis four was confirmed, and the origin of the MNE influences the existence of knowledge transfer.

This is a nominal variable, and results are calculated against the sub-group Others, which include firms from the U.S. and European firms. Indicators for firms from Japan and the NIEs show a negative signs, thus indicating that they are less likely than their Western counterparts to transfer knowledge.

The *fifth hypothesis* was not confirmed, which is unexpected. One would expect that subcontractors are more likely to benefit from knowledge transfer. However, within the recent trends in purchasing, where suppliers are considered as business partners, and exchange of information is more likely, one can argue that a subsidiary will transfer knowledge to all key supply partners, not solely or primarily to subcontractors. Another explanation comes in the construct of the variable. We evaluated the share of subcontracting relationships in total contractual relationships with suppliers.

Hypothesis six was confirmed, but with an unexpected sign. The negative sign associated with the single supply indicates that single suppliers are less likely to receive knowledge transfer. The assumption would have been that single suppliers have preferential relationships with the subsidiary, and hence are more likely to receive knowledge. However, the single supplier may be very specialised and have sufficient technology and knowledge in-house. In this case, the supply pattern is a significant factor in explaining the existence of knowledge transfer, but it is not necessarily single suppliers for each item that may benefit from transfer.

Hypothesis seven was not confirmed, and the share of internal supply was not found to impact on whether transfer takes place or not. This might indicate that the relationships with the parent company or other affiliates may still be important explanatory factors, but the share of internal supply is not the best variable to highlight this relationship.

The *final hypothesis* was not confirmed by our results. There may be two explanations for this. First, we evaluated the time spent in the host country, as opposed to the length of the supply relationships (this would have needed individual data about each suppliers). Secondly, one can argue that once a supplier is selected and part of the preferred vendor list, and of the subsidiary's supply network, it will benefit from transfer. Thus, time may not be of primary importance for the existence of transfer. Finally, hypothesis eight is confirmed, and the origin of the MNE is a significant factor in explaining the existence of transfer.

ENDNOTES

- (1) Out of the 27 firms originating from the Asian NIEs. 21 are Taiwanese, 1 is South Korean, 1 is from Hong Kong and 4 from Singapore.
- (2) Out of 9 European firms, 3 are from the United Kingdom, 2 from France, 1 is from Germany, 1 from Holland, 1 from Ireland, and 1 from Switzerland.
- (3) For a further analysis of these types and modes, and a comparison across firms from different nationality of origin, see Giroud, 1999.
- (4) These include product specification, physical/technical specifications, method of manufacture, input joint design, joint operation settlement, information on plant establishment, supply of machinery, supply of tools, information on input procurement, information in supply management, information in technical management.
- (5) Modes relate in this study primarily to training. Training may be provided to management, operation staff, and can be related specifically to technology. It can take place through on-the-job training, or off-the-job training, and can relate to the frequency of visit to the subsidiary.
- (6) The twelve variables included are: Method of manufacture, Supply of machinery, Supply of tools, Information on input procurement, Information on supply management, Information on technical management, Operation staff training, Training on technology used, Visits to the subsidiary, Off-the-job training at the subsidiary, On-the job training at the subsidiary and On-the job training at the subsidiary. See appendix 1 for a description of each category.
- (7) Although only 4 independent variables are entered in the reduced model, two are nominal variables. The type of product manufactured is divided into 5 sub-categories, namely Active components, Passive components, Electromechanical components, Consumer electronics and Other Products. The purchasing strategy is a dummy variable indicating "if the affiliates favours a single supplier per item purchase, and "if not.
- (8) Identical sizes almost never happen. The reliability analysis shows that results from the smallest group of non-transferors are reliable.
- Another issue considered by the researcher is that of non-transferors not filling in the questionnaire. This issue was considered unlikely because of the structure of the questionnaire. Transfer-related questions were included towards the end of the questionnaire, and it is likely that respondents would complete the questionnaire once they have started filling it in.
- (9) The proportional chance criterion is $Y = (.337)^2 + (.663)^2 = .5531$. The classification accuracy of 85.90 % is substantially higher than the proportional chance criterion of 55.31 %. Because the total value analysis occurs 67.11 % of the time, if we assigned all observations to this group, the maximum chance criterion is larger than the proportional test criterion, and our model should outperform 67.11 %. The classification accuracy of 85.90 % is substantially higher than the proportional chance criterion of 52.5 % and the maximum chance criterion of 67.11 %. It also exceeds the suggested threshold of the value plus 25 %, which in this case sets the threshold at $(67.11 * 1.25) 83.89$ %. Thus our classification accuracy exceeds the threshold by 2%, and it exceeds the maximum chance criterion by 18.8 %. The calculation of the percentage improvement on the proportional chance criterion shows an improvement of $(85.90 / 55.31) = 55.3\%$

