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Global strategies: a comparison between Japanese and American construction firms

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An in-depth study on 16 major overseas contractors and desk research on 100 others from various countries revealed that some have adopted global strategies during the turbulent 1980s. The world is perceived as a single operating platform. This implies that they harbour no inhibitions to serve anywhere. Their actions include utilizing specific countries as a springboard to enter other national markets as well as sources of landbound competitive advantages. These firms associate with all sorts of private and public bodies from around the world to expedite their advancement. Proper coordination and management is required so that their organizations behave as integrated groups. This paper centres on Japanese and American contractors to indicate the possibility of the former with their global appetite capturing a greater share of the world construction market at the expense of the latter.

Keywords: Global strategies, American contractors, Japanese contractors.

Introduction

During the 1980s there was considerable academic and media interest in global strategies, largely sparked by Levitt's (1983) article. The preoccupation with the manufacturing sector was largely to the neglect of the service industries. Consequently much is known about globally-oriented manufacturers like Honda, Komatsu and Asea Brown Boveri, but little could be said about firms in the international construction industry. This article presents the findings of the research which sought to and eventually uncovered the contractors' version of global strategies. The time frame for the study was the volatile 1980s. Whilst globally-oriented builders were found not to be limited to certain nationality groupings, the focus here is on the American and Japanese firms – the Americans because of their traditional dominance and the Japanese for their potential as global constructors. Specific attention is given to Bechtel, Lummus Crest, Foster Wheeler, Guy F. Atkinson, Brown and Root, Ralph M. Parsons and other major US-based contractors, while Japan's might is represented by the 'Big Six' comprising of Kajima, Kumagai Gumi, Takenaka, Ohbayashi, Shimizu and Taisei. The ascendancy of the Japanese to full global status is based

on the premise that their strategic orientation of the 1980s is maintained.

Research method

For this research purpose, firms included in the *Engineering News Record's* annual 'Top 250 International Contractors' listings were regarded as suitable candidates. Due to financial constraints, only those either based or with branch offices in the UK were approached for direct participation. Of the 58 possible firms, 16 responded positively (see Table 1 for details of the participating companies). A longitudinal study was adopted so that the emergence and breakdown of patterns of corporate actions over time can be reconstructed (Mintzberg, 1978). Despite its limitations, the descriptive-analytical approach was adopted for two main reasons. First, it highlights the diverse strategic options available to achieve the same global aspirations, thus enabling practitioners to derive some pragmatic lessons. Secondly, large-scale statistical surveys on corporate behaviours – the other common approach – often provide simplistic explanations which misleadingly ignore the unique features and problems of individual companies (Bartlett and Goshal, 1989,

Table 1 The details of the participating companies by nationality and activity

	British	Japanese	North American	Mainland Europe
Building and civil	5	3		1
Process engineering		2	3	
Specialized fields			2	
Number of firms	5	5	5	1

Note: specialized fields include being involved in only one activity, e.g. dredging or offering one form of service, e.g. construction management.

Chapter 3; Whittington, 1989, Chapter 6). Such matters often dictate the range of responses a firm can make to external stimuli.

Information on the corporate behaviours and triggering cues was collected from published material such as annual reports and newspapers and journal articles, as well as structured questionnaires. The executives spoken to possessed intimate knowledge of their companies' international operations. Nine of the firms from the sample exhibited features that can be ascribed as being global in nature, albeit in varying proportions. From desk research of more than 100 other equally prominent overseas contractors, several more were found to share similar traits. All these contractors were based in various major contracting nations.

This present study concentrates on two nationality groupings. For this more specialized purpose, previous studies such as by Hippoh (1983), Bennett *et al.* (1987), Hasegawa and the Shimizu Group FS (1988) and Levy (1990) provided additional information. The task of identifying at least some of the American and Japanese contractors harbouring global aspirations was made easier by their revealing pronouncements. William M. Agee declared soon after he was brought in to turn around the then troubled Morrison Knudsen, 'There are no geographic boundaries that will limit our future markets' (Morrison Knudsen Annual Report, 1988, p. 5). the management of Brown and Root (Halliburton Company Annual Report, 1988) and Taisei (Taisei Corporation brochure, undated) expressed the same sentiment. The newly introduced corporate logo of Fluor Daniel and Shimizu projected the companies' global appetite.

The economic backdrop

It is worthwhile beforehand to quickly assess the world business environment during the 1979–1989 period. A series of adverse forces created hostile conditions for international builders. The second oil shock of 1979 plunged several important energy-exporting Arab countries into balance of payment problems, a contrast to the days when the Middle East was the world's most

lucrative construction market. The shift from keynesian to monetary policies by major industrial countries to combat inflationary pressures of the oil price hike effectively curtailed their own economic growth and in turn induced the collapse of the commodity prices. The decline of the terms of trade in developing countries of South America and sub-Saharan Africa coupled with increases in real interest rates triggered the world debt crisis. Wild gyrations in exchange rates among major currencies of the world further heightened the instability of the international economy. All these factors weakened the world demand for construction services. Even though the situation began to improve by the end of the decade, the severe downturn in the global construction market had radically altered virtually every firm which had operated beyond its national border. This cursory review serves to emphasize that global strategies were adopted by certain contractors against the backdrop of a trying environment.

