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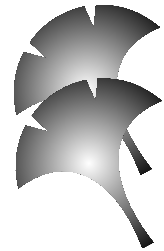

Regional Strategies in a Global Economy

Multinational Corporations in East Asia

Edited by
René Haak and Dennis S. Tachiki

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List of Abbreviations

ADB	=	Asian Development Bank
AFTA	=	ASEAN Free Trade Area
APEC	=	Asian Pacific Economic Cooperation
APN	=	Asia-Pacific Network for Global Change Research
ARF	=	ASEAN Regional Forum
ASEAM	=	Asia Europe Meeting
ASEAN	=	Association of South East Asian Nations
ASEAN+3	=	Association of South East Asian Nations plus China, Japan, South Korea
BAIC	=	Beijing Automotive Industry Holding Company
B2B	=	Business-to-Business
B2C	=	Business-to-Consumer
BJC	=	Beijing Jeep Corp.
BOC	=	Bank of China
BoP	=	Balance-of-Payment
BRI	=	Brazilian Rial
BWM	=	Bayerische Motoren Werke AG
CDD	=	Component Design Description
CEE	=	Central and Eastern Europe
CEPT	=	Common Effective Preferential Tariff
CM	=	Contract Manufacturing
CNAIC	=	China National Automotive Industry Corp.
CSCAP	=	Council for Security Cooperation in Asia-Pacific
DEM	=	Deutsche Mark (German Mark)
DM	=	Deutsche Mark (German Mark)
DMC	=	Dongfeng Motor Cooperation
DRAM	=	Dynamic Random Access Memory
DSP	=	Digital Signal Processor
DVD	=	Digital Video (Versatile) Disc
EAEC	=	East Asian Economic Caucus
ECOM	=	Electronics Commerce Promotion Council of Japan
EDI	=	Electronic Data Interchange
EFTA	=	European Free Trade Agreement
EMS	=	Electronics Manufacturing Services
EPROM	=	Errasable Programmable ROM
EU	=	European Union
EUR	=	Euro
FAW	=	First Automotive Works
FDI	=	Foreign Direct Investment
FIEs	=	Foreign Invested Enterprise
FPGA	=	Flexible Programmable Gate Array

FRI	=	Fujitsu Research Institute
FTZ	=	Free Trade Zone
FY	=	Fiscal Year
GATS	=	General Agreement on Trade in Services
GATT	=	General Agreement on Tariffs and Trade
GCC	=	Global Commodity Chains
GDP	=	Gross Domestic Product
GM	=	General Motors
GPN	=	Global Production Networks
GPRS	=	General Packet Radio Service
GNP	=	Gross National Product
HGV	=	Heavy Goods Vehicle
IBRD	=	International Bank of Reconstruction and Development
ICT	=	Information and Communication Technology
IDA	=	International Development Association
IJV	=	International Joint Venture
ILO	=	International Labour Organization
IMF	=	International Monetary Fund
IPO	=	International Procurement Offices
IS	=	Information Systems
IT	=	Information Technology
JBIC	=	Japan Bank for International Cooperation
Jexim	=	Export and Import Bank of Japan
IJV	=	International Joint Venture
JEITA	=	Japan Electronics Industry Trade Association
JETRO	=	Japan External Trade Organization
JPY	=	Japanese Yen
JV	=	Joint Venture
KEDO	=	Korean Peninsula Energy Development Organization
LED	=	Light Emitting Diode
LDP	=	Liberal Democratic Party (Japan)
M&A	=	Mergers and Acquisitions
METI	=	Ministry of Economic, Trade and Industry (Japan)
MFN	=	Most Favoured Nation
MIC	=	Mobile Internet Centre
MITI	=	Ministry of International Trade and Industry (Japan)
MNC	=	Multinational Corporations
MNE	=	Multinational Enterprise
MOF	=	Ministry of Finance (Japan)
MOTHER	=	Market for High-Growth and Emerging Stocks
MPHPT	=	Ministry of Public Management, Home Affairs, Post and Telecommunications (Japan)
NAFTA	=	North American Free Trade Agreement
NGO	=	Non-Governmental Organization
NIE(s)	=	Newly Industrializing Economy(ies)

NTB	=	Non-Tariff-Barriers
ODA	=	Official Development Assistance/Aid
OECD	=	Organization for Economic Cooperation and Development
OECF	=	Overseas Economic Cooperation Fund
OEM	=	Original Equipment Manufacturer
PECC	=	Pacific Economic Cooperation Conference
PTA	=	Preferential Trading Arrangement
R&D	=	Research & Development
RMB	=	Chinese Renminbi
ROM	=	Read Only Memory
SAIC	=	Shanghai Automotive Industry Corporation
SEANWFZ	=	South East Asia Nuclear Weapon-Free Zone
SEZ	=	Special Economic Zone
SITC	=	Standard International Trade Classification
SME	=	Small- and Medium-sized Enterprises
SOCB	=	State Owned Commercial Bank
SOE	=	State Owned Enterprise
STA	=	Strategic Technological Alliance
SVW	=	Shanghai Volkswagen Automotive Company Ltd.
TAC	=	Treaty of Amity and Cooperation
TAIC	=	Tianjin Automotive Industry Corporation
TNC(s)	=	Transnational Corporations
TQC	=	Total Quality Control
TRIM	=	Trade-Related Investment Measures
TRIPS	=	Trade-Related Aspects of Intellectual Property Rights
TSE	=	Tokyo Stock Exchange
TT	=	Technology Transfer
TV	=	Television
TVEs	=	Township and Village Enterprises
UNCTAD	=	United Nations Conference on Trade and Development
WIR	=	World Investment Report
UK	=	United Kingdom
UN	=	United Nations
US	=	United States
USSR	=	Union of Soviet Socialist Republics
USA	=	United States of America
USD	=	US Dollar
VCR	=	Videocassette Recorder
VW	=	Volkswagen AG
WAP	=	Wireless Application Protocol
WDM	=	Wave-length Division Multiplexing
WIR	=	World Investment Report
WFOE	=	Wholly Foreign Owned Enterprise
WTO	=	World Trade Organization
ZOPFAN	=	Zone of Peace, Freedom and Neutrality

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Foreword

We are living in an age of omnipresent globalization, but we can only understand this very complex phenomenon by breaking it down into a step-by-step process. Ironically, as this process moves forward there is a corresponding increase in regional economic activities. Among the global strategies of multinational corporations, for instance, we find self-contained regional production networks. Consequently, globalization not only means a global convolution of economies, but also a spatial concentration of economic activity. Clusters of specific economic activities that arise within an international division of labour take on important functions for production and trading in a global context. The editors of this book, René Haak and Dennis S. Tachiki, have compiled research that addresses these seemingly contradictory forces.

By focusing on East Asia they present a case study on the activities of multinational corporations (MNCs) on a regional level. All through the 1990s and from the beginning of the new century East Asia has undergone numerous structural changes that distinguish it from other regions of the world. The World Bank study on the "East Asian Miracle" underscores good macro-economic planning, export-oriented policies, and other structural factors in the economic rise of the region. Considering the global economic importance of Japan and other East Asian countries, some crucial questions arise: what are the corporate strategies in the different and sometimes risky national markets in the region? What changes in the MNC strategies can be seen in this important region? In which directions are Japanese, American, East Asian and European enterprises moving in this dynamic business region in the global economy?

To answer these questions, the contributors to this volume on "Regional Strategies in a Global Economy – Multinational Corporations in East Asia" take a closer look at how structural features of the East Asia economy affect the corporate and business strategies of MNCs. The editors draw particular attention to the global-regional nexus, subregional strategies, technology transfer, and human resource management of MNCs in East Asia based on the latest research by European, Australian and Japanese scholars. Bringing together scholars from all over the world to address issues and close gaps in social science and humanities research is a major function of the German Institute for Japanese Studies (DIJ) in Tōkyō.

Founded in 1988, it is one of Germany's foreign research institutes and is concerned with research on contemporary Japan. The Institute repre-

sents an awareness in Germany of the need to obtain a better understanding of Asia and, in particular, Japan. To this end, the DIJ conducts research in the fields of the humanities, the social sciences and the economy of modern Japan, as well as in the area of Japanese-German relations (www.dijtokyo.org). In July 2002, the DIJ organized, in co-operation with Tamagawa University, Tōkyō, a research project entitled "Regional Strategies in a Global Economy – Multinational Corporations in East Asia". The results of this joint effort are presented in this volume. The majority of contributions are based on empirical research in East Asia.

Special thanks are due to Dennis S. Tachiki, former Senior Researcher at the Fujitsu Research Institute, now Professor on the Faculty of Business Administration at Tamagawa University, Tōkyō, and René Haak, Deputy Director and Head of the Business and Economics Section of the German Institute for Japanese Studies who conceived the original idea for this book and who have efficiently overseen the editing. This book will become a useful, if not an essential, tool for students, scholars and managers interested in East Asia.

Irmela Hijiya-Kirschnereit
Director, German Institute for Japanese Studies
Tōkyō, July 2004

Strategy and Strategic Management in Multinational Corporations

Terminological and Conceptual Principles

René Haak

The Goals

What are a company's goals? This is the first question one should ask in any discussion of strategy and strategic management as the existence of goals is the foundation of any strategic thinking. In reality, multinational corporations generally pursue multiple goals (for example, customer satisfaction, increasing the value of the company, technology leadership) in order to satisfy different interests and meet the requirements of its stakeholders (employees, customers, politicians, shareholders and so on).

The situation increases in complexity as a company will not only have different goals in general but also pursue different goals relating to internationalization (Norvell, Andrus and Gogumalla 1995). Strategies to achieve goals might be oriented towards specific regions, for example East Asia, which is the region featured in this volume. The interests of stakeholders will be quite different from country to country which further adds to the complexity of multinational companies.

It now appears, not entirely unexpectedly, that the reality of a multinational corporation is extraordinarily complex. Management has to work with this complexity. Decisions on how to organize company activity have to be made based on many different kinds of information. For example, a multinational corporation has abundant quantities of resources, skills and expertise scattered across different countries. It has a extensive pool of potential on which it can build, but it must be able to deal with the co-ordination and integration of the different elements in this pool. A key task of strategic management in a multinational corporation is to build up, nurture and use this potential for success across different countries (Kutschker and Schmid 2002, p. 794).

Competitive Advantage

Multinational corporations can achieve competitive advantage on the basis of this potential for success (Corsten 1998, p. 11–12). Competitive advantage is the distinctive business edge a multinational corporation has over its competitors. In order to establish whether a multinational corporation has this competitive edge, it is necessary to compare it with the competition. It is clear from this that competitive advantage is never absolute but always relative. The time factor is also important. Competitive advantage arising from today's combination of competition and situation might disappear under the circumstances of tomorrow. The fact that many markets in East Asia are developing very dynamically is of particular significance for the strategic management of multinational corporations

Multinational corporations encounter different competition situations and varying environmental and resource conditions in different countries. This means that they own different resources and also encounter different environments in each country. Clearly, competitive advantage is often not enjoyed world-wide, but is country-specific and, in a few cases, region-specific. It is the task of strategic management in multinational companies to build up region-specific advantages by developing and implementing regional strategies for the multinational corporation.

Against this background of the complex demands made on multinational strategic management, the key question of what strategy and strategic management are elicits many complex answers. It is not easy to find a simple answer. Nowadays a large number of scientists and economic practitioners are investigating the subject of strategic management and it is therefore not surprising that there is an unfathomable number of definitions for the terms 'strategy' and 'strategic management' although they are still relatively new. Understanding of strategic management often varies greatly in respect of both its methods and its contents. An explanation for the terminological and conceptual basis of the terms 'strategy' and 'strategic management' would contribute to the understanding of management in East Asia. This short discussion therefore is intended primarily to answer the questions of what is meant by strategy and strategic management and what marks them out?

Numerous Definitions

A look at the literature of economic and management theory reveals numerous definitions for the term strategy. In most of the definitions

similar terms and ideas play a key role. For example, strategies are associated with long-term goals of a company and they include actions in which characteristics of the company (company-internal resources, for instance) and characteristics of the company's environment (competitors and suppliers, for instance) are taken into account.

The term strategy and particularly 'strategic' entered economic and corporate practice more than 30 years ago. However they are used very inconsistently, which means that they are understood in many different ways. 'Strategy' as a term has experienced almost inflationary use in recent years. People talk of competitive and corporate strategy, attack and defence strategy, sales, production and environmental protection strategy, to give just a few examples. The term is also used outside of the corporate environment. Career and game strategy are just two examples of many (Hungenberg 2000, p. 4). Some of the expressions most frequently heard in management practice are 'to act strategically' or 'to develop strategies' or 'to implement strategies'.

Etymologically, the word strategy derives from the Greek 'strategos' and means a leader in the Greek army. Strategy therefore means the art of military leadership. The term entered economic science via game theory where a strategy was described as 'planning a specific sequence of game moves (actions)', where each action is considered in relation to the moves available to the player and his opponents. Developing from there, the term found its way into business administration teaching where it was first used in American universities, particularly at the Harvard Business School, in Business Policy courses (Stahle 1999).

Since then, strategic management has been considered an important component in training managers and in their continued professional development. In the Harvard Business School approach, corporate strategy includes defining long-term goals for a company, policies and guidelines, and the ways and means to achieve goals. Business strategies are pursued as a part of corporate strategy. Business strategies are less comprehensive and determine the product/market combinations for each line of business. In this sense, strategy includes not only choosing the resources to achieve goals but is extended to include planning the goals and defining policy. The first basic research, which also lead to the widespread use of the term strategy throughout business management theory, was undertaken in the 1960s and 1970s. Chandler (1962), Ansoff (1965) and Andrews (1971) were pioneers in the research of strategy in business management studies.

Chandler defines strategy 'as the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these

goals' (Chandler 1962, p. 13). Andrews' (1971, p. 28) definition is 'Strategy is the pattern of major objectives, purposes or goals and the essential policies and plans for achieving those goals, stated in such a way as to define what business the company is in or is to be in and the kind of company it is or is to be'. Hofer and Schendel have this to say on the term 'strategy': 'The basic characteristics of the match an organization achieves with its environment is called its strategy' (Hofer and Schendel, 1978, p. 4).

At the beginning of the 1990s, Kirsch went so far as to interpret strategies as 'road maps' which can also include the goal and thereby express the situation away from which one wants to move and which of the alternative ways leading away from this point one wants to take (Kirsch 1991, p. 301). Kreikebaum (1997, p. 19) sees a strategy as 'a general concept for achieving a goal or several goals designed to be long-term and which includes aggregated values' and for Bea and Haas strategies are 'measures to secure the long-term success of a company' (2001, p. 50). Kutschker and Schmid's comprehensive definition (2002, p. 790) of the term strategy completes and extends these definitions. It is particularly helpful for understanding the term and therefore also for further research into international management and particularly into strategic management.

We consider strategies to be both a set of planned corporate actions that will allow a company to reach its long-term goals and also the pattern of emergent, that is, unplanned decision making and action in a company. With its strategies, the company tries to tap into the potential for success, which represents the basis for competitive advantage. The company takes into account both the external circumstances and its own resources, skills and expertise in formulating its strategies and therefore also in developing, nurturing and using the potential for success and competitive advantage. As a rule, corporate strategies operate in several directions and can be anchored at different levels (Kutschker and Schmid 2002).

Market-Oriented View

Kutschker and Schmid's definition of strategy expresses several different trends in research and thinking on strategic management. It has been influenced in part by the Harvard concept, which is clearly externally, that is, market oriented. The Harvard concept is reflected to a great extent in Michael Porter's (1980; 1985) approach to strategy that is based on industrial economic ideas and is market-oriented. However, this market-oriented approach made it difficult, even impossible, to identify internal

resources as a potential for success for strategic implementation (for example, human resource management, the potential for research and development and so on).

Resource-Based View

It is therefore not surprising that in recent years a resource-based view of strategy has been set against the market-oriented Harvard concept (Collis 1991; Grant 1998; Peteraf 1993). This view of strategy focuses on the importance of internal resources in strategic planning. Significant means for achieving sustained competitive advantage are identified in the existing organizational structure and company culture and in the employees (human resources). The resource-oriented view of strategy implies that a company with adequate resources can find success even in unattractive markets.

Strategic orientation towards the internal resources of a company also makes sense in East Asia, particularly with its rapidly changing competitive environment. It is unlikely that an attractive sector or market can be the primary source of sustained competitive advantage as the framework conditions and the markets themselves change very rapidly in this economic region. Against the background of this analysis, it makes sense to argue for increased integration of the resource-based view of strategy with the market-oriented view; this integration is already accomplished in Kutschker and Schmid's (2002) definition of strategy.

Relation-Based View

However, both views are charged with neglecting the social structure surrounding strategy. In the 1980s, there were calls for the relationships in and between companies to be investigated more closely in studies into strategy (Pfeffer 1987). The argument in favour of this was based on the fact that relationships on the one hand express strategic behaviour and, on the other hand, strategies strongly affect strategic options and behaviour. In the mid-1990s, Baum and Dutton (1996) emphasized the requirement for strategy to be contextualized on different levels. This would allow account to be taken

- of the cognitive and social embeddedness of the members of the organization involved in the strategy process;

- of the embeddedness of the corporate strategy in other cognitive communities;
- of the structural embeddedness of strategy in interpersonal, interorganizational and status networks;
- of the institutional, political and cultural embeddedness within industries and
- of the network properties of corporate strategy (Staehle 1999, p. 608).

The research done by Baum and Dutton constitutes therefore a 'relation-based view of the firm' (Baum and Dutton 1996, p. 5).

In this context, there is another aspect of strategy to consider in the discussion: planning. All the strategy concepts presented so far are characterized by a breakdown into phases from the formulation of goals to implementation, although a number of empirical investigations reveal that management acts in a rather less rational and more incremental manner in the development and realization of goals and strategies. More than 20 years ago, Quinn (1980) showed that in the real economic world there are frequently no clear objectives and strategic decisions are made outside of the formal planning system and in a more random and incremental fashion.

Visions, not Plans

One of the best known proponents of this way of thinking and researching is Mintzberg, who has been pointing out the emergent nature of strategy in managerial practice for some time now (Mintzberg 1991; 1994; Mintzberg and Waters 1985). Mintzberg also points out that even formal planning systems are more likely to obstruct strategic thinking in a company than to encourage it. He expresses his views succinctly: 'The most successful strategies are visions, not plans' (Mintzberg 1994, p. 107). Intuition, creativity and synthesis are, according to Mintzberg, required for strategic thinking. He does not put the traditional process of strategic planning with analysis and programming of decisions at the forefront of corporate orientation. Strategies should be able to concentrate organizational forces and guide them towards the direction indicated by the strategy, which of necessity must remain somewhat vague.

Despite all these wide-ranging and numerous views of strategy, it is not at all the case that strategic management is a collective term for completely unconnected subject areas and approaches. The studies that examine strategic management differ in the perspective from which they view it, but also have different theoretical starting points and highlight

different issues. However, they all start from the same basic understanding of the character of strategic management. This understanding links the different approaches and perspectives (Hungenberg 2000, p. 3).

Basic Concepts of Strategic Management

After an explanation of the relevant basic concepts of strategic management, the starting point for any strategic consideration, whether for the purposes of strategic planning or strategic management is the existence of general goals, intentions and value-based considerations. This is followed by an analysis of the corporate environment (opportunities and risks) and of the internal corporate resources (strengths and weaknesses). It is important to know where the company is going, otherwise the conditions for strategic action are not present.

Researchers and economic practitioners agree that management decisions that determine or have significant influence on the fundamental way in which a company develops can be considered strategic management. As it is generally not very easy to change the orientation of a company, strategic specifications need to have long-term validity. A strategic decision must also anticipate uncertain events as far as possible and choose a steady development path for the company under possibly changeable conditions.

It is the aim of strategic decisions to secure the long-term success of a company. As companies compete with each other in an economy organized for rivalry, this is only possible when the company successfully builds up and defends its advantages over its competitors. Advantages of this kind are always created when a company is better than the competition at providing benefits that its customers find important – for example, making better quality, lower prices or faster deliveries possible. Strategic decisions must be understood from an overall perspective, as the orientation of a company can only be influenced at a fundamental level if the thinking goes beyond individual organizational units. Strategic decisions then become relatively complex tasks which cannot be assigned to organizational units, but which must be made mainly by senior company management.

The decisions associated with the strategic orientation of the company determine the position of the company on the market and the organization of its resource base with the goal of achieving advantages over competitors and of securing the long-term success of the multinational corporation (Hungenberg 2000, p. 4). Strategic management is therefore tasked with making decisions on the two central defining factors for the

success of a company – its position in the market and the organization of its resource base (Hahn 1998).

The central strategic issue at corporate level is which lines of business the company wants to engage in and how these should be prioritized in relation to each other. In concrete terms this means that strategic management at corporate level is concerned with shaping the business portfolio and the distribution of resources to individual business areas within the portfolio. This is intended to achieve the optimum for the company as a whole. In this context, one also speaks of the formulation of a corporate strategy. To realize this, the structures and the systems of the whole company must be brought into line with the strategy. It is therefore also the task of strategic management at corporate level to structure the company and provide the systems required for the leadership of the company from an overall point of view (Hungenberg 2000).

The central strategic issue for each business area is how the company wants to operate it in order to beat the competition. Essentially, it is a matter of how to build up and exploit competitive advantage in order to achieve the goals for the line of business. This is also known as business strategy. Business strategies must be developed and realized for each area of the business. In a company, which engages in several different kinds of business, this is the task of the divisions/sections responsible for each of the business areas. It follows that a company has a separate business strategy for each of its business areas, which are held together by the corporate strategy. Business strategies also require an appropriate structure and the right systems. Therefore, on the level of individual business areas (or the divisions/sections responsible for them) the structures of the divisions/sections and the systems to manage them must be co-ordinated with the business strategy. Here too, the structure and the management system of the whole company form the framework within which this is done. The literature often mentions a third level of strategic management: strategic management on a functional level. One also speaks of the formulation of functional strategies; however, these issues do not affect the basic orientation of corporate development. They therefore belong in the area of operational management.

Finally, on the subject of the terminological and conceptual basis of the term strategy and strategic management, there are four central properties that define the current discussion. First, consideration of the actions of other relevant actors in the corporate environment (for example, competitors, suppliers and so on). Second, proactivity, which is planning of corporate activities and other aspects, such as the amount of resource allocation and the long-term nature of strategic actions. Third, it is important to note that strategies mediate between the company and the envi-

ronment and other actors in the environment. Fourth, most actors in the environment are also companies, so that the formulation and implementation of corporate strategies of necessity encourages the management of international relationships (Sydow and Windeler 1994).

The three classical forms of strategy—corporate, business, and functional—form a hierarchy in which they relate to each other in their internal logic. There is a requirement for a fourth – co-operative strategy – to reflect the reality of the internationalization of companies today, such as those in East Asia. This is manifested increasingly in forms of co-operative organization (company networks, production networks, strategic alliances and so on). Co-operative corporate strategy should be seen as strategy, both in its formulation and in its implementation, relates to the other strategy levels and thus forms a framework for the creation of more strategies. This book attempts to disaggregate the concept of "globalisation" to explores what are some of the possible antecedent factors explaining the variations in strategies used by multinational corporations in East Asia.

Regional Strategies in a Global Economy

Under the banner of "go global, think local," academic pundits exhort MNCs to exploit their "competitive advantages" and achieve "organizational efficiency" to extend their global reach. But when we examine globalisation from a business perspective, managing the flow of goods, people, money, and information across national borders does not always yield to business slogans. In this book we begin by making the global-regional nexus and the inter- and intra-firm boundaries problematic in order to understand how multinational corporations (MNCs) translate global strategies into regional business plans. We examine four disjunctures in their global strategies: Regional Strategy, Subregional Strategies, Technology Transfer and Human Resource Management.

The first article, by Martin Hess, illustrates why regional strategies are problematic in the face of globalisation through a discussion of *Global Production Networks – Dealing with Diversity.* He concedes that globalisation through the foreign direct investments (FDI) of MNCs has a strong exogenous impact on the economic development of East Asian countries, but he argues this impact is not uniform due to endogenous cultural factors. He introduces the idea of a global production network (GPN) as the link between the global and regional strategies of MNCs. GPNs emerge where an architecture "strategically coupling" values, power, and embeddedness. He uses the case of the telecom equipment manufacturers to explain

how variations on these three strategic coupling dimensions explain the multiple regional and national strategies of MNCs in East Asia.

Jun Kurihara's chapter places the rise of the information and communications technology revolution as an important driver affecting the global relocation and reorganization of Japanese electronics companies in a new economy era. In his contribution *Japan's Electronics Companies – In Search of Strategies for the 'New Economy' Era* he provides firm level data showing what we consider as "strategy" has many dimensions. One dimension is the overseas "relocation" of a company's value chain, and a second is the "reorganization" of its product line. Using these two analytical tools, he illuminates why a company's global strategy yields to weak and strong forward and backward linkages at the regional and country levels. He concludes that managing these linkages has become almost as important as the strategy itself.

Ulrich Schüle's chapter on *Exchange Rate Fluctuations and Internationalization Strategies of Multinational Companies* takes up this section's theme from the financial side of the story. He notes that the globalisation of financial and capital markets has not pushed aside national rules and regulations on the flow of capital. He empirically support this assertion by showing how the flow of FDI to the European Union, North America (i.e., NAFTA), Asian Countries, and other regions varies according to the degree a country/region has moved towards a single currency and/or harmonized rules. He frames his analysis within a "triad model" to show how FDI reduces three types of risk: transaction risk, translation risk, and market risk. He argues that "integrated currency zones" may be more attractive to MNCs than the physical openness of markets. He discusses the implications for East Asia versus the world and the cleavages that may emerge splitting the East Asia region.

Unlike other regions of the world, the establishment of export processing zones, growth triangles, and free trade areas in East Asia led to the blurring of national borders. In this section of the book we focus on the strategies of MNCs in one subregion: China. Tomoo Marukawa's contribution on *Towards a Strategic Realignment of Production Networks – Japanese Electronics Companies in China* historically describes the geographical shift of Japanese GPN across East Asia from Northeast Asia in the 1970s and 80s, then Southeast Asia in the 1980s and 90s, and most recently China. His narrative essentially follows a product cycle argument, but his regression analysis elaborates on this approach to find that there is a bandwagon effect where Japanese companies tend to follow each other to the latest attractive country. Moreover, he finds that Japanese FDI is sticky – that is, Japanese companies tend not to disinvest from countries benfiting from earlier rounds of FDI earlier due to political reasons. His chapter illus-

trates how market and non-market factors co-exist within a company's business strategy, and questions whether Japanese companies can maintain this equilibrium in the future.

Haruo HORAGUCHI's chapter on *Japanese Foreign Direct Investment in China – From Export-oriented Production to Domestic Marketing* teases out the political (non-market) forces affecting company strategies. He discusses how shifts in state and local policy initiatives corresponds with the agglomeration and disagglomeration of Japanese direct investments in particular regions of China. He tests his non-market forces hypothesis with a statistical analysis of the yen-dollar exchange rate (market forces). He finds the yen-dollar exchange rate explains Japanese FDI to the United States, but not to China. In the China case, government policies, particularly in the form of the special economic zones, has greater explanatory power. He illustrates this outcome with two case studies, showing how national policies can affect Japanese companies to shift from production-oriented to market-oriented strategies.

Valeria GATTAI's chapter *Entering the Dragon – Lessons from Italian FDI in the People's Republic of China* argues that "communication competence" plays an important role in providing company strategy a human face. To illustrate this concept, she asks why, where, how, and when Italian companies came to China. For each of these questions she examines companies based on size, form of investment (wholly-owned, joint venture), and industry. Variations across these dimensions suggest that the more local knowledge a company has about its host country, the better they are able to adapt their business strategy to local conditions to achieve their global competitive goals.

The third section of focus in this volume, Technology Transfer, examines the inter-firm and strategy nexus. The chapter by Alex BLAIR and Craig FREEDMAN asks *Are Japanese Multinationals Different? – Technology Transfer in Asian Region*. They begin by assuming all MNCs confront similar host country constraints and opportunities and then ask so what explains their diversity in the transfer of technology across borders within firms? To answer this empirical question, they compare American and Japanese companies investing in the same country and industry, repeating repeat this analysis across three countries—Thailand, Malaysia, and Indonesia—and two industries—electronics and automotive. They find Japanese technology strategies are different from American strategies, however these differences are mainly due to home country effects. Over time, they hypothesize, that host country characteristics tend to mute many of these differences in their technology transfer choices.

My own chapter on *Market and Technology Leadership in the Chinese Car Industry – Japanese and German Strategies in a Dynamic Environment* argues

that customer demand is one factor for the convergence in the choices MNCs make in transferring technology. Implicit in this argument is an iterative process of adjusting global strategies to (local) market demand. In the initial iteration, the state jump started the automobile industry creating an industry, and in the next iteration, individual demand created a consumer market. The ensuing competition is now forcing companies to pursue technology and market leadership, often times in collaboration with local partners. In short, customer, competition and the state, force MNCs to adapt or risk their competitiveness in the Chinese market.

Dennis Tachiki's chapter on *The Globalisation of Information Systems in Japanese Companies – Convergence or Divergence?* asks what explains the divergence-convergence paradox found in the earlier chapters. He traces the diffusion of e-commerce across industries and within companies and finds that Japanese businesses have been late to adopt the Internet, but a new generation of dot.com companies have quickly emerged since 1997. Moreover, within companies a hybrid "open" Internet co-exists with a "closed" electronic data interchange (EDI) information system in place since the 1970s. The Japanese case suggests the interaction between technology and social organization allows for the possibility of many paths to the transfer and adoption of technology.

The final area of focus in this volume deals with the intra-firm and strategy nexus, focusing on the area of Human Resource Management. Christian Hirt's chapter on *International Human Resource Management Strategies Emerging from Global Integration and Local Differentiation* asks how do MNCs manage the cultural differences among their international staff. Using a case study of a computer manufacturing supplier, he draws on the resource-based and competency theory test to what extent information flows within a company nourishes strategy and organizational competence. He finds there are cultural differences in the use of information flows, but creating trust between expatriate and local staff can break the vicious HRM circle foreign companies face in Japan. Leveraging this trust, foreign managers can enhance a company's competitive edge.

Timothy Bartram, Raymond Harbridge, Bryan Tan and David Smith look at *The Management of Asian Employees in an American Multinational Companies – The Role of Supervisory Social Support and the Empowerment of Employees*. They ask if organizational effectiveness begin with the hearts and minds of employees, what contributes to their organizational commitment and job satisfaction? Based on a quantitative analysis of survey data on local workers for American subsidiaries located in Singapore, Malaysia and Philippines, they argue that one way MNCs can tap the potential of their Asian workforces is to create an atmosphere of social

support that empowers employees, which they find leads to greater organizational commitment and job satistisfaction.

The linkages between global and regional nexus and inter-firm and intra-firm strategies are important in the performance of MNCs in East Asia. René HAAK provides a forward looking chapter on *A View on Changes and Challenges in East Asia* that describes what political and socio-economic changes businesses may expect in the region. Combined with the insights of the previous chapters, he provides MNCs some idea how to position their global production networks and tap the local technological and human resources required to enhance their company performance in this important region of the world.

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1 Global Production Networks

Dealing with Diversity[1]

Martin Hess

Introduction

East Asia still is one of the most dynamic economic regions in the world. After the 1980s boom and the subsequent crises during the 1990s, however, questions arise about the future of economic development in the region and the perspectives for companies operating in East Asia. While China is unanimously – and often euphorically – regarded as the market and the production location of the future, many observers expect the decline of Japan as the economic centre of gravity. This becomes obvious in the current debates about an industrial 'hollowing out' of Japan and other advanced economies. The analysis of macroeconomic data on foreign trade and direct investment is often used as proof. Uncertainty also prevails about the future development of other economies in East Asia. In order to better understand the current transformations against the background of economic globalisation, it is necessary to look more closely at the structures of global production networks (GPN) – the main drivers of economic development – and their regional as well as sectoral differences.

Global production networks can be characterized by the following relevant actors: Focal firms dominating the networks (usually transnational enterprises), their business partners (for example suppliers, ex-

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ternal service providers, customers) and finally the governmental and non-governmental institutions of regions and countries within which the companies operate. The structure and development of these GPN evolves in particular from the strategies and organisational models of the focal firms, the nature of relationships with other firms and customers, and the form and intensity of influence exercised by political and societal institutions. For a long time Japan has been a prime example, and Japanese firms continue to be the largest investors in most of the East Asian countries. However, at least since the 1997 Asian financial crisis there is growing pressure to carry out restructuring in politics and business organisation in the light of globalisation, liberalisation and deregulation. Firms from Western economies meanwhile have adapted many successful elements of Japanese enterprise organisation (lean management, inter-firm collaboration and so on), while at the same time their influence in East Asia has been growing. Well known examples include the investments of German-US group Daimler-Chrysler in Mitsubishi or the holding of Nissan shares by the French car maker Renault. Hence the boundaries between previously separate production systems and strategies seem to become increasingly blurred. This poses the question of the extent to which these developments lead to a convergence of organisational models or whether particular features of different business systems remain distinctive.

In the light of the above mentioned developments two trends can be observed in economic policy which the countries in East Asia have in common, despite the differences in scope and success of their internal reforms: firstly, a considerable degree of regulation of foreign direct investment; secondly, a growing understanding of the necessity for increased political and economic co-operation. Attempts for supra-national integration like ASEAN, ASEAN+3 or AFTA and bilateral agreements, as in the case of Japan and Singapore, are the result of government actions often called for by enterprises. For instance, Japanese firms have tried to speed up the implementation of free trade zones under the AFTA using their government contacts in Southeast Asia, while Taiwanese manufacturers urge their government to reduce restrictions on setting up production facilities in mainland China. The fact that China now is the largest recipient of foreign direct investment within East Asia, however, does not mean that corporate strategies and GPN structures are aligned towards China in the same way. Important in this context are the opportunities of value-added in different economic sectors.

Globalisation rhetoric usually assumes that the origin of a transnational enterprise is irrelevant, since it operates globally and follows

universally valid – capitalist – rules. Research into the organisation of these firms, however, shows the continuing importance of home country influences. During interviews, the issue of human resource management has, of course, been raised time and again, but the forms of inter-firm co-operation also depend to a large extent on specific cultural and institutional circumstances. A clear distinction between corporate culture and 'national' or 'regional' (for example 'Asian') culture proves to be difficult, however, both forms are usually intricately intertwined. An interesting characteristic of many GPN is the rather strong involvement of companies from the home country of the network's focal firm. This is true for Japanese multinationals that rely on business partners from Japan, but equally applies for European firms in East Asia. These companies often try to replicate their specific organisational models and strategies abroad, and at the same time face difficulties of integration in foreign or host country networks – due to the very same mechanism of replication. '[…] it can be argued that national culture continues to affect corporate strategy making and to provide differences in style and mode of implementation within MNCs. These are, of course, currently being tested in global markets' (Loveridge and Mueller 1999, p. 82).

In the following section, we outline an analytic framework, which we believe, helps us to understand some of these processes more effectively. The framework we propose is that of the 'global production network' (GPN). While the GPN is not advanced as a totalizing framework capable of grasping the myriad complexities of economic globalisation, we believe that it is capable of delivering a better analytic purchase on the changing international distribution of production and consumption – and the viability of different development strategies to which they relate – than has previously been possible.

Global Production Networks – a Framework for Analysis

The concept of the global production network (GPN) outlined here draws on the work of Gereffi and his collaborators (Gereffi and Korzeniewicz 1994) on global commodity chains (GCC) and the existing value chain literature (Porter 1985; Sturgeon 2001). Before we elaborate on the nature of the GPN, we need to explain our preferences for the terms 'production' rather than 'commodity' and 'network' rather than 'chain'. We also need to indicate our understanding of 'global'.