BIBLIOGRAPHY

- Andersson, U. and M. Forsgren, (1996) 'Subsidiary Embeddedness and Control in the Multinational Corporation'. *International Business Review*, 5.5 pp 487-508.
- Andersson, U. and M. Forsgren, (2000) 'In search of centre of excellence: network embeddedness and subsidiary roles in multinational corporations'. *Management International Review*, 40.4 pp 329-350.
- Belderbos, R., Capanelli, G. and K. Fukao, (2001) 'Backward vertical linkages of foreign manufacturing affiliates: evidence from Japanese multinationals'. *World Development* 29.1 pp 189-208.
- Birkinshaw, J., (2000) 'MNE strategy and organization: and internal market perspective'. Chapter 3 in Hood, N. and S. Young, (2000) *The Globalization of Multinational Enterprise Activity and Economic Development* (Basingstoke, Macmillan Press Ltd)
- Bresman, H., Birkinshaw, J. and R. Nobel, (1999) 'Knowledge Transfer in International Acquisitions'. *Journal of International Business Studies*, 30.3 pp 439-462
- Buckley, P.J., Campos J., Mirza H. and E. White, (1997). *The International Transfer of Technology by Smaller Firm* (London: Macmillan)
- Casson, M., (1990) *Entreprise and Competitiveness: A Systems View of International Business* (Oxford: Clarendon Press)
- Casson, M., (2000) *Economics of International Business: A New Research Agenda* (Cheltenham: Edward Elgar)
- Chen, E.K.Y., (Ed.) (1994) *Transnational Corporations and Technology Transfer to Developing Countries* (Routledge, UNCTC series)
- Chen, E.K.Y., (1990) *Foreign Direct Investment in Asia* (Tokyo: Asian Productivity Organisation)
- Chia, S.Y. and W. Dobson, (Ed.) (1997) *Multinationals and East Asian Integration* (Singapore: Institute of Southeast Asian Studies)
- Crone, M. and S. Roper, (2001) 'Local learning from multinational plants: knowledge transfers in the supply chain'. *Regional Studies*, 35.6 pp 535-548.
- Dobson, W., (1993) *Japan in East Asia: Trading and Investment Strategies* (Singapore: Institute of Southeast Asian Studies)
- Driffield, N. and A.H.M. Noor, (1999), 'Foreign direct investment and local input linkages in Malaysia'. *Transnational Corporations*, 8.3 pp 1-25
- Dunning, J.H., (1993) *Multinationals and the Global Economy* (Addison Wesley)
- Giroud, A., (1999) 'Upgrading endogenous production capabilities in less-developed countries: an evaluation of information flows between transnational corporations affiliates and their local suppliers'. Chapter 4, pp. 37-53, in Lee S.-G. and P.-B. Ruffini, (Eds.) *The Global Integration of Europe and East Asia: Studies of International Trade and Investment* (Cheltenham-UK, Northampton-USA: Edward Elgar)
- Gupta, A. K., and V. Govindarajan, (2000) 'Knowledge flows within multinational corporations'. *Strategic Management Journal*, 24 pp 473-496.
- Hair J.F., Anderson R.E., Tatham, R.L. and W.C. Black, (1998) *Multivariate Data Analysis* (London: Prentice-Hall International (UK) Limited)
- Halbach, A.J., (1989) *Multinational Enterprise and Subcontracting in the Third World: A Study of Inter-Industrial Linkages*. Working Paper No. 58, Multinational Enterprises Programme, ILO, International Labour Office, Geneva
- Hollingsworth, R.L. and M. Schneiberg, (1990) 'Can transaction cost economics explain trade associations?'. Chapter 15, pp. 320-346, in Aoki Mashito, Gustafsson Bo and Williamson Oliver E. (Eds.) *The Firm as a Nexus of Treaties* (London: Sage)
- ILO/UNCTC, (1984) *Technology Choice and Employment Generation by Multinational Enterprise in Developing Countries* (Geneva: United Nations)
- ILO/UNCTC, (1988) *Economic and Social Effects of Multinational Enterprise in Export Processing Zones* (Geneva: United Nations)
- Ismail, M. N., (1999) 'Foreign firms and national technological upgrading: the electronics industry in Malaysia'. Chapter 2 in Jomo, K. S., Felker, G. and R. Rasiah, *Industrial Technology Development in Malaysia: Industry and Firm Studies* (London, New York, Routledge)