Motives for global expansion

As argued by Seymour (1987), contractors generally search for overseas opportunities when certain conditions prevail. The builders with a global perspective have additional motives which fundamentally are similar to those of global manufacturers.

Table 2 shows the priorities accorded to the various objectives for venturing overseas by the participating global contractors. The mean figures signify the overall importance of the objectives. The top two priorities are of greatest interest. The table indicates that the prime concern for these firms was long-term profitability. Shimizu's senior managing director Hiroshi Ichida asserted, 'long-term success is more important than short-term profit' (NCE International, 1984). The willingness and the ability to make far-sighted commitments are also a strong feature of global manufacturers (Hout *et al.*, 1982; Doz, 1986). Instead of evaluating opportunities on a country by country basis, these companies daringly took integrative actions for the sake of long-term prosperity even though the immediate costs were high.

Table 2 The role of overseas operations in meeting various objectives as perceived by the executives of the nine participating contractors ascertained as having a global posture

	Unimportant (%) 1	Little importance (%) 2	Moderate importance (%) 3	Very important (%) 4	Utmost importance (%) 5	Mean ranking
To increase long-term profitability	0	0	14	14	72	4.6
To balance growth	0	0	0	72	28	4.3
To make better use of resources	0	0	14	57	29	4.1
To increase turnover	0	0	29	43	28	4.0
To increase near-term profitability	14	14	14	29	29	3.4
To avoid saturation in established markets	14	14	58	0	14	2.9

Balancing growth, which is in fact closely related to the first objective, is the second most important concern for the nine companies. Dr Rokuro Shikawa, ex-president of Kajima, stated, 'Our basic policy is to contribute to our security through increased global activities' (NCE International, 1984) implying that the company would have to grow simultaneously at home and abroad (*Building*, 1989b). The case of Fluor Daniel is described below to elucidate its focus on the two objectives.

By and large the international contractor retreats each time the overseas demand weakens even when the home country offers little solace. Thus, the home country is traditionally the only location where long-term commitment is placed. Having ephemeral overseas interest became incongruous to the growth stage of global contractors. By being strongly committed to the world-wide market, the firm is able to mitigate the cyclical impact of work-load on its operation and performance. During the 1980s Fluor Daniel firmly decided to maintain foreign-to-total orders of between 40 and 60% (Fluor Daniel Annual Report, 1985, 1986, 1987, 1988, 1989). Prior to Leslie G. McCraw's leadership, inward policies in the face of the world-wide recession of the 1980s led to catastrophic results. In 1985 and 1986, the company made operating losses amounting to US\$633 million and US\$60 million, respectively. Whilst in the past overseas earnings were left to freely settle at any level (at one time even dropping to only 10% of total turnover), McCraw was convinced that Fluor Daniel should not only be a committed international player but maintain a greater balance of work in the countries in which it operated.

The American and Japanese firms have dissimilar starting points in implementing global strategies. As a group the former were amongst the pioneers to venture overseas (Strassmann, 1988). The Japanese contractors' commercial endeavours abroad only began in earnest after the Second World War (Hippoh, 1983). The objectives of sharpening their business and management processes differed slightly between the two nationality

groupings. Whilst the American firms hoped to defend their international supremacy, the Japanese aspired to become major players of the industry. Naturally because of their dissimilar initial positions, medium-term targets differed. In contrast to Fluor Daniel, one Japanese executive confided that his company's corresponding aim of foreign-to-total orders was set more modestly at between 10 and 20%. In due course, it can be expected that the Japanese would raise their figures. Kajima, for example, envisioned its global construction map to comprise mainly Europe, the USA and Asia (NCE International, 1984; *Building*, 1989b). Arguably it is precisely because of their relatively recent emergence abroad that the Japanese have good prospects of increasing their overseas turnover. Moreover as will be discussed later, the business culture in Japan is conducive for the nurturing of global corporations.

Geographical spread

Firms with a world view perceive the entire globe as a single market, not in the sense that country variables are uniform but that national boundaries are merely artificial demarcations. 'There is no place that we would not go to', asserted one executive. This attitude was exhibited by the American and Japanese contractors alike. The scarcity of resources – a lingering problem even for the very large construction groups – can only be directed where the greatest rewards are anticipated. Realistically, therefore, becoming global does not mean that the firm operates in every country. Instead such a firm does not have any self-imposed restrictions to go anywhere for lucrative opportunities. In the 1980s, Japan was identified by the American contractors as having tremendous potential. Conversely the Japanese perceived the USA and Europe as having the scope for adding greater value to their services. The mechanisms adopted in these difficult to enter markets, especially by the Japanese, provide salutary lessons for all.

During the research time frame, Japanese banks,

manufacturing and insurance companies invested heavily in Western nations due to the strong yen, threats of trade barriers and Japan's current account surplus (Bennett *et al.*, 1987; Hasegawa and the Shimizu Group FS, 1988; Rimmer, 1988; Levy, 1990). The Japanese contractors benefited from the overseas movement of their Japanese clients. Additionally the contractors adopted the self-reliant mode of pursuing real estate development with the ulterior motive of operating as contractors eventually. Notwithstanding monetary returns, this protracted exercise provided the opportunity for the Japanese and the local entrepreneurs to acquaint themselves with each other. Kajima's River-square development in Minneapolis, Taisei's Shoreline Square Development at Long Beach in California and Ohbayashi's Sheraton Kauai in Hawaii are just a few examples. Kumagai Gumi was the most active in its role as a developer notably in Australia.