In contemporary usage the term 'commodity' generally connotes standardized products and with that, the fixity of their production in time and

space. While this remains the reality of some forms of productive activity and products (some agriculture, some heavy industry and minerals extraction, for instance), it clearly does not capture adequately the post-fordist forms of activity that characterize many of the industries that the GCCs framework, for instance, was designed to analyse. More importantly, perhaps, our preference for a discourse of 'production' places the analytic emphasis on the *social processes* involved in producing goods and services and reproducing knowledge, capital and labour power. Notwithstanding Marx's definitive deconstruction and interrogation of the commodity (in Part I of the first volume of *Capital*), the discourse of commodities has long been captured by orthodox economics of whatever paradigm. As a consequence, it has transmuted into a reified language shorn of its social content. There is a need, therefore, to re-focus attention on the social circumstances under which commodities are produced and consumed and thus avoid the ever-present danger of slipping into a perception of commodities as de-humanized building blocks involved in the making of other commodities.

The metaphor of the chain gives the impression of an essentially linear process of activities that ultimately result in a final commodity rather than one in which the flows of materials, semi-finished products, design, production, financial, and marketing services are organized vertically, horizontally, and diagonally in complex and dynamic configurations. Additionally, the chain metaphor – consistent with a commodity discourse – seems to have difficulties incorporating due attention to the issues of the reproduction of labour power and so on. Furthermore, the chain metaphor works against conceiving of the individual firms incorporated into a production system as having room for autonomous action within that system, in spite of the fact that such autonomy is central to the possibilities for industrial upgrading and thus sustained economic development. As a consequence of these difficulties, we find a discourse of networks to be more inclusive, empirically adequate and thus more analytically fertile.

Adoption of a network discourse also delivers other potential benefits. In particular, as long as 'production' is couched broadly to include intermediate and final markets and as long as the dynamics of power and knowledge between actors and institutions are understood in a multidirectional and non-deterministic fashion, then the GPN framework allows for far greater complexity and geographical variation in producer-consumer relations than the GCC approach, for instance, has so far achieved. Specifically, it should facilitate our ability to reveal how certain key knowledge 'circulates' between producers, consumers and intermediaries, rather than moving in a uni-directional manner, a key insight of the

expanding literature on 'commodity cultures' (for example Cook and Crang 1996; Jackson 1999). Moreover, this approach should also allow more complex social geographies to be revealed, in the sense that agents in a variety of locations can be seen to combine to influence the production process.

Finally, while it is now fashionable to use the term 'global', phenomena and practices that until recently would have been more likely to be termed 'international' or 'transnational', our adoption of the former term is driven by our concerns with analytical precision. Specifically, the terms 'international' and 'transnational' derive from essentially state-centric discourses. Thus while they incorporate notions of cross-border activity of many sorts, they do not adequately express the way in which non place-specific processes penetrate and transform place-specific ones, and vice versa. They do not, therefore, help to deliver the imaginative sensibilities necessary to grasp the dialectics of global-local relations that are now a pre-condition for the analysis of economic globalisation and its asymmetric consequences.

The global production network as proposed here, is a conceptual framework that is capable of grasping the global, regional and local economic and social dimensions of the processes involved in many – though by no means all – forms of economic globalisation. It is unlikely to be of particular help, for instance, for the analysis of some forms of finance capital such as bank loans and portfolio investment. Production networks – the nexus of interconnected functions and operations through which goods and services are produced, distributed and consumed – have become both organisationally more complex and also increasingly global in their geographic extent. Such networks not only integrate firms (and parts of firms) into structures that blur traditional organisational boundaries – through the development of diverse forms of equity and non-equity relationships – but also integrate national economies (or parts of such economies) in ways that have enormous implications for their well-being. At the same time, the precise nature and articulation of firm-centred production networks are deeply influenced by the concrete socio-political contexts within which they are embedded. The process is especially complex because while the latter are essentially territorially specific (primarily, though not exclusively, at the level of the nation-state) the production networks themselves are not. They 'cut through' state boundaries in highly differentiated ways, influenced in part by regulatory and non-regulatory barriers and local socio-cultural conditions, to create structures which are 'discontinuously territorial' (see Dicken et al. 2001; Cabus and Hess 2000).

There are three principal elements on which the architecture of the GPN framework is raised. The first of these is:

Value: By 'value' we mean both Marxian notions of surplus value and more orthodox ones associated with economic rent. Thus we are interested in the following matters.

- The initial *creation* of value within each of the firms incorporated into a given GPN. The significant issues here include the conditions under which labour power is converted into actual labour through the labour process; and the possibilities for generating various forms of rent. In the former the issues of employment, skill, working conditions and production technology are important as well as the circumstances under which they are reproduced (hence connecting these issues to broader social and institutional questions). In the latter (see Kaplinsky 1998; Gereffi 1999) the issues are whether a given firm can generate rents from (a) an asymmetric access to key product and process technologies ('technological rents'); (b) from particular organisational and managerial skills such as 'just-in-time' production techniques and 'total quality control' and so on ('organisational rents'); (c) various inter-firm relationships that may involve the management of production linkages with other firms, the development of strategic alliances, or the management of relations with clusters of small and medium sized enterprises ('relational rents'); or (d) from establishing brand-name prominence in major markets ('brand rents'). In certain sectors and circumstances (e) additional rents may accrue to some firms as a consequence of the product scarcities created by protectionist trade policies ('trade-policy rents'), though this is another issue that connects questions of value creation to the institutional contexts (national and international in this case) within which firms operate.
- The circumstances under which value can be *enhanced*. The issues involved here include: (a) the nature and extent of technology transfers both from within and without the given production network; (b) the extent to which lead and other major firms within the network engage with supplier and subcontractors to improve the quality and technological sophistication of their products; (c) as a consequence, whether demands for skill in given labour processes increase over time; (d) whether local firms can begin to create organisational, relational and brand rents of their own. In all of these cases, the national institutional influences to which the firms are subject (governments agencies, trade unions, employer associations, for instance) may be decisive for the possibilities of value enhancement.

- The possibilities that exist for value to be *captured.* It is one thing for value to be created and enhanced in given locations, but it may be quite another for it to be captured for the benefit of those locations. The pertinent issues here partly involve (a) matters of government policy, but they also involve (b) questions of firm ownership and (c) the nature of corporate governance in given national contexts. In the first case, the nature of property rights and thus laws governing ownership structures and the repatriation of profits can be important, while in the second the extent to which firms are totally foreign owned, totally domestically owned, or involve shared equity as in joint-venture arrangements, continues to be decisive as a long tradition in the political economy of development has argued and recent experience in Britain, for instance, has underlined. In the third case, the extent to which corporate governance is founded on stakeholder principles, rather than on shareholder dominance (and required by legal statute) can have important consequences for whether value generated in a given location is retained there and indeed used for the benefit of the common weal. The issue of value capture, then, underlines the significance of the national form of capitalism – and thus matters of expectations, rights and obligations – for questions of economic and social development.

Power: The source of power within the GPNs and the ways in which it is exercised is decisive for value enhancement and capture and thus for the prospects for development and prosperity. Although not theorised in terms of power, Humphrey and Schmidt's (2001) discussion of the governance structures of 'value chains' is an important complement, at this point, to our work. There are three forms of power that are significant here.

- *Corporate* power. Here we have in mind the extent to which the lead firm in the GPN has the capacity to influence decisions and resource allocations – vis-à-vis other firms in the network – decisively and consistently in its own interests. Our adoption of a network discourse implies a rejection of a zero-sum conception of power in that lead firms rarely, if ever, have a monopoly on corporate power. Rather, while power is usually asymmetrically distributed in production networks, lesser firms sometimes (and for contingent reasons) have sufficient autonomy to develop and exercise their own strategies for upgrading their operations and so on. Additionally, and at least in principle, lesser firms incorporated into networks have the possibility of combining with other lesser firms to improve their collective situation within the GPN (as when SME clusters constituted as industrial dis-

tricts are incorporated into GPNs; see Castells (2000, Chapter 5) and also Carnoy and Castells (2001).

- *Institutional* power. Our reference here is to the exercise of power by (a) the national and local state (in the latter case where the national state is constituted as a federal polity); (b) international inter-state agencies ranging from the increasingly integrated European Union on the one hand through to looser confederations such as ASEAN or NAFTA on the other; (c) the 'Bretton Woods' institutions (International Monetary Fund, World Bank) and the World Trade Organisation; (d) the various UN agencies (particularly the ILO); and (e) the international credit rating agencies (Moodys, Standard and Poor and so on) which exercise a unique form of private institutional power. The capacity to exercise power to influence the investment and other decisions of lead companies and other firms integrated into GPNs is inevitably asymmetric and varies both within and between these five categories. Thus with regard to national states, some of those in East Asia (particularly South Korea and Taiwan, but more recently China) have been perceived in recent decades as being amongst the most capable of influencing private companies in the interests of industrialisation and development (among an enormous literature see Wade 1990 and Henderson 1999) while states as disparate as those of Britain and Indonesia have been far less able to do so. This is obviously not the place to explain such discrepancies except to mark that the answers seem to lie in a combination of political will (or its absence) and differing institutional capacities for economic governance. For the British and Indonesian cases see Hutton (1995) and Hill (1996) respectively. For more general and theoretical accounts of the relation between state capacities and economic development see Evans (1995) and Evans and Rauch (1999). The power of the inter-state agencies is potentially considerable – particularly in the case of the EU – though elsewhere it remains weakly developed. The power of the Bretton Woods institutions, while it can be considerable, is exercised indirectly and impacts on companies, workforces and communities via the economic and social policies that national governments are obliged to implement. The power of the UN agencies is of much less significance than any of the others in that its influence on firms is not merely indirect, but it is also only moral and advisory. The significance of the credit rating agencies is potentially considerable, both directly for many lead companies and indirectly via their credit risk assessments of national governments. However, we as yet know little of the ways in which their influence is exercised (but see Sassen 1999).

- *Collective* power. By this form of power we understand the actions of collective agents who seek to influence companies at particular locations in GPNs, their respective governments and sometimes international agencies (most recently the IMF and WTO in particular). Examples of such collective agents include trade unions, employers associations, and organisations that advance particular economic interests (for example of small businesses), NGOs concerned with human rights, environmental issues and so on. These agencies may be nationally or locally specific, or they may be internationally organized as are some trade unions (for example the International Metal Workers) or human rights organisations (for example Amnesty International). In most circumstances where such agencies are engaged, they attempt to exercise countervailing power either directly on particular firms or groups of firms within given networks or indirectly on national governments or international agencies.

Embeddedness: GPNs do not only connect firms functionally and territorially but also they connect aspects of the social and spatial arrangements in which those firms are embedded and which influence their strategies and the values, priorities and expectations of managers, workers and communities alike. The ways in which the different agents establish and perform their connections to others and the specifics of embedding and disembedding processes are to a certain extent based upon the 'heritage' and origin of these agents. Firms – be they TNCs or smaller local enterprises – arise from, and continue to be influenced by, the institutional fabrics and social and cultural contexts of particular forms of capitalism (or in the case of Eastern Europe, China and so on prior to the 1980s, particular forms of state socialism) in their countries of origin. While the nature of education, training and labour systems and the sources and organisation of corporate finance are important, of particular significance for firm development, priorities and strategies are the nature of state policy and the legal framework (Zysman 1983; Hutton 1995; Whitley 1999).

Local companies that have emerged from particular social and institutional contexts evolve over time on the bases of trajectories that are in part a reflection of these contexts. As many scholars have pointed out with regard to the former state socialist societies of Eastern Europe, these trajectories are 'path dependent' and thus to some extent historically constrained (for instance, Stark 1992; Hausner, Jessop and Nielsen 1995; Czaban and Henderson 1998). While it is important to recognize that such constraints are not immutable and that their influence may be waning – not least because of globalisation – it is also important to acknowledge

that some lead firms when investing overseas may carry the institutional 'baggage' of their home bases with them. But others might also tend to operate at or near the lowest common denominator that domestic policies and legal frameworks will allow. Japanese companies, for instance, have never offered 'permanent employment' contracts to employees in their foreign subsidiaries. Similarly German companies, though required by German and EU legislation to consult extensively with employees before instituting redundancy programmes, have never done so in countries where such laws do not apply. Recent disinvestments in Britain by Siemens and BMW are cases in point.

Amongst the different dimensions and aspects of embeddedness, there are three related forms of firm and network embeddedness that are of interest here. The first form, *societal*, considers an actor's history and social/cultural origins. The second form, *network* embeddedness, refers to the network structure, the degree of connectivity within a GPN, the stability of its agents' relations and the importance of the network for the participants. The third form, *territorial*, deals with the various GPN firms' 'anchoring' in different places (from the nation state to the local level), which affects the prospects for the development of these locations. All three forms, of course, are the result of essentially social and spatial processes of 'embedding'.

- 'Societal' embeddedness: Signifies the importance of where an actor comes from, considering the societal (that is, cultural, political and so on) background or – to use a 'biologistic' metaphor – 'genetic code', influencing and shaping the action of individuals and collective actors within their respective societies and outside it. Herein lies the foundation of most discourses about the convergence of capitalist systems and the institutional limits to it (see Gertler 2001; Harzing and Sorge 2002). This type is maybe the one most closely linked with the original idea of embeddedness as laid out in Karl Polanyi's (1944) seminal book, 'Transformation'. Although Polanyi does not write explicitly about 'cultural' embeddedness, it is safe to say that his analysis offers an excellent point of reference to emphasize the history of social networks and the cultural imprint or heritage of actors that influence their economic behaviour 'at home' as well as 'abroad'. Of course, the notion of culture is another example of a widely used, but rarely stringently elaborated concept. Without going into detail here about the nature of culture in organisation studies and economic geography (for a discussion see Gertler 1997; Alvesson 2000; Barnett 2001), culture for this purpose is broadly conceived as the 'heritage' of an actor that links it to the 'society' it emanates from. 'We propose that […] cultural formations are significant because they both constrain and

enable historical actors, in much the same way as do network structures themselves' (Emirbayer and Goodwin 1994, p. 1440). Societal embeddedness also reflects the business systems idea of an institutional and regulatory framework that affects and in part determinates an actor's behaviour, for example on the individual level via the cognitive mechanisms detailed by Zukin and DiMaggio (1990), or on the aggregate level of the firm, as pointed out by Whitley (1999) and his colleagues.

- Network embeddedness: Describes the network of actors a person or organisation is involved in, that is the structure of relationships among a set of individuals and organisations regardless of their country of origin or local anchoring in particular places. It is most notably the 'architecture', durability and stability of these relations, both formal and informal, which determine the actors' individual network embeddedness (the relational aspect of network embeddedness) as well as the structure and evolution of the network as a whole (the structural aspect of network embeddedness). While the former refers to an individual's or firm's relationships with other actors, the latter consists not only of business agents involved in the production of particular goods or a particular service, but also takes the broader institutional networks including non-business agents (for example government and non-government organisations) into account. Network embeddedness can be regarded as the product of a process of trust building between network agents, which is important for successful and stable relationships. Even within intra-firm networks, where the relationships are structured by ownership integration and control, trust between the different firm units and the different stakeholders involved might be a crucial factor, such as in the case of joint ventures (Yeung 1998).
- Territorial embeddedness: Considers the extent to which an actor is "anchored" in particular territories or places. Economic actors do not merely locate in particular places. They may become embedded there in the sense that they absorb, and in some cases become constrained, by the economic activities and social dynamics that already exist in those places. One example here is the way in which the networks of particular firms may take advantage of clusters of small and medium enterprises (with their decisively important social networks and local labour markets) that pre-date the establishment of subcontracting or subsidiary operations by such firms. Moreover, the location or anchoring down of external firms in particular places might generate a new local or regional network of economic and social relations, involving existing firms as well as attracting new ones. Embeddedness, then,

may become a key element in regional economic growth and in capturing global opportunities (Harrison 1992; Amin and Thrift 1994). There is also a downside. The nature of local networks and socio-economic relations may under certain circumstances generate an inability to capture global opportunities and lead to regional economic downturn (Oinas 1997, p. 26). Strong embeddedness, therefore, is not necessarily a 'good' or positive quality of networks or their agent. The resulting advantages in terms of value creation and so on may result in spatial 'lock-in' for those firms with knock-on implications for other parts of that firm's network (see Grabher 1993; Scott 1998). Similarly, national and local government policies (training programmes, tax advantages and so on) may function to embed particular parts of larger actor-networks in particular cities or regions, in order to support the formation of new nodes in global networks, or what have been described as islands in an archipelago economy. But the positive effects of embeddedness in a particular place cannot be taken for granted over time. For example, once a lead firm cuts its ties within a region (for instance, by disinvestment or plant closure), a process of disembedding takes place (Pike, Lagendijk and Vale 2000; pp. 60–1), potentially undermining the previous base for economic growth and value capture. From a development point of view, then, the mode of territorial embeddedness or the degree of an actor's commitment to a particular location is an important factor for value creation, enhancement and capture.

These three dimensions of embeddedness are of course closely knitted to each other, and in combination form the space-time context of socio-economic activity. The following section will illustrate the main conceptual categories of value, power and embeddedness by looking on developments in the telecom equipment industry of East Asia and Europe.

GPN and Diversity
An Illustrative Example of Telecom Equipment Manufacturing

To date, the telecom sector has created a quite remarkable number of jobs world-wide. During the evolution of the telecoms industry, the growth of sector employment has usually been strongly connected to the overall development of national economies. Over the period 1995–2000, the number of jobs in many of the economies remained roughly constant or grew moderately; the global average annual rate was 1.7 percent, with Asia (including South Asia) finally overtaking Europe during these five years. Employment was declining especially in the transformation economies of

Eastern Europe, where privatisation and sector reforms reduced the workforce by an annual rate of 1 per cent (for example Czech Republic, Poland) to almost 10 per cent (the Baltic states of Latvia and Lithuania, for instance). In Asia, the financial crisis of 1997 and continuing reforms led to job losses in Japan and some of the South East Asian countries, while Vietnam and China saw the biggest growth rates in public telecoms services of all the Asian economies, with 17.2 per cent and 9.3 per cent respectively. This shows the strong demand for telecoms provision in order to catch up with the already more saturated markets. Within the EU, most of the northern states experienced the biggest growth rates during this period, while countries in the southern EU, especially Spain and Italy, fell back. This might be explained by the different expansion rates of mobile services.

While the above figures reflect the boom phase of information and communications technology industries world-wide, the picture has changed drastically since 2000. The telecoms sector has suffered dramatic job losses, both in the service and manufacturing activities, across the globe. Many service providers have been forced to downsize their workforce because of flattening demand, increased competition and the accumulation of huge debts related to the acquisition of 3G licenses. As a consequence, far fewer orders for new equipment have been placed, hitting the telecoms vendors and forcing them to cut costs through layoffs and relocation or outsourcing of manufacturing activities. This has transformed the economic landscape of telecom equipment manufacturing in Europe and East Asia, whereby a considerable proportion of the job losses at large OEM (original equipment manufacturer) firms like Ericsson, Siemens or Panasonic Mobile Communications has been compensated for by employment growth in contract manufacturing (CM) and electronics manufacturing services (EMS) providers like Flextronics, Elcoteq, or Celestica.

A growing share of telecommunications employment is related to the increasing globalisation of business activities carried out by the major players in the sector. Value creation in the form of direct employment and related income certainly contributes to the development prospects of countries and regions. Equally important, however, are the jobs created indirectly through the activities of telecoms companies, thereby opening up opportunities for technology and know-how transfer and thus value enhancement. One illustration of the importance of indirect employment creation is the case of a European telecoms equipment manufacturer and its operations in Malaysia. The company started its activities in Malaysia, fulfilling a major contract with Telecom Malaysia for building up their infrastructure, in 1984. Due to the size of the contract, a local manufacturing base was

required, but was closed down in 2001, after the contract expired. Since then, the company directly employs only 150 people in Malaysia, in R&D and marketing/sales, which arguably is not a major contribution to Malaysia's labour market. In terms of inter-firm linkages, however, indirect employment and technology/know-how transfer is rather remarkable. The Malaysia branch of the European firm is the source for indirect employment in the software, manufacturing and construction industries, as indicated by the local managing director during an interview.

> […] we are working together with low cost software companies to develop applications and content for new technologies such as GPRS or WAP or whatever. MIC Mobile Internet Centre, that is [our] lab where we test and verify those applications […].
> … As far as I know just about everyone of those [software companies] are local companies. Established by young entrepreneurs, small companies, maybe the biggest of the companies has 30 people and typical size is maybe 10–15. […] They are people who have ideas and believe in mobile internet and have established companies to develop these ideas to applications. What we are doing is we are providing our software tools and platforms that they can use to develop that idea to an application. We are giving the coaching and finance in all the areas that they are concentrating on. And manage all these connections to [our parent company] and do the testing and we do it free of charge.
> … In this software thing, we have about 1,000 people working in that, doing applications. In the manufacturing of these set-top boxes we have a bout 1,000 people working in that. In the subcontractor networks we have a few thousand. All in all the number of people in relation to our activities is very very big but only a small number is our own people. That is the way how we do it. (Company interview, 24.02.2002)

Another indicator for value creation is the investment in telecommunications services. In absolute terms, investment during the year 2000 has been highest in the North East Asian economies of Japan, China, Taiwan and South Korea. The only European countries that come close to these figures are Italy and the UK. The relative importance of telecoms investment, however, becomes more evident by looking at its 1999 share in total gross fixed capital formation. Again, China ranks among the countries most heavily investing in telecoms. Among the emerging economies of East Asia, Thailand and Malaysia are found to be above the world average of 3 per cent, whereas the majority of the transformation economies in Eastern Europe belongs to that category.

While the amount of investment in Asia demonstrates the importance of the region as a market, a look at the telecoms equipment trade figures for the years 1995 and 2000 indicates the dominance of European vendors over that period of time. An outstanding example is Finland, home to the equipment maker Nokia. Exports of this company alone account for about 25 per cent of all Finnish exports (Castells and Himanen 2002, p. 43) and about 70 per cent of Finnish ICT exports. Similarly, Sweden generates high export volumes partly due to its telecoms giant Ericsson, as do Germany (Siemens) and France (Alcatel). Thanks to direct investment in equipment manufacturing facilities, Ireland and the UK also expanded their telecom equipment export base, being a preferred location manufacturing base during that time. In Asia, Japan and South Korea were a major source of exports, with China catching up quickly. Hit by the financial crisis, Thailand, Malaysia and Indonesia are the only countries that have experienced a contraction of imports 1995–2000, while moderately expanding their exports. Behind this picture lie the changing strategies of equipment manufacturers towards globalisation and restructuring, which transformed the global production networks of the players involved and led to a shift in the locational structure of these GPN in Europe and Asia.

Telecoms equipment can be broadly differentiated into two categories: network and switching equipment, and terminals. This illustrative section will concentrate on the global production networks of mobile phones and the changes of value added, power and embeddedness within them under globalisation. Since the introduction of mobile telephony about 15 years ago, a small number of vendors have established themselves as market leaders in this segment. By far the largest company producing and selling mobile phones is the Finnish Manufacturer Nokia, with about 35 per cent market share world-wide and shipments of almost 140 million handsets in 2001 (Törnroos 2002, p. 10). Nokia is followed by Motorola (USA), Samsung (South Korea), Siemens (Germany) and SonyEricsson, the recently created Swedish-Japanese mobile phone joint venture. Together, these five companies cover about 75 per cent of the world market for handsets and therefore their strategies and GPN very much dominate this subsector. A common denominator of all the leading handset manufacturers is their strategy towards relocating the actual manufacturing activities to low-cost sites. Since handsets have become commoditized, the value added in the manufacturing process has fallen sharply, and hence economies of scale are crucially important. Therefore, the assembly of mobile phones has been scaled down in the United States and Western Europe, while production has been increased in Eastern Europe and East Asia. The Japanese firm Panasonic Mobile Communications, for instance,

has relocated its plant in Thatcham/UK to the Czech Republic, while Nokia has partially withdrawn from manufacturing in the US and expanded production at its Mexico and South Korea plants. What is different among the main players in this field is their strategy towards outsourcing. Every lead firm is using EMS companies now as contract manufacturers, but to different degrees. Nokia, the market leader, still produces about 80 per cent or more of its handsets in-house, at 8 locations worldwide, which is economically feasible only through the sheer volume of production. By the same token, South Korea's Samsung does the bulk of production still in house. On the other hand, SonyEricsson has given up all of its own manufacturing and co-operates with Flextronics which took over the plants previously owned by Ericsson, as EMS partner. Siemens runs a strategy of both in-house manufacturing and outsourcing, because it sees production know-how as a core competence and does not want to lose it, despite profit margins being negligible or even negative. Interestingly, whatever strategy these focal firms have chosen, in most cases the effects of societal embeddedness or home-country effects, as well as network embeddedness can be found in the GPN inter-firm relationships with their suppliers and EMS partners.

It often – though not exclusively – can be observed that the focal firms prefer partners and suppliers of their own nationality or culturally proximate countries, because of similar corporate cultures, often long standing business relationships and a resulting high level of trust. As one interviewee from a mobile phone EMS put it,

> […] well, I am a [country x citizen], a [country x citizen] trusts a [country x citizen], like that. They might not trust someone else – maybe that's the benefit. (Company interview, 25.11.2002.)

It is notable, for instance, that Nokia co-operates with a Finnish EMS firm, Motorola uses a US company, Japanese handset manufacturers like NEC – initially reluctant to follow the outsourcing model at all – started to create their own EMS spin-offs and only very lately engaged in outsourcing relationships with Western firms. Siemens and SonyEricsson, however, chose Flextronics as their EMS partner, a Singapore-based, US-managed firm with global operations. The co-evolution of suppliers and focal customers is also reflected in the business relationships between handset manufacturers and handset cover suppliers. Siemens is working with the German Balda AG, while Ericsson's lead supplier is the Sweden-based Nolato. Motorola uses the US company Nypro, while Nokia's main supplier is the Finnish firm Eimo. With the globalisation of handset manufacturing the focal firms asked their lead suppliers to follow them to new production locations, mostly in East Asia and Eastern Europe. Thus these

societally embedded inter-firm relationships were transplanted to different geographical and cultural contexts. To some extent, this is similar to developments in the car and car components industry, including the development of territorially embedded telecom clusters of producers, suppliers, and logistics companies. These clusters are developed by brand name firms and EMS firms alike, as the examples of the Nokia-led Xingwang Industrial Park in Beijing (see Liu, Dicken and Yeung 2003), the Finnish ICT cluster (see Leinbach and Brunn 2002; Castells and Himanen 2002) or the Flextronics-led Industrial Park in Hungary show. Much like the car industry, the major suppliers were 'persuaded' to follow the manufacturers to these locations. The preferred outsourcing partners usually are obliged to use suppliers chosen by the OEM or brand name holder, a fact which is not always economically viable and beneficial for the EMS manufacturer. One Asian plant of a large EMS, for example, has to use European suppliers certified by the OEM customer, even for low-value products:

> … Some of the packaging moves to us from operators in [customer's home country]. [Our customer] has some interest in these suppliers, maybe they have some shares in these suppliers so they want to use them. […] We are trying to localize, that is our plan. Once you have local suppliers, they become easy to deal with. […] The cover is coming from [the customer's home country] and the UK. Imported. It doesn't make sense but they don't have a plant here. They should set one up. […] That's right that could be one of the reasons why – I'm gonna be honest with you – why [our customer] has not been doing very well financially. Some of these divisions are not understandable and not financially sound. It's common sense, if you're making a component which is a couple of cents and you look at the whole cost of the product, the product cost, material cost is probably 40 per cent and 60 per cent transportation cost, not very productive (Company interview, 26.04.2002).

From this, it seems obvious that power within the mobile phone GPN lies with the brand name holders. However, as EMS firms and suppliers accumulate technical and production know-how, the balance of power between suppliers, EMS and brand manufacturers evens out, since the brand name holders have to rely more and more on the quality and capabilities of their partners. Not least, the power of customers has to be taken into consideration, with the mobile operators now being the largest purchasers, placing single orders of up to 10 million handsets or more. The downstream end of the mobile phone GPN also proves the complexity of business networks in this sector:

> This is a very complex distribution model. As you have three layers, there are more but let's say three significant layers. Network operators, distributors, and retailers. Those retailers may either be fully owned by operators, Vodafone stores for example, or independent […] A market like Poland is 100 per cent dominated by network operators. Anything you sell as a manufacturer goes to an operator and then they sell it. A market like Sweden or Greece is rather retail driven. […] Going back to the distribution model, […] the interesting thing is that all these channels sell to each other. Manufacturers sell to operators, manufacturers sell to distributors, and manufacturers sell to retailers. At the same time that operator may sell to the same distributor, so that distributor may get the product from two channels. For the retailer it's the same thing. The retailer may get it directly from us or he may get it together with a subscription from the operator or he may get it from a distributor. So it's a rather complex model where all these layers co-operate and work independently at the same time. (Company interview, 26.07.2002)

Conclusion

The way in which global production networks of firms in different regions and sectors organize their division of labour has a strong impact on economic development in East Asia and beyond. Above, we have illustrated this using the telecom equipment sector as an example. There is no single 'best practice', neither for the firms nor for the regions they are located in and which try to upgrade their economic base. Rather, a diversity of network structures and actors' strategies will continue to exist, founded not least in 'cultural' factors. The challenge for companies lies in the strategic coupling with global production networks – based on a solid knowledge of the diversity of GPN – which for many firms still poses some problems. In other words, this strategic coupling goes way beyond mere cost-oriented decisions, even though they often dominate the headlines in reports about corporate restructuring. The different regions in East Asia have to be conscious of the divergent structures of GPN as well, in order to implement successful economic policies – locally, nationally and supra-nationally.

The dread of an industrial hollowing out, for instance, not only affects Japan, but other countries in East Asia like the Republic of Korea and the Republic of China or Taiwan as well. China's economic rise seems to threaten the potential for growth in other Asian regions, by attracting more and more GPN activities and thus redirecting inter-

national investment flows. A recent study by the Japanese Bank for International Co-operation showed that for about 75 per cent of the companies reviewed it is a major issue to expand their activities outside the home country, with China having priority as a location, ahead of the ASEAN nations. The same is true for western firms who already have operations in East Asia or intend to start operations there. Despite a number of common parameters, like the pressure to reduce costs, securing or gaining market shares and so on, which led to comparable restructuring efforts in GPN, there exist different sectoral rules of competition and regulations. Hence, companies follow divergent strategies, making the scenario of a convergence of organisational patterns most unlikely and generating different regional impacts. The electronics industry including telecom equipment manufacturing, for instance, and here especially consumer electronics, is much more export-oriented than is the case in the car industry. Relocations of production activities are often easier and cheaper to carry out, for a number of reasons. A shift towards China and a retreat from some of the Southeast Asian locations in the future seems much more likely in the electronics sector than in other industries like cars or retailing, which are much more market-oriented in their locational decisions.

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2 Japan's Electronics Companies

In Search of Strategies for the 'New Economy' Era

Jun Kurihara

Introduction

The rise of the information and communications technology (ICT) revolution amidst sagging domestic demand in the 1990s has led Japanese electronics companies to relocate and reorganize their networks of production, distribution, and research & development. Increasing global competition, on the one hand, is placing pressures on Japanese companies to either abandon manufacturing low value-added products or move them to overseas production bases. Table 2.1 shows the combined overseas production ratios of the major Japanese electronics companies – Fujitsu, Hitachi, Matsushita, NEC and Toshiba – grew to over JPY 11 trillion by FY 2000, with a 28.8 per cent overseas production ratio. Although this is a decline from the previous year, it marks a significant increase over the previous decades when an export-oriented approach predominated. Matsushita's 35 per cent overseas production ratio is the highest among the major Japanese electronics companies and. Hitachi trails the pack with the lowest overseas production ratio. Nevertheless, on a value basis, it is the third largest overseas producer at JPY 2.35 trillion. In short, overseas production is becoming very much a part of the business strategies of Japanese electronics companies.

In East Asia, Japanese electronics companies initially relocated their overseas production bases in the Asian NIEs (newly developing economies) in the 1970s, and then in the 1980s to the ASEAN (Association of Southeast Asian Nations) countries (Fujita and Hisatake 1998; Borrus et al. 2000). While Japanese electronics companies assembled finished products for local markets, local companies have developed the capacity to produce these low-end products, gradually nudging Japanese electronic companies towards a production network strategy stretching across national borders (Tachiki 2004). Rather than targeting one country for direct investment, Japanese companies are segmenting their production process and manufacturing a product's core technology in Japan and manufacturing or procuring (e. g., electronic manufacturing services, international procurement offices) the mechanical (e. g., electric and electronic components) and

Table 2.1: **Overseas Production of Major Japanese Electronics Companies***

Companies	Fiscal years		
	FY '99	FY '00	FY '00 value
Electronics industry average**	22.7	–	–
Major five companies***	29.2	28.8	11.4
Fujitsu	32.5	29.7	1.9
Hitachi	21.2	23.4	2.4
Matsushita	35.1	35.1	3.4
NEC	26.6	24.1	1.5
Toshiba	31.4	31.2	2.4
Sony****	68.3	67.2	4.9

Notes: Figures for each fiscal year are in per cent of the total sales. The value figures for fiscal year 2000 is in trillions of yen. * The industry average for FY 1999 is an estimate. ** The figures are on a consolidated base, and include intra-firm transactions. *** The major five companies' figures are weighted average. **** Sony's geographical classification is customer-based, not production facility-based.

Source: Compiled by FRI based on annual reports (1999 and 2000) and METI (2001).

non-mechanical (e. g., metal and plastic parts) components in third countries and then assembling finished products for local and global markets in a host country. The 1997 Asian financial crisis negatively affected their overseas operations and production networks, but Japanese electronics companies are now using their hard lessons to take advantage of relocating production to China (Ernst 1997; Marukawa 2002; Yuan 2001).

The American-led IT revolution sweeping across the globe, on the other hand, has ignited domestic demand for IT-related goods and services. Japanese consumers are driving the rapid growth in the use of personal computers and mobile phones. In addition, the astonishing proliferation of Internet websites and the popularity of NTT DoCoMo's i-mode on-line services moved the Japanese government to implement a coherent policy strategies for promoting e-commerce throughout Japan (MPHPT 2001).

In response to buoyant demand for IT-related goods and services, Japanese electronics companies have been enjoying a relatively comfortable domestic business climate after the bursting of the bubble asset economy in 1990 compared with Japanese firms in other industries, such as the construction, retail, and banking sectors. In this connection, Table 2.2 shows the electronic components and devices makers have enlarged

their share of the industry output while the industrial and consumer electronic equipment makers' share of industry output has contracted. Kurihara and Tachiki (2004) found that over the past decade, the electronic components and devices sub-sector has been undergoing a gradual reorganization of its product lines from analog to digital products, contributing to a revival of the Japanese economy.

Table 2.2: **Export Structure of Japan's Electronics Industry**

Industry Sub-sectors	**'93**	**'94**	**'95**	**'96**	**'97**	**'98**	**'90**	**'00**
Consumer electronic equipment	16.3	13.9	11.3	10.7	10.2	11.6	11.4	10.7
Industrial electronic equipment	31.9	28.3	25.4	25.4	27.8	26.6	24.4	22.6
Electronic components & devices	51.8	57.8	63.3	63.9	62.0	61.9	64.2	66.7

Notes: Figures are in per cent.
Source: Compiled by FRI based on JEITA statistics (2001)

Limitations on the validity of government statistics sometimes confuse and mislead us, especially when we have no prior, detailed knowledge about multinational corporations (see MOF 2000 pp. 1–2; Belderbos 1997 pp. 117–119). The conventional wisdom based on these statistics is that the 1990s was the "lost decade" in Japan – that is, the Asian financial crisis discredited the "closed" production networks of Japanese companies and the IT revolution by-passed them. It is difficult to reconcile official statistics with the dynamic nature and complexity of the globalisation of Japanese companies, however. Even during the "lost decade", Japanese electronics companies have made strategic headway on both the overseas relocation and domestic reorganization fronts. Although the jury is still out whether this strategic course will revive the competitive positions of Japanese companies in the marketplace, at this juncture it is worthwhile to examine the business activities of Japanese companies at the firm-level to grasp the current situation of Japanese electronics companies at the beginning of the 21st century.