- Kumar, N., (1990) *Multinational Enterprises in India: Industrial Distribution, Characteristics and Performance* (London and New York: Routledge)
- Lall, S., (1993) 'Promoting Technological Development: the role of technology transfer and indigenous effort'. *Third World Quarterly*, 14.1, pp 95-109
- Lim, L.Y.C. and P.E. Fong, (1982) 'Vertical linkages and multinational enterprises in developing countries'. *World Development*, 10.7, pp585-595
- Lim, L.Y.C. and P.E. Fong, (1991) *Foreign Direct Investment and Industrialization in Malaysia, Taiwan and Thailand* (Paris: Development Centre of the OECD)
- McAleese, D. and D. McDonald, (1978) 'Employment growth and the development of linkages in foreign-owned and domestic manufacturing enterprises'. *Oxford Bulletin of Economic and Statistics*, pp.321-340
- Mirza, H., (1998) 'Transnational corporations as agents for the transmission of business culture to host countries'. P. 33-62, in Cook Paul, Kirkpatrick Colin and Nixon Fred (Eds.), *Privatisation, Enterprise Development and Economic Reform: Experiences of Developing and Transitional Economies* (Cheltenham-UK, Northampton-USA: Edward Elgar)
- Morsink, R.L. A., (1998) *Foreign direct investment and corporate networking: a framework for spatial analysis of investment conditions* (Cheltenham-UK, Northampton-USA: Edward Elgar)
- O'Brien, L., (1993) 'Malaysian manufacturing sector linkages'. Pp.147-162 in Jomo K. (Ed.) *Industrialising Malaysia: Policy, Performance and Prospects* (London: Routledge)
- Pangestu M., Soesastro H. and A. Mubariq, (1992) 'A new look at intra-ASEAN economic co-operation'. *ASEAN Economic Bulletin*, 8.3 pp 333-356
- Porter M., (1986) *Competition in Global Industries* (Boston, Massachusetts: Harvard Business School Press)
- Porter M., (1990) *The Competitive Advantage of Nations* (New York: The Free Press, MacMillan)
- Rasiah R., (1989) 'Competition and restructuring in the semiconductor industry: implications for technology transfer and its absorption in Penang'. *Southeast Asian Journal of Social Science*, 17.2 pp 41-57
- Supapol, A.B., (Ed.) (1995) *Transnational Corporations and Backward Linkages in Asian Electronics Industries*. UN/ESCAP, Monograph No. 5
- UNCTAD, (1999) *World Investment Report 1999: FDI and the Challenge of Development* (Geneva: United Nations)
- UNCTAD, (2001) *World Investment Report 2001: Promoting Linkages* (Geneva: United Nations)
- Wong, P.K., (1991) *Technological Development through Subcontracting Linkages -A Case Study*. Faculty of Business Administration National University of Singapore, a study for the Asian Productivity Organization
- Yeung, Henry Wai-Chung, (1998) *Transnational Corporations and Business Networks: Hong Kong Firms in the ASEAN Region* (London: Routledge)
- Young, S and L. Ping, (1997) 'Technology Transfer to China through foreign direct investment'. *Regional Studies*, 31.7 pp 669-680
- Zhara, S.A., George G. and D.M. Garvis, (1999) 'Networks and entrepreneurship in Southeast Asia: The role of social capital and membership commitment'. Chapter 2 in Richter Frank-Jurgen (Ed.) *Business Networks in Asia: Promises, Doubts, and Perspectives* (Westport, Conn.: Quorum)