The rapid build-up of real-estate projects inevitably aroused ill feelings among local inhabitants. In Australia, the then Australian Foreign Minister, Senator Gareth Evans, urged the Japanese to invest 'in an orderly fashion' (*Financial Times*, 1989). In contracting as well, the Japanese builders were renowned for behaving as 'outsiders' within host countries. According to Wind *et al.* (1973) such an attitude is incompatible with the global philosophy. In response to anti-Japanese sentiments as well as part of their global transformation, the Japanese contractors undertook localization (*dochaku-ka* in Japanese). Deliberate efforts were made to entrench the locally-established corporations within local business communities in North America, Europe and Australia (Hasegawa and the Shimizu Group FS, 1988; Connerton, 1989a; Levy 1990). Use of local resources and expertise was maximized. More firm-specific tactics included the listing of Kumagai Gumi's Hong Kong subsidiary on the colony's Stock Exchange and the provision of funds to Harvard University and the London School of Economics by Shimizu. Whether for real or ostensibly, environmental protection – the global agenda – became the concern of Taisei and Shimizu (*Tokyo Business Today*, 1990). The latter established a 'world environment liaison council'. It is worth noting that prior to this, only Kajima encouraged its American subsidiary to localize, thus enabling it to be amongst the 50 leading contractors in the USA.

Though the process of natural transformation, the long-established European subsidiaries of a few American construction groups such as Foster Wheeler, Brown and Root and Bechtel have integrated with local economies. Bechtel's London office, opened in 1952, has worked for many UK clients including London Underground, Eurotunnel and the oil companies operating in the North Sea. These companies have shown that localization makes business sense. The employment of

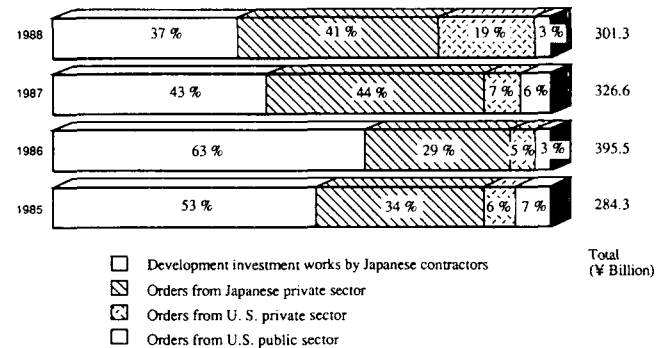


Figure 1 Component ratios of construction contracts received in USA by Japanese contractors. Source: Ministry of Construction, Japan

local people reduces overheads. By being able to earn from small projects, the subsidiaries are more resilient to market downturns than expatriate companies. The greater autonomy unleashes grass-root entrepreneurialism for the fine-tuning of marketing and service delivery to match local context. They even managed to develop their own competitive assets.

If such efforts fail, contractors could always depend upon politicians. Exasperated with their inability to penetrate Japan, American contractors urged their government to apply Section 301 Trade Case to retaliate against Japan's construction exports to the USA. Of greatest concern were *dango* or cartels which allegedly rig bids for public projects so that only their members benefit. Under pressure, Japan's Fair Trade Commission acted (more as a token gesture) against 66 companies for colluding. A more shrewd alternative is to do what the Japanese corporations did with great effect in the USA, that is, to influence political decision makers of the host country so that the business interests would be promoted from within (Choate, 1990). One Japanese executive confided that his company's US subsidiary was able to secure public contracts even in the face of the USA-Japan construction trade dispute by appealing to the 'right' people.

The effectiveness of the mechanisms employed by the Japanese builders to penetrate the USA can be gauged from Figure 1. The Japanese were also quite successful in Europe; according to Yoshihisa Morita, managing director of Takenaka (UK), 10% of the subsidiary's orders at the time were from local clients whilst the remainder came from Japanese multinationals (*Building*, 1989a).

In the original research, it was found that the global firm deliberately utilizes specific countries to enter third markets. This was certainly the case for American companies. For geographical reasons, Bechtel relied on its UK base to conduct operations throughout Europe and the Middle East (ENR, 1982). Other US companies

were found to adopt the same tactic. For example, Foster Wheeler depended upon its offices in the UK, France, Italy and Spain to enter developing countries with historical, cultural or political connections. During the research time frame, none of the Japanese exhibited this trait. Of late, however, Kumagai Gumi's increasingly independent Hong Kong subsidiary has been making inroads in the rapidly growing People's Republic of China. With the strengthening of key overseas offices, it is likely that this feature will be commonly displayed by the Japanese as well.

Competitive advantages of globally-oriented firms

One of the conditions for firms to operate successfully overseas is that they must possess competitive advantages in order to outperform domestic and other foreign contractors (Seymour, 1987). The competitive advantages of the American and Japanese contractors in technology, management and finance are described below. The process of unceasingly acquiring fresh competitive assets is a feature of firms that sustain their lead. The main methods employed to upgrade capabilities by the two nationality groupings are compared. As shown below, both parties again display another global feature. Arguably, however, the Japanese have the potential to make technological quantum leaps as a result of their far-sighted research efforts to some day displace their US rivals in global standing.

