THE EVOLUTION OF A JAPANESE SUBSIDIARY IN THE UK

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Abstract
Japanese Foreign Direct Investment has largely followed the principles of the mainstream FDI theories in particular those of the eclectic theory, which emphasizes Ownership of higher technology, Internalisation of production, and, exploitation of Local advantages such as cheap labour (OLI). The upsurge of investment since the Mid-1980s, however, has overstepped many of these principles. This flood of FDI is variously attributed to the particular circumstances of the Japanese economy such as higher value of the Yen, lower interest rates at home, overproduction, empire-building efforts at the Eastern wing of the Triad, and so on. These special features have led many researchers to relate the Japanese FDI only to some other Macroeconomic elements of the Japanese economy such as trade, GNP, domestic demand etc., while other FDI economists have attempted to relate it to the globalisation process in which Japan is a big player. In explaining the special character of the Japanese FDI, researchers with a business-economic slant, tend to gravitate to the following issues: export/domestic sales proportions, profit retention/ repatriation, HQ/subsidiary relationships, the role of domestic input, technology, strategy, culture, quality, and so on. Some valuable large-scale studies (though in dire need of updating) exist that deal with these issues. These are of course largely based on 'arms-length' research techniques of phone-calls, letters, and selective interviews. Without downgrading the value of these findings, it was felt that it could be beneficial to contrast these findings against the real life of a Japanese subsidiary in Britain. The company is one of the oldest cases of Japanese direct investment anywhere in the world. Its emergence as a Greenfield investment and survival is quite unique and compares to the flood of subsidiaries and joint stock companies that came to life during the pre-crisis optimism. With the help of an R&D-oriented sister-company in Sweden, and a vigorous pursuit of quality, the old entity in Old Woking is hobbling on towards the 21st century faced with many challenges. We intend to provide a hands-on business-economic view of the company and its future in Europe as a building block for FDI economists.

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INTRODUCTION

It is becoming a popular trend in the literature to contrast and compare the Japanese and Western subsidiaries. Some of these are scientific and impartial but many others seem to be tainted reflecting the writers' fears and prejudices. Only a few years ago, everything Japanese smelt of quality and the cherry blossoms of the Japanese traditional painting making 'Japanisation' a progressive movement in globalisation. Now it represents an introvert scared giant that does not trust anybody, is arrogant, practices cultural control by using Japanese expatriates everywhere, holds back R&D diffusion, and exploits cheap labour in poor countries. Such approaches are particularly clear in those branches of the literature that compares the Japanese subsidiaries with the western, in particular American subsidiaries. In a nutshell, for this group everything Japanese is dictatorial and everything Western is democratic. Unfortunately, such views are held by many Asian writers who feel that the Japanese multinationals use them as a launching pad for global strategies, never learn from the local conditions, and refuse to involve the local managers. Moreover they claim that the Japanese subsidiaries located in the West get a better deal. The reality is more complex. Those who look only at the cultural and social manifestation of MNC management in subsidiaries are likely to loose sight of the fact that subsidiaries are the outcome of an economic decision that has transformed the economic life of many underdeveloped economies and has injected new blood to the forgotten regions of advanced economies. Also, they ignore the fact that many studies carried out within a short period of time do not reflect the tremendous abilities of the Japanese business to adapt and evolve. The more important point is that many writers look at the bottle as half empty rather that half full and still filling! It is easy to see that the Japanese subsidiaries behave differently in different parts of the world and accuse them of discriminative behaviour. From a slightly different angle the same behaviour can be viewed as an adaptive evolutionary behaviour. Surely the Americans don't behave the same way in Africa as they do in Japan or Paris! In what follows we look at some of the flow of FDI from Japan to give an idea of how business behaviour may be affected by these economic facts. Then we examine some of the main criticisms of the Japanese subsidiaries which have become louder these years. Finally we present a hands on enquiry into the daily life of an old Japanese subsidiary in London which is a living proof of ability to adapt, change and evolve despite old age!

It may be essential to remind the reader that the intention is not to present an evolutionary analysis. Here and there we notice some evolutionary processes which we bring to the readers' attention. The fact that the new product in Nittan is going to be called Evolution was mere coincidence. We took it as a good omen!

1. The Outflow of Japanese FDI

1.1. Introduction.

The big change in the amount and texture of Foreign Direct Investment will no doubt trouble the settled outlook of many FDI specialists that 'financial crises come and go, but FDI stays put' (Krugman). Some of the confusion is due to sectoral shift to services, the delayed publication of facts by primary sources, and some is rooted in selective presentation of data. IMF's revised forecasts in World Economic Outlook, its ambiguous delineation between the categories of overseas investment, and the changing definition of FDI by the recipient countries are a few among many. The change of regulations in Thailand to regard buying 10% of the shares in a Thai company as FDI is an example of adulterated FDI. So are many M&A activities that shift massive quantities of capital for tactical reasons. An example of delay is the FDI data for the 2nd half of 2000 and 2001 by Japanese Ministry of Finance. There are always some technical reasons for the adoption of such methods of dissemination

which strengthens suspicion that there is a big drop in the trend. JETRO that relies on these data follows the same method, but agrees that the Japanese outflow of FDI has suffered a considerable setback since the millennium. There are also some arguments that it has moved from Greenfield & strategic investment to amorphous tactical movement of capital (Nittan UK was a Greenfield investment, See section 3).

1. 2. The Declining Outflow of Japanese Foreign Direct Investment

Before looking at the figures for outbound FDI from Japan, it is important to know that FDI is a cause of subsidiary creation but is not limited to it. The distinction revolves around control. From portfolio investment through joint ventures to wholly owned subsidiaries, the level of investor control tends to increase. FDI with less than 50% equity ownership can in many cases control the company, however, to run a subsidiary the holding company must have the majority shares both legally and conventionally. This makes the interpretation of FDI figures in terms of subsidiary development and vice versa a little tricky. The reason we emphasise this is because some authors discuss subsidiaries under FDI, which is wrong. FDI is a much bigger figure especially where it consists of minority equity verging on portfolio characteristics. Subsidiary investment is naturally concomitant with higher commitment. Nonetheless, its growth and decline is very likely to follow the main trend in FDI in general although location and time variations will persist.

Table 1. Direct Investments Abroad (F.Y. 1991-2001 April-March, 100 m yen)

Fiscal Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
No. of Cases	4,564	3,741	3,488	2,478	2,863	2,501	2,489	1,597	1,713	1,684	1,753
Amount	56,862	44,313	41,514	42,808	49,568	54,094	66,229	52,169	74,390	53,690	39,548

Source: Recent Outward Direct Investment, Direct Investment Section, International Finance Division, Ministry of Finance (Japan)

The clearest feature of these figures is the decline of FDI since 1999. We can of course argue that in late 1990s the Yen was too weak, and therefore the decline is not what it seems. To make things simpler, however, we resort to JETRO, a viable research organisation, who confirm in their White Paper 2001 that the Japanese FDI has declined. This means a degree of introversion and additional pressure on the Japanese subsidiaries abroad to make extra effort to survive. The impact on R&D could reflect this introversion or lead to some rearrangements. This is of interest for future research.

1.3. The Evolutionary Process of Japanese FDI

The evolutionary models of FDI started with Vernon (1966, 1974). His product lifecycle involved exporting goods from home country until they were mature and therefore less profitable. At this stage goods would be produced overseas using FDI. Instead of developing this model into a fully evolutionary view, Vernon, decided to reject his own view (1979). Like Caves (1971) he spoke of exploitation of local endowments such as raw material and cheap labour, and was equally under pressure to repent. Caves never caved in to pressure, but Vernon was forced to follow the mainstream outlook. There are two reasons for this.

a) The Hecksher-Ohlin trade model, along with import substitution models, was under severe criticism partly because they emphasised the exploitation of raw material in developing countries. Vernon's model happened to appear in this era, and therefore was duly battered by people who talked of a benevolent global investment that took money, management skills, and technology to the developing countries.

b) Vernon was ahead of his time. People had never heard of evolutionary stage theories except for an elementary article by Aharony and one by March and Cyert (See references to Vernon 1966). The Evolutionary / Complexity views were largely unknown.