LIST OF WORKING PAPER TITLES**2002**

- 02/28** – Axele Giroud
MNEs in Emerging Economies: What Explains Knowledge Transfer to Local Suppliers
- 02/27** – Niron Hashai
Industry Competitiveness – The Role of Regional Sharing of Distance-Sensitive Inputs (The Israeli – Arab Case)
- 02/26** – Niron Hashai
Towards a Theory of MNEs from Small Open Economies – Static and Dynamic Perspectives
- 02/25** – Christopher Pass
Corporate Governance and The Role of Non-Executive Directors in Large UK Companies: An Empirical Study
- 02/24** – Deli Yang
The Development of the Intellectual Property in China
- 02/23** – Roger Beach
Operational Factors that Influence the Successful Adoption of Internet Technology in Manufacturing
- 02/22** – Niron Hashai & Tamar Almor
Small and Medium Sized Multinationals: The Internationalization Process of Born Global Companies
- 02/21** – M Webster & D M Sugden
A Proposal for a Measurement Scale for Manufacturing Virtuality
- 02/20** – Mary S Klemm & Sarah J Kelsey
Catering for a Minority? Ethnic Groups and the British Travel Industry
- 02/19** – Craig Johnson & David Philip Spicer
The Action Learning MBA: A New Approach Management Education
- 02/18** – Lynda M Stansfield
An Innovative Stakeholder Approach to Management Education: A Case Study
- 02/17** – Igor Filatotchev, Mike Wright, Klaus Uhlenbruck, Laszlo Tihanyi & Robert Hoskisson
Privatization and Firm Restructuring in Transition Economies: The Effects of Governance and Organizational Capabilities
- 02/16** – Mike Tayles, Andrew Bramley, Neil Adshead & Janet Farr
Dealing with the Management of Intellectual Capital: The Potential Role of Strategic Management Accounting
- 02/15** – Christopher Pass
Long-Term Incentive Schemes, Executive Remuneration and Corporate Performance
- 02/14** – Nicholas J Ashill & David Jobber
An Empirical Investigation of the Factors Affecting the Scope of Information Needed in a MkIS
- 02/13** – Bill Lovell, Dr Zoe Radnor & Dr Janet Henderson
A Pragmatic Assessment of the Balanced Scorecard: An Evaluation use in a NHS Multi-Agency Setting in the UK
- 02/12** – Zahid Hussain & Donal Flynn
Validating the Four-Paradigm Theory of Information Systems Development
- 02/11** – Alexander T Mohr & Simone Klein
The Adjustment of American Expatriate Spouses in Germany – A Qualitative and Quantitative Analysis
- 02/10** – Riyad Eid & Myfanwy Trueman
The Adoption of The Internet for B-to-B International Marketing
- 02/09** – Richard Pike & Nam Cheng
Trade Credit, Late Payment and Asymmetric Information
- 02/08** – Alison J Killingbeck & Myfanwy M Trueman
Redrawing the Perceptual Map of a City
- 02/07** – John M T Balmer
Corporate Brands: Ten Years On – What's New?
- 02/06** – Dr Abdel Moniem Ahmed & Professor Mohamed Zairi
Customer Satisfaction: The Driving Force for Winning Business Excellence Award
- 02/05** – John M T Balmer & Stephen A Greyser
Managing the Multiple Identities of the Corporation
- 02/04** – David Philip Spicer
Organizational Learning & The Development of Shared Understanding: Evidence in Two Public Sector Organizations
- 02/03** – Tamar Almor & Niron Hashai
Configurations of International Knowledge-Intensive SMEs: Can the Eclectic Paradigm Provide a Sufficient Theoretical Framework?
- 02/02** – Riyad Eid, Myfanwy Trueman & Abdel Moniem Ahmed
The Influence of Critical Success Factors on International Internet Marketing

02/01 – Niron Hashai

The Impact of Distance Sensitivity and Economics of Scale on the Output and Exports of Israel and its Arab Neighbours

2001

- 01/18** – Christopher M Dent
Transnational Capital, the State and Foreign Economic Policy: Singapore, South Korea and Taiwan
- 01/17** – David P Spicer & Eugene Sadler-Smith
The General Decision Making Style Questionnaire: A Confirmatory Analysis
- 01/16** – David P Spicer
Expanding Experimental Learning: Linking Individual and Organisational Learning, Mental Models and Cognitive Style
- 01/15** – E Grey & J Balmer
Ethical Identity; What is it? What of it?
- 01/14** – Mike Tayles & Colin Drury
Autopsy of a Stalling ABC System: A Case Study of Activity Based Cost Management and Performance Improvement
- 01/13** – N Esho, R Zurbruegg, A Kirievsky & D Ward
Law and the Determinants of International Insurance Consumption
- 01/12** – J Andrews Coultts & Kwong C Cheung
Trading Rules and Stock Returns: Some Preliminary Short Run Evidence from the Hang Seng 1985-1997
- 01/11** – D McKechnie & S Hogarth-Scott
Linking Internal Service Encounters and Internal Transactions: Unravelling Internal Marketing Contract Workers
- 01/10** – M Webster & D M Sugden
Operations Strategies for the Exploitation of Protected Technology: Virtual Manufacture as an Alternative to Outward Licensing
- 01/09** – Axèle Giroud
Buyer-Supplier Transfer and Country of Origin: An Empirical Analysis of FDI in Malaysia
- 01/08** – Damian Ward
Do Independent Agents Reduce Life Insurance Companies' Free Cash Flow?
- 01/07** – Daragh O'Reilly
Corporate Images in 'Jerry Maguire': A Semiotic Analysis
- 01/06** – Tony Lindley & Daragh O'Reilly
Brand Identity on the Arts Sector
- 01/05** – M Trueman, J Balmer & D O'Reilly
Desperate Dome, Desperate Measures! Managing Innovation at London's Millennium Dome
- 01/04** – M Trueman, M Klemm, A Giroud & T Lindley
Bradford in the Premier League? A Multidisciplinary Approach to Branding and Re-positioning a City
- 01/03** – A Harzing
Self Perpetuating Myths and Chinese Whispers
- 01/02** – M Webster
Supply Systems Structure, Management and Performance: A Research Agenda
- 01/01** – A Harzing
Acquisitions Versus Greenfield Investments: Exploring the Impact of the MNC's International Strategy