Whether the prominent American builders are involved in the petrochemical process plant sector such as Fluor Daniel and M. W. Kellogg, in heavy civil engineering such as Morrison Knudsen and Brown and Root or in a wide range of sectors such as Bechtel and Parsons, they all have formidable construction technologies (Strassmann, 1988). Some of the American contractors are truly market leaders in their niche markets. Approximately 50% of the world's capacity in ammonia and ethylene comes from technologies owned by M. W. Kellogg and Lummus Crest, respectively (Murphy, 1983). Half of the world's nuclear reactors were built by Bechtel. Japanese contractors, on the other hand, are renowned for their skills in constructing tunnels in soft soils, large dams, long-spanned bridges, and underground space (Hippo and Tamura, 1988). They also tend to develop innovative construction methods and related specialized equipment which enable them to establish proprietary positions (OECD, 1992).

The American contractors are also strong in project management, after having developed highly sophisticated computerized project control systems for project scheduling, cost accounting, materials tracking and

organization of subcontractors (Murphy, 1983; Halpin, 1986; Office of Technology Assessment, 1987). Brown and Root's 'Integrated Project Management System', for example, even monitors the movement of small tools to eliminate overstocking and loss (Brown and Root, 1991). Even though the Japanese do not sell their project management skills *per se*, they have shown equal competence in handling large and complex projects such as the 54-km undersea Seikan Tunnel (Hippo and Tamura, 1988; Levy, 1990).

Project financing became a powerful competitive tool during the recessionary years of the 1980s (US Department of Commerce, 1986; Soubra, 1989). Those firms able to arrange financial packages were favoured by countries struggling with their development programmes. In order to provide the most attractive financing proposals, builders had to be familiar with the options (and the attendant terms) available from national export credit agencies, international financial institutions and commercial and investment banks. Some even resorted to countertrading with their own internal funds (Seymour, 1987; Melly and Lopper, 1989; Ardit and Gutierrez, 1991). Fluor Daniel established an in-house financing unit to deal with this highly specialized and complex task whereas Bechtel acquired a financial institution. Country-related strengths however prevailed; American contractors depended upon their nation's extensive international banking sector whereas the Japanese gained from their government's comprehensive export credit system (Seymour, 1987; Ardit and Gutierrez, 1991; OECD, 1992). Export credits enable the construction client to defer payments and concurrently protect the contractor from certain export risks. Furthermore, the Japanese government is renowned for generously extending mixed credits which combine official export credits with concessionary development assistance in the form of low-interest loans. This controversial practice is only used by the USA to match rather than to outcompete its competitors financial offerings. In addition, unlike within the USA, construction aid constitutes a relatively large share of Japan's total bilateral aid. Because of their government's backing, Japanese constructors excelled in financial engineering *vis-à-vis* their American rivals. The flourishing wave of privatization in countries of all political shades ensures that financing will still remain a decisive competitive element.

How competitive advantages are acquired

The histories of Bechtel, Foster Wheeler, Kajima, Taisei and others reflect the development of construction technologies over time. The continual quest for advanced knowledge is a feature of such leading players.

In this respect, the two national groupings displayed another feature of global players, that is, they derived additional competitive assets from around the world. Whilst the Japanese focused upon improving their technological base, the Americans concentrated on narrowing the financial gap. For the Japanese the USA is the favourite (though not exclusive) source of new technologies. Kajima, for example, conducted joint research with Princeton University on aseismic technology whereas Shimizu sponsored a research group at the Massachusetts Institute of Technology (Sidwell *et al.*, 1988; *Tokyo Business Today*, 1990).

Because of the importance of providing finance in winning orders and the poor government-sponsored financing in the USA, some of the American contractors sought yen-denominated loans from Japan (where commercial interest rates were below OECD consensus rates at the time) and used their overseas offices to take advantage of credits in the foreign bases (Arditi and Gutierrez, 1991). Bechtel, for example, shifted most of its international operations from the USA to its British office solely to exploit more attractive state-subsidized export finance from UK's Export Credit Guarantee Department (ENR, 1982). Prior to this, Bechtel GB handled projects in Europe, Middle East and Africa for geographical reasons only. On one occasion, a project in Trinidad – which was traditionally within the territory of the US operations – was dealt with from the UK. It was found that other American companies such as Fluor Daniel, Foster Wheeler and Brown and Root used their European offices in the same manner.

It is highly likely that the Japanese, with their willingness to invest heavily in research endeavours, will eventually have the technological edge over their American rivals (Bennett *et al.*, 1987; Office of Technology Assessment, 1987; Sidwell *et al.*, 1988). The 'Big Six' spent huge amounts of money on solving day to day construction problems and applied and basic research; from offshore oil storage tanks, evergreen grass for golf courses, construction robotics to microbiological waste management. Research and development expenditures in the USA were estimated to be approximately 0.5% of construction revenues compared to 3% in Japan (Office of Technology Assessment, 1987). If contributions of staff outside the fully-fledged research institutions are considered, the figure could reach 10% for some Japanese firms (Bennett *et al.*, 1987). Their creative output includes super-fibre-reinforced concrete pipe and other concrete products, shield tunnelling techniques, abrasive high-speed water jet demolition techniques and earthquake resistant structures (Hasegawa and the Shimizu Group FS, 1988; Levy, 1990).