Relocation

Many studies conclude that the geographical choice of Japanese companies depends on the organization of either their horizontal inter-firm linkages or vertical inter-firm linkages (e. g., Head et al. 1995; Zhang and Markusen 1999). A careful examination of Fujitsu's geographical location of production in this regard reveals some interesting features representative of Japanese electronics companies.

Table 2.3 shows that Fujitsu's overseas sales figures stood at around 30 per cent in FY 2000. This figure lies between the average for Japanese manufacturing companies (34.9 per cent in FY 1999) and that of Japanese electronics companies (22.7 per cent in FY 1999). Japanese electronics goods are well known throughout the world, but the domestic market is still the larger contributor to overall sales. In addition, the geographical location of Fujitsu's overseas sales ratio reflects the company's orientation toward the developed countries, especially in the United States (10.8 per cent in FY 2000) and Europe (10.4 per cent). Despite a fall in the EUR, its share in the European region remained in double digit figure for FY 2000.

Table 2.3: **Fujitsu's Overseas Sales Ratios by Region**

	Fiscal Years		
Regions	**Industry average**	**FY '99**	**FY '00**
Total overseas production	20.8	32.5	29.7
North America	7.0	10.6	10.8
East Asia	8.5	8.8	8.6
Europe	4.6	13.1	10.4

Notes: Figures are for per cent of total sales. * The industry averages are for FY 1998. ** The figures are consolidated, including intra-firm transactions. *** Fujitsu's geographical segmentation is as follows: (1) The figures for North America are based on the figures for the USA and Canada in Fujitsu's annual reports. (2) The figures for Asia are based on the figures for China, Thailand, Vietnam, the Philippines, Singapore, Taiwan, and Australia. (3) The figures for Europe are based on the figures for the UK, France, Sweden, Germany, Finland, and the Netherlands.

Source: Compiled by FRI based on Fujitsu annual reports (1999 and 2000) and METI (2001).

The geographical concentration of Fujitsu's overseas sales in the developed countries can be understood when compared with those of other Japanese electronics companies in Table 2.4. Fujitsu's overseas sales are primarily in North America (10.8 per cent) and Europe (10.4 per cent). Although Matsushita and Toshiba have a higher percentage of sales in North America (12.4 per cent and 11.5 per cent respectively), they have even higher sales in East Asia (15.8 per cent and 12.4 per cent respectively) than Fujitsu (8.6 per cent). In Europe, unlike other Japanese electronics companies, Fujitsu has acquired a local company, ICL in the United Kingdom, rather than build a greenfield facility. Consequently, its overseas sales figure has remained in the double digits range over the past years, unsurpassed to date by any other Japanese electronics companies in overseas sales in Europe.

Table 2.4: **Regional Sales of Major Japanese Electronics Companies**

Regions	Fiscal Years					
	Ind. average	**Fujitsu**	**Hitachi**	**Matsushita**	**Toshiba**	**Sony**
All regions	20.8	29.7	23.4	35.1	31.2	67.2
North America	7.0	10.8	9.1	12.4	11.5	29.8
East Asia	8.5	8.6	6.6	15.8	12.4	17.2
Europe	4.6	10.4	4.2	6.9	6.6	20.1

Notes: Figures given as a per cent of total sales. * The industry averages are for FY 1998 and company figures are for FY2000. ** The figures are consolidated including intra-firm transactions. *** Geographical location of each firm does not necessarily exactly correspond to that of the other companies. **** Sony's geographical classification is customer-based, not production facility-based.

Source: Compiled by FRI based on 1998, 1999, 2000 annual reports and METI (2001).

Table 2.5 provides more detailed information on Fujitsu's overseas activities by business segment. It is clear that Fujitsu has implemented an overseas sales strategy for its high-end electronic devices with global demand – for example, personal computers, flash memories, logic integrated chips, compound semiconductors, liquid crystal displays, optical transmission systems (especially in the United States), and project finance initiative (PFI)-related services (especially in Europe). A second large business segment is low-end products with domestic demand – for example, small form factor hard disk drives (in East Asia).

At the same time, Fujitsu is boosting domestic production of its high-end products with global demand – for example, UNIX servers, network business services, especially outsourcing, compound semiconductors, plasma display panels, liquid crystal displays. Another important business segment is for high-end and exclusively competitive products and services. This category includes network business services, especially outsourcing for domestic institutions. As these business segments grow, Fujitsu is discontinuing its production of low-end products with global demand – for example., DRAM. These trends are reflected in Table 2.5 where Fujitsu has higher levels of overseas sales for its electronics devices (50.8 per cent in FY 2000) and telecommunications (46.3 per cent), but it has lower overseas sales ratios for domestic market oriented business segments in service and software (27.9 per cent) and information processing (32.3 per cent).

Fujitsu's product-by-product relocation strategies have affected its internal transactions. Table 6 shows the highest ratios of intra-firm trans-

Table 2.5: **Fujitsu's Overseas Production Ratios by Business Segment***

Business segments	Fiscal years	
	FY '99	FY '00
Total operations (excluding, intra-firm transactions)**	36.2	34.5
(1) Services & software	33.1	27.9
(2) Information processing	34.8	32.2
(3) Telecommunications	46.0	46.3
(4) Electronic devices	47.8	50.8
(c. f. total operations incl. intra-firm transactions)	32.5	29.7

Notes: Figures are in per cent of the sales figures. * Figures for each operational segment the numbers excluding intra-firm sales figures, unless otherwise specified. ** Major products and services of the operational segments are as follows: (1) Services & software: system integration services, system engineering support, consulting, network services, outsourcing, software, maintenance and system construction works. (2) Information processing: servers, personal computers, magnetic disk drives, optical magnetic disk drives, printers, automatic teller machines (ATM), POS systems. (3) Telecommunications: digital switching systems, optical transmission systems, optical undersea transmission systems, corporate information network systems, mobile telecommunication systems, cellular phones. (4) Electronic devices: system LSIs, flash memories, surface acoustic wave (SAW) devices, compound semiconductors, plasma display panels (PDP), liquid crystal displays (LCD).

Source: Compiled by FRI based on Fujitsu annual reports for 1998, 1999, and 2000

actions among its business segments is in electronic devices (26.3 per cent) and information processing (16.6 per cent). These are business segments most closely related to the IT boom in Japan. This accounts for the declining overseas intra-firm transaction ratio (44.3 per cent à 39.6 per cent) between 1997 and 2000 and its rise in Japan (13.3 per cent à 15.6 per cent).

Fujitsu's differentiated business segment strategies lead to different relocation strategies. In the developed countries, they established assembly factories for the production of colour TV sets, videocassette recorders, and semiconductors to defuse bilateral trade frictions with the United States and the European Union. In the developing countries, they relocated their domestic production facilities to either send their exports via a third-country route to the markets in the developed countries and lessen trade frictions, or seek production sites with lower labour and related costs during the rapid appreciation of the JPY following the 1985 Plaza

Table 2.6: **Fujitsu's Intra-firm Transaction Ratios**

Regions	Fiscal years			
	FY '97	FY '98	FY '99	FY '00
Fujitsu's intra-firm Transaction Ratio*	13.3	15.1	16.0	15.7
Japan	10.2	12.0	14.1	13.6
Overseas, all regions	44.3	45.6	40.6	39.6
Operational segments**				
Services & software	2.8	2.5	3.8	3.4
Information processing	12.0	12.7	14.8	16.5
Telecommunications	2.5	1.5	1.5	2.1
Electronic devices	24.5	17.6	20.7	26.3

Notes: Figures are in per cent of the total sales. * Figures for each operational segment exclude intra-firm sales figures. ** Major products and services in the operational segments are the same as in the previous table.
Source: Compiled by FRI based on Fujitsu annual reports for 1998, 1999, and 2000.

Accord, or penetrate domestic markets heavily protected by import constraints imposed by the developing countries governments. A broader examination of the forward and backward linkages of Japanese electronics companies in general provides further purchase on their relocation strategies.

Do Forward Linkages Matter?

Some scholars argue that Japanese companies have closer vertical and horizontal production linkages compared with their American and European counterparts (Head et al. 1995, Zhang and Markusen 1999). Table 2.7 shows that Japanese electronics companies sell 39.9 per cent of their products and services to their *keiretu*-related companies in the world. In the United States, for example, intra-firm sales of electronics products and services by Japanese electronics companies account for 42.1 per cent.

In East Asia, 61.7 per cent of locally produced goods in FY 1998 were intra-firm sales. In the ASEAN-4 countries – Malaysia, Thailand, Indonesia, and the Philippines – intra-firm sales account for a predominant 72.9 per cent. In the Asian NIEs-3 – Singapore, Taiwan and South Korea – Japanese electronics companies shipped 42.2 per cent within the same company group. Thus, the sales of Japanese electronics companies in East Asia are primarily in components and devices. This suggests the production networks of Japanese electronics companies do not extend directly to

Table 2.7: **Intra-Firm Sales of Japanese Electronics Companies**

Regions	Destination						
				Third Country			
	All Regions	Local	Japan		North America	East Asia	Europe
All regions	39.9	16.0	96.5	57.7	49.1	64.1	53.1
North America	13.5	10.0	99.0	22.9	24.9	21.5	17.8
United States	13.6	10.0	99.0	22.9	24.9	21.5	17.8
East Asia	61.7	20.5	96.3	64.0	55.3	66.4	66.1
China	65.6	23.9	95.2	84.2	47.3	88.5	74.5
Hong Kong	69.0	36.6	94.5	71.3	60.5	78.1	72.1
ASEAN-4	72.9	31.5	96.6	63.9	59.3	64.8	73.4
NIEs-3	42.2	12.4	96.7	46.1	50.2	41.7	61.2
Europe	42.1	28.5	96.9	59.8	71.3	34.3	60.5

Note: Figures are in per cent of their sales values in each region for fiscal year 1998. ASEAN-4: Malaysia, Thailand, Indonesia, and the Philippines; NIEs-3: Singapore, Taiwan, and South Korea.

Source: Japan's Ministry of Economy, Trade and Industry (Japan) 2001a and 2001b (March) pp. 211–217.

electronics markets but to the different production base in the region (Ng and Yeats 1999).

Despite a high level of forward linkage at 61.7 per cent in East Asia, they do not possess strong forward linkages within host countries in East Asia (20.5 per cent). Rather, they have stronger forward linkages within the East Asia region (Asia in the third regions: 64.0 per cent) – it could confirm that Japanese electronics companies have a complex arrangement of production networks within the region, as many analysts suggest (METI 2001b, pp. 11–8).

How About Backward Linkages?

Table 2.8 shows that the backward linkages of Japanese electronics companies are stronger than their forward linkages except in East Asia. While intra-firm transactions account for 59.4 per cent of procurement for all regions in FY 1998, intra-firm transactions account for 39.9 per cent of sales. By region, in FY 1998, the figures for intra-firm sales and intra-firm procurement are 13.5 per cent and 78.5 per cent in North America, 61.7 per cent and 49.5 per cent in East Asia, and 42.1 per cent and 50.5 per cent in Europe.

Table 2.8: **Intra-Firm Procurement of Japanese Electronics Companies**

Regions	Sources						
				Third Country			
	All Regions	Local	Japan		North America	East Asia	Europe
All regions	59.4	19.2	91.2	58.2	39.1	59.6	51.4
North America	78.5	40.9	99.1	65.9	32.1	68.5	92.6
United States	78.4	40.9	99.1	65.3	24.5	68.5	92.6
East Asia	49.5	8.6	80.8	57.9	32.8	58.8	10.8
China	52.9	13.5	79.2	84.2	29.0	85.6	11.6
Hong Kong	42.2	16.1	94.3	74.8	100.0	74.7	56.8
ASEAN-4	42.5	7.8	82.3	37.7	43.4	38.2	8.9
NIEs-3	56.7	3.8	80.0	73.4	24.8	74.4	25.6
Europe	50.5	14.1	93.8	51.2	74.1	46.5	52.4

Notes: Figures are in per cent of their procurement values in each region for fiscal year 1998. ASEAN-4: Malaysia, Thailand, Indonesia, and the Philippines; NIEs-3: Singapore, Taiwan, and South Korea.

Source: Ministry of Economy, Trade and Industry 2001a and 2001b (March) pp. 218–224.

Another characteristic of the backward linkages of Japanese electronics companies is their dominance in local area transactions. In FY 1998, the figures for sales and intra-firm procurement were 16.0 per cent and 19.2 per cent respectively. The comparable figures in North America were 10.0 per cent and 40.9 per cent. In short, Japanese electronics companies seem to sell their products and services to non-affiliated companies, but they are heavily dependent on their North America-based affiliates to procure components. In East Asia and Europe, however, the picture is the complete opposite. Japanese electronics companies sell a larger proportion of their products and services to affiliated companies (20.5 per cent in East Asia and 28.5 per cent in Europe), with less dependence on affiliates for their resources (8.6 per cent in Asia and 14.1 per cent in Europe). These contrasting outcomes suggest Japanese electronics companies in East Asia are not strictly concerned about *keiretsu*-type relations because they can purchase components from affiliates of either Fujitsu, Hitachi, NEC or Toshiba, which all belong to a 'Japanese procurement network.' In Europe, an arrangement of German-dominated indigenous procurement networks functionally replaces the 'Japanese procurement network.' Accordingly, they can safely produce their products or services in Europe without depending on backward linkages.

When we speak of Japanese production networks, then, the configurations are very different across business segments and regions of the world. In the developed countries, finished products and downstream sales linkages are important. In contrast, for East Asia, semi-finished products and upstream procurement linkages are important. Table 2.9 shows the productivity and efficiency statistics for Japanese electronics companies in three regions of the world for FY 1998. The table conveys two intriguing messages. First, overseas operations in developed countries, including the United Sates and Europe, show higher labour productivity (JPY 6.14 million in the United States, and JPY 5.76 million in Europe) and higher labour costs (7.4 per cent of sales in the United States, and 6.7 per cent in Europe). Overseas production in the developed countries, however, does not necessarily lead to higher profitability (-4.0 per cent of sales in the United States, and -1.3 per cent in Europe) or higher value-added ratios to sales (10.2 per cent in the United States, and 9.9 per cent in Europe).

Table 2.9: **Overseas Performance of Japanese Electronics Companies**

Regions	Economic Performance Indicators							
	Labour Productivity JPY mil.	Profits %	Value added %	Pay %	Advertising %	Information %	Logistics %	Rental %
All regions	2.15	-0.8	11.6	6.0	1.0	0.3	1.0	0.5
North America	6.13	-4.0	10.2	7.4	1.6	0.6	1.1	0.6
United States	6.14	-4.0	10.2	7.4	1.5	0.6	1.1	1.0
East Asia	1.40	2.5	13.3	4.9	0.4	0.2	1.3	0.4
China	0.77	1.5	7.8	3.7	0.6	0.2	1.1	0.6
Hong Kong	1.37	2.8	7.0	3.1	–	0.2	1.2	0.6
ASEAN-4*	1.29	2.7	17.7	4.2	0.2	0.2	1.2	0.3
NIEs-3**	3.68	3.0	12.5	6.8	0.3	0.2	0.7	0.4
Europe	5.76	-1.3	9.9	6.7	1.3	0.3	0.8	0.6

Notes: Figures are in per cent of the sales figures, unless otherwise specified, for fiscal 1998. * ASEAN-4: Malaysia, Thailand, Indonesia, and the Philippines. ** NIEs-3: Singapore, Taiwan, and South Korea.

Source: Japan's Ministry of Economy, Trade and Industry 2001a and 200b (March) pp. 350–366.

Second, in sharp contrast to Japanese companies in the developed countries, overseas operations in the East Asia region shows lower labour productivity (JPY 1.4 million). Despite the lower productivity, overseas production in East Asia is attractive for its lower labour costs (4.9 per

cent), higher profitability (2.5 per cent of sales), and higher value-added ratios to sales (13.3 per cent). These two messages suggest that Japanese electronics companies operate their businesses in the developed countries with a view to marketing finished products with higher cost to sales ratios (1.5 per cent of sales in the United States, and 1.3 per cent in Europe), while they consider their operations in East Asia as manufacturing bases to ship their components and devices to Japan or other markets, which would lead to lower sales costs like advertising (0.4 per cent)

Reorganization

The relocation of Japanese electronic companies business operations and the rise of production networks is only one half of the story. The other half of the story relates to the reorganization of the organizational structure and business segments in Japan.

Structural Reorganization Strategies

With the advent of the Internet, the world economy has undergone a sea change, with various types of industries – traditionally segregated or, partially related, if at all – combined into a huge ‚networked' or ‚wired' industry. Now, Japanese electronics companies have started reorganizing their business segments – each specializing in home appliances, communications, broadcasting, financial services, electronic devices, to name but a few – into suitable organizational structures for surviving global competition in the 'New Economy' era. Table 2.10 shows the various reorganization strategies according to the economic motives of Japanese electronics companies.

Table 2.10: **Japanese Electronic Companies' Strategic Business Segments**

Firms	**Sales***	**Business Segments**
Large Electronics Companies		
Hitachi Ltd.	8 417	1. Information systems & electronics 2. Power & industrial systems 3. Consumer products 4. Materials 5. Services & other
Matsushita Electric Industrial Co. Ltd.**	7 682	1. AVC networks 2. Industrial equipment 3. Home appliances 4. Components and devices

Firms	Sales*	Business Segments
Sony Corporation	7 315	1. Electronics – audio 2. Electronics – video 3. Electronics – televisions 4. Electronics – information and communications 5. Electronics – electronic components and other 6. Games 7. Music 8. Pictures 9. Insurance 10. Other
Toshiba Corporation	5 951	1. Information & communications and industrial systems 2. Digital media 3. Power systems 4. Electronic devices & components 5. Home appliances 6. Others
Fujitsu Ltd.	5 484	1. Service and software 2. Information processing 3. Telecommunications 4. Electronic devices
NEC Corporation	5 410	1. Solutions 2. Networks 3. Electron devices 4. Others
Mitsubishi Electric Corporation	4 129	1. Energy and electric systems 2. Industrial automation systems 3. Information and communications 4. Electronic devices 5. Home appliances 6. Others
Canon Inc.	2 781	1. Business machines – copying machines 2. Business machines – computer peripherals 3. Business machines – business systems 4. Cameras 5. Optical products 6. Other products
Sharp Corporation	2 013	1. Audio-visual equipment 2. Home appliances 3. Communication and information equipment 4. Consumer/information products 5. Electronic components

Firms	Sales*	Business Segments
Sanyo Electric Co. Ltd.	1 940	1. AV information and communications equipment 2. Home appliances 3. Industrial and commercial equipment 4. Electronic devices 5. Batteries 6. Others
Ricoh Company Ltd.	1 538	1. Office equipment – imaging solutions 2. Office equipment – network input/output systems 3. Office equipment – network system solutions 4. Other businesses
Major Electronic Components Companies		
Kyocera Corporation	1 285	Equipment; electronic device; fine ceramics; other
Seiko Epson Corporation	1 050	Information equipment; electronic devices; precision products; other
TDK Corporation	690	Electronic components; data storage components; recording media & systems; semiconductors; other
Alps Electric Co. Ltd.	547	Computer peripherals; wireless communications; digital broadcasting; car electronics; components
Hitachi Metals Ltd.	463	
Murata Manufacturing Co. Ltd.	459	Capacitors; piezoelectric components; microwave devices; module products; resistors; other
Rohm Co. Ltd.	360	Integrated Circuits; discrete semiconductor devices; passive components; displays
Mitsumi Electric Co. Ltd.	247	

Notes: Sales in JPY billions. * The sales figures are the latest figure for each company, usually for FY 2000, ending in March 2001. ** Matsushita Electric Industrial's business segments until March 2001 were 1. Consumer products – video and audio equipment, 2. Consumer products – home appliances and household equipment, 3. Industrial products – information and communications equipment, 4. Industrial products – industrial equipment, 5. Components

Sources: Annual reports and websites of individual firms.

Based on the business segments each of the major Japanese electronics companies pursues, three basic reorganization strategies are evident: (1) reorganization strategy to enhance efficiency and concentrate resources on strategic business segments by combining closely related business segments within a company or a corporate group, (2) reorganization

strategy to reduce business risks and uncertainties in emerging business segments by combining closely related segments with other companies, and (3) reorganization strategy to enhance efficiency and concentrate resources on strategic business segments by pruning underperforming business segments.

The rapid advance of ICT has forced Japanese electronics companies to enhance their efficiency and therefore to concentrate their financial, human, and technological resources on closely related business segments. In January 2001, for example, Matsushita Electric Industrial Co. Ltd. announced that it would absorb Matsushita Electronics Corporation, with a view to enhancing the efficiency and competitiveness of their semiconductor products. In addition, Matsushita Electric Industrial Co. Ltd., in April 2001, combined its two consumer products segments forming a single business segment – (a) Consumer Products – video and audio equipment, and (b) Consumer Products. Under consumer products, it merged its video and audio equipment business segments, and under the consumer products, its home appliances and AVC networks. This latter merger was not only to improve operating efficiency, but also to take advantage of technological advance where every home appliance might be transformed to a ‚digitized or digital home appliance. A similar story can be found among all of the major electronics companies. Consequently, one reorganization strategy is to combine closely related business segments within a company or a corporate group to enhance efficiency and concentrate resources on strategic business segments.

A related reorganization strategy embraced by Japanese electronics companies is to either exit or consolidate a business segment. In October 2000, for example, Toshiba purchased the wireless transmission business segment of Oki Electronic Industry, Co. Ltd. Toshiba and Oki Electronic were seeking mutual benefits: Toshiba wanted scale of economy by bolstering this business segment, while competitor Oki Electric wanted to exit this unprofitable business segment in order to re-direct organizational resources toward the remaining profitable segments. Consequently, we are witnessing a period where Japanese electronics companies are pruning under-performing business segments to enhance efficiency and concentrate resources on strategic business segment*s*.

Another reorganization strategy is linked to the need for reducing business risks and uncertainties associated with emerging business segments. The idea of electronics manufacturing service (EMS) is gaining acceptance among Japanese electronics companies (METI 2001b, p. 8), but to keep apace of emerging technologies, they must be able to reduce the time required to develop new products and services. In this connection, strategic technological alliances (STA) are opening up the close inter-firm,

intra-group *keiretsu* business relationships. For example, in November 2000, twelve electronics companies, including Hitachi Ltd, Matsushita Electronic Industrial Co. Ltd and Toshiba, established the ePF Network Corporation to standardize an 'e-Platform' for interactive broadcasting and storage data-casting services for Japan's digital TV broadcasts. A STA does not take into account traditional business linkages, such as nationality and *keiretsu* relationships. In some areas, Japanese electronics companies are deepening their STAs. The American Boeing Company and Mitsubishi Electric Corporation, for example, announced in June 2001 that they would forge an alliance in the emerging space-based communications and other related fields requiring a high expenditure on R&D. In the same month they signed another agreement to broaden their co-operation further to include space-based communications, air traffic management, multimedia, navigation, space and communications services, launch services, and space infrastructure markets. Consequently, we find Japanese electronics companies combining closely related business segments with third party companies, regardless of previous business ties and nationality of partners, to reduce business risks and uncertainties in emerging business segments.

The abovementioned consolidation, merger and acquisition, and strategic alliances are the three major trends leading to a reorganization of not only the Japanese electronic companies, but also the structure of the industry.

Product-by-Product Reorganization Strategies

As part of the structural reorganization of business segments, Japanese electronics companies are also re-examining their global networks product by product. Table 2.11 summarizes interviews with corporate strategic planners on their competitiveness, profitability, and global acceptance of their products and services yielding a general classification of products by whether they are (1) high-end and global demand, (2) high-end global demand with Japanese electronics companies' exclusive competitive edge over their foreign competitors, (3) high-end, global demand with foreign electronics Companies' exclusive competitive edge over their Japanese counterparts, (4) high-end and local demand, (5) low-end local demand, and (6) low-end and global demand. The seventh product category is "low-end and retreating from global markets", is not discussed here, but represents the end of the product life cycle.

In the first product category, high-end products and services with global demand, Japanese electronics companies are forced to locate production facilities across the globe to meet the burgeoning local market

Table 2.11: **Products and Services Under Considerations for Overseas Production**

Classification of products & services	Supply-side changes			
	Relocation Strategies of Companies	Change in Domestic Production	Change in Exports	Change in Imports
(1) High-end and global demand (e. g. digital signal processor (DSP), light emitting diode (LED) for display)	Global	Growing with high volume	Growing	Growing
(2) High-end and exclusively competitive (for example, CCD area image sensor, colour-PDP (plasma display panel), WDM-related optical fibre)	Domestic	Growing with high volume	Growing	–
(3) High-end and exclusively uncompetitive (e. g., field programmable gate array (FPGA), wavelength division multiplexing (WDM) systems, package-software)	(purchase through OEM, etc.)	Very limited, or growing in foreign Companies	–	Growing
(4) High-end and domestic demand (e. g., car navigation systems)	Domestic	Growing	–	–
(5) Low-end and domestic demand (e. g., mini disk (MD), magneto-optical disk (MO))	Located overseas	Growing	–	Growing
(6) Low-end and global demand (e. g., low-priced video cassette recorders (VCR), erasable programmable ROM (EPROM))	Located overseas/ Discontinuing	Declining/ Discontinuing	Declining	Growing
(7) Low-end and disappearing globally (e. g. low-priced colour television sets, magnetic tapes)	Discontinuing	Declining/ Discontinuing	Declining	Declining

Notes: Figures are in per cent of their procurement values in each region.
Source: Compiled by FRI based on company interviews.

demand but they do not have a clear competitive edge. Some examples of the high-tech electronic components falling into this category include the digital signal processor (DSP) and light emitting diode (LED). The DSP is one of key devices for electronic products including the growing markets for mobile phones and digital home appliances. American electronics companies have a dominant share, spearheaded by Motorola (for the use of cellular phone production, over 40 per cent of market share). Lucent Technologies, Analog Devices, Inc. Nokia and Ericsson are taking the lead in DSP for use in 3G mobile phones. Japanese electronics companies including NEC, Fujitsu, Sony, Sanyo, and Hitachi produce DSP but they are not dominant players. The LED for display is also expected to grow despite gloomy prospects surrounding the other types of LED. Around ten years ago, Japanese electronics companies had an invincible advan-

tage over their global competitors. Throughout the 1990s, however, Taiwanese firms such as Liteon, Universe Electron Company, PotoTech and Tyntec have managed to capture market share by offering low cost attractive products.

In the second product category, Japanese companies have a competitive edge in high-end and exclusively competitive domestic products and services. For example, Sony, Matsushita, and Sharp have the dominant global market share in charge-coupled device (CCD) area image sensors. In particular Sony's share exceeded 50 per cent in FY 2000, followed by Matsushita's (around 20 per cent), then by Sharp's (around 16 per cent). CCD linear image sensors are also one of the high-end and exclusively competitive products supplied by Japanese electronics companies. In this case, Toshiba has the lion's share (around 55 per cent), followed by NECs' (33 per cent), then by Sony's (11 per cent) for 2000. Consequently, Japanese electronics companies have little motivation to relocate their production facilities overseas.

In the high-end and exclusively uncompetitive products and services category, none of the Japanese electronics companies have an edge over their foreign competitors. The flexible programmable gate array (FPGA), for example, has great growth potential. Currently, American Companies – Xilinx and Altera – occupy over 80 per cent of the global market, while other foreign companies, including Lucent Technologies and Lattice, are entering this lucrative market (Chunichi-sha 2001, pp. 693–694). The supply of the optical fibre amplifier and related wavelength division multiplexing (WDM) systems are virtually dominated by the major American Companies – Nortel Networks (its market share for the first half of 2000: 54 per cent), Lucent Technologies (17 per cent), CIENA Corporation (12 per cent) and European Alcatel (9 per cent). Japanese electronics companies, such as NEC, Fujitsu, Sumitomo Electric, Furukawa, Fujikura, and Hitachi, are adopting small-volume production in order to have a foothold in this growth market (Chunichi-sha 2001, pp. 693–694).

A key commonality among these products is that there are high risks and uncertainties. Consequently, few Japanese electronics companies are aggressively expanding their production facilities, neither in Japan nor abroad. Instead, foreign companies have a huge window of opportunity to produce this type of product and service in Japan. One of the most representative products and services in this genre is package software. Throughout the world Microsoft has an unparalleled position in this field. Despite its excellent Japanese-language word-processing software, JustSystem Corporation could not stave off Microsoft's incursion into the Japanese market. Moreover, other American software companies have

localized their package software, ranging from utility and security software to database software, and have established a strangle hold on the Japanese market. Japanese software products have been pushed into narrow market segments in such areas as embedded software, customized software, and animation-related software.

In the high-end products and services with domestic demand category, digital map used in car navigation systems in Japan is a good example. This product is for exclusive use in Japan and cannot be sold in overseas markets. Thus few foreign companies express an interest to supplying this type of product and service to Japanese consumers. Therefore, the development and production of this type is located with high probability in Japan.

For the "low-end and indigenously demanded products and services with domestic demand" category, the 3.5 inch magneto-optical disk is a good example. Over 80 per cent of global market demand for this product resides in Japan. Moreover, usually this type of product or service is low-end and yields a nominal profit margin. Another good example is mini disks. Japan accounts for over 70 per cent of global market demand for this product, with the European market accounting another 20 per cent. Consequently few Japanese companies and even fewer European companies are interested in producing this type of product. Thus Japanese electronics companies will produce these products abroad or ask a company in a low cost production base to export them to Japan.

In the last product category, Japanese electronics companies try to exit "low-end products and services with global demand" because of the fierce competition and its low profit margins. Take the case of erasable programmable ROM (EPROM). Since the mid-1990s, American, European have entered the EPROM market. Now South Korean and Taiwanese firms, including STMicroelectronics and Atmel, are producing EPROMs, leading to a price war and declining profit margins. Japanese electronics companies have therefore almost discontinued their production of EPROM, shifting their focus instead to flash memories.

FUTURE CHALLENGES IN A NEW ECONOMY ERA

The paper started with the idea that the Southeast Asia is no longer the 'backyard' of the Japanese economy. During the 1980s, Japan's foreign direct investments (FDI) in the region was undeniably predominant, leaving hardly any room for other countries to match its economic su-

premacy across the region. East Asia is no longer unique, leading a movement toward the reorganization and relocation of firm-specific assets based on global linkages and not on Japanese organizational linkages. Japan's leading position in East Asia, however, is now under re-evaluation in the ‚New Economy' era. An East Asia equipped with ICT is now strengthening its ties with the United States. This initiative is spearheaded by start-up companies emerging from Silicon Valley and the I-128 area and centres on ICT industries emerging at an astonishing pace. Thus, the 1990s and the turn of the 21st century have witnessed drastic transformation in the region, from an economically Japan-centred East Asia to an East Asia with more competitive markets. In short, East Asia is no longer uniquely Japanese-dominated in economic terms nor in security and societal/cultural terms.

Table 2.12 shows inward foreign direct investments (FDI) in East Asia, comparing multinational corporations whose home country is either Japan, the United States, or Europe. In the early 1990s, inward FDI of Japanese companies was higher in value terms than that of their American and European counterparts. In the late 1990s, however, the presence of American, European, and ethic Chinese companies has been growing. Especially in continental China, which is now the largest destination for FDI in the world. American and European as well as ethnic Chinese FDI to China overshadowed that of Japanese FDI in the late 1990s. Moreover, after the Asian financial crisis South Korea is now reluctantly accepting American and European companies. European companies have not shown any sign of losing interest in East Asia. Even the 1997 Asian financial crisis did not curb their appetite for an economic slice of the region (EU-Japan Centre for Industrial Co-operation 2001). The rise of Western and ethnic Chinese companies in the region has left Japan's fading dominance confined to the member countries of ASEAN.

As the production networks of European companies, as well as those of American and ethnic Chinese companies, take shape in East Asia, Japanese companies must accept the harsh reality that their dominance of production networks in the region is gradually unravelling. In the same way Japanese electronics companies came to be less dependent on their backward linkages in Europe, they should reorganize their backward linkages irrespective of the nationality of a company by re examining and re evaluating them to form Japanese-centred linkages. In this sense, Japanese companies should develop their novel strategies for survival of the fittest in the more competitive ‚New Economy' era by re-examining and streamlining their business segments.

Table 2.12: **Inward FDI in Asia: Japanese, American, and European Companies**

Host countries	Home country	1990–92 Relative to Japan		1993–95 Relative to Japan		1996–98 Relative to Japan	
		USD bill.	JPY =1.00	USD. bill.	JPY =1.00	USD bill.	JPY =1.00
East Asia Region, Total	Japan	22.9	1.00	40.5	1.00	47.5	1.00
	USA	16.7	0.73	42.0	1.04	39.9	0.84
	EU4*	17.0	0.75	42.6	1.05	51.8	1.09
China	Japan	3.4	1.00	15.0	1.00	11.3	1.00
	USA	4.0	1.17	20.3	1.35	18.3	1.63
	EU4	1.7	0.48	13.7	0.91	14.5	1.28
Taiwan	Japan	1.8	1.00	1.2	1.00	1.9	1.00
	USA	1.4	0.79	1.9	1.50	1.9	1.00
	EU4	0.4	0.25	0.7	0.57	0.7	0.35
South Korea	Japan	0.6	1.00	1.1	1.00	1.0	1.00
	USA	1.0	1.61	1.3	1.14	7.0	6.87
	EU4	1.1	1.78	0.8	0.7	4.9	4.79
ASEAN5**	Japan	17.0	1.00	23.1	1.00	33.3	1.00
	USA	10.2	0.60	18.5	0.80	12.6	0.38
	EU4	13.9	0.82	27.4	1.18	31.7	0.95

Notes: Figures are in billions of U.S. dollars. * EU4 designates Germany, France, United Kingdom, and the Netherlands. ** ASEAN5 designates Thailand, Indonesia, Singapore, Malaysia, and the Philippines.

Source: Compiled by FRI based on statistics prepared by Institute of International Trade and Investment. Original source: Hanson 2001. See also Masuyama et al. 2001, p. 25.

PROBLEMS ON THE HORIZON – STRATEGIES FOR COMPANY-WIDE REORGANIZATION AND RELOCATION

In order to meet the challenges of the ‚New Economy', Japanese electronics companies must make changes in the following areas: (a) procurement and financial settlement (for example the Internet-using open communications, or closed-style electronic data interchange systems), (b) logistics (for example, supply chain management), (c) marketing (for example, B2C/B2B e-Commerce), (d) financing (for example, cross-border merger-and-acquisitions), (e) R&D and technology, and (f) human resources. These are the new problems on the horizon Japanese companies are just beginning to address (Kato 1997).

As for procurement and logistics in the domestic area, Matsushita Electric Industrial, for example, has implemented a wholesale revamp of its domestic distribution, marketing, and financing networks. Matsushita announced in March 2001 that it would restructure its consumer sales networks. Before the announcement, Matsushita had 28 regional distribution-related subsidiaries within Japan but has now reduced them to seven by consolidating 22 affiliates into a single company. These moves are conducted along with others in other business segments including the financial business functions. In particular, cross-border M&A, which was once thought to be a phenomenon entirely unknown to Japanese electronics companies, is now regarded as a promising efficiency-enhancing option.