2000

- 0031** – John Ritchie & Sue Richardson
Leadership and Misleadership in Smaller Business Governance
- 0030** – Mary Klemm
Tourism and Ethnic Minorities in Bradford: Concepts and Evidence
- 0029** – (not available)
- 0028** – (not available)
- 0027** – Axèle Giroud
Determinant Factors of the Degree of Supply-Related Technology Transfer: A Comparative Analysis Between Asian Affiliates
- 0026** – A Cullen, M Webster & A Muhlemann
Enterprise Resource Planning (ERP) Systems: Definitions, Functionality and the Contribution to Global Operations
- 0025** – B Chennoufi & M Klemm
Managing Cultural Differences in a Global Environment
- 0024** – (not available)
- 0023** – Simon Best & Devashish Pujari
Internet Marketing Effectiveness: An Exploratory Examination in Tourism Industry

- 0022** – Dr Myfanwy Tureman
Divided Views, Divided Loyalties: Changing Customer Perceptions by Design
- 0021** – Yasar Jarrar
Becoming World Class Through a Culture of Measurement
- 0020** – David Spicer & Eugene Sadler-Smith
Cognitive Style & Decision Making
- 0019** – Z J Radnor & R Boaden
A Test for Corporate Anorexia
- 0018** – (not available)
- 0017** – Peter Prowse
Public Service Union Recruitment Workplace Recovery or Stagnation in a Public Services Union? Evidence From a Regional Perspective
- 0016** – Yasar F Jarrar & Mohamed Zairi
Best Practice Transfer for Future Competitiveness: A Study of Best Practices
- 0015** – Mike Tayles & Colin Drury
Cost Systems and Profitability Analysis in UK Companies: Selected Survey Findings
- 0014** – B Myloni & A Harzing
Transferability of Human Resource Management Practices Across Borders: A European Reflection on Greece
- 0013** – (not available)
- 0012** – Nick J Freeman
Asean Investment Area: Progress and Challenges
- 0011** – Arvid Flagestad & Christine A Hope
A Model of Strategic Success in Winter Sports Destinations: the Strategic Performance Pyramid
- 0010** – M Poon, R Pike & D Tjosvold
Budget Participation, Goal Interdependence and Controversy: A Study of a Chinese Public Utility
- 0009** – Patricia C Fox, John M T Balmer & Alan Wilson
Applying the Acid Test of Corporate Identity Management
- 0008** – N Y Ashry & W A Taylor
Information Systems Requirements Analysis in Healthcare: Diffusion or Translation?
- 0007** – T Lindley, D O'Reilly & T Casey
An Analysis of UK Television Advertisements for Alcohol
- 0006** – Eric Lindley & Frederick Wheeler
The Learning Square: Four Domains that Impact on Strategy
- 0005** – K K Lim, P K Ahmed & M Zairi
The Role of Sharing Knowledge in Management Initiatives
- 0004** – C De Mattos & S Sanderson
Expected Importance of Partners' Contributions to Alliances in Emerging Economies: A Review
- 0003** – A Harzing
Acquisitions Versus Greenfield Investments: Both Sides of the Picture
- 0002** – Stuart Sanderson & Claudio De Mattos
Alliance Partners' Expectations Concerning Potential Conflicts and Implications Relative to Trust Building
- 0001** – A Harzing
An Empirical Test and Extension of the Bartlett & Ghoshal Typology of Multinational Companies
-
- 1999**
- 9922** – Gerry Randell & Maria del Pilar Rodriguez
Managerial Ethical Behaviour
- 9921** – N Y Ashry & W A Taylor
Requirements Analysis as Innovation Diffusion: A Proposed Requirements Analysis Strategy for the Development of an Integrated Hospital Information Support System
- 9920** – C Hope