In contrast, except from Bechtel and M. W. Kellogg, the vast majority of US builders refrained from funding proprietary developments (Halpin, 1986; Sidwell *et al.*,

1988; Strassmann, 1988). Obtaining new technologies from external sources when necessary is the preferred choice. The problem was that the linkages between contractors and technology suppliers for the transfer of technology were unsatisfactory. The think-tank Business Roundtable (1982) noted that some construction research bodies lacked coordination and incentives to market results. Leading Japanese contractors also had their own version of technological alliances at home. Members of *keiretsu* (or enterprise groupings) share the results of their major combined research efforts (Hirschmeier and Yui, 1975). However, this mode was not depended upon entirely.

Apart from acting as technology brokers, the American contractors depended upon their decades of accumulated experience to retain their positions (Strassmann, 1988). Arguably the lack of proprietary expertise of American contractors will erode their future competitive basis for maintaining global superiority (Office of Technology Assessment, 1987; Sidwell *et al.*, 1988). The challenges of the next century may require technological innovations which the Japanese have been working on. Bennett (1993) sheds new light by arguing that a lot of the so-called major research efforts in Japan are in fact public relations ploys to create glossy impressions. Nevertheless, it is the hallmark of the Japanese that they have already established proprietary positions in certain sectors by developing innovative construction methods (OECD, 1992). Based on this, it is hard to foresee that their research programmes will not yield any competitive benefits at all in the future.

Global marketing of construction services

The literature on global marketing can be summed as diverse and even conflicting. Levitt (1983) contends that global marketing is about selling identical products in the same way everywhere. In contrast Huszagh *et al.* (1985) argue that the marketing dimensions of price, production and place can be altered in order to sell the standard products. Yet others such as Hout *et al.* (1982) and Douglas and Wind (1987) object to the notion that the products should not be adapted at all to suit varying national preferences. The contractors' behaviours were found to reflect the arguments of Huszagh *et al.* (1985) and Douglas and Wind (1987) but in different aspects.

During the 1980s, the ascendancy of local and 'new' international contractors from certain developing countries, coupled with the shrinking export market heightened rivalry. Unable to compete on costs, some of the established groups from the USA rigorously marketed their ability to provide the 'total service' (Soubra, 1989; Levy, 1990; OECD, 1992). Apart from offering financial assistance in tandem with their construction and

management skills, companies like Bechtel, Brown and Root and Foster Wheeler concurrently provided optional services such as site selection, feasibility study, design engineering, procurement of materials and equipment, commissioning, staff training and post-construction maintenance. Offering 'complete solutions' also meant proposing more cost-effective alternatives, resuscitating abandoned projects or stimulating potential demand. Apart from reducing direct challengers, this marketing approach enabled value to be added at each stage up to and beyond the principal construction activity.

With their well-established design offices, the major Japanese construction companies can take on design and build or turnkey contracts for hospitals, education facilities, high-rise office complexes and such like (Murphy, 1983; Hippo and Tamura, 1988). However, because traditionally domestic operations were regarded as more important, offering 'one-stop' services overseas is a recent phenomenon (Hasegawa and the Shimizu Group FS, 1988). Kumagai Gumi – the inspiration for the other major Japanese contractors becoming global – was the first to be adventurous in marketing. In Hong Kong, for example, it suggested that the Second Harbour Tunnel will also carry a railway line parallel to the proposed road. Kumagai Gumi eventually became the majority stakeholder of the tunnel under a build–operate–transfer arrangement. Together with various Australian companies, the company conducted a full-scale feasibility study of a 480 mile high-speed rail link from Sydney to Melbourne. Following their adoption of the global outlook, the other 'Big Six' emulated Kumagai Gumi. A group of them even evaluated the viability of an Atlantic–Pacific oceanic transportation link across Columbia.

Corporate clients who are themselves global players find such contractors particularly appealing to employ. Foster Wheeler served the giant chemical company, Du Pont, world-wide. Morrison Knudsen had a continuing relationship with Anheuser-Busch, the world's largest beer maker. With the Japanese manufacturing companies, this particular strength of their contractors is almost taken for granted; wherever they invest, Shimizu, Kajima, Taisei and others are expected to maintain the high level of service their Japanese clients are accustomed to (Bennett *et al.*, 1987). Hence, Huszagh *et al.*'s (1985) contention is applicable in this instance. When it comes to actually realizing the particular construction needs of the client, customization of services is paramount. In this respect, these contractors were no different from others (Soubra, 1989). The companies were found to allow the client to select their preferred procurement office to suit their own logistic needs. If required, they even assigned the entire design and construction team to the client's organization. Thus, when it comes to dealing with

specific contracts, the arguments of Hout *et al.* (1982) and Douglas and Wind (1987) hold true.

Integrated activities on a global scale

Global manufacturing companies establish specialized plants producing parts of products rather than complete items (Caves, 1982; Casson, 1985). The equivalent global rationalization through integrated production and the resultant intrafirm trade was observed in the construction industry. The patterns of behaviour of American contractors were found to be the natural manifestation of globalization (as opposed to the European firms which harnessed additional benefits by performing cross-functional activities more creatively). Examples from the Japanese, however, were conspicuous by their absence because of past strategic choice.