Furthermore, R&D strategies are now considered one of the predominantly key factors determining the destiny of Japanese electronics companies in the early 21st century. In the 'New Economy' era, the key determinants for economic success are (a) how swiftly companies can meet surging demand world-wide from their customers – in other words, what types of organization and location companies can have, and (b) how swiftly companies can sniff out and locate potential demand world-wide – in short, what types of product and service or production process can companies develop. In this sense, global R&D strategies for companies are extraordinarily important in developing their own products and services that are high-end/lucrative in demand, and exclusively competitive for them. Thus, the result of their global R&D strategies affects their reorganization and relocation strategies. In the past, it has been said that Japanese companies are generally more concerned with their globalization activity, focussing solely on their production or distribution networks, without taking into account global R&D activity. This issue is very important, and therefore it must be explored further (e. g., see Kumar 2001; Pearce 1999).

Finally, as Japanese electronics companies have expanded their overseas production facilities, they have increased their overseas labour force substantially (Denpa Shimbunsha 2001, p. 76.). Accordingly, better management strategies for global human resources development should be explored elsewhere. Advancement of globalization with the help of the spread of the IT revolution requires Japanese electronics companies to examine perpetually every facet of their activity both at home and abroad, and reorganize and relocate them continuously in the 'New Economy' era.

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3 Exchange Rate Fluctuations and Internationalization Strategies of Multinational Companies

Ulrich Schüle

Introduction

While traditional theories of the multinational firm explain Foreign Direct Investment (FDI) as a result of oligopolistic structures, by eclectic 'approaches', technology and lower transportation costs and by Porter's diamond,[1] the role of exchange rate fluctuations in the decision to internationalize multinational enterprises has been widely neglected in recent years. Although some analysis of the impact of exchange rate fluctuations on Foreign Direct Investment (FDI) was carried out in the 1980s, academic discussion in the 1990s focused more on European monetary integration and its economic appropriateness (Klein and Rosengren 1994; Sung and Lapan 2000).

In the following, it is argued that the change from Bretton Wood's fixed-rate system to floating exchange rates has in the long run influenced companies' internationalization strategies. Dramatic and unforeseeable fluctuations in exchange rates between the USD, European (DEM-based) currencies, and the JPY forced Japanese and European companies to replace their export-oriented internationalization with FDI in order to reduce their exchange rate risks. The sharp falls in the USD after the collapse of the Bretton Woods system in 1973 and after the Plaza Accord in 1985 in particular had a long-term impact on internationalization strategies and market entry modes of Japanese and European companies.

It will be shown that although multinational companies (MNCs) are capable of reducing the short-term 'transaction risk' of exchange rate fluctuations with modern hedging instruments ranging from forward contracts to multinational corporate finance, the only choice they have to reduce the long-term 'economic risk' of losing market shares caused by changes in exchange rates is FDI.

In the Asia-Pacific context, the relatively low-level of economic integration in the region and the weak role of the JPY – in comparison to the

[1] For an overview of these theories see Ietto-Gillies (1992).

role of the USD in the Americas and the EUR in Europe – has implications for investment flows which in the long run may lead to a re-definition of Asian core and hinterland markets with modified roles for the economies of Japan and China.

Internationalization Patterns under the Bretton Woods System
The World Economic Order after 1945

The Western allies' decision to create a world economic order which would liberalize world trade provided the framework for the tremendous internationalization of Western enterprises after World War II. This decision was based on the theories of Ricardo and Heckscher-Ohlin which both explained that free trade leads to higher world production than does protectionism. Moreover, it reflected a political consensus that, even though the Great Depression itself was caused by 'Black Friday', the decision of national governments to stop imports by raising tariffs and establishing prohibitive import quota and, moreover, to devaluate their currencies in order to increase their countries' price competitiveness had worsened the situation significantly.

The post-war world economic order aimed at preventing national governments from repeating this mistake:

- The General Agreement on Tariffs and Trade (GATT) obliged all signing countries to reduce tariffs and other import restrictions.
- A system of fixed exchange rates was implemented, in which 35 USD equalled one ounce of gold – with all other currencies pegged to the USD – and the International Monetary Fund (IMF) was established as a control body to prevent countries from manipulating currencies unilaterally.

In general, the GATT was a success story: With the application of the Most Favoured Nation (MFN) principle and after several multilateral negotiation rounds tariffs were lowered from an average of over 40 per cent in the late 1940s to around 3 per cent in 2000 and a number of Non-Tariff-Barriers (NTB) to trade were reduced or even eliminated. World trade grew dramatically.

In the first two post-war decades, the Bretton Woods fixed-rate system also contributed to the growth of world trade as tight government control of financial markets and cross-border financial flows kept the exchange rates stable so that exporters and importers had no exchange rate risk to bear.

The major weakness of the system, however, was the fact that realignments were only possible in the case of 'fundamental' disequilibria with

at least one country facing extreme balance-of-payment (BoP) problems. 'In the Bretton Woods system, … currency devaluation was considered undesirable because it seemed to indicate a failure of domestic policies and a loss of international prestige. Conversely, revaluations were unacceptable to exporters, whose livelihoods were vulnerable to such policies' (Carbaugh 2000, p. 495).

In the late 1960s, the problem became virulent. Although export prices in the US rose by 15 per cent between 1963 and 1969 but only half that fast in France and by a third or less in Germany, Italy, and Japan, the US government refused to devalue the USD (Eichengreen 2000, p. 18). As a consequence, the DEM and JPY were undervalued in the 1960s, the USD correspondingly overvalued.

Export-oriented Internationalization of German and Japanese Companies

With the DEM and the JPY undervalued, products manufactured in Germany and Japan were cheaper on the world markets (where goods were paid for in USD) than products manufactured in the USD zone. Many German and Japanese companies, therefore, pursued an export-oriented approach to internationalization (Eichengreen 2000, p. 35). Production was concentrated in the home country; sales departments, in contrast, internationalized heavily.

Daimler-Benz AG and BMW AG may serve as German examples: up to the end of the 1980s, around 90 per cent of their passenger cars were produced in Germany. Other manufacturing industries followed the same pattern, especially Germany's major export sector, the machinery and equipment industry.

The impact on business organization and labour force was obvious: While material supply, production, finance, and human resource management remained embedded in their national environment, companies – often enough even small and medium-sized ones – established export departments with specially trained managers and staff. These employees were the only ones who needed to speak English and probably other foreign languages, who had to know about legal and cultural differences between their own country and the target markets and, moreover, had to travel abroad.

In Germany's vocational training system, three year training programs served the staffing needs of these departments qualifying the participants as 'Export Managers' and secretaries with specialization in foreign languages. In academic education, degree courses with interna-

tional content were created in 'Export Management' and 'Export Marketing' whereas studies in mechanical and electrical engineering – the technical basis of Germany's export industries – did not and still hardly ever include lectures or seminars which prepare participants for international business contacts.

In Japan, the situation was not very different. Japanese companies also realized an export-oriented internationalization strategy. Even though many Japanese companies sold a considerable proportion of their products overseas, the company management remained completely Japanese for a long time. It became the task of export specialists to penetrate foreign markets. Sony, for example, started around 1960 to market their Japanese-made products systematically in the United States. Yamazaki Mazak, nowadays one of the world's leading machine tool manufacturers, sold the first 30 machines to the US in 1963 (Kuba 1989, p. 93). In the 1950s and 1960s however, many Japanese manufacturers, used the existing *sōgō shōsha* to export their products (El-Agraa 1995). Thus, only very few employees ever came into contact with foreign customers. Even in the 1990s, many Japanese executives were not able to communicate in any language other than Japanese.

Later, the Japanese 'economic miracle' was seen as a blueprint for economic development in Pacific Asia and copied by many newly industrializing economies (NIEs). The Korean *'chaebol'* structure, for example, also consisted of industrial conglomerations which were allowed to benefit from centralized export service functions, even though they did not play such a prominent role as the *sōgō shōsha* did within the Japanese '*keiretsu*' structure. Governments promoted exports with a variety of instruments ranging from loans at low interest rates to exporters to the establishment of export-processing zones (World Bank 1993, pp. 123–47). In contrast to Japan, however, inward FDI was seen as a means of increasing productivity and exports.

Whereas the JPY and DEM were undervalued because realignment had not taken place, the export push on the part of Taiwan and South Korea were accompanied by deliberate exchange rate policies, even to some extent using multiple exchange rates. These exchange rate manipulations were even continued at the end of the 1980s. Taiwan's very large trade surpluses in the 1980s, especially from 1984 to 1987 when the surpluses averaged 16 per cent of GDP, resulted at least partly from government efforts to manage the exchange rate. Korea's exchange rate protection in the late 1980s certainly helped to run an export surplus in times when the USD devaluated sharply against all other major world currencies (World Bank 1993, p. 126).

The Multinational Approach of US Firms

Confronted with an overvalued USD in the 1950s and 1960s, American companies had to opt for FDI in place of exports. Products manufactured in the USA were more expensive than Japanese or European goods. However, an overvalued USD allowed American firms to purchase and to manufacture abroad cheaply. The internationalization strategy of IBM, Hewlett-Packard, Ford and many other US companies was, therefore, to establish and buy production facilities in overseas markets. Many American firms already became multinationals in the 1950s and 1960s in this way.

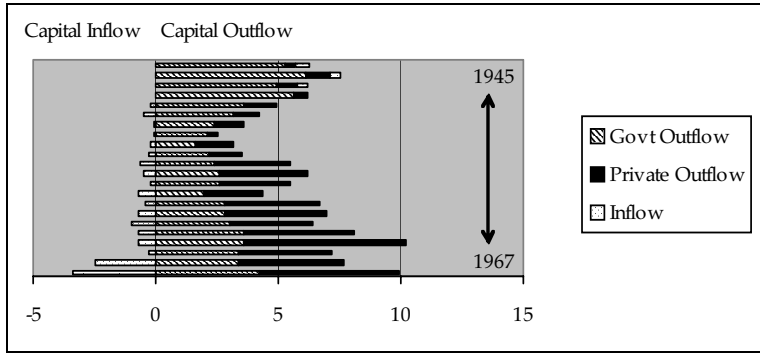
On the macroeconomic level, this business policy of American companies contributed to the net outflow of US capital during the Bretton-Woods-period. As shown in Figure 1, the United States was a permanent capital exporter from 1946 to 1968. Whereas in the first years after World War II government investment – most of it used for establishing a military presence in Europe and Asia – clearly outweighed private capital outflows, private FDI gained importance in the 1950s and became the dominant source of US capital outflows after 1955.

Of course, the USD was not the only reason for American outward FDI. Hymer, Vernon and Knickebocker (Ietto-Gillies 1992) explained how the oligopolistic structure of US consumer markets drove American companies to seek advantages through foreign investment. This was especially the case when initially innovative products became mature and their production could be standardized. Moreover, American companies were not damaged by the war in the same way as their European and Japanese competitors and were able to use a functioning financial market for their expansion whereas only little capital was available in post-war Europe and Japan. Additionally, American companies were ahead of their competitors with regard to technology, management, and marketing – a competitive advantage they had already developed (Chandler 1987, p. 434).

In contrast with export-driven European and Japanese firms, US-based multinationals transferred their company culture to their foreign subsidiaries; American expatriates and later also 'local nationals', having trained in US universities and company headquarters, formed a bridge between the American 'mother' and the subsidiaries abroad.

As the legal environment varied from country to country, the multinationals' investment policy also varied. Whereas in most Western European countries inward FDI was not restricted, France and Japan erected barriers. In Japan, for example, international investors had to form joint ventures with Japanese companies. This obligation was lifted industry by industry in the 1970s.

Figure 3.1: **US Capital Flows (USD billion) 1945–1967**



Source: Eichengreen (2000)

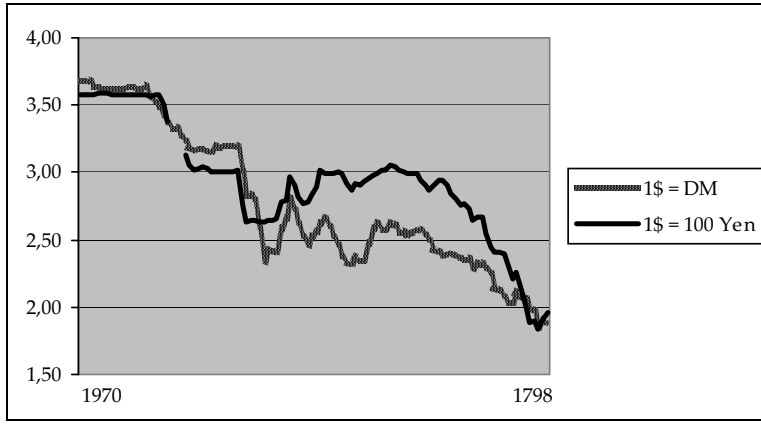
Floating Exchange Rates and First Modifications to Business Strategies

The Introduction of Floating Exchange Rates

The more the USD became overvalued in the 1960s, the more political pressure to re-align the exchange rates increased. The simplest solution – the devaluation of the USD – was turned down by the US government. One explanation is that devaluation would damage the credibility of the Bretton Woods System and, perhaps of more relevance to U.S. officials, of the Dollar itself. A government, which devaluated revealed itself to be less than fully committed to the maintenance of its currency peg. If its priorities came to be questioned, investors would run at the first sign of trouble, and trouble would proliferate (Eichengreen 2000, p. 35).

All second-best solutions such as realignments between European currencies in 1968, a revaluation of the JPY, loans for several countries and the abolishment of the US obligation to hand out gold for USD in 1971 failed. Central Banks no longer intervened to keep the USD rate stable. The Bretton-Woods system collapsed. In 1973, the JPY peg to the USD was lifted and the European countries introduced a joint float. Politicians and business representatives hoped that supply and demand on a free currency market would automatically adjust exchange rates thus reducing trade imbalances. As expected, the USD devaluated significantly throughout the 1970s (Figure 3.2).

Figure 3.2: **USD Devaluation in the 1970s**



Source: Deutsche Bundesbank, Exchange rate statistics

As the three governments and their central banks reacted differently to the oil price shocks in the 1970s, the sharp decline of the nominal USD exchange rate hit Japanese exporters more than Europeans:

While Germany managed to keep the average annual inflation rate below 5 per cent in the 1970s, Japanese monetary policy accommodated the oil price shocks. Thus, Japan's average inflation rate of the 1970s was above 9 per cent peaking at 23 per cent after the first oil price shock. In comparison, the US annual inflation rate oscillated between 3 per cent in 1972 and 11 per cent after the oil price shocks, reaching an average of 7 per cent throughout the 1970s.

Thus, inflation rate differentials indicate a moderate decline of the real USD exchange rate against the DEM and a sharp fall against the JPY. Consequently, Japanese companies have responded more actively to the new exchange rates.

The 'Triad' Approach as a Japanese Reaction

Japanese business leaders tried to cope with the rising JPY. A few started to build up production in the United States; Nissan and Yamazaki Mazak are well-known examples (Box 1).

Most of the Japanese companies, however, tried to lower average costs by transferring the labour intensive parts of production to neighbouring low-cost countries. In a first wave of investment, they moved into South Korea and Taiwan, Hong Kong and Singapore, later into Thailand, Indo-

nesia and Malaysia. They used their natural 'hinterland' in order to gain cost advantages in the fierce competition on the 'Triad' markets.

The basic idea of the Triad is simple: Three (hence Triad) huge trading blocks form the largest part of the world market: USA, Western Europe, and Japan. Around half of world trade takes place within and between these three blocks, they combine around 70 per cent of the world's purchasing power. 90 per cent of product innovations take place within the Triad. Therefore, sales efforts should be concentrated on these three markets (Ohmae 1985).

Box 1: **Nissan and Yamazaki Mazak: Early Movers**

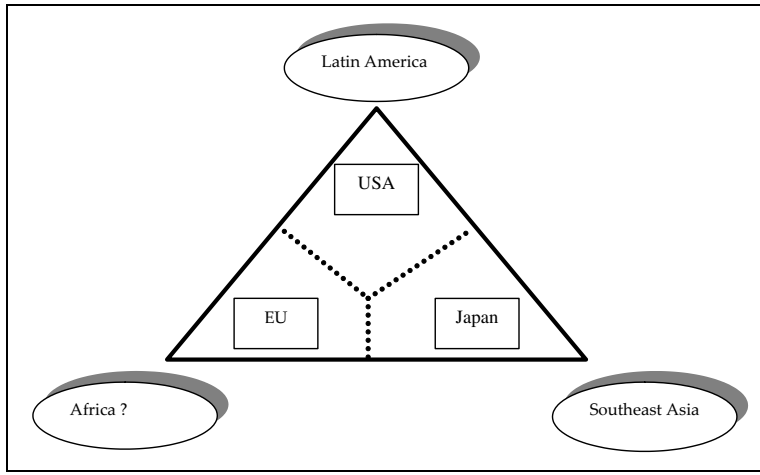
Nissan and Yamazaki Mazak both represent Japan's export industry. Both of them, the car manufacturer Nissan as well as the machine tool builder Yamazaki, started to export products made in Japan to the US in the early 1960s. Both of them reacted to the sharp increase in the value of the JPY by transferring parts of their production to the US. Neither of them invested in the Northern states which were already industrialized and unionized but in Tennessee and Kentucky respectively where no manufacturing or union history would inhibit the transfer and application of Japanese management and production style.
Nissan Motor Manufacturing Corporation was established in Smyrna, Tennessee in 1980; the first truck produced by Nissan in America rolled off the line in 1983. In order to facilitate adaptation of the product to the needs of the American consumer, a research & development centre was established in Michigan. Nissan's investment was only partly in response to the stronger JPY. Investment was also felt to be necessary as Japanese car exports to the US were facing increasing protectionist pressures from the US government.
Yamazaki Mazak's investment in Kentucky seemed to be much more closely related to the JPY appreciation of the 1970s. The company's president, Teruyuki Yamazaki, decided to 'revise radically' the export policy (Kuba 1989, p. 148). In 1974, the company started on the construction of a new plant in Florence, Kentucky and expanded it several times by the end of the 1980s. In 1982, the name of the US subsidiary was changed to MAZAK Corporation so that it would be better accepted as a local supplier. In 1987, the European plant, which had been supported by Prime Minister Margaret Thatcher, was opened in Worcester, UK. Since then, a manufacturing presence in all three triad markets has played a major role in Yamazaki Mazak's internationalization strategy.

After the GATT had opened these markets and free trade had become a reality, at least for the bulk of manufactured goods, enterprises were able to gain market shares as long as they could offer their products at the same quality as competitors but more cheaply. Japanese companies applied two management strategies in order to achieve this goal:

- Total Quality Management, a concept initially introduced in the US, was further developed and rigorously applied by Japanese companies.

- Cost Leadership: lower prices allow market shares to increase. Higher market shares allow cost reductions. Fixed costs per unit decrease with an increase in production (economies of scale); variable costs may also be lowered by learning and specialization effects (experience curve). Cost decreases can also be achieved by transferring labour intensive parts of production into the 'hinterland' while keeping the production of strategically important 'high-tech' components, R&D, marketing and logistics at the Japanese headquarters.

Figure 3.3: **The Triad**



Japanese business leaders were convinced that in the long run the most successful enterprises would be those that consistently exploited the 'hinterland' and which could therefore offer their products in the triad markets more cheaply than competitors who did not. South East Asia was seen as a 'natural hinterland' for Japanese enterprises. Although some American companies also built up production in South East Asia, Japanese firms clearly dominated there. In Thailand and Taiwan, more than 60 per cent of work places in foreign-owned companies were owned by Japanese investors; in South Korea and Hong Kong this figure was around 30 per cent (Urata 1994, p. 279).

According to this Triad Model, Latin America, especially Mexico, could serve as a natural 'hinterland' or 'backyard' for US companies. The future for Western Europe, however, was not as bright: Eastern Europe and the Soviet Union were not available, and Africa was out of the question as a production base (Ohmae 1985, p. 144).

Western Policy Responses to the 'Triad' approach

The successful Japanese export offensives clearly irritated the West. Domestic enterprises and labour unions demanded protection against their Japanese competitors. In many countries, governments reacted and satisfied the demand for a new protectionism. As existing GATT regulations prohibited the increase of import tariffs, the new protectionism consisted mainly of NTBs such as technical norms, administrative rules and 'voluntary export restraints'.

Western politics did not just react defensively but also actively copied the Japanese 'hinterland' strategy:

- The USA signed the 'North American Free Trade Agreement (NAFTA)' which enabled primarily US-American companies to transfer labour-intensive production to Mexico.
- The EU started negotiations with neighbouring countries in Central and Eastern Europe immediately after the fall of communism. As early as 1991, free trade agreements were signed with Poland, Hungary and Czechoslovakia (later integrated in the so called 'Europe Treaties') which enabled Western firms to use these countries as low-cost 'hinterland' countries. By 1995, treaties with the rest of the reforming CEE countries were signed.

Exchange Rate Fluctuations Leading to FDI
Today's World Economic Order

One of the prerequisites of the Triad model and its application was the openness of the markets. Exporters and multinationals wanted to sell their products on the rich Triad markets. Import restrictions were not in the interest of these companies. Not only Japanese and European export-oriented companies but also American multinationals were afraid of the 'New Protectionism' which threatened to hamper the effective use of their world-wide production network. IBM, for example, wanted to send electronic components and parts from South East Asia to America and Western Europe where they were used as components of IBM products, and GM-subsidiary Opel was interested in continuing to buy gearboxes in Japan.

It was therefore in the interest of these companies when the Triad countries encountered protectionist tendencies during the Uruguay round and affirmed the GATT's principles of free trade after eight years (1986–1994) of negotiation. The establishment of the WTO further strengthened free trade policies.

Exchange rate mechanisms, however, continued to represent a more problematic area in international economic policy. While the USD floated against all the major currencies, the majority of the EU countries tried to re-establish a fixed-rate system within Western Europe. On the one hand, the European Monetary system contributed a lot to the further integration of the European market, on the other hand, it went through a severe crisis in 1992 and 1993 when the de-facto anchor currency DEM faced problems due to German reunification. Since then, GBP has been floated against the DEM and, later, the EUR even though the UK is a member of the Single Market. South East Asian countries pegged their currency permanently to the USD until their currencies collapsed in the Asian financial crisis of 1997 and 1998. Japanese firms therefore faced severe price fluctuations in their trade with South Asian subsidiaries with any change in the JPY-USD exchange rate.

Exchange Rate Risks for Internationally Active Companies

In the 1970s, the introduction of floating exchange rates between the USD and other major currencies had successfully reduced its overvaluation. The JPY and DEM were revalued on the markets, the USD and GBP devalued. Floating exchange rates, however, came along with a worldwide liberalization of capital markets. Nowadays, financial institutions invest short-term money – whether capital or derivatives – across borders so that exchange rates are much more determined by short-term capital transactions than by the trade in goods.

Like all investment, cross-border portfolio investment depends more on expectations of future returns than on actual data. In the case of portfolio investment which is denominated in foreign currency, a major determinant of future returns is future exchange rate fluctuation. The expected return on an investment, therefore, depends more on expected changes in the exchange rate than on differences in interest rates, economic growth or other fundamental economic data. Exchange rate fluctuations, therefore, mainly reflect investor's expectations which are not always rational. Therefore, exchange rates tend to 'overshoot'.

Internationally active companies have to cope with these fluctuations in exchange rates. They are exposed to three different types of risk:

- Transaction risk is related to a particular transaction. When a company, for example, signs an export contract, the buyer does not pay immediately but on a given day in the future. If the price is denominated in a foreign currency, the exporter does not know how much money he will receive in his own currency because by the date of

payment the exchange rate may change. Similarly, an importer who is obliged to pay a certain amount of foreign currency at a given date in the future, does not know how much this will be in his own currency. This type of risk can easily be hedged by using forward contracts, currency options and other hedging instruments.

- Translation risk describes changes which occur while translating balance sheet figures into a consolidated balance sheet which is published in another currency. The assets of an American subsidiary which had a value of USD 10 million in both 2001 and 2002, for example, has to be translated into a consolidated European balance sheet at around EUR 11.6 million in 2001 and around EUR 9.9 million in 2002. Even though the value of the assets in the US has not changed in this example, there is considerable depreciation to be seen in the consolidated balance sheet. As these changes do not affect the company's cash flow as long as profits are not repatriated and foreign investment withdrawn, this type of risk is usually neglected by multinational companies.
- Market risk describes the long term effect of exchange rate fluctuations on market shares. It occurs when foreign competitors are able to lower prices because their currency was devalued or the prices of the own products have to be increased as the result of the revaluation of their own currency. This risk cannot be managed with the above-mentioned hedging instruments. As a result, market shares in a foreign market fluctuate with the exchange rate.

Companies are exposed to the market risk as soon as costs incur in another currency than revenues. Then, changes in the exchange rate determine either the number of goods an exporter can sell in a target market or the revenues after conversion into his own currency. 'The consequence may be that goods traders may still refrain from launching exports even if they are sufficiently competitive on the international market … For large companies, in particular, this may mean that direct investment in the target country is the preferred option' (Jepma, Jager and Kamphuis 1996, p. 271).

The long-term strategy of the company must therefore aim at a currency distribution of costs similar to that of proceeds. 'In this way they set production costs in the foreign currency against the foreign currency income. This will diminish their exchange rate exposure substantially' (Jepma, Jager and Kamphuis 1996, p. 271).

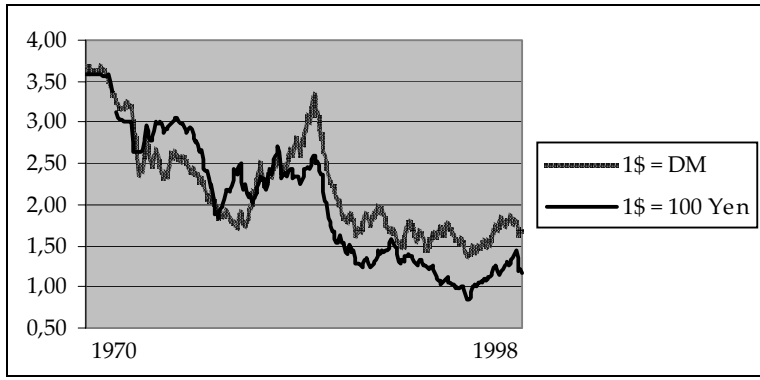
FDI as a Risk Reducing Strategy

European and Japanese companies responded to the challenge of fluctuating exchange rates and changed their internationalization strategy. European and Japanese companies invested heavily in the US particularly in response to the dramatic decline of the USD – after the 1985 Plaza accord – between 1985 and 1994, for example, the greenback devalued from its peak of DEM 3.47 in 1985 to DEM 1.36 in 1994.

The Deutsche Bundesbank pointed out in 1999 that 'serious exchange rate fluctuations have more and more motivated globally active companies to invest in countries whose currencies vary significantly towards the DM' (Deutsche Bundesbank 1999, p. 60). An appreciation of the DM in real terms led to an increase of German outward FDI of around 2.5 per cent, according to Bundesbank (1997, p. 78) estimations. Around two thirds of Germany's FDI stocks outside of the EU were invested in the US in 2000, for example (Deutsche Bundesbank 2002, pp. 16–19).

Similarly, changes in the value of the JPY have a strong influence on Japanese outward FDI. According to IMF estimations (Bayoumi and Lipworth 1998), 'a 6 per cent depreciation of the host country's currency vis-à-vis the yen would also generate an increase in FDI of roughly 10 per cent.'

Figure 3.4: **USD Fluctuations against DEM and JPY**



Source: Deutsche Bundesbank, Exchange Rate Statistics

Japanese companies strengthened the division of labour between subsidiaries in South East Asia and headquarters in Japan (Urata 1994) and, on the other hand, invested heavily in the US and Western Europe (Pohl

Box 2: **BMW – A Change in Strategy**

Over three decades, BMW's strategy remained unchanged: to manufacture high quality cars and motorbikes for a small market segment at home and abroad. Even in Japan, where all other Western competitors relied on joint ventures with Japanese car makers and dealers, BMW successfully installed its own distribution network.

In contrast to the extremely successful internationalization of sales and distribution, production maintained concentrated in a small region within upper and lower Bavaria. All plants were (and still are) highly integrated, with each factory supplying parts and components to the others. Specialization is used for productivity gains. This high level of factory integration combined with their concentration in one region allows BMW to react flexibly to changes in market demand. Components and parts, for example, are delivered from one factory to another as part of a highly sophisticated 'just-in-time' concept which allows component stocks to be reduced to a maximum of a day's production. Even the highly-skilled labour force can be moved between the factories by bus transfers according to changes in demand for various models. External suppliers have been integrated. Nearly all of them are located themselves within the region.

A major change in location strategy was announced by BMW in June 1992. BMW built the first overseas plant on a green-field site in Grier, Spartanburg, South Carolina. The initial investment was USD 400 million. The Z3 model, amongst others, was produced for the NAFTA and the world markets. Even the Z3 models sold in Germany have always been 'made in the USA'.

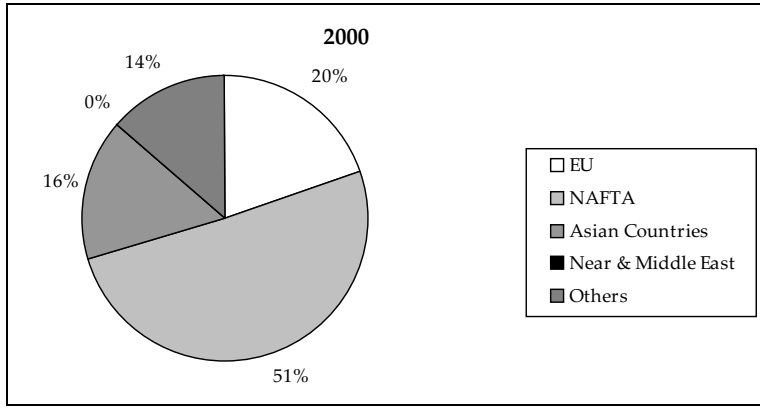
The major reasons for this change in strategy were to avoid possible trade restrictions and negative effects of exchange rate fluctuations, according to Eberhard von Kuenheim, BMW's CEO in 1992.

As BMW is too small to manufacture one type of car in different locations, the company opted for specialization: By producing a limited number of car types in South Carolina and exporting them even to Europe, the net USD exposure is reduced to the difference between the flows from Europe to the US and vice versa. From a macroeconomic viewpoint, BMW's FDI in the US has thus rather increased than reduced total exports.

1994). They 'began to escape from the disadvantages of producing at home by shifting production abroad via FDI. The high yen also subsidized this investment outflow. The upshot was a one-sided imbalance in Japan's FDI account; a huge investment outflow but a minuscule investment inflow' (Ozawa 2002, p. 5). As a consequence, South East Asia was replaced by developed countries as the main recipient of Japanese outward FDI. Their share in Japan's outward FDI increased from about a third to around 70 per cent (Kleinert 2001). The largest part was invested in the United States but European countries received a large amount of Japanese FDI as well. More than 50 per cent of Japan's outward FDI stock is located in NAFTA (Figure 3.5).

Thus, Japanese FDI outflows increased from USD 10.2 billion in 1984 to USD 67.5 billion in 1989 whereof more than USD 32 billion were invested in the United States (OECD 2003 Internet). These investments seem to have at least partly replaced Japanese exports to the USA. In 1990, Japan exported merchandise worth JPY 15 065 billion to the US, compared with more than 18 billion in 1985 (Japan Statistics Bureau 2002). Japanese investment in the EU increased from USD 2 billion (1984) to USD 14.1 billion in 1989 (OECD 2003 Internet). In the same time exports to the EU increased by around 40 per cent (Japan Statistics Bureau 2002). Obviously, Japanese companies' FDI and export activities in Europe were also encouraged by the European Single market program.

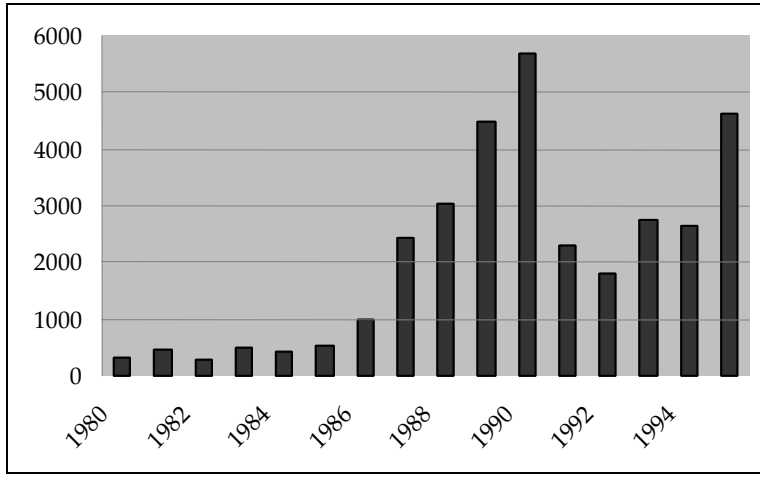
Figure 3.5: **Japan's Outward FDI Stock**



Source: OECD 2003

'The strong appreciation of the yen after the 1985 Plaza Accord encouraged Japanese companies to push for other internationalization strategies besides exports. Although trade remained dominant, foreign direct investment (FDI), the establishment of joint ventures and licensing agreements strongly gained importance' (Kleinert 2001, p. 475). Consequently, the export share in Japanese manufacturing fell from over 14 per cent in 1985 to 12 per cent in 1990 with the most dramatic decline in the car industry where the export ratio fell from 57.3 per cent in 1985 to 34.9 per cent in 1996 (Kleinert 2001, p. 479). Also the machinery and equipment sector, Japan's second largest export industry, realized a huge increase in investment outflows after the Plaza accord (Figure 3.6).

Figure 3.6: **Japan's FDI Outflow in the Machinery & Equipment Sector 1980–1995 (in millions of USD)**



Source: OECD 2003 online

While many companies built up new production sites, others entered into Triad markets by mergers and acquisitions or strategic alliances. Especially in the service sectors such as the air traffic industry or telecommunications, where liberalization and deregulation started later than in manufacturing industries, networking and M&A have played a major role in recent years.

In the long run, global players tend to place production and services in different currency areas in such a way that proceeds and costs are roughly balanced in each currency area. For them, this is the only way to govern the 'market risk' of exchange rate fluctuations in the long run.

'Integrated Currency Zones' in Order to Attract Inward FDI The Triad's 'New Face'

The strategy of global players must, therefore, not only focus on exploiting the natural 'hinterland' but also to minimize exchange rate risks by allocating production to the three key currency zones, namely the USD the EUR, and the JPY zones. 'Integrated currency zones' may constitute today's triad more than the physical openness of markets.

In this way the 'Triad' has acquired a new face. In addition to the 'natural hinterland' which is used as a low-cost site for labour-intensive

production in order to be competitive on export markets, the 'integrated currency zone' plays a major role. Thus, the role of the 'natural hinterland' will change. It will be increasingly used as a production zone for products to be sold within the triad market it is attached to.

The 'dollarization' of Latin America may, for example, help Central and South American countries to increase their attractiveness to investors into export related industries. Although the official or semi-official use of the USD has been introduced by countries like El Salvador, Ecuador and Argentina in order to fight inflation, a stable exchange rate relationship to the major export market may help to build up stable external trade and investment relations.

It is, however, counterproductive to peg the national currency to the USD when the major external trading partner's currency is continuously floating against it, as the example of Argentina shows. Although a member of a customs union with Brazil (in the framework of the 'Mercosur'), Argentina had pegged the ARS to the USD while Brazil has kept its currency, the BRL, floating against the USD. With the USD strength throughout the late nineties, Argentina's price competitiveness versus Brazil deteriorated which finally contributed to the severe BoP problems Argentina faced in 1999.