My Way's The Right Way! Or, With Particular Reference to Teaching on Tourism Courses, is 'Best Practice' in Operations Management Dependent Upon National Culture?
- 9919** – A Harzing
Of Bumble-Bees and Spiders: The Role of Expatriates in Controlling Foreign Subsidiaries
- 9918** – N Y Ashry & W A Taylor
Who will take the Garbage Out? The Potential of Information Technology for Clinical Waste Management in the NHS
- 9917** – D O'Reilly
Nice Video(?), Shame about the Scam... Paedagogical Rhetoric Meets Commercial Reality at Stew Leonard's
- 9916** – A Harzing
The European Monolith: Another Myth in International Management?
- 9915** – S MacDougall & R Pike
The Influence of Capital Budgeting Implementation on Real Options: A Multiple-Case Study of New Technology Investments
- 9914** – C Pass, A Robinson & D Ward
Performance Criteria of Corporate Option and Long-Term Incentive Plans: A Survey of 150 UK Companies 1994-1998
- 9913** – R Beach, A P Muhlemann, D H R Price, J A Sharp & A Paterson
Strategic Flexibility and Outsourcing in Global networks
- 9912** – H M Stewart, C A Hope & A P Muhlemann
The Legal Profession, Networks and Service Quality
- 9911** – J F Keane
Design and the Management Paradigms of Self-Organisation
- 9910** – D O'Reilly
On the Precipice of a Revolution with Hamel and Prahalad
- 9909** – S Cameron & D Ward
Abstinence, Excess, Success?: Alcohol, Cigarettes, Wedlock & Earnings
- 9908** – M Klemm & J Rawel
Eurocamp – Strategic Development and Internationalisation in a European Context
- 9907** – M Webster & R Beach
Operations Network Design, Manufacturing Paradigms and the Subcontractor
- 9906** – D Ward
Firm Behaviour and Investor Choice: A Stochastic Frontier Analysis of UK Insurance
- 9905** – D Ward, C Pass & A Robinson
LTIPS and the Need to Examine the Diversity of CEO Remuneration
- 9904** – C Smallman
Knowledge Management as Risk Management: The Need for Open Corporate Governance
- 9903** – R Beach, D Price, A Muhlemann & J Sharp
The Role of Qualitative Research in the Quest for Strategic Flexibility
- 9902** – N Hiley & C Smallman
Predicting Corporate Failure: A Literature Review
- 9901** – M Trueman
Designing Capital: Using Design to Enhance and Control Technological Innovation
-
- 1998**
- 9826** – A Harzing
Cross-National Industrial Mail Surveys: Why do Response Rates Differ Between Countries?
- 9825** – B Dewsnap and D Jobber
The Sales-Marketing Interface: A Synthesis of Theoretical Perspectives and Conceptual Framework
- 9824** – C De Mattos
Advantageous Executives' Characteristics in Establishing Biotechnology Alliances in an Emerging Economy: The Case of Brazil
- 9823** – C A Howorth
An Empirical Examination of the Usefulness of the Cash Conversion Cycle
- 9822** – A Harzing
Who's in Charge? An Empirical Study of Executive Staffing Practices in Foreign Subsidiaries
- 9821** – N Wakabayashi & J Gill
Perceptive Differences in Interorganizational Collaboration and Dynamics of Trust
- 9820** – C Smallman
Risk Perception: State of the Art
- 9819** – C Smallman
The Breadth of Perceived Risk: Why Integrated Risk Management of Health, Safety & Environmental Risks is only the End of the Beginning
- 9818** – P S Budhwar, A Popof & D Pujari
Evaluating Sales Management Training at Xerox in Greece: An Exploratory Study
- 9817** – W A Taylor
An Information-Based Perspective on Knowledge Capture in Business Processes
- 9816** – S Hogarth-Scott
Category Management Relationships: Is it Really Trust Where Choice is Limited?