It was indicated earlier that the American construction groups enhanced their financing options by utilizing state-subsidized export finance of European countries through local offices. It was also found that some of their overseas subsidiaries had developed their own technical and managerial competence which was commercially exploited elsewhere. In this situation where competitive resources were dispersed, the American firms needed to act cohesively in order to function well. Otherwise their strengths would not be utilized to the full. Information regarding market demands and internal resources constantly flowed backwards and forwards between marketing outlets and procurement offices for effective marketing and service delivery. The skills of individual offices were sold as that of the group's to avoid confusing potential clients. The only way the same range and quality of services can be offered was by shifting resources internally, imposing strong group values and establishing group-wide standard construction and management systems. Because the operating units were located in different nations, the aggregate efforts reflected the aggregate strengths of the different nations as well.

The details of intrafirm collaboration differed between firms depending upon managerial judgement and how overseas operations had previously developed. Foster Wheeler and Fluor Daniel integrated their activities on a global scale quite a while back as a result of an evolving process. Others such as Brown and Root and Bechtel recognized the rigidity of their organizational systems during the 1980s and subsequently took deliberate steps to streamline their vast global operations. The treatment of operating units as profit centres was modified to discourage territorialism which impeded collective efforts. Worse, the subsidiaries even competed for business. Whilst every part of the organization was still accountable for its own actions, each had to take

a fair share of the responsibility to promote the entire groups' success. One particular company was found to adopt the matrix structure (Galbraith, 1973). Several of its far-flung procurement centres took world-wide responsibility for designated business lines whilst at the same time controlled regional management over designated geographical zones. Another company employed a flat organizational form. Outside of the USA, the procurement centres with near-similar competitive assets were arranged horizontally. Whenever an attractive project emerged outside of their residing countries, a cross-subsidiary committee consensually decided which office was best suited to handle it.

Examples from the Japanese were lacking because until recently they have been operating abroad outside of Japan. Information and resource channels radiate outwardly from the hub with little interaction between far-flung units which basically functioned as marketing feelers. This situation however stands to change as more responsibility and power is devolved with localization and the strengthening of overseas operations.

Strategic alliances

Oman (1984) and Contractor and Lorange (1988) suggest that strategic alliances are manifestations of globalization. In the construction industry, strategic alliances have long been the mainstay. The nature of the industry is such that firms find it difficult to perform every task independently when delivering their services. To remain competitive, they need to be sufficiently lean by concentrating on activities they are really best equipped to deal with. The same motives and mechanisms apply even for construction firms with a global perspective; only their partners are more diverse, both in terms of nationality and business area (Soubra, 1989).

Partnerships with other firms, rivals included, provide an effective way to overcome internal deficiencies. Firms may join forces to gain access to multiple technologies or government-sponsored government financing (Murphy, 1983; Fufeld and Haklisch, 1985). Certainly when providing 'one-stop' service, any skills lacking such as financing can easily be provided by suitable partners. Shimizu, for example, partnered with Beverley Enterprises, a nursing specialist, to enter the design-construct-manage niche market for retirement homes (Levy, 1990). Partnerships can provide access to multiple markets (Varadarajan, 1986). Bechtel, for example, associated with European and Japanese companies in order to work in third countries (Connerton, 1989b) whereas Fluor Daniel and Ohbayashi signed a world-wide marketing agreement. Interfirm linkages can also circumvent trade barriers (Mariti and Smiley,

Table 3 American-Japanese tie-ups in Japan during the 1980s

American companies	Japanese partners
Bechtel	Taisei
Fluor Daniel	Ohbayashi
Parsons	Shimizu
Morrison Knudsen	Hazama Gumi
Guy F. Atkinson	Toda

1983). To penetrate Japan, several prominent American builders partnered with their Japanese counterparts (see Table 3). Strategic alliances also enable the cost of research to be reduced (Pfeffer and Nowak, 1976), as typified by the Japanese firms' collaboration with American institutions. American companies such as Bechtel also acquire new technologies from their close relationships with leading Japanese companies (Connerton, 1989b).

In today's dynamic world where the competitive paradigm can change swiftly, selecting the right partners is crucial. The American and Japanese nationality groupings were equally versatile in forming wide-ranging partnerships across borders and business areas as part of their master plan to retain or expedite global spread.

Theoretical discussions

Economists since the time of Smith (1776) have long acknowledged the existence of competitive advantages bestowed by virtue of nationality. Today's mainstream economic thoughts on international trade and direct foreign investment such as the eclectic theory (Dunning, 1981) distinguish country-related from firm-specific advantages. More recently, Porter (1990) from the business management discipline arrived at the same conclusion albeit reluctantly, following his extensive study on selected samples of industries from ten major trading nations. What makes his work interesting is that he capitalized on the persistent neglect of economists about how competitive advantages are created (Nusbaumer, 1987; Casson, 1988). In this section, the home-country characteristics of the two nationality groupings are deliberated further. Porter's more generic analysis of Japan and the USA is especially useful for this purpose. According to him, four broad attributes of a nation – factor conditions, demand conditions, related and supporting industries and firm strategy, structure and rivalry – either promote or impede the creation of competitive assets. He also accepts that chance events and government actions are the additional factors.