Box 3: **GBP versus EUR – Some Multinationals' Viewpoint**

Nick Reilly, American CEO of the British GM subsidiary Vauxhall, explained in a Financial Times interview: 'The UK currency's isolation outside the euro-zone has made cost-planning more difficult … Whether we add capacity here or in Spain or Germany, Vauxhall has to put in costs at current exchange rates'.
In very un-Japanese plain terms a *Toyota* representative even threatened with disinvestments: 'We are not selling (UK-made) cars in continental Europe because of the difference between the GBP and the EUR. The UK government has said it may join the EUR in five years, but we won't be around five years from now'.
Nobuyuki Idei, president of *Sony*, was reported to have warned Prime Minister Tony Blair 'that Britain's delay in committing to the EUR puts the future of the company's plants in Britain in question'.
Carlos Goshn, president of *Nissan*, told reporters at a seminar in Tokyo that if Britain did not join the EUR, Nissan would have to consider various options for making any further investment because their British subsidiary 'Sunderland is producing cars with costs in GBP and most of the revenue in EUR'.

In Europe, Lithuania was confronted with a decrease in the country's competitiveness during the rise of the USD against the EUR throughout 1999–2001 and decided to replace its peg to the USD with a peg to the

EUR in February 2002: 'The decision on the peg of the litas to the euro was taken on account of the fact that Lithuanian economy is becoming more closely integrated with the economies of the EU and EU candidate countries. With the emergence of a corresponding export structure, it has become increasingly important to reduce the fluctuations of the real exchange rate of the litas against the currencies of the main trading partners' (Ukio Bankas 2002).

Therefore, the creation of the single currency in Europe served the strategic interest of multinational companies. This might be the reason why mainly multinationals urge the British government to join the single currency (Box 3).

Consequences for Asia-Pacific?

The increasingly important role of Central and Eastern European (CEE) for American and Japanese multinational production is actively supported by the European co-ordination of monetary policy, which is aimed at the long-term accession of these countries to the single currency (Schüle 2003). However, the Asia-Pacific region seems to be far from monetary integration.

No Asian or Pacific country has ever pegged its currency to the JPY in the post-war period. In contrast, the USD has played and still plays a major role even though the financial crisis in 1997/98 demonstrated how dangerous a partial peg to the dollar in combination with high inflows of portfolio investment can be. Although there was some evidence of an increasingly important role for the JPY in the late 1980s (Frankel 1994, p. 244), Asia-Pacific is still highly influenced by the USD. In particular, China's decision to keep the RMB peg to the USD unchanged during the financial crisis seems to have weakened the role of the JPY. This might even be welcomed by several South East Asian countries whose governments have tried to avoid excessive economic dependence on Japan.

In comparison to Europe's integration, the core Triad market in Asia-Pacific has never been a common market of several states, but a single nation. For this reason, close ties to the core market have always gone hand in hand with depending on one single nation and its government, Japan. South East Asian countries were much more reluctant to tie their economies as exclusively to the core market as European accession states do.

In the long run, the economic and probably political rivalry between Japan and China over political leadership in Asia-Pacific may further weaken the role of the JPY as a potential catalyst of economic integration.

On the other hand, China still seems far from being economically strong enough to become the core market in East Asia. If China maintains its policy of keeping the RMB exchange rate towards the USD stable, the USD's role in Asia-Pacific is more likely to be strengthened throughout the current decade.

European and American multinationals will, therefore, be much less inclined to use South East Asia as a production hinterland for penetrating the Japanese market compared to the extent they use Central and Eastern Europe. If a significant risk of exchange rate fluctuations between Japan and other Pacific-Rim countries remains, there is no specific location advantage South East Asian countries might have as a hinterland over China. Companies interested in low cost production sites in Pacific Asia might then prefer investment in China where the same low cost advantages are available, but with the additional promise of a huge market developing in the decades to come. The slow process of trade liberalization within the region may further strengthen the role of China.

Conclusion

As it has been shown, the internationalization strategy of today's global players has been heavily influenced by exchange rate mechanisms and the changes made to them. As a result, European and Japanese companies switched from an export-oriented internationalization strategy to one based on FDI. Internationalization is still mainly concentrated on the Triad markets. However, not only physical barriers but also the existence of 'Integrated Currency Zones' constitute today's Triad. They serve the interest of multinationals who used FDI in order to 'hedge' or circumvent the long-term 'market risk' of floating exchange rates. The more a country's economy belongs or is attached to one of the three major consumer markets traditionally described as the Triad, the more it can increase its attractiveness for inward FDI by pegging its currency to this major market.

Therefore, the lack of currency integration in the Asia-Pacific region together with only slow progress in economic integration might in the long run weaken the role of South East Asia and strengthen the attractiveness of China as a production site. In the very long run, the extent to which China might become the core market in Asia could be discussed.

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4 Towards a Strategic Realignment of Production Networks

Japanese Electronics Companies in China

Tomoo Marukawa

Investments in East Asia

The Japanese electronics industry started to develop in the late 1950s and has evolved to become the leading sector in the Japanese economy. The increase in domestic demand for household electric appliances, together with the protection of the domestic market by high tariffs, stimulated growth in the Japanese electronics companies. The companies soon succeeded in expanding exports to the United States, taking advantage of low labour cost and cheap yen. Then they turned their attention to the Asian market, and around 1960 started to set up factories there. These early investments in Asia were intended to avoid the trade barriers imposed by these countries and to supply the domestic markets. For example, in 1961, Matsushita established National Thailand to produce dry batteries, the first foreign operation to be set up by the company after World War II, followed by Taiwan Matsushita Corporation in the next year. By setting up these factories, Japanese electronics companies could avoid paying the high import tariffs imposed by these countries when they sold their products to these markets.

This early strategy of Japanese electronic companies in East Asia is perhaps best exemplified in the development of the so-called 'Mini-Matsushita' strategy. Under this strategy, Matsushita Electric Industries set up one factory in each major Asian countries which manufacture the full line-up of its household electric appliances, such as television sets, refrigerators, and rice cookers for the domestic market of the respective host countries. Other companies, such as Toshiba Corporation and Hitachi, followed suit and establish their own 'Mini-Toshibas' and 'Mini-Hitachis' in Asia. Typically, the Japanese electronic companies would build one factory in each of the relatively large markets in Asia, such as Taiwan, Thailand, Malaysia and South Korea. Judging from the small size of the markets, what the 'Minis' actually did might have been nothing more than the assembly of knocked-down parts imported from Japan.

Table 4.1: **Production Sites Established by Japanese Electronics Multinationals**

	Before 1960	1961–1970	1971–1975	1976–1980	1981–1985	1986–1990	1991–1995	1996–2000	Cumulative	Present
South Korea	0	3	11	2	1	4	1	1	23	12
China	0	0	0	0	7	5	81	47	140	136
Hong Kong	0	1	0	0	2	4	1	1	9	7
Taiwan	1	14	1	1	1	6	2	2	28	20
Vietnam	0	0	2	0	0	0	2	3	7	5
Thailand	0	5	2	1	2	20	8	7	45	39
Singapore	0	1	10	7	2	9	1	1	31	22
Malaysia	0	2	6	5	3	20	5	0	41	36
Philippines	0	3	2	0	1	3	5	7	21	17
Indonesia	0	1	1	0	0	2	18	12	34	33
India	0	4	3	0	1	2	3	5	18	14

Note: 1 This table shows the total number of establishments of nine Japanese electronics multinationals, i.e. Matsushita, Hitachi, Sony, Mitsubishi Electric, Toshiba, NEC, Fujitsu, Sanyo, Sharp, and their subsidiaries in Asia.
2 This table includes factories and software houses but excludes sales branches and service stations.
3 The figures include establishments by each companies' subsidiaries. In the case of Matsushita, however, the establishments of Victor Company of Japan are excluded, while those of Matsushita Electric Works are included.

Source: Shukan toyo keizai, 1980, 1985, 1995, 2001.

Table 4.1 shows the total number of production facilities that Japanese electronics companies established in East Asia since the 1950s. If we break the figures down by company, we can see that before 1970 each one had only one establishment in an East Asian country, indicating that the companies were following the abovementioned 'Mini-Matsushita' strategy.

The exception is Taiwan, where Mitsubishi Electric Corporation, Toshiba and Matsushita established more than two factories before 1970, and Hitachi had five factories. This marks the emergence of a new investment strategy of Japanese electronics companies in the 1960s, which is to use East Asia as a production base for export, mainly to the North American market, by taking advantage of the cheap labour in the region. Among the five factories of Hitachi in Taiwan, at least three were export-oriented factories producing television sets and electronic parts for the North American market. As the labour cost rose sharply in Japan in the

1970s, Japanese electronics companies further pursued this strategy of building export-oriented factories in East Asia, including South Korea, Singapore, Malaysia and Taiwan (Suehiro 1981). In South Korea, Sanyo and Toshiba built large scale electronic components factories. Matsushita established five subsidiaries in Singapore and three in Malaysia in the 1970s, all owned 100 per cent by Matsushita, to serve as export bases for electronic parts and compressors. Sharp established a factory for audio components in Malaysia in 1974. During the late 1970s and early 1980s, however, Table 4.1 shows that the amount Japanese electronics companies invested in East Asia decreased, mainly due to the trade friction with the United States and Europe on the issue of electronic exports. In order to alleviate this trade friction, Japanese companies increased investments to North America and Europe (Sasaki and Esho 1987). Since the internal resources that could be allocated to foreign investment were limited, this led to the reduction of direct investments in East Asia.

Trade friction may have skewed Japanese FDI, but following the appreciation of the yen after the Plaza Accord in 1985, Japanese electronics companies began to resume shifting their export bases from Japan to Southeast Asia. They increased the number of factories in Malaysia and Singapore, which they had been cultivating since the 1970s, as export bases for television sets, semiconductors and household electric appliances to North America and Europe. Also in this period, Japanese electronics companies began to target Thailand for new investments, where they built production facilities for microwave ovens and refrigerators. Unlike the previous FDI in these countries, there was a greater division of labor in the manufacture of electronic goods across the East Asian countries, deepening the realignment of Japanese production networks to include business support functions.

In the 1990s, Japanese electronics companies turned their attention to Indonesia and the Philippines. A large number of computer peripherals manufacturers set up in the Laguna Industrial Park in the Philippines where Hitachi, NEC, Toshiba, and Fujitsu built factories for the manufacture of hard disk drives. In Indonesia, Matsushita established eight production sites during the 1990s, while Sanyo established five and Toshiba four. No doubt Indonesia has the largest gross national product among the member countries of ASEAN and its wage level is one of the lowest, but it is unclear why Japanese companies were so aggressive in establishing a foothold in this country in light of the ASEAN free trade agreement (AFTA). Under this agreement, the ASEAN member countries would gradually remove trade and investment barriers allowing companies to economize on direct investments by exporting products from their existing factories in Thailand and Malaysia to Indonesia.

One possible consideration among the major Japanese companies may have been to locate production facilities so as to create a more balanced development among the ASEAN member countries. As can be seen in Table 4.1, the Japanese companies had concentrated their investments in Malaysia, Singapore and Thailand until the 1980s, leading to an unbalanced development of electronics exports among major ASEAN nations. Investing in Indonesia and the Philippines would help these nations to expand electronics exports, and eventually be advantageous for these companies to establish good relationship with their government. The affluence of the Japanese companies in the asset bubble days allowed them to make investments based on such political considerations, but this option was shattered by the 1997 Asian financial crisis. This paper explores the continuing realignment of the production networks of Japanese electronics companies, with a special focus on China, and discusses the prospects for its future change.

BUSINESS IN CHINA

Japanese electronics companies started their involvement in China soon after the initiation of economic reforms in this country. Between 1979 and 1981, Japan exported around one million television sets every year to China, but the Chinese soon launched a localization policy, strictly limiting imports and asked the Japanese to transfer assembly lines of television sets to local companies. Since then, the sales of factory facilities and product technology became the main business of Japanese electronics companies in China. They sold hundreds of assembly lines for colour television sets, refrigerators, and washing machines to the state-owned enterprises in China during the 1980s. Until 1993, the Chinese government basically relied on domestic enterprises, mainly state-owned enterprises, to develop the consumer electronics industry. The government not only paid attention to the localization of the final assembly, but also eagerly promoted the localization of components.

In the case of the colour television, the government set up factories with technology introduced from Japan to produce cathode ray tubes, tuners and linear ICs. The Chinese government did not refuse FDI, but it was difficult to maintain a manufacturing operation before 1993, unless it exported most of its products abroad. The fate of a joint venture which tried to sell products to the domestic market is illustrated by Fujian Hitachi Television Co. Ltd., which was one of the earliest joint ventures to be established by the Japanese following economic reforms. Hitachi's initial reason for investing in China was to penetrate the huge domestic

market. This strategy was quickly disrupted in 1985, when the Chinese government demanded that enterprises with foreign investment maintain a 'foreign exchange balance'. This meant the government wanted foreign companies to use their foreign exchange earnings from exports and other sources to counterbalance whatever expenditures of foreign exchange they needed to pay for imports (parts, machinery, etc.) and expatriate managers. Since Fujian Hitachi was not ready to export its products, the company went on the verge of bankruptcy in 1985. In order to revive its business, in the late 1980s, then, the company decided to export television sets. It soon became clear that the 'Fujian Hitachi' brand was competing against the 'Hitachi' brand produced at its other production bases in East Asia. It was not in Hitachi's initial strategy to let Fujian Hitachi be another export base in East Asia. The problem of competition between Fujian Hitachi and other Hitachi's remained unsolved for many years since then. In this manner, Fujian Hitachi was able to gain the necessary foreign exchange through exports and managed to continue sale of television sets in the domestic Chinese market. But it was unable to fully exploit the domestic market because the Chinese government restricted its sales to 200,000 units per year. Even though Hitachi was the first Japanese electronics company to come to China, it has been unsuccessful in the Chinese television market. In March 2002, Hitachi decided to withdraw from the joint venture by selling its shares to its Chinese partner (*Nihon Keizai Shinbun* 2002).

As the above case shows, it was difficult for foreign electronics companies to enter the end-product market. The Chinese government did not welcome foreign investments because it thought that there were too many domestic producers engaged in the assembly of consumer electronics. In the case of key components, however, the government encouraged foreign companies to enter. As the production of key components, such as cathode ray tubes for colour television sets, required sophisticated production technology and a large amount of investment, it was difficult for the Chinese government to build up domestic suppliers on its own. Matsushita, Hitachi and Philips responded to the government's plan to boost domestic production of cathode ray tubes launched in the late 1980s and set up joint ventures.

Video cassette recorders (VCRs) became popular among Chinese people in the late 1980s and some state-owned enterprises tried to produce them using knocked-down components imported from Japan. The government decided to set up only one supplier of key components – cylinder heads and chassis – for the whole country. Domestic VCR makers would have the right to buy the key components from the sole supplier according to the interest they had invested in the project.

Eleven VCR makers joined the project and made investments. The government then called on major electronics multinationals to join the project. Matsushita won the bid, and built a factory in Dalian spending 24 billion yen.

Since 1993, the 'foreign exchange balance' requirement and the obstacles placed before foreign companies wishing to sell products in the domestic market has been largely relaxed thanks to the development of foreign exchange swap centres and reforms in the foreign exchange system. Until this period, Japanese-brand consumer electronic goods maintained a very high reputation among Chinese people, although it was not easy for them to buy the goods unless they had foreign cash earnings. This constraint virtually disappeared in the early 1990s, as millions of Japanese-brand colour television sets and VCRs, which were smuggled via Hong Kong by local traders, swamped the Chinese market. In the case of colour television sets, Table 4.2 shows Matsushita (Panasonic) ranked first in 1994 and several other Japanese brands were ranked among the top ten during the period 1993–1996, even though the Japanese makers except for Hitachi and Sanyo had not yet started production in China. There is no similar data for the VCR market but according to my estimation, Japanese brands occupied more than 90 per cent of the market in the early 1990s.

Encouraged by the high popularity of their products and the relaxation on foreign exchange constraints, Japanese electronics companies rushed to China after 1993 to set up production facilities. The number of factories built in China from 1993 to 1996 is even larger than the number of those established in ASEAN after the Plaza Accord (see Table 4.1). Matsushita was the most aggressive, establishing 37 subsidiaries since 1992, covering most of the company's product line-up, ranging from the assembly of television sets to refrigerators, washing machines, air conditioners, microwave ovens, cellular phones and manufacturing the key components for each one. At present, the company has 44 subsidiaries producing in China, including those of Matsushita Electric Works. Second to Matsushita is Sanyo, which has 25 subsidiaries in China. Unlike Matsushita, Sanyo concentrates on air conditioning and refrigeration equipment and electronic parts.

The figures for other Japanese electronics companies are shown in Table 4.3. From this table, we can see that all nine companies have more production facilities in China than in any other host country in East Asia. The production sites in China are concentrated in Shanghai, Jiangsu, Guangdong, Beijing and Liaoning.

Table 4.2: **Production Volume and Market Shares of Major Color Television Brands**

			Shares (%)								Estimated Sales Volume (Ten thousand sets)					Production Capacity (Ten thousand units)	
Brand	**Maker**	**Ownership**	**1993**	**1994**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**1996**	**1997**	**1998**	**1999**	**2000**	**Short Term Plans**	**Long Term Plans**
Changhong	Changhong Electronics	State owned	4.2	5.0	20.5	25.0	33.7	13.2	16.72	16.51	410	570	954	448	486		
Konka	Kangjia Electronics	Joint stock with state equity	13.4	11.0	12.2	15.1	13.7	15.9	13.95	12.71	244	345	388	540	405		
TCL	TCL Group	State owned			6.2	9.5	7.8	11.0	12.30	14.12	124	216	221	374	357		
Hisense	Qingdao Haisin Electric	State owned	1.9			3.1	5.6	8.5	10.32	9.92		70	158	289	300		
RGB	Chuangwei-RGB	Hong Kong				4.4	2.6	4.5	6.58	8.16		100	74	153	191		
Haier	Haier Group	Collectively owned					7.9	7.8	6.80	6.80			224	265	189		
Philips	Suzhou Philips Consumer Electronics	Dutch				4.5	2.4		4.36	3.21		103	68		127		
Xodeco	Xiamen Xiahua Electronic	Philipino Chinese	3.3		2.7	3.8	2.0	6.5	3.96	3.02	54	87	57	221	115		
Sony	Shanghai Suoguang	Japanese		3.5	5.5		2.3	3.6	3.61	3.26	110		65	122	105	60 in 1996	300 in 2000
Jinxing	Shanghai Guangdian Group	State owned	4.2	3.7	2.7	4.5	2.0	2.8	3.48	2.68	54	103	57	95	101		
Toshiba	Dalian Toshiba Television	Japanese	2.1		4.2		2.1		2.77	2.95	84		59		80		
Panda	Panda Electronics Group	State owned	11.2	11.0	4.6	3.9	5.6	2.9	2.37	2.56	92	89	158	99	69		
LG	LG Electronics Shenyang	Korean					3.6		2.03	2.20			102		59		
Lehua	Guangzhou Lehua	Formerly state owned							1.97	2.11					57		
Panasonic	Shandong Matsushita	Japanese	10.7	14.7	13.3	6.7	2.3		1.93	1.93	266	153	65		56	40 in 1998, 80 in 1999	
Sharp	Nanjing Sharp Electronics	Japanese							1.36	1.04					39	NA	
Xihu	Xihu Electronics	State owned							0.91	0.58					26		
Sanyo	Dongguang Huaqang Sanyo Electronics	Japanese							0.71	1.27					21		
Caihong	Caixing Electric	Hong Kong							0.62	0.73					18		
Hitachi	Fujian Hitachi Television	Japanese							0.56	0.29					16	80 in 1993	
Chunlan	Chunlan Group	Collectively owned							0.51	0.33					15		
Beijing	Tianjin Tongxin Guangbo	State owned	5.4	4.0	7.1				0.40	0.09	142				12		
Gaohuhua	Guangdong Gaohuhua Television	Hong Kong							0.37	2.04					11		
Samsung	Tianjin Tongguang Samsung	Korean							0.29	0.60					8		
Kangli	Kanghui Electronics	Hong Kong (State owned)							0.18	0.13					5		
Shanghai	Shanghai Radio Equipment Factory	State owned							0.16	0.08					5		
Fujian-Hitachi	Fujian Hitachi Television	Japanese							0.14	0.02					4		
Thakral	Shanghai Thakral Electronics Industrial Co. Ltd.	Singaporean							0.14	0.00					4		
JVC	Wuhan JVC	Japanese							0.10	0.05					3	12 in 1996	
Mudan	Mudan Visual Electronics	State owned							0.08	0.03					2		
Kawa	Zhongshan Kawa Electronics	Hong Kong							0.06	0.10					2		
Others			43.5	47.2	21.0	19.5	6.4	23.3	0.60	0.50	420	445	181	792	16		
Japanese									11.20	10.80					325		
Foreign excl. Japanese									18.40	20.10					535		
Chinese									69.90	68.70					2028		
Top Ten brands			56.5	52.8	79.0	80.5	85.2	76.7	81.78	80.66							
Estimated domestic consumption (ten thousand units)											2000	2282	2830	3397	2904		

Note: Before 1999, only the shares of top 10 brands are known.

Source: Bureau of Trade and Material Statistics (1994, 1995), Zhongguo dianzi bao (various issues), Qingshiwang (2002), Nihon keizai shinbun, Nikkei sangyo shinbun.

Table 4.3: **Geographic Distribution of the Production Sites of Japanese Electronics Multinationals**

	Total	Mitsubishi Electric	Matsu-shita	Fujitsu	Hitachi	Toshiba	Sanyo	Sony	Sharp	NEC
South Korea	12	1	0	2	2	2	3	1	1	0
China	136	11	44	13	16	14	18	6	5	9
Beijing	16	2	8	1	2	0	0	1	0	2
Tianjin	3	0	1	1	0	0	0	0	0	1
Hebei	2	0	1	1	0	0	0	0	0	0
Shanxi	0	0	0	0	0	0	0	0	0	0
Inner Mongolia	0	0	0	0	0	0	0	0	0	0
Liaoning	15	1	3	0	1	4	5	0	0	1
Jilin	0	0	0	0	0	0	0	0	0	0
Heilongjiang	0	0	0	0	0	0	0	0	0	0
Shanghai	25	4	7	2	5	2	0	2	2	1
Jiangsu	24	0	6	6	3	2	2	2	3	0
Zhejiang	5	0	4	0	0	1	0	0	0	0
Anhui	1	0	0	0	0	0	1	0	0	0
Fujian	5	0	2	1	1	1	0	0	0	0
Jiangxi	1	0	0	0	0	1	0	0	0	0
Shandong	4	1	3	0	0	0	0	0	0	0
Henan	2	0	1	0	0	1	0	0	0	0
Hubei	3	0	0	0	0	0	0	0	0	3
Hunan	1	0	0	0	1	0	0	0	0	0
Guangdong	25	1	8	0	3	2	10	1	0	0
Guangxi	1	0	0	0	0	0	0	0	0	1
Hainan	0	0	0	0	0	0	0	0	0	0
Chongqing	0	0	0	0	0	0	0	0	0	0
Sichuan	0	0	0	0	0	0	0	0	0	0
Guizhou	0	0	0	0	0	0	0	0	0	0
Yunnan	0	0	0	0	0	0	0	0	0	0
Tibet	0	0	0	0	0	0	0	0	0	0
Shaanxi	3	2	0	1	0	0	0	0	0	0
Gansu	0	0	0	0	0	0	0	0	0	0
Qinghai	0	0	0	0	0	0	0	0	0	0
Ningxia	0	0	0	0	0	0	0	0	0	0
Xinjiang	0	0	0	0	0	0	0	0	0	0
Hong Kong	7	0	2	1	0	0	2	0	0	2
Taiwan	20	5	5	2	4	0	2	0	1	1
Vietnam	5	0	1	2	0	0	0	1	0	1
Thailand	39	7	8	4	5	6	1	4	2	2
Singapore	22	0	8	0	5	2	4	2	0	1
Malaysia	36	1	14	2	5	3	3	2	4	2
Philippines	17	1	4	2	2	1	2	0	1	4
Indonesia	33	4	10	0	3	4	6	2	2	2
India	14	1	7	2	1	0	0	1	2	0

Source: Same as Table 1.

Business Performance in China

The main reason Japanese electronics companies set up so many subsidiaries in China in such a short time was to penetrate the Chinese market. In this respect, they have not been as successful as they had expected. In the case of colour television sets, for example, Table 4.2 shows the market share for Japanese brands has actually dropped since 1997, when Japanese companies started operating their television plants in China. The Chinese market has become a battlefield for domestic giants, such as Changhong Electronics, Kangjia Electronics and TCL Group, leaving little room for the Japanese to increase their share.

Japanese electronics companies are also facing stiff competition in the market for household electric appliances. In the washing machine market, Japanese makers have decent shares compared to domestic giants,

Table 4.4: **Market Shares of Washing Machine Makers** (%, Ten thousand units)

Company	Nationality	Market Shares		Estimated sales volume		Production Capacity	
		Jan 1999	Jan 2001	1999	2000	Short Term Plan	Long Term Plan
Haier	Domestic	35.5	28.8	476	416		
Xiaotiane	Domestic	19.6	19.5	263	281		
Rongshida	Domestic	11.4	12.8	153	185		
Xiaoya	Domestic	7.1	7.4	95	107		
Hangzhou Matsushita	Japanese	4.6	5.4	62	78	60 in 1995	160–170 in 2000
LG Xiwang	Korean	2.2	4.9	30	71		
Wuxi Siemens	German	2.4	4.0	32	58		
Shanghai Whirlpool	American		3.8		55		
Jinling	Domestic	3.7	3.0	50	43		
Shanghai Hitachi	Japanese	3.2	2.1	43	30	24 in 1997, 60 in 1999	
Suzhou Samsung	Korean		1.6		23		
TCL	Domestic		1.3		19		
Changsha Electrolux	Swedish		1.2		17		
Shanghai Sharp	Japanese		0.9		13	50 in 1997	
Haitang	Domestic		0.7		10		
Weili	Domestic	3.8	–	51			
Domestic Brands		84.8	75.8	1138	1094		
Foreign Brands		15.2	24.2	204	349		
Estimated domestic consumption (Ten Thousand)				1342	1443		

Source: From Eastern Electric Resources (2002)
Nihon keizai shinbun (various issues), Nikkei sangyo shinbun (various issues).

Table 4.5: **Market Shares of Refrigerator Makers** (%, Ten thousand units)

Company	Nationality	Market Shares (%)		Estimated Sales Volume		Production Capacity (Short term plan)
		Jan 1999	Jan 2001	1999	2000	
Haier	Domestic	39.0	29.7	472	380	
Chuzhou Siemens	German		10.2		130	
Changsha Electrolux	Swedish	4.0	9.7	48	124	
Rongsheng	Domestic	14.6	9.6	177	123	
Meiling	Domestic	8.6	8.9	104	114	
Changling	Domestic	3.4	6.6	41	84	
Xinfei	Domestic	9.1	6.1	110	78	
Suzhou Samsung	Korean	2.3	4.0	28	51	
Chunlan LG	Korean		3.1		40	
Wuxi Matsushita	Japanese	1.8	1.9	22	24	35 in 1996
Hualing	Domestic		1.8		23	
Shangling	Domestic	5.0	1.5	61	19	
Kelon	Domestic		1.5		19	
Rongshida	Domestic		1.4		18	
Shanghai Sharp	Japanese	4.2	1.1	51	14	50 in 1997
Domestic Brands			69.7		891	
Foreign Brands			30.3		388	
Estimated domestic consumption (Ten Thousand)				1210	1279	

Source: From Eastern Electric Resources (2002)
Nihon keizai shinbun (various issues) Nikkei sangyo shinbun (various issues).

such as Haier (Table 4.4). Many foreign makers assemble washing machines in China, including LG, Samsung, Siemens, Whirlpool and Electrolux, but they are also struggling against the Chinese producers. In the refrigerator market (Table 4.5), Haier again has the largest share followed by Siemens and Electrolux, while the Japanese companies only have tiny shares. Haier also dominates the air conditioner market (Table 4.6). Mitsubishi Electric and Hitachi have fairly large shares. The shares of Hitachi and Sharp declined sharply after 1999.

What has been most disappointing for the Japanese electronics companies was China's VCR market. In the early 1990s, domestic demand for VCRs was robust, which attracted a huge amount of Japanese-made VCRs to the market through illegal channels. Consequently the government placed great importance on the localization of VCRs and listed the aforementioned project on the agenda of the Eighth Five-Year Plan (1991–95). But when the VCR component factory started operation, the Chinese population began to buy video CD players instead of VCRs. The reason

Table 4.6: **Market Shares of Air Conditioner Makers** (%, Ten thousand units)

Company	Nationality	Market Shares (%)		Estimated Sales Volume		Production Capacity (Short term plan)	
		Jan 1999	Jan 2001	1999	2000	Short Term Plan	Long Term Plan
Haier	Domestic	32.4	23.4	433	428		
Midea	Domestic	2.4	13.1	32	239		
Shanghai Mitsubishi	Japanese	4.7	6.8	63	124	55 in 2000	
Shanghai Hitachi	Japanese	14.1	5.7	189	104	40 in 2000	70 in 2002
Hisense	Domestic	3.1	5.4	41	99		
Chunlan	Domestic	4.6	4.9	62	90		
Glee	Domestic		4.4		80		
Lehua	Domestic		4.0		73		
Tianjin LG	Korean	4.4	3.6	59	66		
Shanghai Sharp	Japanese	17.4	3.4	233	62	66 in 1999	
Hualing	Domestic		2.2		40		
Guangzhou Matsushita	Japanese		2.2		40	60 in 1999, 100 in 2001	
Kelon	Domestic	3.1	2.0	41	37		
Changhong	Domestic		1.8		33		
Domestic Brands		54.8	72.3	733	1321		
Foreign Brands		45.2	27.7	604	506		
Estimated domestic consumption (Ten Thousand)				1337	1827		

Source: From Eastern Electric Resources (2002)
Nihon keizai shinbun (various issues), Nikkei sangyo shinbun (various issues).

for the change in preference is that the video CD is much cheaper to buy, especially if it is a pirated version, and there is a greater variety of selections than videotapes in China. Unexpectedly, the market for VCRs virtually disappeared overnight. Without a market for its product, the VCR component factory, namely Hualu Matsushita AVC Co. Ltd., had to change its business activities. The joint-venture has now become an export base for Matsushita, producing VCRs and DVD players as well as their key components.

Obviously, the Japanese electronics companies are not successful in China in terms of market share, despite giving it first priority among their managerial objectives. Since the Chinese market for consumer electronics is so huge, however, even a small market share may translate into a large production volume. If this production volume exceeds the break-even point, a factory can justify continuing operations. Conversely, a high market share in China does not necessarily translate into large profits. The battle for market share among domestic companies is so fierce that

the price of end-products can drop quickly. For example, the price of 21 inch colour televisions fell more than half from RMB 2972 in 1994 to RMB 1400 in 1999 and then almost half again to RMB 800 in 2000. According to the Chinese newspaper *Guoji Jinrong Bao* (2001), the total profits for television manufacturers were negative in 2000, although the Ministry of Information Industry later denied this news report (*Renmin Ribao* 2001).

Since Japanese electronics companies have advantages in brand image, quality, and technology over domestic companies, they must, and they can, step aside from the price competition and sell high-value-added products. Judging from my estimates on the average price of various colour television brands sold in China, Japanese companies are apparently adopting this strategy. In Table 4.7, the average prices of colour television sets were calculated from the data on market shares both in terms of value and quantity. It turned out that the average price of Sony's colour television sets sold in China in 2002 was more than four times more expensive than that of Changhong's, the most popular brand in China. Matsushita and Toshiba's colour television sets were almost as expensive as Sony's.

Table 4.7: **Market Share and Unit Price of Major Colour Television Brands** (January to November 2002)

Brand/Company	Market share (%)	Unit price index (Changhong=1.0)
Changhong	16	1
TCL	13	1
Kangjia	13	1
Haixin	10	1
Chuangwei	10	1
Haier	7	1
Shanghai VA	3	1
Sony	3	4
Toshiba	3	4
Shenyang LG	3	2
Panda	3	1
Xiahua	3	1
Sanyo	2	1
Matsushita	2	4
Samsung	2	2

Source: Calculated from Qingshiwang (2002).

The profit and loss data for the production sites of Japanese electronics companies is unavailable, but we can hazard a guess by estimating the rate of operation in the factories. If a factory operates at more than 70 per cent of capacity, it can be judged as successful or at least worthwhile to maintain. In Tables 4.2, 4.4, 4.5, 4.6, I estimated the sales volume of each brand by multiplying its market share by the total domestic sales volume. The total domestic sales volume is estimated by deducting exports and adding imports to the domestic production volume data. Based on news coverage by *Nihon Keizai Shinbun* and *Nikkei Sangyō Shinbun*, I have added the production capacities for the makers with Japanese investment to the tables. This method has many shortcomings: firstly, it does not take into account the stockpiling by enterprises, so the total domestic sales volume might be overestimated; secondly, the data on market shares is based on a limited number of sample surveys, which have been criticized by some companies for being biased; and third, as the newspapers only report a company's initial investment plan or expansion, it is unclear whether the plans are realized or not.

Even with all these shortcomings, the data helps in understanding the condition and behaviour of Japanese invested enterprises. In the case of colour television sets (Table 4.2), Sony's share (Shanghai Suoguang) seems to be very small (3.26 per cent), and yet the actual sales volume (1,050,000 sets) exceeds its initial plan of 600,000 units in 1996. Therefore we can judge this joint venture has been a success. In the case of Matsushita (Shandong Matsushita), the operation rate must be around 70 %, which is not very high but satisfactory percentage. On the other hand, the operation rates for Hitachi (Fujian Hitachi) and Victor Company of Japan (Wuhan JVC) are only 25 %. It is not surprising that these companies have decided to withdraw from their joint ventures recently. In other markets (Table 4.4, 4.5, 4.6), Shanghai Hitachi and Shanghai Sharp's washing machines, Shanghai Sharp's refrigerators, and Guangzhou Matsushita's air conditioners are not very successful. Yet Guangzhou Matsushita announced in 2000 that it will expand its capacity from 600,000 units to one million units a year. Matsushita intends to export half of the air conditioners produced in the factory to other markets including Japan (*Renmin wang* 2001).

Location Behaviour of Japanese Electronics Companies

The history of foreign direct investment by Japanese electronics companies in each East Asian country followed a common pattern. At the beginning, Japanese companies established a production site in order to

avoid trade restrictions and penetrate the domestic market. Later on, they start to use the country as an export base, establishing new production sites or changing the function of existing sites; even when the country loses its comparative advantage as an export base, Japanese companies still try to utilize the subsidiary by changing its function. Hence the incidence of withdrawal is relatively low. Table 4.1 shows that only 14 per cent of the 397 establishments have disappeared during forty years of investment in Asia. There have also been traces of the bandwagon effect among Japanese electronics companies. In the latter half of the 1980s, Thailand and Malaysia were the focus of their investment. In the mid-1990s, China became the new focus. The investment behaviour in these boom periods seems to be based not only on rational considerations of production costs and market access.