The Scandinavian model, or Uppsala School of thought, was received more favourably as it went along with the main tenets of the mainstream FDI theories. According to this view, the entrepreneur moved from trading with neighbours to licensing, and then investing in culturally and physically distant areas. [Exactly the route many Japanese firms have followed to the UK] This outlook was only criticised for its generalisation of a Nordic-specific situation in Scandinavian history (Buckley and Ghauri, 1999), and the possibility of a reversed process. It would be interesting to know whether the Japanese FDI caught in recession would embark on a reverse process. We hope not! The so-called 'flight to quality', namely the homecoming of capital for a safe haven in the West after the Asian Crisis is a proof of this reverse evolution.

The simple view of evolutionary FDI may be critisised for a variety of reasons: The increased level of information in out time may remove the necessity of prior trade. It is also possible that an investor would jump the stages, risking loss, in order to please the host country for political or for future economic reasons. In many cases it is likely that people initiate FDI and Trade simultaneously. All in all, the simple model is still a dominant picture, and at least applies to our case.

It is understandable that the Japanese would follow the cautious route of evolutionary investment at least at earlier periods. JETRO's comprehensive research of the Japanese investment in California may illustrate this process. According to JETRO:

> 'There is an arrival pattern for Japanese subsidiaries that is observed in relation to industry type. Trade companies that did not require large amounts of capital to establish their US operations first arrived in Southern California and cultivated new markets. Next, manufacturing companies stimulated by trade imbalances and a strong Yen started to build new plants to effectively take advantage of the established US markets. These manufacturing subsidiaries subsequently triggered the arrival of companies in the real estate, finance, insurance, and construction industries. These companies provided the necessary services for manufacturing companies to establish new plants'.

The rapid growth of construction can also be explained by the fact that concentration in Los Angeles has begun to be expensive both in terms of site and workforce and therefore, the newly developed Orange and San Diego counties may seem to be more preferable for manufacturing. 'The easy access to maquiladoras on the US-Mexico border makes San Diego particularly attractive to manufacturing companies' (JETRO 2000). The ***search*** for reduced labour cost can no doubt be regarded as an evolutionary search. This evolutionary search is very much in line with Kauffman's (1987, 1995) 'entity' that, faced with diminished resources, makes a long jump to find new feeding grounds. Locational search is always limited, and survival can only be possible by innovation – in this case R&D, and in our case the evolution of Evolution (the new product in Nittan).

2. The Main Characteristics of the Japanese Subsidiaries

In our view the Japanese are hard working, inventive, determined, and efficient people who have made life easier for countless number of people all over the world. We have been able to use their quality products, their system of quality management, and their high technology despite some difficulties in

communications due to language and cultural differences. Unfortunately, however, there seems to exist a vast area of literature in the English language who tend to ignore the positive aspects, and emphasise the problems and difficulties. The examination of a Japanese subsidiary in London Section 3, will hopefully throw a different light at the life of Japanese subsidiaries. Meanwhile in this section we examine the literature critically, hoping to provide a more balanced view of the Japanese subsidiaries.

2. 1. Export Orientation with limited Local Sourcing.

The question of production by the subsidiary for local market as a stage to export seems to agree with the main tenets of FDI theories and evolutionary economics. This is particularly relevant to the advanced economies where domestic markets are large. Table 2 shows that wherever they are, the Japanese subsidiaries export more than they sell locally. They export from Asia relatively more, as the markets there are smaller. Regarding the UK, the local market persists despite the country being considered as a launching pad for Europe. A comparative study of FDI in the UK shows that despite export orientation Japanese firms are still dependent on the local markets (Hood and Taggart 1999)**.** This study also shows that Japanese subsidiaries, especially larger ones, tend to use local inputs increasingly more although they originally depended more on home country for inputs.

Table 2. Japanese Multinationals Abroad, 1992

Location of Sales/ Destination of Exports:	Sales by Japanese Affiliates Principally Engaged in Foreign Manufacturing	Japanese Exports of Manufactured Goods (From base)	Sales by Japanese Affiliates Principally Engaged in Foreign Wholesaling
All Countries ($ bill.)	$201.3	$340.0	$391.0
of which, in:			
North America	$80.7	$107.6	$173.4
European Community	$42.1	$62.9	$125.7
Asia	$63.7	$117.6	$54.8

Source: Encarnation D J.(1995)

The case of individual subsidiaries, however, may not be as clear as in the case of countries and continents. Their size and their connection with sister subsidiaries can confuse the issue. We know from a research work carried out in Ireland (Egelhoff et al, 2000) that small subsidiaries sell locally and larger ones tend to export. The percent export also depends on the industry. It seems that valuable products are easier to export, but consumer packaged goods are flogged in the host market. In the case of Ireland, the parent company is very important. Japan and the UK make interesting comparison: The Japanese subsidiaries in Ireland produce industrial goods to export to Japan (6%), to sell in Ireland (13%), and to export to Europe (65%), whereas the British produce packaged consumer goods to export to UK (34%), to sell in Ireland (56%), and to Europe (7%). One could say that the Irish get a better deal from the far off Japanese than the neighbour who speaks the same language.

Macroeconomic business environment also adds to the complexities. It would be futile to compare the conditions of subsidiary exports when Japanese economy and the host countries are doing well, to the times when Japan is in recession and host countries are going through difficult times. It would be interesting to know how the Japanese subsidiaries behave when the recession is fully with us in the West. According to Fukao (2001), the subsidiaries owned by larger parents were 'able to switch from local sales to exports'. It is often said that the Japanese subsidiaries sacrifice their well being for the security of the parent company. This shows the reverse: the parents take the burden. Leaving

normative issues aside, it seems possible that the parental sacrifice is due to the ownership structure of the subsidiaries which are often wholly owned.

Those who view Japanese subsidiaries as a transplant with the sole objective to use the host country as a launching pad for exports, tend to argue that the subsidiaries avoid local sourcing, and are not keen to integrate with the local economy. Various studies have suggested that the subsidiaries of Japanese corporations, whether operating in industrialized or less developed countries, tend to depend more heavily on imported capital goods and components from their home country than do subsidiaries of other MNCs (See Graham, 1989, Kreinin, 1988; Dobson, 1993, and for the defenders of the Japanese record See. Saxonhouse, 1991).

Most of these studies are unfortunately limited in scope. It is hard to access comprehensive data so many rely on case studies with all the limitations of case studies. Some of these limitations are: Exclusivity of the local input, its quality, its price, currency fluctuations and so on. One big problem in estimating the level of local sourcing is that it may involve other Japanese affiliates in the locality rather than domestic companies. A survey in Malaysia 1987-9 reported that even though an increase occurred in the number of **locally-owned** firms that supplied Japanese affiliates, the share in local procurement (itself less than a third of the value of total purchases) from locally-*owned* companies remained constant at around 45 percent. Meanwhile, the share sourced from **locally-*based*** Japanese affiliates rose from 18.7 to 23.8 percent (Aoki, 1992, Table 5 p. 82). The same story is repeated in a more recent study of Japanese subsidiaries in Malaysia by Giroud, A. (2000), This study, however justifies the subsidiary attitude by their relatively younger age and quality cost. It also adds that they spend a great deal on training the local suppliers, so the study emphasises the quality rather than the quantity of the local linkage. Local sourcing also depends on the degree of economic and technological development of the location. A recent comprehensive study of subsidiaries in four EU countries by Tavares (2002), shows that local intake is higher in the UK (13 to 23 per cent) than in Spain and in both countries it is higher than in the smaller economies of Portugal and Ireland. Another study in Asia Belderbos et al (2000) has similarly shown that the Japanese subsidiaries local sourcing is quite high (Table 3).

Table. 3. Sourcing by Asian manufacturing subsidiaries of Japanese electronics firms locally or from Japan

	Hong Kong	South Korea	Singapore	Taiwan	Indonesia	Malaysia	Philippines
Locally	48	46	40	50	63	34	16
From Japan	34	50	43	43	17	44	42

Source: Belderbos et al, based on MITI (1994).