Factor conditions

Japan has a factor advantage of a large pool of literate, educated and skilled human resources (Bennett *et al.*, 1987; Levy, 1990; Porter, 1990; Chapter 7). The workers are also disciplined, hardworking and willing to cooperate. Talented Japanese tend to enter into industries and because technocrats usually preside at the helm of Japanese corporations, there is a pervasive appreciation for research and development. In the USA, the talented students prefer to enter medicine, law and finance. The diminishing number of senior managers with a technical background in the USA are less receptive to modern technology. More worryingly, the quality of human resources there is eroding because of the faltering education system. On top of that the Japanese-style emphasis on in-company training is generally absent.

Demand conditions

The demand conditions over the decades as a result of the physical development of Japan and the USA have fostered construction firms which possess exportable skills. The two countries have a wide range of geographical and geological conditions which spur the builders to develop management and construction techniques for difficult environments (Hippo and Tamura, 1988; Sidwell *et al.*, 1988; Strassmann, 1988). Concurrently the derived demand from industrial clients has led the Japanese firms to acquire competence in building super-clean rooms and pharmaceutical and other types of sophisticated production plants. Storage and distribution of materials in production plants using automation is another of their strengths. The vast experience of US contractors such as Austin Company of Cleveland in all sorts of factories and commercial facilities has served them well overseas. A group of them even dominate oil, gas and oil-related process engineering because of the demands placed upon them at home over the decades (Barna, 1983). Both nationality groupings have also benefited from the foreign investments of their long-serving corporate clients based at home, although for the Japanese this phenomenon is more recent (Hippo and Tamura, 1988; Strassmann, 1988). On a general point, the two nationality groupings developed design construct capabilities as a result of client requirements (Sidwell *et al.*, 1988). Demand-side pressures in Japan however inculcate an intense concern for quality, safety and delivery time commitments amongst the builders. As long as the diversity of construction tasks grows at a faster rate in the two countries than most places, the firms would have a sustainable competitive edge. But since the USA is no longer the home of many industry leaders (Porter, 1990,

Chaper 9), the position of the American contractors concerned will be increasingly vulnerable.

Related and supporting industries

On the question of related and supporting industries, the situation in Japan is, on balance, more favourable than in the USA. The major Japanese contractors belong to *keiretsu* (industrial groupings) which are a source of strength. The affiliated banks provide preferential funding and, thus, enhance the constructors ability to compete for projects requiring financing (Levy, 1990). Financial information is exchanged between the two parties and relationships are reinforced by continuous dealings (Abegglen and Stalk, 1985). Contrary to general opinion, however, the builders did not fuel their expansionary programmes during the 1980s from the low cost of finance (Bennett *et al.*, 1987). *Keiretsu* members collaborate on major research and development assignments (Hirschmeier and Yui, 1975). Moreover affiliated trading companies provide invaluable world-wide marketing networks. Interfirm linkages in the USA tend to be opportunistic and at arm's length (Porter, 1990, Chapter 9). The transfer of market insights, skills, innovations and strategic guidance seldom occurs across independent US companies.

Strategy, structure and rivalry

On the question of firm strategy, structure and rivalry, the two countries also exhibit different national patterns. In Japan, ownership of companies is predominantly held in institutions that seek long-term appreciation and do not often trade shares (Abegglen and Stalk, 1985; Porter, 1990, Chapters 7 and 9). This situation enables Japanese corporations to take a long-term perspective of business development even at the expense of immediate profit. Hence, their fame for patiently capturing their desired market share and investing in research for sustained competitive lead. Such aspects fit in perfectly with the global mentality and make Japan a good breeding ground for global companies. In the USA the perception of shareholdings as nearly permanent is unusual. Takeover threats further drive managers to boost near-term earnings. Japanese corporations are preoccupied with rivalry, so much so that moves of competitors are constantly matched (Porter, 1990, Chapter 7). The uniformity of all the major Japanese contractors adopting a global stance is not a coincidence – this may not be a good thing in itself because of the intense competition between themselves within a narrow range of strategic options (Hippo and Tamura, 1988). Competition in the USA is just as intense; the contractors have no inhibitions about

displacing or joining other American or foreign enterprises in pursuit of higher profits (Strassmann, 1988).

Role of government

The governments themselves play an important role in determining (directly as well as indirectly) the direction and size of international trade flows in construction services. In contrast to the position in Japan, the US policies have been a liability rather than an asset (US Department of Commerce, 1984; Strassmann, 1988; Arditi and Gutierrez, 1991). The attitude of the US policy makers has been to allow US firms to compete in the free market on their own. The higher up the government, the less sympathetic it is to the industry's needs. Even worse, the Reagan administration attempted to abolish the Center for Building Technology of the US Standards, the Foreign Commercial Services, the Trade and Development Program and the United States Export-Import Bank. Other negative US Government policies included the 'antiboycott' legislation of 1976 which prohibited US firms from dealing with Israel. Any firm which did not refrain from operating in Libya was barred from bidding for embassy work. Even though the United States Export-Import Bank continued to function, the facilities offered by some other countries were more attractive. Apart from budget restrictions, the interest rates were not competitive enough. Faced with rivals having access to mixed credits, deferred loan payments or abnormally long pay-back periods, US contractors were severely disadvantaged even more. The Foreign Corrupt Practice Act of 1977 prevents US firms from giving pay-offs of political contributions to government officials of host countries for jobs, a condition which their rivals do not have to abide by. The US Government also charges higher tax rates for US citizens working abroad. A succession of attempts to change the taxation policies, in the end, were perceived by potential foreign clients as inconsistencies of the US commitment towards international business. Double taxation and insufficient risk insurance compelled US companies to charge substantially more for a project to receive the same level of profit than their rivals.