- 9815** – W A Taylor
Sustaining Innovation in Organisations: Managing the Intangibles
A Study of TQM Implementation in Northern Ireland Organisations
1991-1996
- 9814** – M Webster, A Muhlemann and C Alder
Subcontract Manufacture in Electronics Assembly:
A Survey of Industry Practice
- 9813** – M J S Hary
Is Object-Oriented Subject-Oriented?: Conflicting and
Unresolved Philosophies in Object-Oriented Information
Systems Development Methodology
- 9812** – J Jackson
The Introduction of Japanese Continuous Improvement Practices to a
Traditional British Manufacturing Site: The Case of RHP Bearings
(Ferrybridge)
- 9811** – C De Mattos
A Comparative Study Between Perceptions of British and German
Executives, in the Biotechnology Sector, Relative to Potential Future
Contributions of Greatest Importance to and from Transnational
Alliance Partners in Emerging Economies
- 9810** – J Martin-Hirsch & G Wright
The Cost of Customer Care – A Value Analysis of Service Delivery
Approaches
- 9809** – J Martin-Hirsch & G Wright
A Service Provider's View of Success Factors in Alternative Service
Strategies
- 9808** – J Martin-Hirsch & G Wright
A Professional's Evaluation of Alternative Service Delivery Regimes for
Customer Care and Satisfaction
- 9807** – J Martin-Hirsch & G Wright
A User's Perspective of Alternative Service Delivery: A Comparative
Study of the Evaluation of Service Strategies
- 9806** – J Martin-Hirsch & G Wright
The Case for Choice in Health Care: A Comparison of Traditional and
Team Midwifery in Effective Service Provision
- 9805** – M Woods, M Fedorkow and M Smith
Modelling the Learning Organisation
- 9804** – W A Taylor
An Action Research Study of Knowledge Management in Process Industries
- 9803** – C Singleton
Quantitative and Qualitative – Bridging the Gap Between Two
Opposing Paradigms
- 9802** – R McClements & C Smallman
Managing in the New Millennium: Reflections on Change, Management and
the Need for Learning
- 9801** – P Eyre & C Smallman
Euromanagement Competencies in Small and Medium Sized Enterprises:
A Development Path for the New Millennium
-
- 1997**
- 9729** – C Smallman
Managerial Perceptions of Organisational
Hazards and their Associated Risks
- 9728** – C Smallman & D Weir
Managers in the Year 2000 and After: A Strategy for Development
- 9727** – R Platt
Ensuring Effective Provision of Low Cost Housing Finance in India:
An In-Depth case Analysis
- 9726** – (not available)
- 9725** – (not available)
- 9724** – S Estrin, V Perotin, A Robinson & N Wilson
Profit-Sharing Revisited: British and French Experience Compared
- 9723** – (not available)
- 9722** – R Beach, A P Muhlemann, A Paterson, D H R Price and J A Sharp
Facilitating Strategic Change in Manufacturing Industry
- 9721** – R Beach, A P Muhlemann, A Paterson, D H R Price and J A Sharp
The Strategy Options in Manufacturing Industry: Propositions Based on
Case Histories
- 9720** – A Giroud
Multinational Firms Backward Linkages in Malaysia: A Comparison
between European and Asian Firms in the Electrical and Electronics Sector
- 9719** – L Kening
Foreign Direct Investment in China: Performance, Climate and Impact
- 9718** – H Mirza
Towards a Strategy for Enhancing ASEAN's Locational Advantages for
Attracting Greater Foreign Direct Investment
- 9717** – B Summers & N Wilson
An Empirical Study of the Demand for Trade Credit in UK
Manufacturing Firms
- 9716** – R Butler & J Gill
Reliable Knowledge and Trust in Partnership Formation
- 9715** – R Butler
Stories and Experiments in Organisational Research
- 9714** – M Klemm & L Parkinson
British Tour Operators: Blessing or Blight
- 9713** – C A Hope
What Does Quality Management Mean for
Tourism Companies and Organisations?
- 9712** – S Hogarth-Scott & P Dapiran
Do Retailers and Suppliers Really have Collaborative Category
Management Relationships?: Category Management Relationships in
the UK and Australia
- 9711** – C De Mattos
The Importance of Potential Future Contributions from/to Transnational
Joint Venture Partners: Perception of Brazilian Managing Directors and
Specialists Linked to Biotechnology
- 9710** – N T Ibrahim & F P Wheeler
Are Malaysian Corporations Ready for Executive Information Systems?
- 9709** – F P Wheeler & A W Nixon
Monitoring Organisational Knowledge in Use
- 9708** – M Tayles & C Drury
Scoping Product Costing Research: A Strategy for Managing the Product
Portfolio – Cost System Design
- 9707** – N Wilson, B Summers & C Singleton
Small Business Demand for Trade Credit, Credit Rationing and the Late
Payment of Commercial Debt: An Empirical Study
- 9706** – R Beach, A P Muhlemann, A Paterson, D H R Price & J A Sharp
The Management Information Systems as a Source of Flexibility:
A Case Study
- 9705** – E Marshall
Business Ethics: The Religious Dimension
- 9704** – M Wright, N Wilson & K Robbie
The Longer Term Effects of Management-Led Buy-Outs
- 9703** – G Hopkinson & S Hogarth Scott
Quality of Franchise Relationships: The Implications of Micro Economic
Theories of Franchising
- 9702** – G C Hopkinson & S Hogarth-Scott
Channel Conflict: Critical Incidents or Telling Tales.
Methodologies Compared
- 9701** – K Watson, S. Hogarth-Scott & N Wilson
Marketing Success Factors and Key Tasks in Small Business Development
-
- 1996**
- 9619** – B Summers & N Wilson
Trade Credit Management and the Decision to use Factoring:
An Empirical Study
- 9618** – M Hiley & H Mirza
The Economic Prospects of ASEAN : The Role of AFTA in the Future
Development of the Region
- 9617** – A Brown
Prospects for Japanese Foreign Direct Investment in Thailand
- 9616** – H Mirza, K H Wee & F Bartels
The Expansion Strategies of Triad Corporations in East Asia
- 9615** – M Demirbag & H Mirza
Inter-Partner Reliance, Exchange of Resources & Partners' Influence on
JV's Strategy
- 9614** – R H Pike & N S Cheng
Motives for Investing in Accounts Receivable: Theory and Evidence
- 9613** – R H Pike & N S Cheng
Business Trade Credit Management: Experience of Large UK Firms
- 9612** – R Elliott, S Eccles & K Gournay
Man Management? Women and the Use of Debt to Control
Personal Relationships
- 9611** – R Elliott, S Eccles & K Gournay
Social Support, Personal Relationships & Addictive Consumption