The root problem with local sourcing is that if production is mainly for export, it would often require higher values of technically advanced input that the local economy is not able to offer at a right price. Pure Cantwellian economics! But of course any sensible business in this day and age would be aware of the Business- Economics value of corporate social responsibility.

2. 2. R&D and Locality: Captivity at Level One Integration

By Level One integration we mean planning a global division of labour for subsidiaries and local resources by the MNCs. Subsidiaries are almost passive participants in this strategic plan. Level 2 involves active participation with autonomy. Most authors do not distinguish these levels. They simply talk of higher or lower integration. The distinction involves a qualitative change. The criticism leveled at the Japanese MNCs by Takehiko and Montgomery (1998), seems to aim at level one integration. The distinction between the two levels is half-heartedly proposed by Zander and Solvell (2000), as a

research agenda. Their outlook is likely to be rooted in Bartlett and Ghoshal (1990) who distinguish between the centre – to – many integration (Japanese type), and many to many integration (European type). This Japanese approach for globalisation (Centre-to-Many) enjoys economy of scale, is cost effective, is compatible with just in time, and protects company secrets. Matsushita is regarded as the 'champion' of this quintessential Japanese approach. The opposite is the case of ITT whose subsidiaries had so much autonomy that any effort for global integration undertaken by the HQ in the US would be blocked by the powerful subsidiaries in London and Paris. The optimal approach is implied to be that of Ericson, where autonomy does not make central policies redundant. The difference has implications for local sourcing, R&D activities, and the diffusion of technology. But first a typical criticism of level 1 integration:

As one of the main objectives of a global strategy is to maximize worldwide performance through **integration**, a Japanese subsidiary is not expected to involve in **innovative activities**. Critics say: It reduces the firm's effectiveness in individual countries if over-centralization hurts local motivation and morale. Excess concentration results in lower responsiveness and flexibility (Takehiko and Montgomery, 1998).

2.3. Subsidiaries and R & D Activity

a) The MNC perspective. The problem of integration with local economy for Japanese subsidiaries is not limited to buying local sources, it also involves the extent of R&D activities. Originally, MNCs located R&D in their affiliates abroad mainly for the purposes of the adaptation of products to local tastes or customer needs, and the adaptation of processes to local resource availability and production conditions. For Zander and Solvell (2000), this is part of 'Case I' integration which involves duplication of the home country R&D, more commonly known as replication. Subsidiaries act as transplants or satellites to relay the marketing needs to the HQs who, directly or indirectly, respond to the requirements. In recent years, however, along with 'globalisation' of production and technology, subsidiary R&D has gained a more creative role. It aims to generate new technology in accordance with the comparative advantage in innovation of the country in which the affiliate is located (This is Case II for Zander and Solvell, 2000, See also Cantwell 1995; Papanastassiou and Pearce 1997). Organisatioal change and maturing of MNCs play a part in this transformation. A few subsidiaries take advantage of the particular capability of local personnel and the other local institutions with which the subsidiary is connected to increase the level of R&D activities. But they still may benefit from the HQ's widespread networks if they follow its global strategy. Thus, what started as local market-oriented subsidiaries has gradually evolved into more export-oriented and internationally integrated operations. The scene is still full of subsidiaries with essentially just an 'assembly' role, but increasing numbers take on a more technologically creative function and the level and complexity of their R&D rises accordingly depending on the age of subsidiary. It is logical that the more integrative pioneering subsidiaries will belong to the R&D-intensive MNCs who tend to grant more responsibilities to their subsidiaries. Hennart and Park (1993) have reported that such subsidiaries belonging to advanced Japanese MNCs are already operating in many countries.

b) The Host Country perspective. As they say, it takes two to tango. Apart from the MNC efforts the performance of the R&D subsidiary also depends on the host country development. Some diffuse technology, others, especially where local conditions are most conducive to technology creation, create technology. Subsidiaries located in such localities, may cooperate and invest in each other which is a higher level of integration according to Zander and Solvell, (2000). At this level of integration, the industry type may interact with and enhance the host country effect. For example in pharmaceutical industry, the R&D activity follows diversity and a complex web of interactions, whereas in IBM (one

business – one centre), technology will be rather more centrally controlled, and disseminated in one direction. Innovation diffusion outside the MNC is limited to a range of more specialised companies, which typically compete in market segments in which the leader is less involved.

Cantwell and R Mudambi (2000), views the Japanese car industry in the UK in similar lights. They believe the strong connection with the HQs may reduce the interaction with the local component suppliers, but then they blame the local economy for being weak and inadequate compared to the poles of excellence described below.

Poles of growth has long been discussed by development economists. In 1980s Ohmae, the prominent Japanese thinker took interest in city nations like Hong Kong and Singapore as poles of excellence and growth highlighting the future route for development. For whatever reason such centres come to life with tremendous networks of synergetic combinations that attracts high-tech multinationals. These poles do not have to be administrative centres like city nations. For Cantwell they can be a locus for certain industries hosting technology creation and innovative activities. Recently Japan has shown interest in shifting R&D activity to these poles of innovation to create technology in a number of sectors (such as motor vehicles and consumer electronics) in their subsidiaries abroad. Ohmae (1985) believes that Japanese MNCs will need a direct presence in each of those poles which hold leading positions in the development of their industry and of associated technologies. These poles are not stand- alone. They exchange capital and technology, which gives additional advantage to the participant subsidiaries. The distinctive feature of these poles is that they lead to specialisation. For these reasons, most active MNCs need to be on such sites with their own production and their innovatory capacity if they are to properly benefit from the latest advances in such places, to feed their own innovation (Kogut and Chang 1991). Unlike many biased authors who blame Japanese companies for not transferring technology, or establishing integrative linkages with local suppliers, Cantwell (1989) argues that firms in Europe should first raise their level of excellence to facilitate integration, as did British firms in pharmaceutical industry. Cantwell and Mudambi (2000) point at a number of conditions conducive to the creation of vibrant centres of excellence in Europe that are necessary for the large Japanese multinationals to change from centre – Periphery type of globalisation to creating technology locally.

> 'Localised technology creation and exchange will be affected by the number and strength of indigenous competitors, the form of linkages with local firms, the government policies towards sourcing inputs, and encouraging a higher local proportion in value added, local technological capacity and infrastructure, local managerial skills and, the destination of exports from the MNE affiliate'.

These are all important influences which will determine, for example, how much R&D companies like Sony, NEC, Sharp and Nissan will eventually undertake in Europe and where they will locate their laboratories.

2. 4. Ownership Structure: Wholly- Owned. The question of ownership has often been studied in a static form. However, some believe that there is also an evolutionary pattern to ownership. The mainstream FDI theory holds that for the company to exploit its ownership advantage (ownership of technology), it must establish a form of ownership in foreign countries that gives it control. And control can be achieved by minority ownership of equity. If full ownership is not possible, then it should start with joint ownership to benefit from the local knowledge and local connections. Considering the Japanese equity ownership, however, we find out that the vast majority of subsidiaries

are wholly owned. So what would be the evolutionary route here? It seems that they adapt to particular local situations and select the form that improves performance. In China, it seems that the classical pattern of switching from JV to wholly owned mode is prevalent (Zhao and Luo,2002). In other countries, in particular in advanced Western countries the opposite has taken place. This is thought to enable the Japanese subsidiary to acquire a particular new technology. Although this seems obvious and logical, a number of authors (Reich and Mankin, 1986, Hamel, 1991, Pucik, 1988), have interpreted it in a misleading manner. According to these writers the Japanese enter a Joint- Venture, they learn from the partners, and when the learning is complete, they see no reason to continue the ventures. They then acquire or liquidate them.