Can these motives explain the location behaviour of Japanese electronics companies? Did they exhibit the bandwagon effect? Tokunaga and Ishii (1995) conducted a quantitative analysis of Japanese electronics companies' location behaviour using the conditional logit model. They found that the economic environmental factors of the host country, namely, the wage rate, the level of infrastructure and the degree of economic instability are significant factors that affect the location behaviour of Japanese electronics companies. On the other hand, the size of the host country market and the degree of agglomeration were not significant factors in explaining investment behaviour. But as Tokunaga and Ishii's analysis is based on data gathered from 1986 to 1992, their analysis does not take into account the huge flow of investment to China since 1993.

I analyze the data for investment projects by the Japanese electronics companies in ten East Asian countries implemented from 1983–2000 using a Poisson regression model along with OLS regression (Table 4.8). The dependent variable is the number of production sites the companies established in an East Asian country in a particular year. The host countries included in the analysis are South Korea, China, Hong Kong, Taiwan, Thailand, Singapore, Malaysia, Philippines, Indonesia and India. The explanatory variables are the market size of the host country, measured by the countries' GDP in USD billion; the exchange rate of the host countries' currency to yen in relative terms, the monthly manufacturing wage in the host country compared to that of Japan in the same year, the cumulative number of production sites established by the companies until the previous year, which measures agglomeration effect; and the average growth rate of the previous three years.

Table 4.8: **Result of the Regression Analyses on Japanese Electronics Multinationals' Investments**
Dependent variable: number of investment projects started in the year

Period	**1983–2000**		**1983–2000**	
Model	**Poisson Regression**		**OLS**	
Explantory Variables	**Coefficient**	**t-value**	**Coefficient**	**t-value**
constant	-1.16	-5.33 ***	-1.76	-2.17 **
GDP	0.00089	2.17 **	0.0045	2.45 **
relative exchange rate	0.086	4.87 ***	0.25	2.31 **
wage	-4.46	-5.91 ***	-4.76	-2.48 **
Number of existing production sites	-0.00046	-0.16	0.015	0.95
Average growth rate of the previous 3 years	0.21	9.53 ***	0.35	3.87 ***
Log likelihood	-307.01			
R-square Pearson	0.72			
adjusted R^2			0.30	
F value			16.32	***
Observations	180		180	

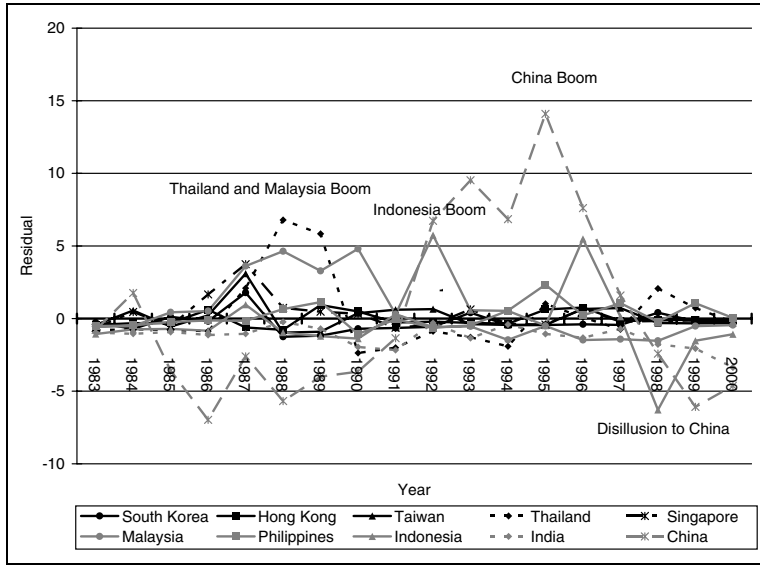
Note: * P<.1, ** P<.05, ***P<.01
The relative exchange rate for country i in year s is, EXYis=(EXDis/EXDi1983)/(EXDjs/EXDj1983), where EXDis denotes country i's exchange rate to USD in year s, and j denotes Japan
The host countries included in the analysis are South Korea, China, Hong Kong, Taiwan, Thailand, Singapore, Malaysia, Philippines, Indonesia and India.
Wage data is adopted from the ILO database. For some countries, however, only some of the wage data for the period 1983–2000 is available. In these cases, wage data for the missing years is extrapolated from existing data.

Contrary to Tokunaga and Ishii (1995), the market size of the host country is significant in explaining the number of investment projects made in the country. The difference between our analysis and that of Tokunaga and Ishii mainly stems from the fact that our analysis covered a longer period and included the investment in China after 1993. As discussed in section 2 of this paper, the period which Tokunaga and Ishii analyzed, 1986–92, was a particular period when Japanese electronics companies shifted their export bases from Japan to Southeast Asia, so their analysis strongly reflects this aspect of the investment behaviour of Japanese companies. Taking a longer time period, however, the analysis shows that the investment by these firms is also strongly motivated by the desire to capture the domestic market in East

Asian countries. Note that the coefficient for the three-year average GDP growth rate is also positive, which indicates that investments are attracted not only by the present size of the host countries' GDP but also by their prospective size.

In our analysis, the depreciation of the host countries' currency and low wage levels are also significant factors in attracting investment from Japanese electronics companies. No agglomeration effect is detected by our analysis, which indicates that the companies have shifted the foci of their investment rather than concentrating on a particular country.

Figure 4.1: **Residuals of the Poisson Regression Model**



Assuming that the Poisson regression model in Table 4.8 depicts rational investment behaviour on the part of the Japanese electronics companies, the residuals can be defined as deviations from rational behaviour. The sign (positive or negative) and size of the residuals correlate with our impression that there had been a 'Thailand and Malaysia boom' in the late 1980s, an 'Indonesian boom' in the early 1990s, and a 'China boom' in the mid-1990s (Figure 4.1), of which the 'China boom' has been the largest. This suggests that there were bandwagon effects influencing the investment decisions of the companies.

Towards a Strategic Realignment of Production Sites

Japanese electronics companies established subsidiaries in East Asia in order to serve two functions: the domestic market and export. As the analysis in the previous section shows, their investment behaviour can largely be explained by the size of the domestic market, cheap labour and currency. At the same time, there have been significant deviations from these motives, suggesting Japanese electronics companies are affected by the bandwagon effects. The low incidence of withdrawal is also noteworthy. When a subsidiary turns out to be incapable of attaining the initial investment goal as a result of changes in the market environment and the host country's comparative advantage, Japanese firms often try to maintain the subsidiary by changing its function rather than closing it down. In the case of Matsushita, the 'Mini-Matsushitas', which the company established in Thailand, Indonesia, Malaysia, Philippines and Taiwan from the early 1960s to produce various consumer electronic goods to feed the domestic market, existed until the late 1990s, long after the company started to set up large-scale export bases in the same countries. The cases of Hualu Matsushita and Guangzhou Matsushita described in Section 4 are typical examples of the functions of operations being changed after their failure to fulfil the original motivation to invest. Some operations in Singapore and Hong Kong changed their function from factories to trading centres. They disappeared from Table 4.1 but still exist.

The tendency of investment decisions to be affected by bandwagon effects, together with the tendency to maintain existing operations as long as possible, however, results in the duplication of function amongst the subsidiaries and in over capacity. Matsushita, for example, has a television factory in each of five Asian countries, China, Vietnam, Thailand, Malaysia and Indonesia. If the free trade agreement among the ASEAN countries materializes, four of them will compete in the same market. Now China and ASEAN have agreed upon creating a free trade zone. If Asia transforms itself from a mass of small compartmentalized markets into an integrated market, the Japanese electronics companies may face a serious problem of internal competition among their subsidiaries in China and ASEAN. It seems to be inevitable for the companies to streamline their production sites scattered around East Asia. Those subsidiaries that only catered for the small domestic markets and those that locate in countries that have lost comparative labour-related advantage may be the first candidates to be scrapped, while those that already operate on a large scale and those that are located in a country with an ample labour supply and a wide network of suppliers may survive.

It is very likely that Japanese electronics companies will further concentrate their production bases in China in the near future, because China has many advantages over other host countries in East Asia. First, with a highly-skilled labour force, China has an apparent labour-related advantage, over Southeast Asian countries and Japan. Secondly, the abundance of electronic parts suppliers in Guangdong, Shanghai and Jiangsu exceeds that of Southeast Asia (Kuroda 2001). Japanese electronics companies themselves have also contributed to the creation of suppliers, by setting up many factories producing key components for consumer electronics in order to meet Chinese government localization requirements. The Japanese market share may be small in the end-product market, but it is quite high in the key components market. Two Japanese joint ventures supply nearly 30 per cent of all the cathode ray tubes for colour television sets in China. 90 per cent of the compressors for air conditioners produced in China are supplied by six enterprises with Japanese investment. The Japanese share in the supply of optical pickups for video CD and DVD players must also be very high. Together with these, a vast network of electronic parts suppliers including Japanese small and medium-sized enterprises, Taiwanese enterprises and domestic Chinese enterprises have emerged in Guangdong, Shanghai and Jiangsu, making it possible to purchase more than 90 per cent of the parts for electronic products locally.

Consideration of the political repercussions on the closure of plants may deter the Japanese firms from closing their plants in Southeast Asia. The high cost of cutting workforces in Japan may be an obstacle to the reduction of production capacities in Japan. The financial situation of Japanese electronics companies, however, leaves little time for them in which to hesitate.

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5 Japanese Foreign Direct Investment in China

From Export-oriented Production to Domestic Marketing[1]

Haruo Horaguchi

Introduction

China's national development strategies have strongly influenced large multinational enterprises (MNEs) as well as small and medium-sized enterprises (SME) in Japan. The Chinese national government initiated policies to attract foreign direct investments (FDI) from the 1980s. These national policies have followed a cyclical pattern, consisting of four stages. From the first stage, the Chinese government set targets for economic development and Chinese delegations were organized to purchase manufacturing facilities and equipment to modernize factories in China, in order to attract Japanese engineering assistance. The second stage witnessed the active participation of Japanese, American and European multinational corporations to participate in bids for Chinese purchase orders. Negotiations also started between them at this stage. During the third stage, successful companies received orders and started factory production. The fourth stage was a period of retrenchment by the Chinese government, caused by its fiscal deficit and shortage of foreign currency. Payments by the Chinese government for technical assistance and imported factory facilities (i. e., transplants) were delayed considerably, leading Chinese politicians, such as Deng Xiaoping, to ask the Japanese government for official loans to help continue the existing projects.

[1] This paper is based on several research projects conducted in the Shanghai Waigaoqiao Free Trade Zone. The author would like to take this opportunity to express his appreciation to Japan Marine Industry Institute for allowing me to participate in 'The Research Project of Asian Economic Future and the Perspective for Logistics' led by Professor Toshio Watanabe in May 2002, and the Ministry of Education and Science Japan for supporting a research project in collaboration with Professor Kazuo Koike, Tokai Gakuen University, 'On the Research Methods of Management and Accounting Case Studies' in December 2002.

In the 1990s a handful of local governments in China began to take a greater initiative in the economic development policies of China. A typical strategy of the Chinese local government is a combination of tax holidays and exemption from import-duties in the Special Economic Zones. Above all, the 'unlimited supply of labour' was the cornerstone of economic policies to establish the necessary infrastructure for upgrading industries in China. Japanese companies responded actively to local government incentives, such as tax holidays and the establishment of industrial parks. Typically, a Japanese firm in China operates by bringing materials and components from Japan to an export-processing zone where they process and assemble them into products and then re-exporting them as finished products for third country markets, especially the United States and Europe.

Japanese FDI peaked in 1995 when the Japanese yen appreciated strongly during the 1990s. To survive, in the mobile phone industry, for example, some Japanese electronics companies acted as parts suppliers, exporting mainly to American and European companies. In addition, because the number of middle-income residents increased in Shanghai and the neighboring areas, Japanese companies began to target the domestic Chinese consumer market. Consequently, although the Japanese automobile industry has had a long history of alliances with Chinese domestic manufacturers since the 1980s, the consumer goods industries, such as beer and instant foods, appeared as prominent direct investors from 2000 onward.

Through the combination of state and local government trade and investment initiatives, Japanese FDI in China has led to the creation of three industrial agglomerations, or clusters. One is located around the Zhujian Kou delta, extending from Hong Kong, Shenzhen, Dongguan to Zhuhai in Guangdong Province. Another one is located in the area between Shanghai, Suzhou, Wuxi and Nanjin. The third agglomeration is in the North-East region of China and includes the corridor between Beijing and Dalian. The transition from export-oriented to market-oriented production and the subsequent rise of industrial clusters provides some insight to the twists and turns of the multinational corporations' country strategies. This paper briefly compares the Japanese FDI experiences in China between 1978 and 1990 with the period 1992 and 2001, and then examines how selected market (exchange rates) and non-market forces (national development policies) affect the overseas business strategies of Japanese companies over time.

Chinese FDI Policy and Japanese Response: 1978–90

The term 'stop and go policy' refers to the period after the Second World War when the British government faced creeping inflation and stagnant economic growth. In contrast to the 'stagflation' in Britain, Chinese policy seems to pursue a cyclical pattern of 'go-and-stop policies'. When the Chinese government showed a go-sign in the 1980s, it became an advocate of 'reform', 'openness' and 'liberalization.' A stop-sign was indicated by public pronouncements expressing the need for 'adjustment' or 'coordination', or alternatively, when the government faced a 'budget deficit' or 'shortage of foreign currency reserves.' Nevertheless, the Chinese government displays a clear drive for economic development and it aggressively negotiates with neighboring governments for economic assistance during economic downturns to remain on track in rising up the economic ladder of development.

In the absence of market signals, then, foreign investors pay careful attention to the "national strategies" of a host country (e. g., see Scott and Lodge 1985, chapter 2). China's national development strategy resembles Japan's 'industrial policy' approach to economic development. On the one hand, industrial policy is a phrase used to describe the way the national government promotes the upgrading of key industries. And sometimes, on the other hand, it refers to policies justifying the exemption of 'strategic companies or industries' from anti-monopoly regulations. Since politics in China is still dominated by the Communist Party, one can argue that applying the Japanese idea of 'industrial policy' to China may be misleading. However, similarities between the two countries can be observed. Horaguchi (1994) summarizes the meaning of industrial policy in Japan and notes the constraints on it, of which the most notable for our discussion here is the limitation of foreign currency reserves. Moreover, China shares not only this characteristic in its national development policies, but also the private companies' strong reaction to the economic targets set by the government. The role of national development strategies became more evident in 1992, when Deng Xiao ping showed his willingness to make progress on economic reform and advance an open-door policy in his famous 'Southern Talks' during a highly visible visit to the southern regions of China in January of that year. This speech gave a strong 'go-sign' to foreign and domestic investors and Chinese economic development has accelerated since then. Local governments used this green light to offer preferential treatment for foreign investments.

The starting point for the 'go-and-stop policy' story about Japanese direct investments in China, however, is 1978, as far as the electrical and electronics industries are concerned. Contrasting Japanese FDI in China

before and after 1992 sheds fuller light on the role of national development strategies. In this connection, Takashiro (1994) traces this history from 1978 to 1990. He begins in February 1978, when Chinese government officials and managers of state corporations came to Japan as a delegation to buy factories and equipment for the manufacture of cathode-ray tubes for color television sets. This trip came in the wake of the historic signing of the 'Japan-China long-term trade memorandum.' In July, the Japanese electronics giant, Hitachi, received approval from the Chinese government to build a factory for the manufacture of 14 inch and 22 inch cathode-ray tubes, with an annual target of 960,000 sets. Hitachi set the target launch date for December 1980.

In February 1979, one year before the launch date, the Chinese government informed the Japanese Ministry of Foreign Affairs that it would delay implementing the contract for transferring factory facilities from Japan to China (i. e., transplants). It is estimated that a total of 580 billion Japanese yen had been lost, affecting 30 projects. Negotiations over transplants restarted in April of that year and continued until December 1979. Finally, Hitachi received an order for about three billion yen. Meanwhile Matsushita Electric (Panasonic) and Japan Victor Corporation (JVC) also received approval from the Chinese government to build factories in China (Takashiro 1994, pp. 14–5).

In 1981, the Chinese government announced the cancellation of the contracts for the transplants and suspended factory construction for contracts signed between 1978 and 1979. The total amount cancelled is reportedly estimated at around 500 billion yen. American and European contractors were also affected. It is estimated that Japanese contractors alone would suffer a loss of about 320 billion yen from the breach of contracts. In March 1981, Deng Xiao ping and Aiichiro Fujiyama, a representative of the Association for the Promotion of International Trade, Japan, had a meeting in China. Deng subsequently met with Toshio Doko, the President of the Japan-China Economic Cooperation Association. It is reported that at these meetings the Chinese government asked for loans amounting to about 300–400 billion yen to continue factory construction. In April 1981, the Japanese government announced that it would provide loans of USD 2 billion, or about 400 billion yen over the next five years. The Export-Import Bank of Japan assumed responsibility for 250 billion yen of this rescue loan package (Takashiro 1994, p. 30).

From 1983 to 1984, the local governments in China actively introduced various foreign technologies through FDI and the purchase of factory facilities. This was implemented by acquiring from the national government a statutory status called Special Economic Zone. The first four Special Economic Zones were established at Shamen in Fujian, Shenzhen

in Guangdong, Zhuhai, and Shantou. In March 1984, Dalian was the fifth city to acquire the same status. In April 1984, the Chinese government decided to allow for 100 per cent foreign capital ownership, and it gave 14 cities, in a position to give favourable treatment to foreign firms, the status equivalent to a Special Economic Zone (SEZ). The fourteen cities are Dalian in Hebei, Qinhuangdao, Tianjin in Shandong, Yantai, Qingdao, Lianyungang in Jiangsu, Natong, Shanghai, Ningbo, Wenzhou, Fuzhou in Fujian, Guangzhou in Guangdong, Zhanjian, Guangxizhuangzuziqu Beihai (Beihai in the Guangxizhuang Autonomous Region). In December 1984, the Chinese government announced that Shanghai would be granted the statutory status of a Quasi-Special Economic Zone. These SEZs became one of the major channels through which the Chinese government implemented its national development policies.

In July 1985, the Chinese government announced that it would allocate foreign currency for imported parts of colour television manufacturers only if they had attained 70 per cent of the parts and components from local suppliers (i. e., local content rule). In August, the government gave notice that it would stop promoting manufacturing technology transfers from Japanese electrical makers and motorbike manufacturers. Colour televisions, refrigerators, washing machines, air-conditioners, and motorbikes were among the 11 product categories affected. The reason the government gave was the over-supply of products and a shortage of foreign currency (Takashiro 1994, p. 47).

In August 1987, the Chinese government announced that all state-owned firms would introduce a Factory Manager Responsibility System by the end of 1988. The Factory Manager Responsibility System was initiated in May 1984, and 63.9 per cent of the Chinese state-owned firms in the manufacturing sector, numbering roughly 35,200, had already introduced the system. The wage system was also altered. In addition to hourly rates for labour, a piece rate system was also introduced. In early 1988, the government allowed wider autonomy in foreign trade for local trading companies. Thus some industries were allowed to keep 50–100 per cent of the foreign currency acquired (Takashiro, 1994, pp. 52–3).

By early 1989, Japanese firms were actively investing in China because the strong appreciation of the Japanese yen encouraged them to find low cost production bases. The Tiananmen Square incident, however, had a devastating effects on the business climate in China, virtually stopping the various business negotiations underway for a while (Takashiro 1994, p. 63).

JAPANESE FDI AND FOREIGN EXCHANGE RATE: 1990–2001

Japanese FDI in China gradually recovered from the Tiananmen Square incident after 1992 and reached a new peak in 1995. Table 5.1 shows a comparison between Japanese FDI in China and in the United States. The number of Japanese FDI projects in China was greater than the number in the United States in 1994 and 1995. The amount of investment, however, remained small compared to FDI in the United States, suggesting China was attracting investments from Japanese SMEs.

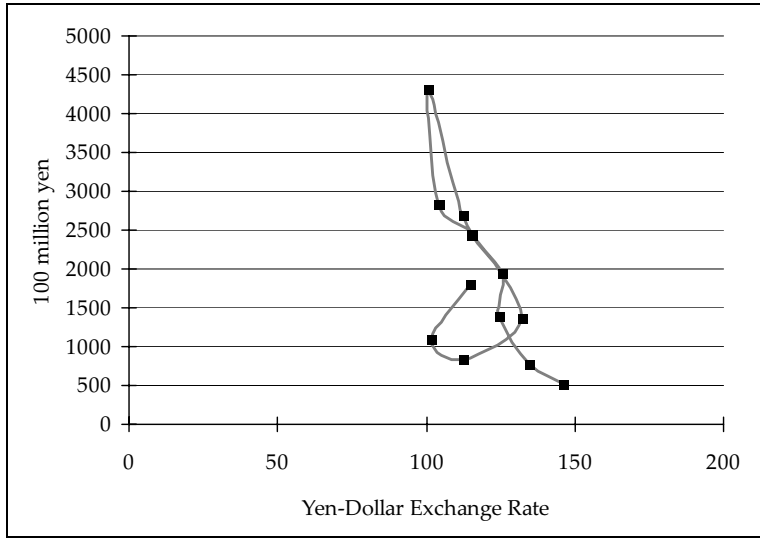
Table 5.1: **Japanese FDI in China and in the United States**

	China		United States	
	Projects	**Amount**	**Projects**	**Amount**
1989	126	587	2668	43691
90	165	511	2269	38402
91	246	787	1607	24671
92	490	1381	1170	17993
93	700	1945	882	16936
94	636	2683	509	18016
95	770	4319	510	21845
96	365	2828	581	24789
97	258	2438	582	25486
98	112	1363	318	13207
99	76	838	350	24868
2000	102	1099	272	13413
2001	187	1802	205	7970

Note: Unit: project = actual number; amount = billion USD
Source: Ministry of Finance, Japan (www.mof.go.jp).

The peak year for Japanese FDI in the United States was 1989, and the trend shows a continuous decline through the 1990s. Although the total amount of Japanese investment each year is much lower in China than in the United States, in recent years the gap has been closing both by number of projects and amount. It is sometimes inferred that the appreciation of the Japanese yen is a major motive for Japanese FDI to China and other overseas destinations. Figure 5.1 traces the fluctuation of Japanese FDI in China and the yen-dollar foreign exchange rate between 1990 to 2001.

Figure 5.1: **Correlation between Exchange Rate and Japanese FDI in China: 1990–2001**



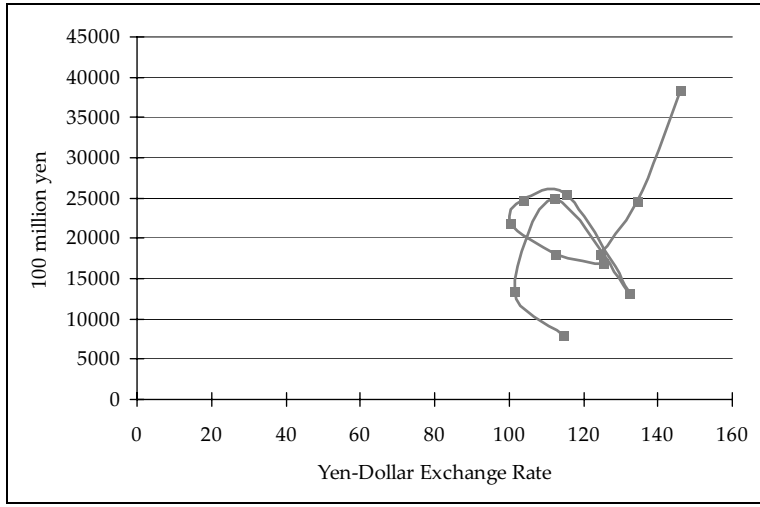
Source: Ministry of Finance, Japan (www.mof.go.jp).

One can see that Japanese FDI increased as the yen-dollar exchange rate moved towards 100 Japanese yen per US dollar, or when the Japanese yen appreciated strongly. From the standpoint of Japanese manufacturers, a strong appreciation of the yen leads to profitable exports from low labour cost countries rather than from Japan, as long as the destination is in the US dollar currency bloc. The correlation efficient in Figure 1 of –0.64 suggests a strong appreciation of the Japanese yen is one factor motivating Japanese companies to shift production capacity from Japan to China.

Figure 5.2 shows that Japanese FDI in the United States, in contrast to the China case, follows a somewhat different tendency, yielding a correlation efficient between FDI and the Japanese yen – US dollar exchange rate of +0.38.

There may be several reasons for this positive correlation. First, Japanese firms do not expect to achieve a cost advantage when they produce goods in the United States. Instead, they might attach importance to building a brand name or to adding value to their brand image. Second, Japanese FDI in the United States is prominent in the service sectors, such as trade, commerce, travel, and logistics. Consequently, even though

Figure 5.2: **Correlation between Exchange Rate and Japanese FDI in the U.S.: 1990–2001**



Source: Ministry of Finance, Japan (www.mof.go.jp).

Japanese manufacturers invest in the U. S., their main focus is developing their business support activities to round out their value chain. Third, Japanese FDI in the United States requires additional investment to sustain existing businesses. Thus, a fluctuation in the exchange rate does not directly affect the decision to invest abroad. Fourthly, the correlation may be an artifact of the data. During the 1990s, Japanese macro-economic conditions shifted towards deflation, based on capital loss of assets from the 'asset bubble economy.' In this regard, the correlation between FDI and the exchange rate shows some years of coincident decline.

It seems statistically that Japanese firms are sensitive to exchange rate fluctuations but how can we more concretely explain the difference between China and the United States as direct investment destinations? There are many factors involved, however, here we only explore one line of analysis: the role of the special economic zones in China's national development strategies. Table 5.2 shows the location choices of Japanese firms corresponds closely to the tax incentives given by the local governments. In Shanghai, granted a special statutory status, Shenzhen (Guangdong), and the other cities given special economic zones status are all high on the list in Table 5.2. In contrast, those local governments in regions without such authority receive significantly less FDI from Japanese companies.

Table 5.2: **Regional Distribution of Japanese FDI in China**

	Number of Employees in Japanese Firms in China	(%)	Number of Japanese Firms	(%)
Shanghai	105,477	18.3	663	26.3
Guangdong	100,887	17.5	327	13.0
Jiangsu	76,758	13.3	352	13.9
Liaoning	67,975	11.8	246	9.7
Tianjin	59,081	10.2	149	5.9
Beijing	42,276	7.3	252	10.0
Shandong	38,217	6.6	155	6.1
Zhejiang	20,232	3.5	90	3.6
Hebei	11,253	1.9	39	1.5
Fujian	8,945	1.5	51	2.0
others	46,140	8.1	201	8.0
Total	577,241	100.0	2,525	100.0

Source: Nagaoka (2002, p. 24), which is based upon Toyo Keizai Shimposha (2001).

In Shanghai, the Waigaoqiao Free Trade Zone (FTZ) deserves special attention to illustrate the role of local government in attracting Japanese and other foreign direct investors. The United Development Corporation was established in 1990 to manage the Waigaoqiao FTZ, and as of April 2000, consists of 5,300 companies of which roughly 11 per cent are Japanese companies. These companies can be classified into four types: trading companies, distribution centers, production facilities (manufacturing), and logistics. The following passages are based on the interviews the author conducted on 29 May 2002 at Japanese companies located in the Waigaoqiao FTZ.

The Waigaoqiao FTZ is different from an export processing zone or a development area in that it implements various unique schemes and privileges. Trading companies, for example, pay one per cent in income tax for the first and second years after setting up, ten per cent from the third to the fifth years, and 15 per cent from the sixth year. Production factories are exempted from paying tax for the first and second years, and then they are levied income tax at 7.5 percent from the third to the fifth years, and 15 per cent from the sixth year onward. There are conditions for setting up a corporation in the Shanghai Waigaoqiao FTZ: a corporation needs to invest paid-up capital of at least USD 200,000. A trading company needs to have more than 20 square meters of offices, and a production factory must occupy more than 400 square meters of land.

Shanghai's Quasi Special Economic Zone statutory status, under the national development policy, the Waigaoqiao FTZ is allowed to grant foreign capital six major concessions: (1) 15 per cent corporate income tax; (2) exemption from import duty for imported equipment, parts and materials; (3) exemption from export duty; (4) permission for sales on the Chinese market; (5) autonomy in employing workers, and (6) allow remittance of capital by foreign firms with more than USD 30 million of investment in technology and knowledge intensive operations. We can provide a preliminary assessment whether these national development policies affect the overseas strategies of Japanese companies as implemented through the United Development Corporation by taking the case of two Japanese companies I visited in May and December 2002 that are operating in the Waigaoqiao FTZ.

COMPANY A: DIGITAL VIDEO DISC PLAYER MANUFACTURER

Japanese Home Appliance Company 'A' produces digital video disc (DVD) players in the Shanghai Waigaoqiao FTZ. The proportion of investment is 55 per cent on the Japanese side and 45 per cent on the Chinese side. Company 'A' manufactures lower-priced, 'entry-model' DVD players in Shanghai. The product is sold at around USD 90 in the United States, whereas it is sold for the equivalent of USD 129 to 139 in shops in Japan. For the Japanese market, digital cinema systems, which enable a family to watch DVDs on a wide screen at home, are sold at around USD 400 to 500. Approximately 40 per cent of the product goes to the United States, 30 per cent to Europe, 12 per cent to Japan, and 10 per cent to Asian countries. The remaining 8 per cent is sold in China. Consequently, the fiscal concessions the Shanghai Waigaoqiao FTZ grants to company 'A' in the areas of tax holidays and exemption from import and export duties allow it to remain competitive on price against DVD makers from South Korea and other countries in the American and European market.

Company 'A's production facility was fully utilized in May 2002. Since the terrorist attack in the United States on 11 September 2001, the demand for DVD players has rocketed, creating a shortage of semiconductors for the assembly of DVD components. Consequently, when the author visited on 30 May 2002, the line at company 'A' had been stopped due to the shortage of electronic components. It had been operating at full capacity three days earlier, the manager explained. It was expected that Company 'A' would not be able to assemble DVDs for at least the following two weeks. Down time on the assembly line is costly, but companies in the Waigaoqiao FTZ have access to a skilled and flexible labor market. Taking advantage of the autonomy granted in hiring workers, Company 'A' em-

ployed workers on the production line mostly from vocational schools from rural areas. Their official employment status was considered a student internship. Thus, only a small number of employees were actually employed on a regular basis. When Company 'A' operates 24-hour shifts using four groups of workers, it can produce 10,000 DVD players per day, and employ up to 1,200 workers. When demand is low, the number of employees could fall to around 650 core workers. Eight Japanese expatriates worked in Company 'A', of whom two were involved in product development, and the other six in production management.

The general manager of Company 'A' spent 10 years in Singapore from 1978 to 1988, moved to Malaysia for six years, and was then sent to Shanghai in 1994. When he was posted in Shanghai at Company 'A', the performance among the overseas subsidiaries of the Japanese parent company was very poor. He said international competition had become fierce since China joined the World Trade Organization (WTO). The general manager's motto is to practice 'management that captures a giant fish with a small boat.' For example, he used the duty exemption on imported machinery to buy second-hand IC chip machines in Singapore from another Japanese company in order to make cheap IC chips on the printed circuit boards in Shanghai. The automation ratio was deliberately limited to 95 per cent so that the production line could utilize the low cost labour force. In Japan the ratio was more than 98 per cent. Locating in the Shanghai Waigaoqiao FTZ provides Company 'A' with labor and machinery cost advantages not found in Japan or other production bases in East Asia, allowing the general manager to reorganize and rejuvenated Company 'A'. As a result, he was posted to the Beijing factory in July 2002, where Company 'A' assembles video cassette recorders, TVs, and plasma displays. Through these incremental measures, Japanese companies have been deepening their direct investments in China.

Company B: Polarize Filters Manufacturer

A Japanese electronic parts manufacturer 'B', operating in the Waigaoqiao FTZ, produced polarize filters for liquid crystal panels. About 70 per cent of the polarize filters are installed in mobile phones. The Japanese parent company actually started as an adhesive tape manufacturer and then diversified into polarize filter production when high demand for liquid crystal panels emerged in the electronics goods sector. Company 'B' highlights a basic characteristic of the competitive strength of Japanese companies: the ability to develop new products by either diversifying within its industry (i. e., producing increasingly sophisticated products) or diversifying across industries. In the case of company 'B', using its

adhesive tape know how and applying it to the manufacture of polarize filters. Low cost overseas production bases, like the Waigaoqiao FTZ, fit into this competitive strategies when Japanese companies are no longer able to reduce costs (i. e., rationalization) in Japan for products that still have a high market demand.

Company 'B' obtained permission to operate in China in 1994. Company 'B' was attracted to the Waigaoqiao FTZ because it allows trading activities for foreign subsidiaries. Even though merchandising activities are strictly regulated in China, the Waigaoqiao FTZ allows foreign subsidiaries to import goods and resell them on the Chinese market without adding value. An additional advantage is that value-added tax is not applied in the free trade zone. This national development policy granted to the Waigaoqiao FTZ fits well with the Japanese company's strategy for entering a host country through its sales and after-service business functions. As a company learns and acclimates itself to the host country, the justification for building manufacturing facilities becomes justified by the growth in local or third country demand. After seven years in China, Company 'B' seems to be moving beyond its initial phase in its direct investment strategy in China by opening its second factory in May 2001 and in December 2002 it started producing flexible circuit boards. Company 'B' seems to be gaining confidence in its business plan for China. In recent years it has established a new factory in the Suzhou industrial park to manufacture wide-angle liquid crystal panels for large flat screen television monitors and 15 inch personal computers.

Company 'B' leases the factory in the Waigaoqiao Free Trade Zone and the optical division of the parent firm provides technological support. There are 241 employees in the manufacturing group with 54 in quality assurance, 21 administrative staff, and one Japanese expatriate. Between 1995 to 1996, there used to be three Japanese foreign expatriates at the factory who provided support in the finance department and in factory management. Company 'B' decided to reduce the number of expatriates since the living expenses for foreign expatriates are high. Since the products of Company 'B' are sold to mobile phone companies, which requires continuous cost reduction, it had to improve cost competitiveness by reducing the high cost of maintaining Japanese expatriates in China.

There are 760 Chinese workers in the first and second factories. Like Company 'A', Company 'B' is realizing cost savings from employing workers provided by vocational schools in China. Company 'B' sometimes recruits openly, but in the Waigaoqiao FTZ an employment service company usually acts as an intermediary between Company 'B' and the vocational schools. Other Chinese employment agencies help in finding office clerks. The monthly wage for the operators at workshop, often

referred to as direct workers, is about RMB 960 at entry level, or about USD 150. Most of the employees commute on foot. Company 'B' offers a RMB 300 allowance for workers who have passed the First Certificate of Japanese Proficiency. Further cost savings are realised by employing three-shifts and operating 24-hours five days a week with Saturday and Sunday off.

In short, China's national development policies, as implemented through it Special Economic Zones, opens a window for foreign companies to enter China. The rapid growth in FDI is due to fewer 'stop-policies' after 1992 than in the 1980s. Nevertheless, our brief discussion of the United States suggests that Japanese FDI may not expand beyond labor-intensive products into business support functions and higher valued products until market forces replace national policies in attracting FDI.

Cultivating the Middle Class: A Case of Marketing Food in Shanghai

Ajinomoto is one of the biggest food corporations in Japan[2]. In my interviews with Mr. Kitamura, a vice-president at Ajinomoto, in Japan, he stated they have been planning to sell Japanese cuisine in China (Horaguchi 2003). Ajinomoto's strategy is based upon the growth of the middle class in a metropolitan city, Shanghai. The consumer market in this city appeared to demand not only automobiles but also other consumer goods for everyday life. Since the traditional product associated with Ajinomoto is monosodium glutamate (MSG), it teamed up with Mr. Seto, a general manager at House Foods, who was seeking to enhance the market for curry, based upon his experience of running a curry restaurant in Shanghai.