- 9610** – M Uncles & A Manaresi
Relationships Among Retail Franchisees and Franchisors: A Two-Country Study
- 9609** – S Procter
Quality in Maternity Services: Perceptions of Managers, Clinicians and Consumers'
- 9608** – S Hogarth-Scott & G P Dapiran
Retailer-Supplier Relationships: An Integrative Framework Based on Category Management Relationships
- 9607** – N Wilson, S Hogarth-Scott & K Watson
Factors Contributing to Entrepreneurial Success in New Start Small Businesses
- 9606** – R Beach, A P Muhlemann, A Paterson, D H R Price & J A Sharp
The Evolutionary Development of the Concept Manufacturing Flexibility
- 9605** – B Summers
Using Neural Networks for Credit Risk Management: The Nature of the Models Produced
- 9604** – P J Buckley & M Carter
The Economics of Business Process Design: Motivation, Information & Coordination Within the Firm
- 9603** – M Carter
Is the Customer Always Right? Information, Quality and Organisational Architecture
- 9602** – D T H Weir
Why Does the Pilot Sit at the Front? And Does it Matter?
- 9601** – R A Rayman
A Proposal for Reforming the Tax System

1995

-
- 9506** – A L Riding & B Summers
Networks that Learn and Credit Evaluation
- 9505** – R A Rayman
The Income Concept: A Flawed Ideal?
- 9504** – S Ali & H Mirza
Market Entry Strategies in Poland: A Preliminary Report
- 9503** – R Beach, A P Muhlemann, A Paterson, D H.R Price & J A Sharp
An Adaptive Literature Search Paradigm
- 9502** – A S C Ehrenberg & M Uncles
Direchlet-Type Markets: a Review, Part 2: Applications & Implications
- 9501** – M Uncles & A S C Ehrenberg
Direchlet-Type Markets: A Review, Part 1: Patterns and Theory

1994

-
- 9411** – R A Rayman
The Real-Balance Effect Fallacy and The Failure of Unemployment Policy
- 9410** – R A Rayman
The Myth of 'Says' Law
- 9409** not issued
- 9408** not issued
- 9407** not issued
- 9406** not issued
- 9405** – F Bartels & N Freeman
Multinational Enterprise in Emerging Markets: International Joint Ventures in Côte D'Ivoire Vietnam
- 9404** – E Marshall
The Single Transferable Vote – A Necessary Refinement Abstract
- 9403** – G R Dowling & M Uncles
Customer Loyalty programs: Should Every Firm Have One?
- 9402** – N Wilson, A Pendleton & M Wright
The impact of Employee Ownership on Employee Attitudes: Evidence from UK ESOPS
- 9401** – N Wilson & M J Peel
Working Capital & Financial Management Practices in the Small Firm Sector

1993

-
- 9310** – R Butler, L Davies, R Pike & J Sharp
Effective Investment Decision-Making: The Concept and its Determinants no longer available
- 9309** – A Muhlemann, D Price, M Afferson & J Sharp
Manufacturing Information Systems as a Means for Improving the Quality of Production Management Decisions in Smaller Manufacturing Enterprises

- 9308** – F P Wheeler, R J Thomas & S H Chang
Towards Effective Executive Information Systems
- 9307** – F P Wheeler, S H Chang & R J Thomas
The Transition from an Executive Information System to Everyone's Information System: Lessons from a Case Study
- 9306** – S H Chang, F P Wheeler & R J Thomas
Modelling Executive Information Needs
- 9305** – S. Braga Rodrigues & D Hickson
Success in Decision Making: Different Organisations, Differing Reasons for Success.
- 9304** – R J Butler, R S Turner, P D Coates, R H Pike & D H R Price
Ideology, Technology and Effectiveness
- 9303** – R J Butler, R S Turner, P D Coates, R H Pike & D H R Price
Strategy, Structure and Technology
- 9302** – R J Butler, R S Turner, P D Coates, R H Pike & D H R Price
Competitive Strategies and New Technology
- 9301** – R J Butler, R S Turner, P D Coates, R H Pike & D H R Price
Investing in New Technology for Competitive Advantage

Copies of the Proceedings of the Arab Management Conferences are available for purchase at a cost of £40.00 per volume.

Copies of the above papers can be obtained by contacting the Research Secretary at the address below:

Bradford University School of Management
Emm Lane
Bradford
West Yorkshire
BD9 4JL

Tel: 01274 234323 (mornings only)
Fax: 01274 546866