Although that thesis has received wide exposure through a number of influential articles, the evidence to support it has not been systematic. Hennart et al (1997), have examined all the Japanese-US JVs sampled by the former to show that the game-theoretic scheming did not apply to the vast majority of these firms. They make it clear that 'our results do not support the Reich/Mankin and Hamel view that the Japanese use joint ventures with American firms as Trojan horses to penetrate the U.S. market'. In fact there are many reasons that the Japanese prefer JVs in particular in advanced countries where they can learn:

a) The partners often bring in complementary skills that cannot be easily acquired.
b) The benefits of cooperation may overshadow the gains of opportunism.
c) In the spirit of quality, the Japanese may prefer adaptive learning to cooperate rather than cheat.

Consider Fujitsu-Amdahl. Fujitsu has been careful not to be too closely involved in the management of Amdahl. According to Amdahl's CEO, 'Fujitsu likes us to be independent because it recognizes that we understand the marketplace and that we are good designers' (Keough, 1986). Learning is not static, and resources brought in to the JV, is not limited to the initial contribution. In most cases parents continue to bring new resources into the venture which act as a barrier to opportunistic departure. The JV is not just a consumer of resources, it also produces resources to be consumed by the partners' parent countries, which means additional dependency. As a result, both sides may well consider continued participation to be attractive. There are also cases of **scale JVs** used to pool demand to capture economies of scale. For example, North Pacific Paper Corporation, a joint venture of Weyerhaeuser and Jujo Paper located in the Pacific Northwest, pools newsprint demand from Japan and the United States. As in the case of many such scale joint ventures, ownership stakes have remained stable over the period (Stuckey 1983).

The Japanese have in fact too many wholly owned subsidiaries to cope with. They often start with Greenfield at earlier date when they have limited ability to cooperate. In this day and age, it is silly to consider that the Japanese are out there to grab every company in the world. The current recession and the declining share of Japanese FDI should be additional reason to ward off such fears.

2. 5. Human Resource Management: Lack of Autonomy

Lack of Sufficient Autonomy in Japanese subsidiaries compared to the Western subsidiaries is central to the literature. We quote the following typical criticism by Takehiko and Montgomery (1998) and respond to it:

> 'As many Japanese companies execute the well-integrated strategy, close and frequent communication between parent and subsidiaries is needed. Thus, the top manager in a subsidiary tends to be Japanese irrespective of the existence of excellent local talent. This

> characteristic is also due to the Japanese language, which is difficult for non-Japanese to use for communication. The Japanese overseas subsidiary is tightly managed and controlled (culturally among other methods) by the parent company. The subsidiary's role is to execute the directions of the parent company correctly and quickly. Important functions and decision-making autonomy are rarely transferred to the subsidiary. Although subsidiaries have typically responded promptly to corporate initiatives, globalization is, sometimes, resisted by subsidiary managers who fear the loss of autonomy and personal contribution'.

The higher stage of integration outlined above (Level II) is a phenomenon now spreading to all MNCs including the Japanese ones. The Japanese encourage their subsidiaries to interact, form alliances, form JVs and spin-offs for recombination and so on. This is not due to subsidiary resistance as the critics claim. The argument that top managers are all Japanese by ethnicity who are unable to interact with other non-Japanese subsidiaries or independent firms can be broken down to the following two reasons:

a) They have no autonomy and
b) They cannot speak any other language to negotiate.

Compared to other MNCs, it is argued that management enjoys far less autonomy in key areas of decision-making. Several studies have found that decision-making within Japanese MNCs tends to be hierarchical and centralized in the hands of headquarters. Any change is hampered by the existing managers' lifelong appointment and the lengthy apprenticeship for locally employed managers to rise to their levels. Managers of subsidiaries enjoy little freedom of action on issues such as the sourcing of capital goods and components. Moreover, because Japanese managers are less likely to speak local languages and to maintain social networks that include personnel from domestically- owned companies, management in Japanese subsidiaries is likely to be less well-informed than other MNC subsidiaries about the production and technical capabilities of locally-owned firms.

The Japanese top managers are of course there, and will be there for a long time. Instead of going on a diatribe against them, it would be a good idea, as Cantwell argues, to raise standards of work and quality in host countries to integrate more easily. In developing countries, things may be slow to change, but in advanced localities such as London, there are great signs of relaxation and adaptive efforts. Watching the impact of long recession in Japanese business, it is easy to see that even inside Japan there are many signs of change towards interacting with western type of management. It should be much easier in London or Paris. In our experience the higher- up Japanese managers speak good English and have good links with local suppliers (Please See section 3).

2. 6. Cultural control as distinguished from rational or formal control is another favourite topic for the critics. The question of cultural control in Japanese subsidiaries often follows from other typical arguments about the centralist strategy of the Japanese MNCs or the presence of the Japanese expatriates at higher management positions in the subsidiary (ethno-centric attitudes), or employment policies. According to Mouritsen (1995), in these global firms

> 'The centre controls all operations worldwide and is the source of their competitive advantage. The information flows from the centre to the subsidiaries. Strong centralization is necessary for the co-ordination of their global operations. All the subsidiaries are part of the corporate value chain and they participate in the corporate strategy.'

Cultural control is intended to serve this value chain and is activated by the ethnic Japanese managers. According to Balliga and Jaeger (1984), cultural control is a pattern of behaviour specific to the Japanese firms. Ouchi (1981) suggests that culture is clan-like and identifies three elements that stem from it: trust, subtlety, and intimacy. All the organizational members are acculturated and socialized towards a common set of societal values. Control stems from these common values and is more implicit and informal rather than explicit and formal. Oliver and Wilkinson (1988) view cultural control as a means of transmitting the established attitudes, values and patterns of behaviour to the workforce. Certain management methods such as job rotation, and the Japanese type of human resource management with life long employment may also facilitate cultural control.

Kranias (2000), with case studies in the UK has emphasised the impact of HRM policies of selecting impressionable young people from poorer areas of the UK as a tool of cultural control. His discussion of the expat influence, however, is somewhat contradictory. Firstly, he admits that the number of expatriates has been declining, which means reduced cultural control. Secondly, he admits that the people he interviewed in two Japanese subsidiaries in Wrexham and South Wales denied any cultural control. Our impression of the people working in Nittan (UK) is the same. They are almost run by a Western style management (See Section 3). Nonetheless, there are still some vitriolic arguments in this area regarding the Japanese subsidiaries in Asia (Deutsches Institut fur Japanstudien).

2. 7. Modification of Japanese Management Techniques in Europe. The Japanese companies tend to send many Japanese people to the subsidiaries, because they would like to transfer Japanese management techniques, such as informal decision-making, quality circles, job rotation, and selection policy, which are difficult to formalize. In turn, these activities may cause the motivation and morale of the subsidiary employees to decline. While it has been noted that such particularities of Japanese management style are sources of Japanese international competence, it is not clear that Japanese parent companies and their subsidiaries achieve good performance (Takehiko and Montgomery 1998).

Can the Japanese transfer their management skills in subsidiaries? It is often claimed that the Japanese do not learn from the local managers (Nicholas et al, 2000). If you are not a good learner you cannot be a good teacher either. However, as we can see below, the student is also unteachable! A rare comparative study in Europe comparing the transfer of knowledge to the British and the French subsidiaries by Japanese managers show that more than half of the subsidiaries sampled modified the Japanese management to suit them (Lorenz and Lazaric, 1999).

Table. 4. Percent Affiliates practising Japanese management

	UK	France
Practice		
Job rotation	64	68
Quality circles	55	55
Self managing teams	49	41
Employee responsibility for Quality control	85	73
Multidisciplinary Project Teams	55	27
Just in time production	55	36

Source: Lorenz and Lazaric, 1999

Of those subsidiaries who practiced Japanese Management only about one third of the workforce were involved. Moreover, they moderated these principles: The British understood Kaizen as a philosophy, but the French thought it was a reward for improving things. Job rotation is an important means of training, in the UK it is very limited and is not used as such. Troubleshooting by workers so prevalent in Japan is not practiced in the UK. This is because local supervisors in the UK are trained as managers and not as technical workers. Quality circles were abandoned in the UK mostly because the employees thought they should be paid for it. Finally grading and reward system in the UK does not follow the Japanese evaluation and grading or the British craft tradition, rather, it follows the individualist criteria of goal achievement (Lorenz and Lazaric, 1999).