House Food is a big brand in Japan, which offers various instant food products. The House-Ajinomoto joint venture in China decided to sell curry products in plastic pouch bags. Consumers simply put these plastic pouch bags in boiling water to warm up the curry and when it is ready they cut open the bag and pour it over rice. Ajinomoto itself has the technology to produce curry in plastic pouch bags, but it chose House Foods as a partner to cultivate this nascent consumer market in China. Ajinomoto has already established a strong dealership network in China, and House has a relative advantage in producing curry. House Foods also operates two Japanese-style curry shops in Shanghai. This paper summarizes an interview survey conducted in Shanghai in December 2002.

[2] The following passages are based on the author's interview on 19 December 2002 at Shanghai House-Ajinomoto Foods Limited Corporation.

Ajinomoto established Shanghai House-Ajinomoto Foods Limited Corporation in September 2002 as a joint venture with the House Food Corporation in Japan. Five per cent of the shares in Shanghai House-Ajinomoto Foods Limited Corporation is held by Ajinomoto, the Japanese parent company, 65 per cent by Ajinomoto Limited Corporation, China, and 30 per cent by House Food Corporation, Japan. House Food is responsible for production and Ajinomoto Japan is responsible for distribution. The organization of the factory consists of a general affairs department, a production department, and a development and quality assurance department. The Director of General Affairs is a Chinese, who had been working for Ajinomoto Limited Corporation, China. There are 55 operators who were provided by a recruiting agency. Single shift production was adopted.

On 24 September 2002, Shanghai House-Ajinomoto Foods Limited Corporation held an inauguration ceremony. It assembled more than 20 media reporters from Japan, including NHK, Tokyo Channel 12, and Nippon TV. In addition, the mass media from 15 Chinese organizations attended, including newspapers such as the 'Shanghai Commerce' and 'Liberation Daily' and TV stations came to the ceremony. The general managers of Japanese companies in the Shanghai area, Chinese bankers, insurance companies, and construction companies were also guests. A press release was issued at 1:00 p.m., and the opening ceremony started at 3:00 p.m. A factory tour and curry tasting followed, and then the participants moved to the Garden Hotel for a cocktail party. The presidents and executive directors of House Foods and Ajinomoto attended the ceremony from Japan, and high-ranking officials of the Communist Party and the Chinese government also participated. A Chinese-style lion dancing was performed as part of the celebrations and fire-works and firecrackers were set off to make an auspicious start.

The Shanghai House-Ajinomoto Foods Limited Corporation plant started trial operation on 9 September, and by 14 October it started supplying the product for distribution to the market. On 17 October, 'boil-in-the-bag curries' were sent to retail stores. The name of the product was 'Weidudu Curry.' The House-Ajinomoto staff explained to me that the name did not have a meaning, but a local Chinese advertising agency coined this name for its symbolic brand value. They intended to build a new brand image with the use of 'Weidudu', and the name was deliberately chosen because it sounds appealing and is easy to remember, especially by children. The Chinese characters for 'Weidudu Curry' include the character for 'mouth' in each of the five characters, which is intended to remind consumers of their appetite. House-Ajinomoto hopes to establish a strong brand in China, with favorable impression and price from

customers. The retail price of 'Weidudu Curry' products ranged from RMB 5.8 to 9.5. Compared to the average lunch price of about RMB 5 to 7, the image of the 'Weidudu Curry' as a luxurious meal eaten at home is meant to appeal to the rising middle class market segment residing in the city.

Shanghai House-Ajinomoto Foods Limited Corporation also produced TV commercials, which were broadcast during the prime times of 7:30 a. m. and 7:30 p.m. on all major Chinese TV channels. The main target for the 'Weidudu Curry' is child, but it is housewives who buy the product. Thus, the main concept behind its commercial is to convey the link between mother and child. House-Ajinomoto delivered 250,000 free samples in the Shanghai area through its existing distribution network. The traditional product for Ajinomoto is monosodium glutamate (MSG), and Ajinomoto had already established a distribution network in China over the years. Ajinomoto Limited Corporation China is now assisting in establishing curry a distribution network.

The strategy of Ajinomoto and House Foods is a typical example of 'co-option' strategy, proposed by Doz and Hamel (1998), where a strategic alliance acts as a barrier to newcomers.

Although both Ajinomoto and House could have been able to penetrate into the Chinese market by introducing curry products, they preferred not to have fierce head-to-head competition because the two Japanese companies foresaw that Chinese local competitors would soon emerge. Price competition is a common phenomenon in the Chinese consumer market and the two Japanese companies wish to get a sound return on investment. Ajinomoto is specializing in marketing and House Food is concentrating in production. Thus, this is considered as a typical example of 'co-specialization' in which two companies specialize in their area of greatest competence in order to compete with others.

Conclusion

Japanese companies have created industrial agglomeration partly to avoid business risks upon entering the Chinese consumer market by sharing information among Japanese companies. Tax incentives offered by Chinese government explains why certain areas absorbed huge amount of foreign investment since the 1990s in China. Indeed, to date, these national development strategies have been relatively successful in attracting FDI. Beyond the Waigaoqiao FTZ, today there are a number of industrial agglomerations in China. One of the agglomerations is located around the Zhujian Kou delta, from Hong Kong, Shenzhen, Dongguan to

Zhuhai in Guangdong Province. The second area covers Shanghai, Suzhou, Wuxi and Nanjin. The third is in the North-East and includes Beijin and Dalian. If these agglomerations of Japanese companies follow the Waigaoqiao FTZ case, we would expect to see more Japanese products in the Chinese market in the future.

Up to the 1980s, however, Japanese FDI in China has sometimes caused repercussions in the Chinese economy. Chinese 'modernization', 'reform', and 'open-door' policies were 'go-signs' to attract Japanese FDI. Japanese subsidiaries suffered from inflation in the Chinese economy, and from a shortage of foreign currency. Political protests such as the Tiananmen Square incident also affected the business environment. Curbing inflation and tightening money market conditions affected the management practices of Japanese firms, and Japanese managers felt that Chinese policy changed frequently. In the 1990s, Japanese firms invested heavily together with their competitors exhibiting a herd-like behaviour. One can also say that Japanese FDI was excessive compared to the potential markets in China, one being internal demand, and the other being the market for capital goods to help growing export production.

When the yen exchange rate was high in 1994–95, Japanese FDI in China reached its peak. This was partly because Japanese investors lost opportunities to invest in Japan after the asset bubble burst. It was partly induced by Chinese local governments, giving various incentives to foreign companies. In China during the 1990s, jobs were created, electrical goods became more widely used in Chinese households, and urban living took on new forms. This may be an effect of 'globalization', which spread from Japan, the United States and Europe. There will probably be a reaction to the 'globalization' either in political or in economic form (see Horaguchi 2002). It is well known that after a country passes a phase of 'unlimited supplies of labour', it develops a significant middle-class, which then calls for democratic policy-making.

Chinese business has been, and still is attractive to Japanese firms, but the business conditions bring risks in various forms. A tendency towards herd-like behavior by Japanese firms has resulted in the excess direct investments in China. This may also contribute to higher risks of sustaining operations in China. While Japanese companies have learned many lessons for using China as an export platform from the past few decades, the next few decades it seems will see Japanese companies turning their attention to the local consumer market. In this respect, Japanese companies need to clarify whether or not the Chinese internal market is growing steadily and what new lessons they must learn to reduce such business risks. This is an exciting agenda and further research is definitely needed.

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6 Entering the Dragon

Lessons from Italian FDI in the People's Republic of China

Valeria Gattai

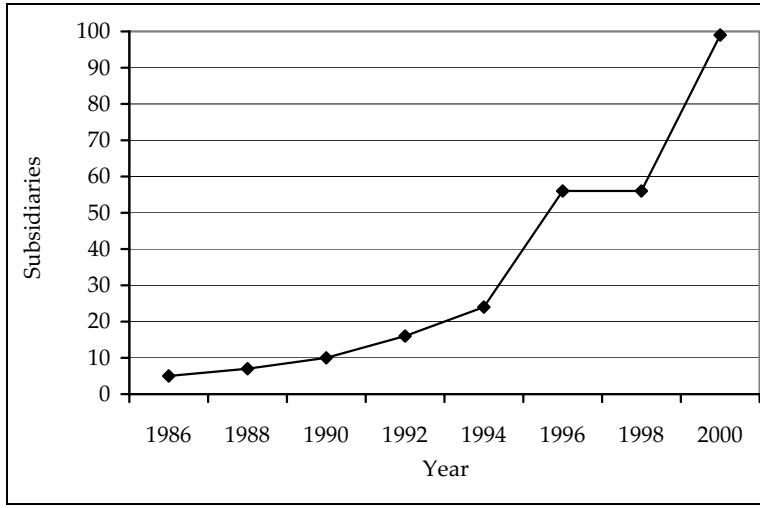
Introduction

China has grown quite fast since 1978, when the Open Door Policy ushered in a new era of modernization and growth. Fast development, together with structural changes and lifestyle improvements, have made the country one of the main players in East Asia. The transition from a planned economy to a market economy is creating new opportunities for foreign direct investments (FDI). Despite the political, economic and cultural risks in operating overseas, not only large multinational corporations (MNCs) but also small and medium companies (SMEs) recognize the strategic importance of China.

After 1978, FDI to China increased rapidly and, in 1995, it became the second largest recipient of FDI after the US, and the largest among developing countries. Given these impressive figures, an interesting line of inquiry is to analyse the strategic choices that foreign companies face in "entering the dragon". China is a very complex and a 'distant' destination for European companies, and this distance is not only physical, but also psychological, which makes it extremely hard for foreigners (especially Western) to work there and achieve success. According to Chapel (1998), one key element in bridging the psychological divide is communication competence: the more a party knows about its counterpart, the more easily it succeeds in establishing long-lasting cooperation. As far as China is concerned, this competence is sometimes hard to develop, as it involves more than achieving language proficiency: those who decide to work in this country need to know as much as possible about the local culture, philosophy and ethos.

Following this line of argument, the aim of the present paper is to provide a general framework to discuss the strategic questions that guide Italian companies in entering the dragon. Starting with five subsidiaries in the early 1980s, figure 6.1 shows that Italian FDI has increased year by year, reaching the considerable number of 99 in 2001.

Figure 6.1: **Italian FDI in China from 1986**



I sent in-depth questionnaires to 59 Italian manufacturing companies active in China in 2001. Given that around 90 per cent of the sample gave comprehensive answers, this survey provides a detailed profile of the investors and insights into their business strategies in China.

QUESTIONS AND DOUBTS ABOUT ENTERING THE DRAGON

Market players sometimes feel frustrated or even indignant about their experiences in China. They take part in lengthy negotiations that often run on like endless marathons, they write letters and send catalogues that fail to evoke responses, and they make journeys to and from China, all without definite results (Guopei 1999). What are the reasons for such exasperating experiences? Many attempts have been made – both in China and in other countries – to explore this phenomenon and provide some answers (see, among others, Guopei 1999, Li 1998, Luo 2000). Most explanations fall into one of two fundamental categories: bureaucracy and culture.

On the one hand, China is famous for having overlapping lines of authority and competing ministries and commissions, which means that round after round of approvals must be sought before a decision is made. On the other hand, it seems that the Chinese are masters of drawing out

negotiations until the terms of investment begin to favor their interests. While foreign companies cannot solve the first problem, they can indeed cope with the second one. As Harris and Morran (1996) observe, to see China as it is is the first step towards success. One factor in effective negotiation, then, depends on understanding the other side's negotiation practices. Conduct during negotiation is influenced in turn by the existing business attitudes and customs that are to a large extent embedded in the cultural and social traits of the parties involved. Different business attitudes and customs can yield significant differences in the psychological processes governing the bargaining procedures (Shenkar and Ronen 1999).

Differences among negotiation practices become especially salient when the parties are characterized by sharply different backgrounds, as in the case of a Chinese and a Western partner. While researchers often prescribe patience as a cure-all, what I argue here is that patience per se is not sufficient to guarantee success unless it is strongly supported by a thorough knowledge of the local reality. Put another way, investing in China needs to be organized with care, and this sort of preparation is likely to take some time. Many cases demonstrate that those who invest in China just because it is the latest FDI fad inevitably fail for both cultural and organizational reasons (Depperu 1993). Although very schematic, one way to understand the key cultural and organizational factors informing Italian FDI in China is to draw a road map based on their response to Why, Where, How, and When they came to this country. Although this approach appears quite simple, it may be worth devoting a few words to each of them to indicate what information they could yield.

The first question is the starting point of any discussion about the cross-cultural process. Firms need to figure out the pros and cons of realizing FDI, evaluating carefully the compatibility of their goals with the characteristics of the host country. Put another way, investors need to have a clear idea of what they want to achieve, and to what extent the destination country suits those goals. What are the main rationales for entering China? Is there anything that makes the country so appealing from a foreign perspective? Why? This is, of course, a vital point, since strong motivation seems to be a prerequisite for going abroad to invest. Once companies have answered the why-question, the first step is taken, and what remains simply helps refine and specify the project by adding further details.

As far as China is concerned, the location of a factory represents another crucial issue. The country is as large as a continent, and the provinces show a great deal of variation in social and transport infrastruc-

tures. In contrast to the coast regions supplied with roads, railways, harbours, the inner regions lack many or all of these facilities. To what extent does this duality still persist? Do companies locate on the coast nowadays or do they try to exploit the inland? What kind of advantages do companies seek to secure with their location strategy?

The next crucial issue is the entry mode, which I previously referred to as the 'How' question. There is a large literature on the topic (see, among others, Tung and Yeung 1998; Tsang 1998; Vanhonacker 1997; Li, F. and Li, J., 1999; Gattai 2002, 2004), which distinguishes between joint venture (JV) and wholly foreign-owned enterprise (WFOE) as the basic choices companies face in deciding how to organize foreign investments. To be sure, compensation trade, joint development, and processing trade are among the other entry modes, but given their minor role, the present analysis sticks to the traditional distinction between JV and WFOE (e. g., see Li and Li 1999). Foreign direct investment was formally allowed in China with the enactment of the Law on Equity Joint Venture of 1979. At first potential foreign investors were required to form a JV with a local partner, but in the 1990s the rules were loosened to allow WFOE. The main difference between the two contractual forms is based on the percentage of ownership: while a JV is based on co-operation between a foreign and a Chinese partner, a WFOE – as the name suggests – is a 100 per cent foreign investment. Entering China with or without a partner are the two main options for a foreign investor, and it is very interesting to evaluate the basic advantages and disadvantages related to these two contractual arrangements. For example, why should foreign companies enter China in joint ventures instead of WFOEs and vice versa?

The last issue is the timing of entry, namely whether there exists an appropriate period for investing abroad. Is FDI a typical globalisation strategy of young or old companies? What is the role, if any, of age and experience in driving FDI to China? As time passes, companies gain so–called 'knowledge specific assets' (Markusen 1998) that are likely to play a major role in determining the success of FDI. Is this prediction supported by the data? I will try to provide some answers to the why, where, how, and when questions based on the Italian experience in the next section.

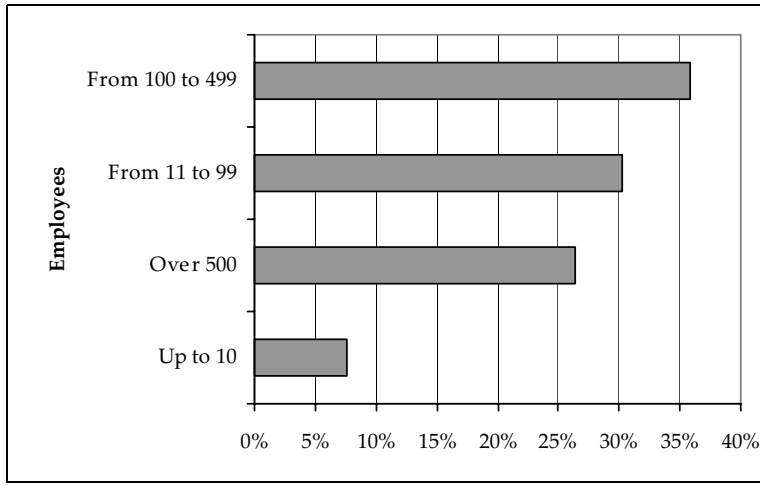
ITALIAN COMPANY PROFILE

The present research builds on a survey questionnaire exploring the strategic choices of 53 Italian manufacturing companies with 87 subsidiaries in China (see Gattai 2004 for more details). Though relatively small, the sample is representative, as it accounts for 90 per cent of all Italian

investors in China, giving a comprehensive picture of their heterogeneous business activities. The questionnaire – based on multiple choice responses was sent via fax (11 per cent), e-mail (38 per cent) and telephone (51 per cent), and it consists of two sections. In the first section, I asked background questions to derive a general profile of the Italian investors. The questions ranged from the traditional 'economic variables' – such as sales, employees, industry, organisational structure, etc. to the human resources and the company's attitude towards the globalization of business. In the second section I investigate their FDI strategies and the major challenges faced in the Chinese market, with particular attention to the issues of 'Why?', 'Where?', 'How?', 'When?'

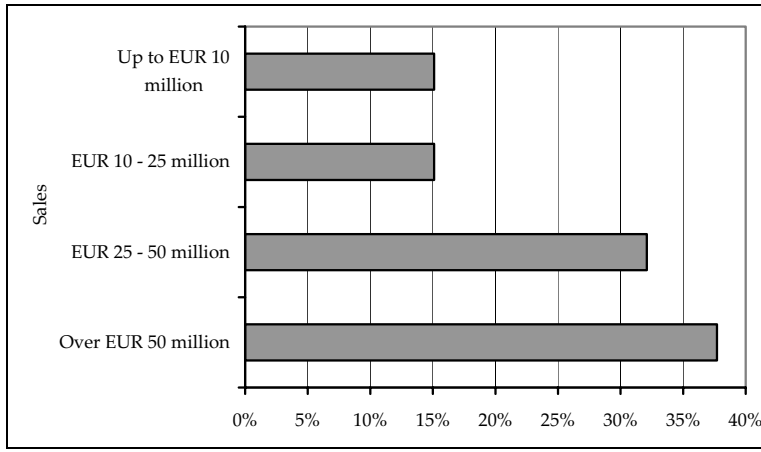
The experiences of Italian MNCs in China are very diverse. An initial look at the survey results suggests it is impossible to draw a single "Italian" profile because investors differ in many regards. They differ by company size, sales, year of establishment, industry, corporate form, and sector. According to ISTAT (the Italian Istituto Nazionale di Statistica) classification, handicraft (very small) companies have less than 10 employees, small companies from 11 to 99 employees, medium companies from 100 to 499 employees, large companies have more than 500 employees. Based on this definition, figure 6.2 groups Italian companies according to their company size. The handicraft companies represent the minority (7.6 per cent), while the distribution across small (30.2 per cent), medium (35.8 per cent) and large companies (26.4 per cent) is relatively balanced.

Figure 6.2: **Italian Companies Grouped by Company Size**



These results are characteristic of the Italian manufacturing sector, which is typically organized in clusters and networks of small companies. Those who have in mind the example of the huge US conglomerates, probably think that only very large companies can undertake FDI. The reason often given is that small- and medium-sized enterprises (SME) lack capital and they are risk averse. Consequently, they are not strong enough to go abroad and operate subsidiaries. The present survey reveals a different pattern exhibiting the entrepreneurship and dynamism of Italian SMEs. The number of small companies going overseas is increasing among the population of companies in Italy, suggesting that not only large companies can pursue globalisation (Cominotti and Mariotti 1998). As far as sales is concerned, figure 6.3 shows the large companies – with more than EUR 50 million – are the main players in China, followed by 32.1 per cent with sales between EUR 25 and 50 million, 15.1 per cent with sales between EUR 10 and 25 million and 15.1 per cent with sales below EUR 10 million. This outcome is not surprising, due to the large amount of money that is needed to establish a subsidiary abroad, with respect to "softer" ways of internationalization, like import-export operations. The reader may find surprising, instead, the absence of correlation between a company's size (as measured by the number of employees) and its sales. This evidence is further proof of the pervasiveness of SMEs across the Italian manufacturing system.

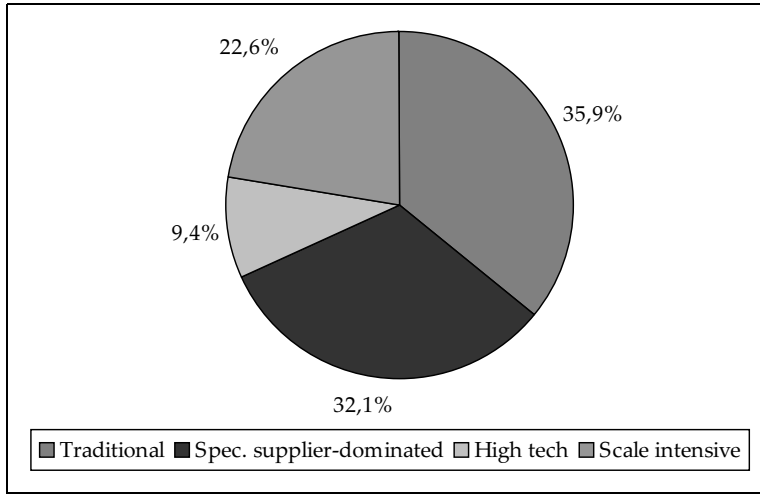
Figure 6.3: **Italian Companies Grouped by Sales**



The companies covered by the survey were established approximately 30 years ago. Only three of them are younger than 10 years and eight are

older than 50 years. More than 50 per cent belong to the 10–30 year old-range, around 26 per cent to the 30–50 year old-range. The companies are either limited companies or joint-stock companies. According to the acquisition of technology, companies can be grouped in four categories of technological development (Bell and Pavitt 1993): in traditional 'supplier-dominated firms' – like textile, leather, shoes, jewellery, musical instruments, toys, furniture, pottery – technical change comes from suppliers of machinery and other production inputs, while technology is basically transferred in the form of capital goods and other inputs; in 'scale intensive firms' – like automobile and chemicals – technical change is generated by the design and operation of complex production systems; in 'science based' high tech firms, technology emerges from corporate research and development and is heavily dependent on academic research; 'specialized supplier dominated firms' provide high performance equipment in the form of components, instruments or software to advance users; the accumulation of technology takes place through the design, construction and use of these production inputs. According to Bell and Pavitt's classification (1993), figure 6.4 shows they belong to the traditional 'supplier-dominated' industry (35.9 per cent), followed by 'specialized supplier-dominated' (32.1 per cent), 'scale intensive' (22.6 per cent) and high tech 'science-based' (9.4 per cent).

Figure 6.4: **Italian Companies Grouped by Industry**



The dominance of the traditional sector is not surprising because companies in this sector are less concerned about the technology-transfer prob-

lem than the high tech companies. It is widely known that R&D–intensive high tech companies are reluctant to invest in developing countries because they do not want to give away the fruits of their research for free. This is particularly true in the case of China, where reverse engineering is common and the labor force is cheap, creating potential local competitors in a relatively short period of time. The sample can be further divided into two large groups by organizational structure: 60.4 per cent is characterized by a divisional model, while 34 per cent follow a functional one. A nominal number of companies are organized around an elementary or matrix structure.

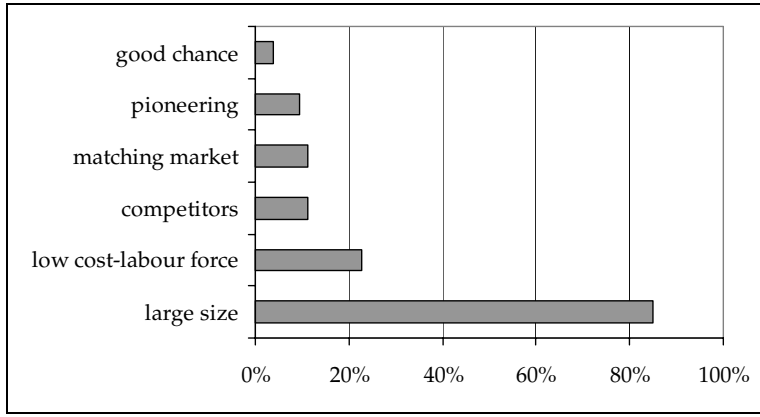
WHY?

The 'Why' question represents the starting point for any discussion about internationalization strategies. If FDI is simply driven by which country is in fashion, it is likely to produce unsatisfactory results (Depperu 1993).

According to the present survey results, presented in figure 6.5, the large size of the Chinese market is the main reason underlying the massive outflow of capital to China. Both large companies and SMEs, and both high tech and traditional companies, select China from all the possible destinations in order to exploit the enormous potential of the country. The mystique of the Chinese market is often captured in the saying, 'if you are able to sell even one toothbrush to every Chinese, you have already accumulated a fortune!' While almost all the companies mentioned this reason, many of them added further explanations: 22.3 per cent explicitly took advantage of the low-cost labor force, especially in the traditional sector (leather, shoes, bags, clothes etc.); 11.3 per cent aimed at controlling or challenging domestic or foreign competitors; 9.4 per cent underlined the advantages of pioneering in a country that still looks virgin in many regards. As far as the rest is concerned, a little more than 10 per cent were particularly satisfied with the intrinsic characteristics of the country, where it is very much in line with the specific product under development. An interesting example is the case of a bonsai producer who found a perfect match between his business goals and the local climate and environment.

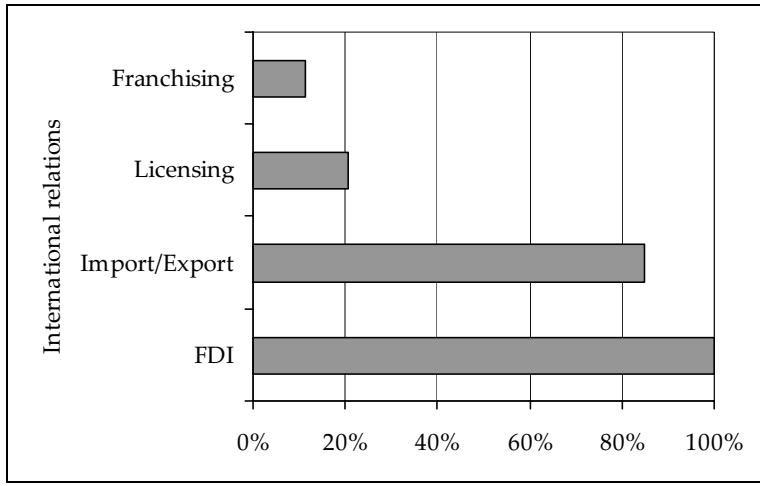
Overall, the motivations for Italian companies to invest in China are embedded in their global strategies. Indeed, Italian companies that have invested in China have also direct investments in other countries. For example, 90.5 per cent of the companies have commercial relations with more than five foreign countries, 5.7 per cent with between two and five

Figure 6.5: **Motivations Underlying Italian FDI in China**



foreign countries, 3.8 per cent with one foreign country. The nature of these commercial relations varies. Figure 6.6 shows 11.3 per cent of the companies enter other countries through FDI only, while import-export, licensing, franchising and, of course, FDI refer to the rest of the sample. The data show that Italian companies have not established production networks but are more likely to service overseas markets through trade or arms-length relationships.

Figure 6.6: **Italian International Relations**



From the survey interviews, I found that 54.7 per cent of the Italian investors opted for a 'direct strategy' by sending expatriates to China in order to monitor and control the local subsidiary. Such a direct approach is usually recommended as a key source of success (see, for instance, Weber 1996). Investors who leave the subsidiary alone are very likely to fail– be it a JV or WFOE. Another 13.2 per cent of the sample organizes only a few trips to China, as they do not have enough money to implement the direct strategy, while 3.8 per cent run their business indirectly from Italy. The remaining companies choose a middle-way solution, with a few expatriates and a few trips (11.3 per cent), indirect control and some trips (7.5 per cent) or a mix of the three strategies (9.5 per cent).

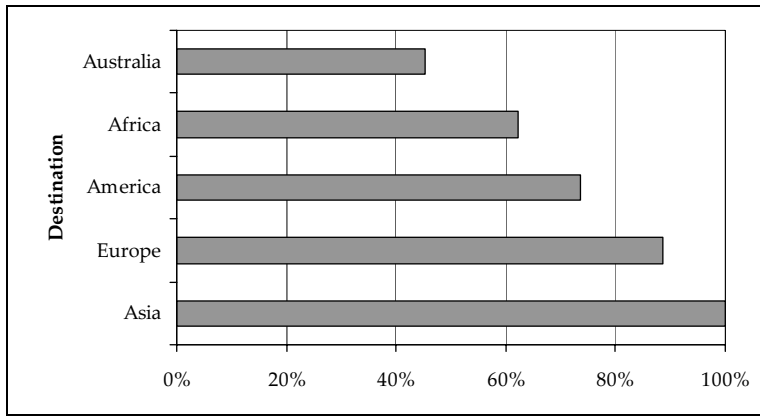
In the case of the direct approach, around 46.4 per cent of the companies organise specific training courses for the expatriates, which usually last six months, and cover different topics, such as the local economy and language, social and political aspects. In contrast, staff employees receive technical training. English and good interpersonal skills are the main criteria for selecting the expatriates, as they are expected to be good mediators between the headquarters and the subsidiary. Thus, most Italian companies provide some pre-overseas posting training to familiarize their expatriates with the local culture. Another 2.6 per cent of the sample regards past experience in overseas operations as an important criterion as well; 3.2 per cent look at the technical expertise and 15.4 per cent at the (local) language skills.

Results, in terms of satisfaction, are impressive, and only a few companies – probably those who lacked clear motivation – now want to leave the local market. This does not mean Italian companies are immune to problems. Indeed, many of them highlighted serious difficulties in localising their business. Li (1998, p. 57) likens the localization of business to a courting process leading to marriage. 'The concept of family, embedded within the fundamental values of the Chinese culture, can be used to illustrate Sino-foreign Joint Ventures. Before the union of two people creates a family, the respective parents usually have to give consent to such a marriage. A date is chosen, terms and conditions are agreed upon, and a ceremony is performed to seal the alliance. The marriage as a new union will go through a honeymoon period (but) we are living in a world where divorce is a common phenomenon.' Based on this analogy, the motivating factors for Italian direct investors in China may have been its large market and low labor costs, but they are now beginning to grow their local business operations to compete in a global market.

WHERE?

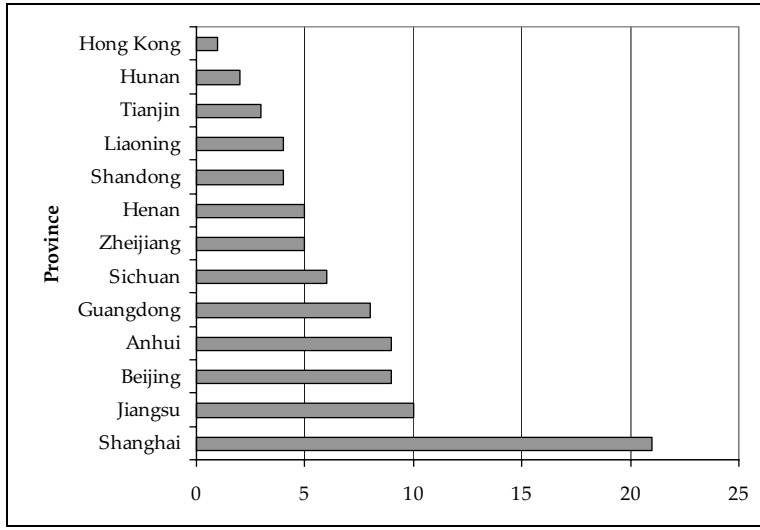
Where are the main overseas destinations for the Italian companies that have invested in China? Besides East Asia – common to everyone – Europe is the most important region for Italian FDI followed by North America, Africa and Australia (see figure 6.7). This pattern is consistent with most studies of MNCs that find they initially invest in the region closest to their home country and/or the large American and European markets. Thus the move towards direct investments in China (and Africa and Australia) represents a globalisation of their business. More than 80 per cent of those operating in China have been involved in international operations for more than ten years, 15.1 per cent for between six and ten years and 3.8 per cent for between one and five years.

Figure 6.7: **Main Destinations of the Italian FDIs** (Asia=100 per cent)



While the enormous size of China is certainly a key element in attracting FDI, it also poses serious threats when companies are deciding on the location of their plants. Within China, figure 6.8 shows that a large majority of them are settled near the coast (70 per cent). This duality in the geographical location of companies in China dates back to the Open Door Policy of the 1980s when Deng Xiaoping first established the Special Economic Zones (SEZ) – Zuhai, Shenzen, Xiamen, Shantou – and then extended the reform program to the whole coastal region. Benefiting from large fiscal incentives and tax reductions, the SEZs soon became a natural magnet for FDI, attracting a massive inflow of capital from abroad.

Figure 6.8: **The Location of Italian Subsidiaries in China**



There are numerous econometric studies trying to assess what determines a company's choice of location (see, for instance, Coughlin and Segev 2000; Broadman and Sun 1997; Wei, Liu, Parker and Vaidya 1998). The empirical results indicate that there is a long-term relationship between the spatial distribution of FDI and a number of regional characteristics – such as international trade, wage rates, R&D manpower, GDP growth rates, improvements in infrastructures, more or less rapid advance in agglomeration, more or fewer ethnic links with the overseas Chinese etc. All these studies account for a clear and persistent duality where there is a high concentration of FDI in some but not all regions of a country.

The Italian company data shows that WFOEs seem more likely to locate in the coastal regions but a noticeable number of JVs have also located inland (Gattai 2004). In particular, 21 Italian companies are located in Shanghai, which is one of the preferred coastal destinations, ten in Jiangsu, nine in Beijing and Anhui, eight in Guangdong, six in Sichuan, five in Zheijiang and Henan, four in Shandong and Liaoning, three in Tianjin, two in Hunan and only one in Hong Kong. This evidence may look a bit strange, and it is worth offering a tentative explanation. The Open Door Policy initiated a far-reaching internationalization process, that initially spread across the coastal region. This area is still the richest

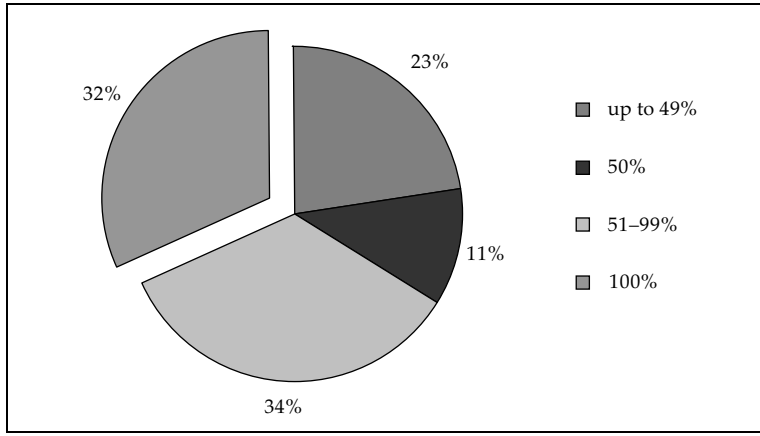
and most developed within the country. Not surprisingly, the WFOEs, which are relatively young, decided to establish themselves precisely there. The first JVs were located on the coast as well, but more recent plants are sometimes opened in the interior regions. Taking advantage of their longer experience in China, they are moving inland in order to avoid the tough competition from the old JVs and the new WFOEs in the coastal regions.

The mix between country characteristics and the competitive advantages of Italian companies seems to explain much of the early direct investments, but over time local experience and know-how become a stronger factor in explaining the expansion of an Italian company's direct investments in China.

How?