The Japanese Government at all levels takes a very active role in the orchestration of the construction activity both locally and overseas (Hippo and Tamura, 1988; Sidwell *et al.*, 1988; Levy, 1990). The procurement policies designed by Japanese policy makers favour research-oriented contractors. Tax deductions are also offered for expenses on research assignments. The Ministry of Construction and Ministry of International Trade and Industry themselves also initiate major research endeavours – although it has to be said that the burden of financing falls directly on the private

sector (Abeggelen and Stalk, 1985). Such government agencies also supply low-interest credit for pre-bid feasibility studies, provide financial guarantees for overseas projects, train project managers in charge of overseas construction projects, grant tax reductions for exporting activities and collect overseas marketing information amongst other functions. In addition to providing a comprehensive export credit system (Arditi and Gutierrez, 1991; OECD, 1992), the Japanese Government is also involved in the coordination of the Japanese banking sector to promote the nation's exports (Seymour, 1987).

Chance events

There were fortuitous historical events which still influence the achievements of the two nationality groupings. Ever since the Meiji period when Japan began to look outward and embark on modernization, Japanese industries have shown tremendous zest in importing advanced construction technologies from Europe and North America (Hippo and Tamura, 1988; Sidwell *et al.*, 1988; Levy, 1990). The past insularity of the nation, however, hinders the overseas progress of the builders because of their unfamiliarity with the common use of Western languages, confrontational mode of contracting, contract laws and construction practices. Japanese consultants are not sought after overseas (Seymour, 1987). Thus, early leads coming from them as well as familiarity with specifications, standards and design codes are denied to the contractors. In addition, as a consequence of their insularity, well-qualified project managers and engineers are ill-equipped for overseas assignments (Hippo and Tamura, 1988).

In different ways the Second World War was a boon to the two nationality groupings. For quite some time, other industrial nations were too busy rebuilding to give American contractors much competition overseas (Strassmann, 1988). Japanese participation in US military construction works in Okinawa during the Korean War helped them master US construction techniques (Hippo and Tamura, 1988). The reparation effort in South-East Asia soon after gave the Japanese builders market insights for this region and boosted their confidence to seek work overseas on a commercial basis. The status of the USA as a superpower after the Second World War provided ample opportunities for her builders to construct US embassies and military bases all over the world (Strassmann, 1988).

Comments on country-specific advantages

Both nationality groupings have country-specific strengths and weaknesses. For the firms that were analysed, global strategies were meant to overcome

weaknesses that arose from their home country whilst still exploiting the strengths. As was elaborated previously, the greatest concern of the Japanese has been to make up for weak university research in Japan by collaborating with US universities famous for their leading-edge research. As for their American counterparts such as Bechtel and Foster Wheeler, overcoming unsympathetic US Government officials had been the overriding concern. This is evidenced from the establishment of export bases in certain European countries. These bases also perform the additional role of providing alternative modes of entry into third countries and fresh competitive spurs. All these actions which tend to blur the national identities of the two nationality groupings stem from the fundamental regard of the world as a single operating platform.

Conclusions

The assumption that the Japanese contractors would pose a threat to the American contractors's global dominance is based on the premise that both nationality groupings would maintain their strategic orientations which were established during the 1980s. Recent events might raise doubts as to whether the long-term goals of the Japanese constructors, for whom these last few years have been especially painful, will be realized. Japan has been experiencing an unprecedented post-war economic slowdown. Unfortunately, also, attempts to localize their subsidiaries in the USA and Europe coincided with the onslaught of a severe recession there as well. The most adventurous of them all, Kumagai Gumi, has been retreating from overseas contracting (Thomson, 1993a). It has accumulated US\$16.3 billion in debt, partly as a result of loss-making ventures in the USA and UK. To avert bankruptcy, its bankers intervened to restructure the group's troubled world-wide operations. The current problems of other Japanese contractors (Thomson, 1993b) also provide grim reminders that the stakes involved in global competition can be overbearingly high. However, history has shown that the Japanese industries in general are highly resilient and rebound with greater vigour with each adversity (e.g. oil shocks of the 1970s and the occasional re-evaluation of the yen). It is therefore premature to dismiss the greater rise of the major Japanese builders in international contracting just yet.

Despite the deep troubles that the Japanese contractors are facing, the two nationality groupings have exposed a new trend in competing which other contractors can take as the cue in their own limited measures. Those based from small developing economies were addressed earlier (Abdul-Aziz, 1993). It is appropriate therefore to focus on international builders from in-

dustrialized countries. These groups of firms must remain committed to their overseas operations in their quest for the possible highest returns. As construction industry cycles in industrialized countries are becoming increasingly synchronized, they should acquire a fairly even footing in nations of dissimilar development phases. They should not limit their perception of foreign countries to source of work only, but also from where competitive advantages and passages to third markets can be derived. In short, they should shed their long-cherished single-nationality characteristics. Once this element comes into play, it then becomes vitally important to coordinate dispersed subsidiaries so that they function efficiently within the groups' internal network of activities. Deprived of the price advantage, they need to proactively create imaginative marketing approaches, if necessary in conjunction with other independent organizations. Competitive standings can be readily altered by linking with the right parties at the right time at the right place.

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