2. 8. Learning. Transferring technology is also a process of learning. The Japanese are genuine and keen learners, but they face many difficulties such as language and culture barriers. Some authors argue that the Japanese subsidiaries do not learn much from suppliers and subcontractors blaming poor communications with the HQs. They argue that explicit knowledge flow does take place, but the flow of tacit knowledge does (Nicholas et al, 2000). And we know from Kogut's excellent works how valuable tacit learning is. In terms of learning from customers Burton-Jones (2002) regards Japanese subsidiaries as fast learners. For example: 'In the case of Nippon Roche, chairman Hiroaki Shigeta got involved to persuade his sales force that exchanging ideas and personal lessons learned in selling to physicians would benefit not only the company but each of them individually. He encouraged salespeople to cooperate with one another and to voice their opinions and criticisms of existing management methods-behavior not normally encouraged in well-disciplined Japanese sales organizations. A skills-transfer team visited each of the company's branches around Japan, distilling and passing on this information. The net result was a unique sales-force culture that Nippon Roche's competitors found it difficult to imitate-and a 40 percent increase in sales productivity'. Another example of even faster learning is Adobe Acrobat getting people hooked to the Acrobat Reader, then selling them the Acrobat Writer. Put these cases of 'quick learning' in the context of '*exploitation versus exploration*' in evolutionary learning literature, you will realise that Mr Burton-Jones is not doing favour to the Japanese subsidiaries. In simple terms, he means they are not proper learners; they are copycats. In terms of learning from the local workforce, the evidence is varied. It is possible that the geographic division of labour has relevance to the style of learning. Apparently Europe is for trade, US is for R&D, and Asia for production. It is understandable that they should follow quick learning in Europe, commit themselves to explorative learning in the US, and be keen to teach the Asian brethren rather than learn from them.

3. Nittan UK

3.1 Location

Nittan UK Ltd was established in Old Woking, about 50km south of London, in 1972 when Mr. Michael Smith, a British businessman with Japanese trading experience was asked by the Okura Corporation to assist with Tokyo-based Nittan Company's efforts to establish a manufacturing and sales base in the UK. Old Woking was chosen because of its close proximity to London and its airports. Easy access to Mr Smith's office was also important, for it was he who provided advice and guidance on such topics as planning permission and conducting business in the UK. The site was also the birthplace of Kenwood, the food mixer company, who had moved away a year earlier to pursue larger premises. Due to independence from Kenwood, the investment was a Greenfield one.

In line with the evolutionary view of FDI, trade precedes FDI: Okura had been trading with Europe for many years before the establishment of a factory in the UK, but costs were high, especially transport, because of the relative geographical positions of UK and Japan. The choice of the UK was influenced by the cost factor, London's position as a gateway to Europe, and the increasing number of Japanese managers who were fluent in English, the main global trading language. Despite the lower cost of production, including labour, compared to Europe, it is difficult to attribute the investment to cheap labour. This is because the location chosen was in a high-wage and low unemployment area (Surrey). On the other hand it is easy to see that the factory is surrounded by many other small businesses, and is convenient for suppliers of most component parts (networking and cluster effect).

3.2 Competition

Nittan's competitors in the UK are Hochiki, another Japanese subsidiary, similar in size to Nittan UK, System Sensor, and, by far the biggest, at about ten times the size of Nittan (UK) Ltd, is Apollo, based about 90 km south of Nittan. There are many other European and non-European manufacturers of fire protection products, and many foreign subsidiaries. Nittan UK is, of course competing for a small share in a world market, and sales are divided geographically between Nittan UK and Nittan Tokyo. Because of the differences in certification requirements between Europe and the USA, there is little competition between the economic regions. Reaching each other's market with existing products may prove difficult because, not only are the product requirements different, but the certification regimes are too.

3.3 Sales

Sales of fire protection products are probably conditioned more by economic, social, political and legislative trends than by customer requirements alone. Along with competition, these institutional influences are decisive in defining the markets. Unless stipulated by legislation only a few people will bother with fire detectors rendering the existing markets stagnant and calling for additional exports. This situation fits in well with the A*daptive* school of complexity/evolutionary theories that, contrary to the *Selectionist* belief, social institutions are important, and that competition alone is not decisive.

Nittan has over 40 years of experience doing business overseas, and Nittan (UK) Ltd now has 30 years of experience. Sales forecasts are generated every fiscal year, then monthly targets are established, partly by regression analysis, and partly by experience-based forecasting.

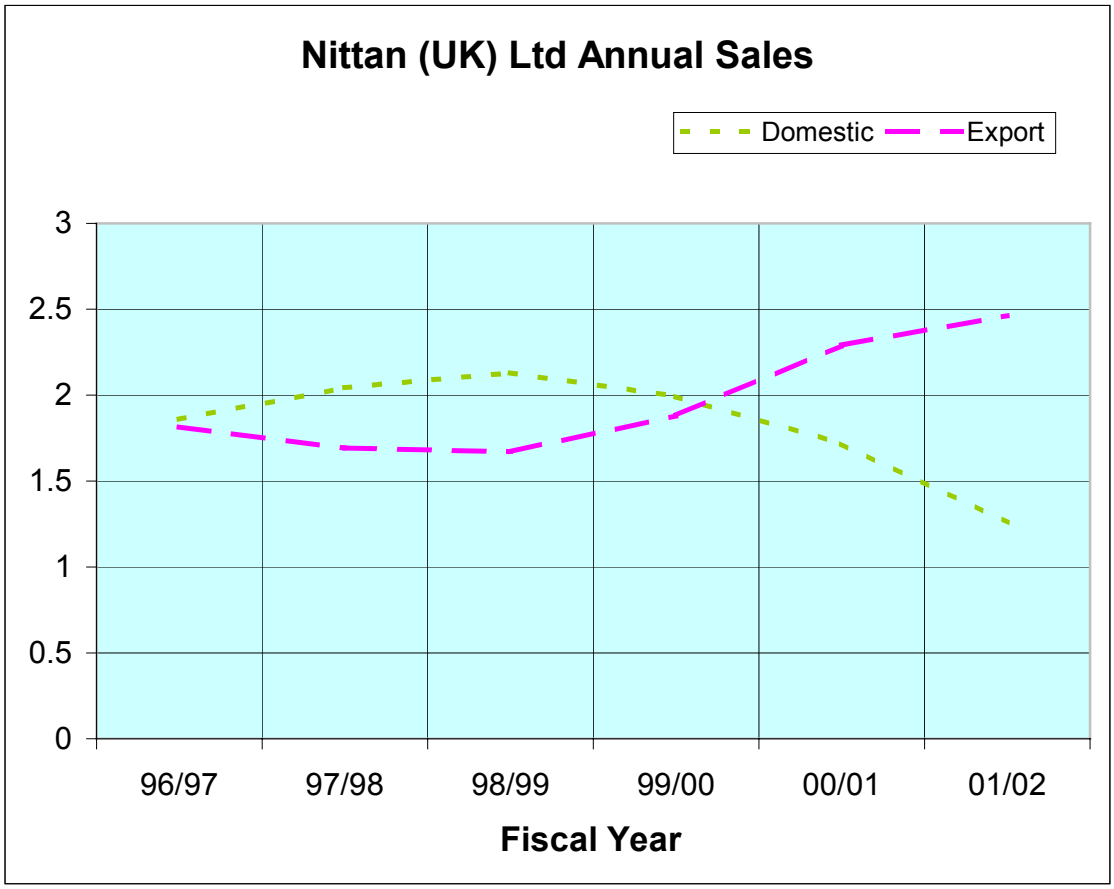
Certainly, the cost advantage strategies are based on manufacturing, partly due to labour costs (labour costs in UK are the lowest in the European Union apart from Spain and Portugal). This is in line with literature that the Japanese subsidiaries go for lower cost of manufacturing.

Many countries buy British-made fire protection products because of Britain's long experience in this area and the reputation for good quality it has achieved, this is especially so in countries where there is no history of consistent fire product manufacture. The domestic customer base remained relatively static until the past two years when one customer, representing 25% of domestic sales, launched their own product in direct competition, and gradually reduced its order.The ratio of domestic to export sales too, has remained constant until recently, but new markets have been developed, and, for the first time, in fiscal year 2000/2001, export exceeded domestic sales (see table and graph).

Table 5. Nittan (UK) Annual Sales (£m)

Year	Domestic	Export	Total	Export as % of Domestic
86/87	1.85	1.00	2.85	54%
87/88	2.35	1.00	3.35	43%
88/89	2.60	1.20	3.80	46%
89/90	3.15	1.30	4.45	41%
90/91	3.70	1.27	4.97	34%
91/92	3.15	1.70	4.85	54%
92/93	3.30	1.70	5.00	52%
93/94	2.71	1.35	4.06	50%
94/95	3.37	1.74	5.11	52%
95/96	2.20	1.80	4.00	82%
96/97	1.86	1.82	3.67	98%
97/98	2.04	1.69	3.74	83%
98/99	2.13	1.67	3.80	78%
99/00	1.99	1.88	3.88	94%
00/01	1.72	2.29	4.01	133%
01/02	1.26	2.47	3.72	196%

Fig. 1.



3.4 Costs

The direct cost of building a smoke detector at Nittan UK ranges between £3.20 and £9.90 depending on the age of the design and the complexity of the detector. The older designs are based on the more expensive through-hole component technology, but are often required by customers for replacements for aged or defective detectors, therefore, the costs of building a detector are not directly proportional to the advantage to the customer. The cost of the printed circuit board can be anywhere between 38% and 76% of the total cost of the detector (qv).

3.5 Suppliers

Nittan smoke detectors are British-made, that is, the content is about 90% British. Like most others, Nittan's smoke detectors are constructed on a printed circuit board (pcb) and housed in a plastic case. The complete pcb is manufactured and populated (having components added), using surface-mount technology (smt), by a specialist supplier. Likewise, the plastics mould tools and mouldings are supplied by specialist suppliers, it require considerable expenditure to buy-in this resource.

The components used in a typical smoke detector are:

- Resistors, capacitors, diodes, integrated circuits, light-emitting diodes i.e. electronic components from a range of suppliers.
- Printed circuit board, usually 1 per detector, only one supplier is used.
- Plastics components – top and bottom cover, component holders
- Metalwork – screws, nuts, washers, insect mesh, custom components.

3.6 Supplier location

Nittan smoke detectors are British-made, that is, the content is about 90% British, so wherever possible, components are sourced locally (as near as possible to Old Woking in order to keep transport costs to a minimum).

- Plastics components; the sole supplier is UK based, about 2km away from Nittan (UK) Ltd.
- Metalwork is UK sourced
- Populating pcbs (placing and soldering components) is UK sourced, although the base material is imported.
- Electronic components are UK sourced, although some may be imported by Nittan's suppliers
- Custom integrated circuits are imported from France.
- Small quantities of completed products are imported from specialist manufacturers.

3.7 Supplier reliability

A vendor rating system is maintained by the Purchasing Department, which gives an indication of the reliability based on the number of rejects and the promptness of delivery. Where suppliers fail times, their products are subjected to stricter inspection regimes, but where they consistently fail, a new source is found and the supplier is deleted.

3.8 Relationship with Suppliers

The first point of contact with suppliers is Nittan's Purchasing Department, where orders are placed and scheduling is organised. Nittan's staff are on "first name" terms with their counterparts in the suppliers' organisations, with whom they are in regular contact. Beyond the formal documentation

such as purchase orders, much of the communication is informal. Nonetheless, the suppliers are big, and their priorities have to be reckoned with.

3.9 The Organisation

The early days of Nittan UK saw a number of Japanese at all levels in the organisation, but, for the past five years, the Japanese staff have consisted of one managing director, one technical / operations director and one engineer. Japanese engineers typically spend two years in the UK to gain British / European experience and to develop their language skills. The current managing director was appointed six years ago. The organisation, like many modern organisations of its' size, is a flat structure consisting mostly of functional specialists (fig. 2.).

Old Woking is unique in being close to the oldest Asian population in Europe, along with its 1870s mosque. Many Indians settled in the area since the 1840s, to be displaced more recently (1970s) by Pakistanis, who have provided local industry with a source of unskilled labour for the past thirty years.

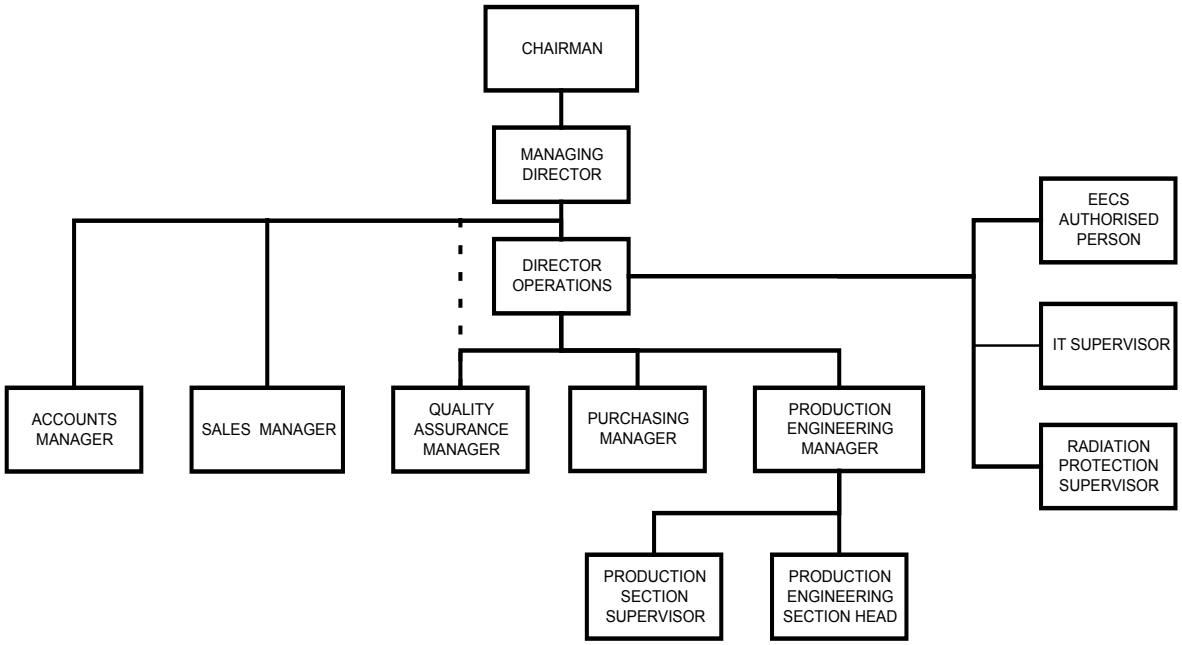


fig. 2.

3.11 Reward system

Although Japanese companies are considered to be patriarchal, this is not the case in Nittan UK, however, there is considerable employee loyalty, many of the female staff have been with the company for over ten years, whilst two women have been with Nittan UK for 30 years. Production staff are hourly paid, all others are paid monthly. Nittan has had, for many years, a bonus system which would be paid in June and November, the amount would be determined by the company's profitability. The bonuses were at times, equivalent to six weeks salary. This has decreased gradually since its peak in the early 1990s, and has, for the past two years, been amalgamated with weekly/monthly salaries.

3.12 Management
Nittan UK is staffed by 2 directors, 5 managers, 20 salaried staff and about 40 weekly paid staff. In such a small organisation, communication (despite language differences) is good. Management meetings are held every 2 weeks, *production-scheduling* meetings are held weekly, and other meetings, such as between the sales and technical departments, shop floor meetings etc. are held when required. The nature of meetings, whether they are informative or discursive, is determined by technical content, urgency, or simply for dissemination or gathering of information. The Japanese style of management, so often criticised by the literature, is not prevalent here, in fact, in terms of style, there is little to differentiate it from other comparable-sized British-owned organisations.

Some Japanese influences, although observable, are often misinterpreted, for instance, on the factory floor, all managers and directors will wear the standard overall coat, but this is for practical reasons; it is important when making smoke detectors that hair or dust is not included in the assembly, this can cause a false alarm.

The unskilled, hourly paid staff are all local, and live within 3 miles of the factory, they fall into two basic groups, women returnees (whose children have left school or are independent), and school leavers without any formal qualifications. There is also a good mix of professional people area, so, where there is a deficit of experience in a certain area, the skills are usually sourced locally although the catchment area is considerably larger.

3.12a Technical and Organisational Interfaces
Technical and organisational interfaces within the organisation are prescriptive (i.e. there is an organisation chart in the quality manual) but interfaces with suppliers are less so, in these cases, they are often based on seniority, for example, a Quality Manager talks to his counterpart in the supplier's organisation, the Design Engineer with his counterpart and so on, but where a considerable amount of information requires disseminating, a meeting with the supplier will be held.

However, ISO 9000-2000 requires that

> 7.3.1 Design and development planning: The organisation shall manage the interfaces between different groups involved in design and development to ensure effective communication and clear assignment of responsibility.

And also

> The generation, use and control of documentation should be evaluated with respect to the effectiveness and efficiency of the organization against criteria such as…
>
> — interfaces used by organization's customers, suppliers and other interested parties.

Although there is an ISO 9000 requirement to formalise interfaces between different groups, and, therefore communication between them, much of the communication in the organisation is informal, although it is often recorded, for instance in electronic mail.

3.12 b Communication with the parent company in Tokyo.
Because of the time difference between Japan and the United Kingdom, and the cost of travel between the two, most communication is by phone, fax and e-mail. E-mail is particularly useful because of the ease with which colour photographs can be transmitted, especially useful in a variety of situations,

where product changes or defects need to be communicated quickly. Four or five of the Tokyo-based directors visit England for the annual general meeting, and then move on to Sweden for the sister company's annual general meeting. The level of autonomy is likely to be affected by the economic importance of the decisions.

3.13 Evolution

Evolution is the name of the new product developed by the sister subsidiary in Sweden, which is guided by the director of Nittan (UK). The following may serve as a broad outline of the evolution of Evolution: Early smoke detectors used high voltages and tended to be highly radioactive, but this has changed; with advances in technology,

- smoke detectors now utilise low voltages (batteries are used for domestic products)
- smoke detectors are more sensitive to combustion products (such as invisible smoke).
- smoke detectors have very low ionising radiation.
- smoke detectors can communicate over a network to a fire panel (this communication ranges from alarm/no alarm to analogue data which is proportional to the smoke density.

Products in the fire industry tend to mature over a cycle which is unprecedented in any other modern organisation, twenty years is not uncommon. Part of the reason for this is the "comfort factor", people feel safe with a product that has been on the market for a long time, especially where the performance or reliability is pre-eminent. Also, Britain has established a reputation, especially in the field of fire and safety, for good quality, reliable products, which overseas customers will often choose over those from other countries (even ignoring the fact that many of these companies are not British-owned).

Part of Nittan's success has been in its robust designs, and more recently, its communication protocol. The Evolution series smoke and heat detectors are built on existing, rather than "leading edge" technology, hence the name "Evolution", the smoke sensing components are of proven design, but the protocol (data collected from the detector and sent to the fire panel) is able to make user-defined decisions before going "into alarm".

The Evolution range will be launched at the UK FIREX exhibition in 2003, but will not directly replace the existing product range, which, it is hoped will not be phased out for a number of years.

Conclusions

We have hopefully managed to present a comprehensive and analytical study of the literature on Japanese subsidiaries more or less in an evolutionary context. It helped to shape our hands- on study of a Japanese subsidiary in London, and was in turn rendered more realistic in light of our practical experience. We had a brief glance at the foreign direct investment and indirectly at economic conditions that influence the rise and fall of subsidiaries. This was to show that subsidiary management is a function of ups and downs in global economy, and should not be viewed unchangeable. Our aim was to challenge the dominant view in the literature that firstly, the real picture as we experienced it, is not so black and white, and secondly, things are changing. We have used the organisation under study to show a case of adaptation and evolution. We meant to show this transformation in terms of the unit's history and business, and yet discovered during the research that even the process of New Product Development followed an evolutionary route from a simple alarm device towards a thinking machine. The fact that the new product is called Evolution emphasises this conscious awareness of change and adaptation. We have therefore drawn the following conclusions from our research:

Our study of Nittan UK contradicts many previous research findings. Linking of size of company to the tendency to export (Egelhoff et al, 2000), does not hold in our case. They argue that small subsidiaries sell locally while the larger ones tend to export. This is not the case with Nittan UK, where, in an organisation of 65 people, over 50% of income are due to exports. Instead of size we argue in terms of an evolutionary route: trade- domestic production – then export.

It is true that in most cases, unlike the case of Nittan UK, the Japanese subsidiaries have settled in poorer areas of Britain. But contrary to Kranias (2000), the intention in Nittan was not to select young people from poorer areas of the UK as a tool of cultural control. It is natural for younger subsidiaries to employ younger people, which is encouraged by the Government. But in older subsidiaries such as Nittan UK, there is a good mix of ages partly due to jobs-for-life policies of the Japanese managers.

In terms of technology exchange, there are ample evidence that the Japanese subsidiaries are moving from the Level one integration to Level two integration as discussed in section 2. In relation to Nittan, due to secrecy about the new product Evolution, it is hard to be precise. From the interview with the MD, it appears that the local scientists in Sweden are involved. If so, we are approaching Level 2 integration. Nonetheless, when asked about the possibilities of establishing a joint venture with British firms due to continued recession in Japan, the idea of technology and integration did not arise. This is probably because they have brought technology here, and it is for the British as Cantwell argues to raise their technological standards to attract integration. Another point we are not terribly sure of is the question of autonomy, The MD says they are autonomous. To support this view, more information is required. A full picture of relationship with the HQ and the research subsidiary in Sweden is needed to substantiate the level of relative autonomy.

Otherwise, management is more or less Western. There is some job rotation in the shop floor, there are still two Japanese managers and some Japanese visitors, there is emphasis on quality, independent internal audit, holding on to a single supplier and so on. Just-in-time was tried, but was not pushed due to worries about the suppliers. Trade unionism is not encouraged but it is not antagonised either. There is no sign of cultural control.

Despite interesting findings, the limitations of our study is self- evident. We have examined a single subsidiary, which, despite its optimal size, may not represent all Japanese subsidiaries. Nonetheless, it

points at the direction of possibilities: If a subsidiary can keep good points of Japanese management while adapting to the local conditions, the others may follow suit.

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Selected Bibliography

Belderbos, René, Giovanni Capannelli and Kyoji Fukao (2000), 'The Local Content of Japanese Electronics Manufacturing Operations in Asia', In Ito, T. and A. O. Krueger, editors (2000), The Role of Foreign Direct Investment in East Asian Economic Development, NBER-EASE Volume 9**,** The University of Chicago Press, 2000, 328 pages

Burton-Jones, A. (2002), Daunting paradox, Across the Board; NY; May/Jun; Vol.39 (3), pp. 60-63.

Bartlett, C. A. (1986).Building and Managing the Transnational; The New Organizational Challenge, *In* Porter, M. E. ed., *Competition in Industries,* Cambridge, MA: Harvard Business School Press.

Buckley, P.J. and P. Ghauri (1999), *The Internationalization of the Firm*, International Thomson Press, London, 1999.

Campbell, N., Goold, M. and Kase, K. (1990), *The role of the center in managing large diversified companies in Japan*, working paper, October, Manchester Business School.

Cantwell, J. A., (1995), The Globalisation of Technology: What Remains of the Product Cycle Model?, Cambridge Journal of Economics, 19, 1995, pp. 155-174.

Cantwell, J. A., and R Mudambi (2000), 'The location of MNE R&D activity: The role of investment incentives', *Management International Review*; Wiesbaden; 2000; John Cantwell;, Volume: 40 Issue: 1 Start Page: 127

.Delios, A, and ; Prescott C E. (2000) Mar 2000;, A subnational analysis of Japanese direct investment in Canada Revue Canadienne des Sciences de l'Administration; Montreal; Foreign Title: Canadian journal of administrative sciences, Volume: 17 Issue: 1Start Page: 38-51

Delios, A.; Paul W Beamish; 2001Survival profitability: The roles of experience and intangible assets in foreign subsidiary performance Academy of Management Journal; Briarcliff Manor; Oct; Andrea

Deutsches Institut fur Japanstudien ( ), Control and Coordination of Japanese Subsidiaries in China – Problems of an Expatriate –Based Management, http://www.dijtokyo.org

Dimitrios S. Kranias, D. (2000), Cultural control: the case of Japanese multinational companies and their subsidiaries in the UK, Management Decision; Vol. 38 (9) London, Start Page: 638

Dunning, J. (1986), Japanese Participation in British Industry, Croom Helm, Beckenham.

Egelhoff et al, (2000), 'How FDI Characteristics Influence Subsidiary Trade Patterns: The Case of Ireland', Management International Review, Wiesbaden, 3rd Quarter, Vol. 40 (3), pp.203-230.

Encarnation D J.(1995), Regional Competition For Foreign Direct Investment? Asia And The Global Operations Of Multinational Corporations. Pacific Basin Research Program, Kennedy School, Harvard University.

Fukao, K. (2001), 'How Japanese Subsidiaries in Asia Responded to the Regional Crisis: An Empirical Analysis Based on the MITI Survey' in Ito**. T.** and A**.** O. Krueger, editors **(2001)**, *Regional and Global Capital Flows: Macroeconomic Causes and Consequences, NBER-EASE Volume 10***,** The University of Chicago Press, 2001, 392 pages**.**

Giroud, A. (2000), Buyer-Supplier Transfers And Country Of Origin: An Empirical Analysis of FDI In Malaysia, Eamsa 2000

Kranias, DS. (2000); Cultural control: the case of Japanese multinational companies and their subsidiaries in the UK *Management Decision*; London; 2000; Dimitrios S. Volume: 38 Issue: 9 Start Page: 638 Dimitrios S. Kranias: Kobe University Business School, Japan

Hamel, G. (1991), "Competition for Competence and Inter-Partner Learning Within International Strategic Alliances." Strategic Management Journal 12 (Summer 1991 Special Issue): 83-104.

Hennart, J.F. and Y.R. Park (1993), Greenfield vs. Acquisition: The Strategy of Japanese Investors in the United States, Management Science, 39, 9, 1993, pp. 1054-1070.

Hennart, J-F. et al. (1999), "Trojan Horse or Work Horse? The Evolution of U.S.-Japanese Joint Ventures in the United States," Strategic Management Journal, vol. 20, no. 1, 15-29.

Hood, N and J Taggart (1999a), 'German Manufacturing Investment in the UK: Survey Results and Economic Impact' in R. Barrel and N. Pain (eds.). Innovation, Investment , and the Diffusion of Technology in Europe, Cambridge University Press, pp. 68-88.

Hood, N and J Taggart (1999b), 'Subsidiary development in German and Japanese manufacturing subsidiaries in the British Isles', *Regional Studies*; Cambridge; Aug 1999; Vol. 33,(6), pp. 513-528.

Jaegar, A. M. (1983),The Transfer of Organizational Culture Overseas: An Approach to Control in the multinational Corporation, *Journal of International Business Studies,* Fall, pp. 9 114.

JETRO Los Angeles (2000), Survey of Japanese Subsidiaries In Southern California, Sourced in The Internet, 31 pages..

JETRO White Paper On Foreign Direct Investment 2001, Accelerated Corporate Realignment Through Mergers And Acquisitions (Summary)

Japan External Trade Organization (JETRO). This Same Information Can Be Viewed On Jetro's Website At Http://www.jetro.go.jp

Kauffman, S. (1995), At Home in the Universe: The Search for the Laws of Self-Organization and Complexity, Oxford University Press.

Kauffman, A. S. and S. Levin (1987), Towards a General Theory of Adaptive Walks on Rugged Landscapes, Jornal of Theoretical Biology, vol. 128, pp. 11-45.

Keough, Lee. "Amdahl steps out: the largest maker of plug-compatible mainframes is about to half-step from its well-heeled partner." Computer Decisions 18 (November 4, 1986): 34.

Kogut, B.and Chang, S. J (1991)., Technological Capabilities and Japanese Foreign Direct Investment in the United States, Review of Economics and Statistics, 73, 1991, pp. 401-413

Lorenz and Lazaric, (1999), The transfer of competences to european-based japanese affiliates, European Commission, TSER, pp. 1-29.

Neil Hood, N; James H Taggart (1999), Subsidiary development in German and Japanese manufacturing subsidiaries in the British Isles, Regional Studies; Cambridge; Aug 1999; Volume:33, Issue: 6, Start Page: 513-528

Nicholas, S. et al. (1995) "Japanese Investment in Australia: The Investment Decision and Control Structures in Manufacturing, Tourism and Financial Services." . Canberra:Australia-Japan Research Centre, Australian National University.

Nicholas et al, (2000), Are Japanese MNEs Learning Organisations? Short & Long term Japanese Buyer Learning in Austrailian and Thai Manufacturing, Austrailian Centre for International Business, Discussion Paper No. 14. Pp.1-12.

Ofori-Dankwa, J., et al.(1999), A comparison of work attitudes of American R&D automotive engineers employed in a U.S. corporation and a Japanese subsidiary Multinational Business Review; Detroit; Spring; Vol. 7 (1), pp. 20-26.

Ohmae, K., (1985), Triad Power, New York: The Free Press.

Papanastassiou, M.and Pearce, R. D., Technology Sourcing and the Strategic Roles of Manufacturing Subsidiaries in the UK: Local Competences and Global Competitiveness, Management International Review, 37, 1997, pp. 5-25.

PUCIK, V. (1988), "Strategic Alliances with the Japanese: Implications for Human Resource Management." In Cooperative Strategies in International Business, pp. 487-498. Edited by F.J. Contractor and P. Lorange. 487-498. Lexington, MA: Lexington Books, 1988.

PUCIK, V. (1988) 'Strategic Alliances, Organizational Learning, and Competitive Advantage: The HRM Agenda.', *Human Resource Management,* 27 (Spring 1988): 77-93.

PUCIK, V. (1987), "Joint Ventures with the Japanese: The Key Role of HRM." Euro-Asia Business Review 6 (October 1987): 36-39.

REICH, Robert B. and Eric D. MANKIN. Joint Ventures with Japan Give Away our Future'. *Harvard Business Review* (March/April 1986): 78-86

Takehiko I. and DB. Montgomery (1998), Strategic Roles And Performance Of Japanese Subsidiaries, Research Paper No. 1507, Graduate School of Business, Stanford University.

Tavares, A. T. (2002), Multinational Enterprises, Local Embeddedness, and Industrial Polic: A Cross-Country Comparative Investigation 27 pages (sourced from the Internet).

Vernon, R. (1966), International Investment and International Trade, *Quarterly Journal of Economics,* Vol. 80, pp. 190 – 207.

Vernon, R. (1974), 'The location of economic activity', in Dunning (ed), *Economic Analysis and the Multinational Enterprise*, Allen & Unwin, London.

Vernon, R. (1979), 'The Product Cycle Hypothesis In A New International Environment', *Oxford Bulletin of Economics and Statistics*, Vol. 41, No. 3, pp.253-267

Zhao, H. and Y. Luo; (2002), Product diversification, ownership structure, and subsidiary performance in China's dynamic market, Management International Review; Wiesbaden; First Quarter 2002; Vol. 42 (1), pp. 27-48

Witcher (2000), Policy Management in Japanese-owned UK Subsidiaries, Hoshin Kanri,

Zoher E Schipchandler; James S Moore; (2000), Product customization for the U.S. market: An expert system comparison of British, German, and Japanese subsidiaries, Multinational Business Review; Detroit; Spring; Volume: 8, Issue: 1, Start Page: 22-28