As far as Italian companies are concerned, JV represents the predominant answer to the entry mode dilemma. Within the JV category, figure 6.9 shows that Italian companies are the majority owner (51–99 per cent) in 34 per cent of the cases, closely followed by WFOE companies at 32 percent. Minority ownership (1–49 per cent) accounts for 23 per cent of the cases and equal ownership for 11 per cent of the cases. In short, around 70 per cent of the companies have a local partner and only 30 per cent invested alone. What are the reasons behind this behaviour?

Figure 6.9: **Italian Share in the Chinese Subsidiary**



There is quite a debate on this topic – extensively reviewed in Gattai 2002 – which relies on cultural and philosophical explanations: Tung and Yeung (1998, p. 202) argue 'The Chinese market is like a pond full of hidden delicious food. A new fish in the pond can starve to death because he does not know how to locate the food. Your intermediary is an old fish who can show you the precise location of this food so you can eat to your heart's satisfaction.' In China, *guanxi* or personal relationships is the very essence of the local society ruled by social power and not by impersonal laws (Tsang 1998). As the respondents to the survey point out, the local interpersonal networks provide a privileged gateway to China, by ensuring a free flow of information. The local partner – like the proverbial 'old fish' – provides the *guanxi* required to gain access to the organisation resources needed to help you 'be' Chinese.

The survey data suggest that China is changing, however, and so are the opportunities and challenges facing foreign companies that want to operate within its borders (Vanhonacker 1997, p. 130). Fifty-three per cent of the Italian MNCs chose 100 per cent foreign investment in order to achieve strong control and high flexibility standards. High-tech companies are very reluctant to invest in developing countries, since they do not want to share entirely their core technology with a local partner. A 100 per cent foreign investment seems the natural way to avoid that risk, as companies simply work alone and do not need to consult with a local partner on management decisions. For more than 40 per cent, a WFOE represents the evolution from a former JV. This is the case for many companies that established their plants in the1970s and early 1980s, when JVs were the only option, and acquired all the shares in the 1990s. Another 5.8 per cent of the respondents did not find a good partner, and preferred to work alone.

Although *guanxi* is important in business not only in China, but also in most business transactions, even in China compatible goals, complementary skills, co-operative culture and commensurate risk are the key criteria in a good selection process (Luo 2000). According to the survey, Italian companies adopt a strategic appproach, where not only a partner's connections, but also industry expertise and market share are the most important selection factors, followed by an organisational criterion– based on human and learning skills, type of ownership etc – and finally a financial criterion. The present survey reveals that it not easy at all to find someone with compatible goals, complementary skills, co-operative culture and commensurate risk. Around 13.2 per cent looked for a partner as a way to share risks and costs, 3.8 per cent wanted to gain certain competencies from a local partner and 2 per cent did so because they were already engaged in import-export operations. Thirty one per cent made their choice in less than a year, but only 16.7 per cent in less than six

months. After making their final JV partner choice, 72.2 per cent have never changed (72.2 %) or changed once (2.8 %) and 25 per cent changed more than once. Those companies who pay more attention to the selection process usually succeed in establishing long lasting co-operation, while those who make a quick and superficial choice are more likely to fail. Based on this data, Gattai (2004) regressed the entry mode on the main elements of the company's profile, in order to explain what eventually shapes the choice between JV and WFOEs. The probit estimates show that the human resources and a global business strategy are statistically significant while traditional economic variables are not.

When?

Is there an appropriate time for investing abroad? Is FDI a typical global strategy of young or old companies? What role, if any, do age and experience play in driving the Chinese adventure?

As far as Italian companies are concerned, most of the companies in the survey are approximately 30 years old, three are younger than 10 years, and only eight are 50 years or older. Note also that more than 50 per cent belong to the 10–30 year old-range, around 26 per cent to the 30–50 year old-range. These findings suggest that a global strategy evolves over time and becomes a feature of mature companies. In contrast, very young Italian companies seldom engage in either FDI, licensing, franchising or import-export activities. Since we are dealing with the manufacturing sector, this result seems quite plausible. While trading or consulting companies inevitably base their survival on international exchanges, manufacturing companies usually open up to foreign markets at a later stage.

Recall also that at the time of the interview, around 80 per cent of the respondents had been involved in international operations of some kind for more than ten years, and only 3.8 per cent for fewer than five years; that 90.5 per cent have commercial relations with more than five foreign countries, and only 3.8 per cent with one foreign country. The length of overseas experience and the number of foreign partners can be regarded as a proxy for the capacity to run an overseas operation: the more an company has been active abroad, the more likely that it has acquired the expertise and comprehension of cross-cultural management. As time passes by, companies gain what Markusen (1998) calls 'knowledge specific assets'. These are related to the human capital represented by worker skills, patents, blueprint procedures, marketing assets, reputation and so on and proved to play a major role in determining the success of Italian FDIs. As far as the workforce is concerned, everybody agrees that dynam-

ic and well-trained human resources are a key resource for a company that seeks to achieve success both at home and abroad. In the case of overseas operations, these aspects become even more salient. Fifty-five per cent of the Italian MNCs require all their office employees to have proficiency in English, 5.7 per cent among the expatriates, 15.1 per cent among the import-export office employees, and 3.7 per cent among the managers and expatriates. In addition, 92.5 per cent require good computer skills in all the office employees, 5.6 per cent among managers, and one company thinks that it is not relevant to internationalization. Sixty-four per cent have training courses for all the employees, 24.5 per cent have none, and the rest trains only managers, expatriates or import-export office employees. The picture that emerges from this data is one of a fairly dynamic labor force, very active, and well trained.

Around 60 per cent of the sample has one subsidiary in China, 20 per cent has three, 18 per cent has two, and two per cent has four. Moreover, the large majority has been working with China for more than six years (66 per cent), and only 2 per cent for less than one year, which means that, at the time of the interview, many companies were already very competent at dealing with the local reality. While any attempt at providing a general recipe for the most appropriate time to invest would surely be ambitious, based on this data, it is clear that long experience characterized the Italian case. In fact, according to the present survey, only three companies want to leave the Chinese market, while all the rest expressed a long-term commitment to growing their current business. As far as the JVs are concerned, 19.4 per cent have never had co-operation problems, while more than 80 per cent experienced many difficulties, due to cultural distance (63.9 per cent) or unfair behaviour of the Chinese counterpart (17.7 per cent). These were not very serious problems and only in three cases did it lead to a 'divorce.' About 38 per cent of the companies did not take any serious measures and relied on the temporary nature of the problems during the adaptation phase. Some 13.8 per cent increased local control, or redefined roles and responsibilities between the Italian and the Chinese partner, and the remaining 46.6 per cent adopted mixed strategies, combining crucial elements of the previous approaches.

If JVs were often undermined by co-operation threats, WFOEs proved to be problematic as well. While the majority (60%) did not face serious difficulties, the rest had to be very cautious and patient, especially at the beginning of the business. Entering China without a local partner is not an easy task and foreign companies are likely to suffer a lot from the adaptation process. However, the Italian data suggests a very promising picture since only 17.6 per cent of the sample had problems in entering the local market while more than 80 per cent are successfully doing their job.

What Lessons Learned?

In the end, what lessons can we learn from the Italian experience? The reader would probably feel a little disappointed to find more questions than answers, but unfortunately the issue of FDI is so complex that it is almost impossible to give a single and comprehensive recipe.

The Italian case, though relatively limited, has already accounted for a large variety of experiences and outcomes. The survey results are positive, and everybody can feel comfortable with directly investing in China without discriminating *a priori* among the types of company. The investor profile of Italian companies is so rich that almost every company can recognize itself in the portrait, meaning that China is virtually open to everyone who is seriously interested in working abroad. Ancient traditions, local customs and the pervasive Confucian ethos make China a difficult and challenging destination for FDI, and represent probably the main reasons underlying a general feeling of dissatisfaction and failure among foreign investors.

Why is it so difficult to enter China and manage a successful business there? The fate of FDI does not hinge solely on cultural factors, but also on the efforts that companies make to understand the local reality: to see China as it is, is surely the first step towards success. In this paper, I have tried to summarize the main dilemmas of implementing a global strategy by asking 'Why?', 'Where?', 'How?', 'When?' to suggest a very simple road map for foreign companies. Focusing on Italian companies has certainly been a valuable exercise, as it provides detailed data on their choices, but it is not intended to generalize from these findings too much.

While the typical agglomeration of factories along the coastal region of China, and the precious role of experience are probably real lessons and valid to a large extent, some other answers clearly suffer from a strong national bias. Country characteristics, such as the fragmented production system and the massive presence of SMEs, are likely to affect the investors' profile very much and play a part in their strategies as well. Italy is a useful case study, as it provides fresh answers to very urgent and crucial questions, but we should resist the temptation of going too far away from the available evidence. Interviewing investors from other parts of the world and comparing their performances in China with that of Italian companies is the natural extension of this research. In this way, it would be easier to understand what part of the final results is driven by country-specific determinants and what is instead independent of them. This reasoning represents the first step in the direction of building a safer road map, and providing a more comprehensive – though not definite – method for riding the Chinese dragon.

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7 Are Japanese Multinationals Different?

Technology Transfer in the Asian Region

Alex Blair and Craig Freedman

A Rose by Another Name

The origins of industrial might can start with a simple act of theft. The technology which built the textile industry in the New England states of America arrived surreptitiously by way of a few opportunistic English craftsmen. Lessons learned by examining the development literature are that while it is often difficult to decide what to produce, it is equally difficult to figure out how to produce it.[1] Part of the problem may lie with the institutions needed to facilitate essential transfers. These may provide inadequate incentives to import, make use of, and sufficiently improve key technologies.[2]

For development to occur, technology must move from the haves to the have-nots. As Chew and Chan (1992, p. 111) notes, "[a]lleviating mass poverty and deprivation necessitates closing the existing technological gaps." How this should occur is far from obvious. Theft has been a long, if not always honourable tradition, a means adopted early on and retaining increasing popularity. Historically, the fight to protect intellectual property has largely pitted developed economies against the more numerous swarms of developing ones. China has begun only recently to crack down on counterfeit software, CDs and DVDs as moves to protect its own burgeoning intellectual property sector. Not too many years past, factories owned by the People's Liberation Army churned out large numbers of CDs in a lucrative attempt to expand its revenue base.

Where outright theft proved too slow and generally too inadequate, governments periodically have intervened to facilitate requisite levels

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[1] Hausmann and Roderick (2002) has pointed out the haphazard process by which a country discovers its comparative advantage. Why for instance should Bangladesh export hats while Pakistan churns out bed-sheets for overseas markets?

[2] Lall and Pietrobelli (2002) usefully apply this starting point in making sense of the consistently poor performance demonstrated by most African manufacturers.

and types of technology transfers. To modernize rapidly a still feudal economy, the Meiji era government initiated essential flows of western technology. This represented a policy expansion rather than a clear departure from strategies pursued by the Tokugawa shogunate during the last days of the *bakumatsu.* Our interest lies in neither of these two options but in those transfers that have come about voluntarily through private initiative, whether by individual or corporate impetus. These largely flow directly from attempts to grasp business opportunities provided by overseas markets, whether in the realm of production or sales.

The rising tide of trade, and the increasing activity of multinational corporations makes us increasingly aware that the role they play in transferring technology is still a widely disputed area in both economic and business literature. The problem lies in the variety and combination of chosen approaches. Clear differences are obvious. The difficulty lies in accounting for the alternatives pursued and evaluating their economic impact. Country-specific constraints must influence the different choices made by these corporations, but not necessarily in the same way. In some cases these reflect governmental policy, or are specific to either the geography or capabilities of the host country. With all of these influences remaining distinctly external to multinational decision making, differences in adaptation must flow from the characteristics of a specific company. In the 1980s, firms such as Mitsubishi ran into problems by mechanically transferring structured labour systems to the US while ignoring legal and conventionally accepted treatment of women workers. Ethnic affirmative action policies necessarily restrict the personnel policies that multinationals resident in Malaysia choose. These limitations are common to all overseas investors, but we would not necessarily expect to see the same responses, given a foreign investment sector rich in diversity.

Our interest then lies more in distinguishing the decisions that individual multinationals make, while abstracting away from specific host country characteristics and other similar circumstances that face them all. That multinationals must necessarily transfer some level of technology is close to definitional. In practical terms, overseas markets require installing some type of corporate subsidiaries. An attempt to exploit promising opportunities means a decision concerning the nature of such technologies and the methods by which they are to be transferred. What then are the best ways for multinationals to achieve their goal? We can easily observe differences in the manner in which multinationals attempt technology transfer. Some choose to employ local labour at even senior levels, indoctrinating trainees via an educational spell at

corporate headquarters. Others may rely largely on key expatriate personnel, a technological transfer in the form of human capital. Machinery is frequently the physical counterpart to these transfers. In a parallel fashion, multinationals can choose between importing all essential material inputs, or outsourcing a large proportion locally. Uniquely, the Japanese multinationals sometimes opt to transfer not only essential capital equipment, but also an array of familiar domestic suppliers in a more vertical version of the ubiquitous 'convoy system'. Observed differences however, cannot determine a priori the significance of any of these alternatives.

Multinationals clearly can be distinguished based on their distinct objectives, organizational structure and inherent capabilities. If these differences play only a relatively minor role in determining the form that essential transfers take, we might expect differences in technological outcomes to derive more from external sources. Our brief investigation evaluates the why and the how of whether such potential differences in technology transfers do exist. In other words, given the same set of environmental constraints, do multinationals make recognizably different decisions regarding such transfers? This is only of any passing interest if we can establish a significant relation between deviations in these strategies and variations in economic impact. This could begin to suggest to a host country which multinational approach to encourage. It similarly would provide a useful insight for corporate planners. If instead, outcomes tend to be unrelated to corporate characteristics, it might be wiser to adopt a radically different approach to analysing technology transfer.

To understand what increases the chances for successful transfer, it is first necessary to trace out the relationship between different approaches and different outcomes. One area that may be crucial and capable of explaining these variations lies with the differences between the transferring sectors. Hotel chains and car manufacturers may have starkly different capabilities and objectives when expanding into a new market. A more precise analysis should hold fixed, not only countries, but relevant sectors as well. If we look at multinational car corporations operating in the same country, do we discover that there are no important differences? If there are, how are they to be explained? Our intent is to look at some preliminary evidence to see if there is any justification for continued investigation. To make such differences stand out even more, we compare Japanese multinationals operating in the same country and sector with those of Western multinationals. Here we follow a rich literature[3] that

[3] Aoki (1990), Dore (1986), Abegglen and Stalk (1985) and other authors too numerous to list have all insisted upon this point.

claims Japanese firms, and thus multinationals, are clearly distinguishable from any of their Western counterparts. They are said to have different objectives, structures and capabilities, exactly the decision-based differences that we are trying to explore. Failure to find any supporting evidence will throw doubt either on whether such differences really exist, or whether these differences have much of an impact on outcomes.

We will conduct only the most initial of investigations, an attempt more to set an agenda than to offer a definitive judgement. In this paper we are specifically interested in determining whether the distinction between Japanese and western multinationals is worth pursuing. Constrained by limited information, we realize that while we can set the direction for future research, we will inevitably fail to provide anything of further value without jumping to unwarranted conclusions.

The Rationale Behind Comparing Japanese and Western Multinationals

Once the West gave serious recognition to Japan's rapid postwar economic recovery, a type of academic gold rush developed to explain how it could have occurred and what lessons were to be learned. One assertive stream of this analysis insisted that Japan had devised a new formula for ensuring economic growth. Ironically, these same supposed differences subsequently became the basis for analysing Japan's catatonic economic performance of the last ten years. Just as anything Japan did differently was fingered as contributing to Japan's success, so those very same differences are held responsible for any perceived economic failures.

The main areas of focus have been:[4]

- government intervention
- industrial organization
- management
- labour
- finance

This line of thought has been extended to include Japanese multinationals and the way in which they transfer technology overseas. Making this leap is in some ways irresistible. One starts by emphasising vital differences

[4] These distinguishing characteristics may hold to a lesser extent in more recent times. However, what limited evidence we have usually concerns overseas investment initiated over the past two decades. During this period, most Japanese firms had not yet seriously entertained any ideas of radical restructuring.

between Japanese firms and Western firms. These are important because they lead to different corporate capabilities and objectives. The decisions that flow from these differences should vary significantly. If we accept that these characteristics have sufficient impact, then we would not be surprised to discover that such distinguishing traits manifest themselves in terms of technology transfer.

The three obvious areas of immediate interest when discussing technology transfer must lie with labour relations, management and industrial structure. If any defining characteristic does make a difference, any or all of these three are most likely to have a clear impact in the way in which a Japanese firm chooses to transfer technology overseas in regard to both human and physical capital. We focus on the defining characteristics of large corporate enterprises. These normally comprise the bulk of all Japanese firms investing directly overseas.

Foreign firms venturing abroad all have some responsibility for selecting the type of training and ongoing instruction suitable for local employees. Even shifting that decision to a local contractor represents a choice. As emphasized throughout much of the literature[5], Japanese labour relations emphasize low risk flowing from secure jobs. The assumption that employees will enjoy a lengthy job tenure determines the nature of training conducted. In contrast, Anglo/US corporations assume a sizeable turnover in staff. Any investment in human capital automatically will have a shorter payback period. Longer payback periods encourage more implicit training methods based on personal, rather than bureaucratic relations. Crucial information flows are horizontal and informal (Aoki 1990) rather than vertical and mandated.

Management in these firms mirrors dominant labour practices. Responsibility and thus risk is more diffused than is evident in a typical Anglo/US corporation.[6] Looser accountability, to outside, independent shareholders allows a more long-term focus. Patient investment should

[5] To provide one simple example: Kazuo Koike (1984, 1994) has suggested that Japanese firms are run primarily for the sake of their employees rather than their shareholders. Employment is thus assumed to be secure (the loosely defined 'lifetime' employment assurance). With this the case, training will not only be firm-specific but largely implicit. Informal transfer from senior to junior employees will be the rule. Formal manuals are irrelevant as secure jobs promote the transfer of corporate knowledge from one generation to the next.

[6] Many European firms (German for instance) fall somewhere between the two extremes of the US and Japan. These European alternatives are temporarily ignored in order to draw clearer distinctions.

prevail over those yielding more rapid, short-term gains (Dore 1986). Consensus decision making (*nemawashi*) rather than individual initiatives are the norm (Aoki 1990). Such an approach assumes a fairly homogenous pool from which management is drawn.[7] The need to bring everyone on board, combined with measured rewards and advancement, inevitably retards decision making. This creates a management system more attuned to gradual improvement than to radical restructuring.

The organisational structure of the Japanese firm has long been linked with the *keiretsu*, the post war recreation of the *zaibatsu* that defined and dominated Japanese industry. Born out of the necessity of conserving capital while reducing risk, the *keiretsu* serves the multiple purposes of quasi-integration (needed to facilitate inter-firm coordination), corporate governance, as well as the security of management tenure required to achieve long term objectives (Gilson and Roe Mark 1991, p. 876). The mutual obligation borne by each *keiretsu* member harks back to Japan's Samurai heritage. It involves a high level of trust and dependency amongst the respective *keiretsu* members. This is especially true with vertical arrangements, where contractual relationships are largely closed to outsiders.[8]

The Japanese Approach to Foreign Direct Investment

Explanations should never be shy of stating the obvious. Japan, as a country, does not make foreign investments any more than it competes against foreign countries. This falls rather to specific Japanese multinationals. An understanding of their corporate behaviour may ultimately shed light on the way in which technology transfers occur. Since the 1970s, when Japan shifted from developing to developed status, direct foreign investment has shown a steady trend upward, driven by limited domestic opportunities and the need to seize openings abroad.[9] The great boost came during the post Plaza agreement bubble period. With the JPY

[7] 'If a nail sticks up, hammer it down' is a thought less likely to be accepted (at least explicitly) in European or North American countries.

[8] We speak of postwar norms rather than any current changes in corporate structure.

[9] It is true that in the last few years, as the reality of the Japanese economic picture hit home, foreign direct investment has markedly declined. In 1997, as the Asian crisis hit, such investment stood at 6.6 trillion JPY. By 2001 the total had shrunk to 4.0 trillion JPY.

appreciating 46 per cent between 1985 and 1987, Foreign Direct Investment (FDI) consequently came close to tripling between 1986 and 1989. Yet another surge came during the mid 1990s as financial institutions sought to clean up their balance sheets by pouring money into the booming Asian economies.

As previously pointed out, multinational investment inevitably involves at least a minimal amount of technology transfer. A complete absence would be equivalent to a form of passive investment in existing local production. Much of any previous analysis has focused on the seemingly easier challenge of determining the degree to which technology transfers have taken place. But in some sense the methods by which multinational corporations accomplish their goals must influence transfer decisions. It doesn't stretch the imagination to conceive some determinant link between the way in which a firm may choose to accomplish a transfer and both the level and quantity of that transfer itself.

The tools available for technology transfer present a range of options to the multinational corporation. Technology can be passed to the recipient in physical form. Capital equipment is its most obvious physical manifestation, but printed information is equally important. Blueprints allow machines to be built, and technical manuals explain the methods of operating machines, as opposed to their design alone. Complementing this process is the training of local personnel who will operate the plant on site. This often involves a transfer of expatriate personnel to a foreign subsidiary, both to interpret printed material for those being trained, and to operate the plant whilst that training occurs. Reverse flows of personnel, of local labour back to the home country for intensive in-house training, is a less common variant. Reliance on local labour may be extended to such a degree that some or many R&D tasks may be delegated to the relevant subsidiary. This is more likely to be the case when R&D is largely adaptive, aiming to acclimatize a firm's technologies to local conditions. The multinational may choose (or be compelled by governmental requirements) to transfer technology. Corporate marriages or alliances of this type require the overseas investor to surrender some of its discrete existence. A deliberate decision to work in conjunction via a local joint venture, or to subcontract part or all of the manufacturing process to local partners dominates corporate strategy. Taking this path necessitates developing local skills outside the immediate confines of the foreign multinational. Otherwise, passive investments would serve as an adequate substitute.

We can summarize the methods of technology transfer in the following ways:

Table 7.1: **Modes of Technology Transfer**

Type 1 – Physical Transfer	Embedded in capital equipment
	Explained in blueprints and manuals
Type 2 – Human Capital	Expatriates in host/set-up phase
	Expatriates in host/long-term residency
	Local labour/training in higher skills
	Local labour/temporary repatriation to home plant
Type 3 – Inter-firm Transfer	Subcontracting to local firms
	Transfer to joint venture partners
Type 4 – Group Replication	Subcontracting to expatriate firms
Type 5 – In-house Production	Full vertical integration in the subsidiary

This tabulation is definitional and is not intended to imply that all these methods are mutually exclusive. Very often they are mutually interdependent. Clearly the physical transfer of machinery will normally require training local labour to make it viable. But a multinational corporation does possess choices in emphasizing a particular type of transfer while involving complementary types only to a lesser degree. Subcontracting to local firms as opposed to replication of the home *keiretsu* network can involve either a mix of the two or a complete reliance on either alternative. The standardization of information within a manual or an instruction book represents a distinct alternative to a training period in the corporate home base.

Given the range of possibilities open to any multinational, our aim then is to see if the characteristics of a corporation itself significantly influence the type of transfer made and the way in which that transfer is accomplished. Since as we have seen, there is a long tradition claiming discernible and important differences between Western and Japanese corporations, we first examine the behaviour of Japanese corporations before subsequently comparing them with relevant Western competitors.

It is true that most foreign investment flows from one developed economy to another (see Figures 7.1a, 7.1b). Japan in this regard is little different. This is quite natural since most investment of this type seeks to seize opportunities provided by a particular domestic market. Demand in a developed market is simply going to be greater, even if competitors are inevitably more numerous as well. In contrast, direct investment in a developing country is more likely to exploit a characteristic country

resource.[10] This may be something equivalent to mineral wealth or simply cheap labour. In the latter case, foreign direct investment may serve more as an export base than the basis for satisfying domestic demand. These more closely resemble the foreign ex territorial concessions ceded by China circa 1900. Such direct investments are based in, rather than operate as part of, the host country.

Figure 7.1a: ***(The Economist,* 19 September 2002)**

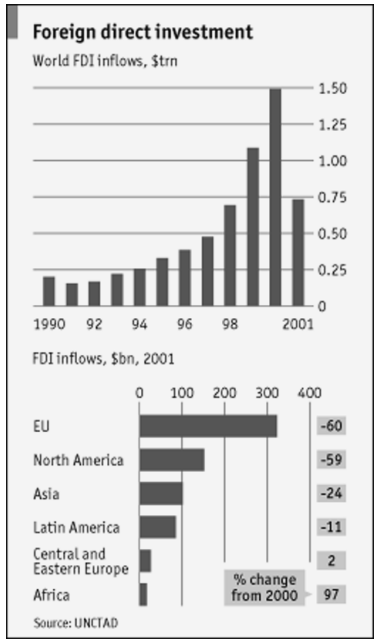
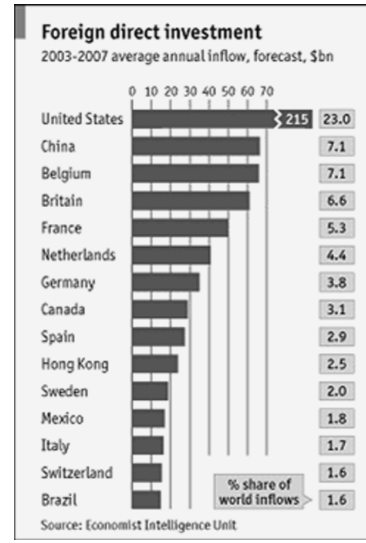


Figure 7.1b: (***The Economist,* 12 April 2003, p. 89)**



We focus entirely on developing economies. These provide a reasonable opportunity to judge, in a preliminary fashion, whether multinationals of different countries do approach technology transfer in a characteristic manner. Transfers in these cases often can be presented with greater

[10] China provides a mix of both motivations. While direct foreign investment initially aimed at export (guided by cheap labour as well as government restrictions), the growing wealth of the Chinese market, as well as the numbers involved, has made the domestic market of increasing importance whether or not such strategy has yet to prove profitable. For more than a century western traders and manufacturers have looked on China and thought, "If I can just sell one bar of soap to half of the Chinese population".

contrast, given the technological differences between the respective economies. Developing countries also play host to a variety of potentially distinguishable multinational firms, all of which invest in a given set of viable markets. This could represent car companies, all of which invest in China to serve the domestic market and to provide an export base to overseas markets. Any discernible variance in technology transfer would provide a clearer background for our investigation.

Sampling along national lines provides a fruitful investigative path, given our objectives and methodologies. Japanese firms have invested in a number of developing countries. Asia in particular serves as an opportune target, given the size of the investment in that region in comparison to other emerging markets (see Figure 7.2). With so many Asian countries acting as investment recipients, focusing on Indonesia, Thailand and Malaysia is useful (see Table 7.2), not only because they represent major sites of Japanese foreign direct investment, but because these countries have represented magnets for foreign flows from western sources as well (see Figure 7.3).[11] These three countries all possess a sufficient number of different characteristics to make our examination more robust. This permits us to explore whether there are material differences in Japanese approaches regardless of national constraints. In this way we can indicate that such differences are not country specific.

Table 7.2: **Japanese FDI Destinations (Percentage Breakdown of Total)**

Period	Indonesia	Malaysia	Thailand	Singapore	China
1953–73	36	9	7	8	0
1982–85	26	7	5	18	4
1986–90	11	8	12	16	9
1991–92	23	13	12	11	14

Source: Ministry of Finance.

For the same reasons, we limit our attention to two market sectors. Three countries and two sectors clearly provide only an impression of Japanese overseas investment rather than anything approaching a complete picture. To progress any further requires a much more intensive examination of a number of additional sectors and at least a few other countries. Our limited data reflects our objective in devising an agenda for research, rather than presenting a conclusive study. At most we will be able to design a testable hypothesis, which carries with it a high degree of plausibility. Doing so may

[11] This attraction has noticeably lessened following the Asian meltdown of 1997. Indonesia in particular has felt this impact.

Figure 7.2: **(*The Economist*, 2 May 2002)**

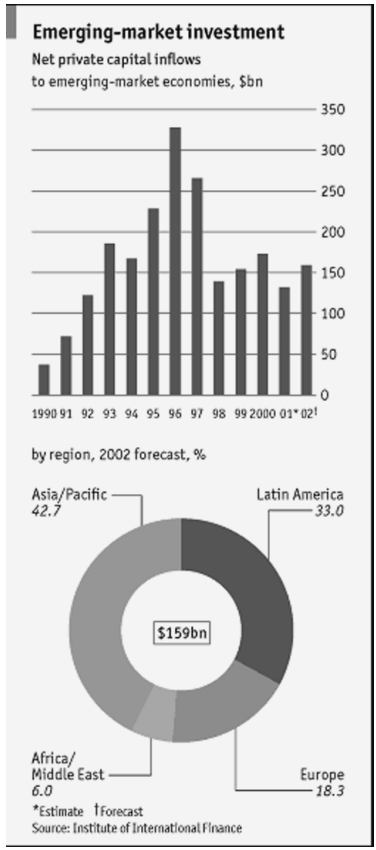
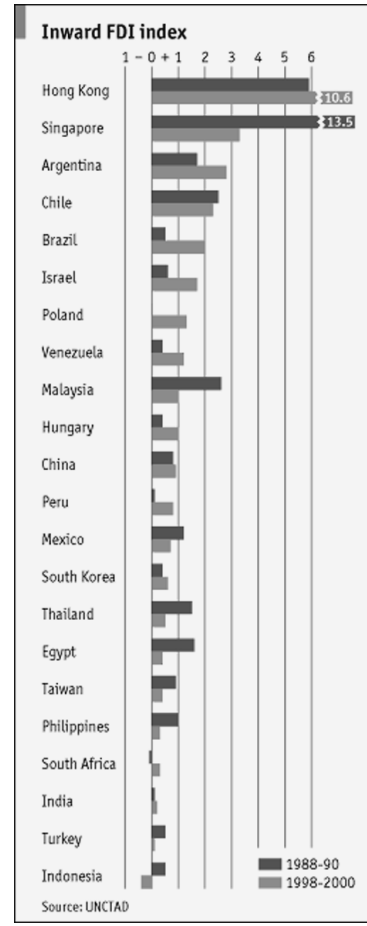


Figure 7.3: **(*The Economist*, 20 September, 2001)**



The United Nations Conference on Trade and Development's inward FDI index measures foreign direct investment relative to a country's share of global GDP, employment and exports. Index numbers with values greater than one, show countries that are especially appealing to foreign investors.

alleviate some of the unnecessary muddle that has been clinging to fundamental questions surrounding Japanese foreign investment.

The two sectors we do explore represent leading Japanese exports. For that reason they must necessarily consist of advanced technologies allowing Japan to compete internationally. As regards our first country Thailand, the greater part of the evidence is drawn from the so-called 'new wave' of Japanese investment after the beginnings of *endaka* in 1986. This coincided with a loosening of the Thai Board of Investment restrictions on foreign ownership. Japanese companies specifically used Thailand as a springboard for third-country exports. Consumer electronic and electrical goods (a broadly defined sector ranging from electric fans to batteries, but with television appliances playing a large part) represent a pre-existing, that is pre-*endaka*, sector but one which experienced substantial new investments in the post-*endaka* era.[12]

Like semi-conductors, electronics would seem superficially to promise a complex degree of technology transfer. Uninformed observers assume an industry characterized by high technology content. This represents a common misperception of the underlying dynamic of direct foreign investment. When transplanted to developing countries, manufacturing is frequently limited to pure assembly procedures, with a technology content not much higher than that of any other electronics industries. The degree of technology involved can be roughly gauged from the workforce utilized. Corporate employers may rely heavily on an unskilled or semiskilled, often female, workforce.[13]

Thai Electronics Industry

The Thai electronics industry provides a reasonable model for Japanese foreign direct investment. We choose to discuss this countrywide sector first and at much greater length because it provides a general model for subsequent examples. This industry has moved in the post-*endaka* period

[12] Aggregation problems will inevitably be present; in particular, degree of localization when sourcing inputs will be a significant indicator of technology transfer. It varies widely within this broadly defined sector, ranging from over 90 per cent for refrigerators to barely 35 per cent for televisions.

[13] Developed countries often situate similar fabricating plants to less prosperous regions of their home country. The technology transfer methods are often quite similar to those employed in foreign lands. 'Some years ago an engineer at a plant in South Portland said, "Our company came to Maine, quite frankly because we knew there was a large force of women with nimble fingers and soft brains. Such a person is perfect for the assembly line work in a semiconductor plant" '(Bolte 1980, p. 12).

towards electronic components rather than consumer electronics. In turn the emphasis has shifted towards exports, rather than the domestic market. While in the course of the expansion, wholly-owned Japanese ventures declined (a trend already evident by 1988, when they comprised only 30 per cent of the total), majority owned projects rose to 45 per cent by the early 1990s. Despite the existence of joint ventures (often only alliances between Japanese firms and their Japanese Singapore-based subsidiaries), expanding investment has left these investments largely under Japanese control.

The nature of technology transfer has also changed in the wake of the appreciation of the JPY. Prior to 1986, Japanese transplants could be content with assembly of products from components imported from the home economy. One result of *endaka* was to shift even the more sophisticated and less labour-intensive stages of production to overseas subsidiaries. As could be expected, during this period, the flow of substantial technology transfers increased. It therefore provides a vignette of Japanese technology transfer habits and procedures.

The picture that emerges is one in which Japanese principles of management; including labour relations and preferred production processes appear to impact systematically on types of technology transfer. This occurs during the early stages of foreign direct investment. Subsequently, it appears that the familiar systems are modified or even abandoned in the face of economic and other conditions facing the subsidiary. Even the norm of employing a high proportion of Japanese expatriate engineers to conduct plant installation, ongoing maintenance, and the training of local staff evolves. The high cost of supporting overseas Japanese staff causes a distinctive shift to local staff (trained initially in Japan) (Takeuchi 1991). Only a small number of expatriates remain, strictly limited to senior management.

A simple manifestation of these practices is the tendency to take the complex of subcontractor networks surrounding the core firm in Japan, and replicate them in the host economy. This leads to a closed production system with limited demand for inputs from local firms. Japanese firms operate in the previously described exterritorial manner. This is still a method of technology transfer, despite drastically limiting the extent of that transfer within the host economy (our interest here is on the how not the how much). The multinational certainly transfers technology to its overseas subsidiary, even if it constrains the amount of technological diffusion permitted beyond the walls of the firm itself. The Japanese firm faces the problem of establishing a viable system in a new environment. It solves that problem by, at least initially, replicating the familiar quasi-vertically integrated production system existing in its home base. A network of satellite contractors surrounds the subsidiary in the host economy, exactly imitating the characteristically domestic structure.

We suggest that the investment of these subsidiaries in local human capital may provide a more reliable indicator of how subsequent technology transfer will progress. The establishment of production facilities in a technologically less developed host will inevitably lead to a reliance on imported capital equipment, and at least initially, an inability to secure local firms with the capacity to supply inputs. Technology transfer by interacting with local firms will be a longer-term process. However, the potential for transfer arises almost immediately as regards local labour.

Emphasising on-the-job training and *kaizen* processes partially explains a part of the diminished role for printed materials such as technical manuals, and the corresponding extended role for expatriate technical personnel. The Japanese expect to impart technical knowledge by shop floor experience rather than by printed manuals. Initial work practices and techniques are enhanced by experience, a process in which expert expatriates continue to participate and assist.

A reluctance on the part of Japanese multinationals to depend upon locally accessible training manuals may reflect Japanese habits of frequent model changes, dictated both by Japanese flexible production principles and by the limited size of the Thai market. Japanese investment is also most prevalent in more rapidly changing sectors of the economy.

Alternative explanations interpret the lack of printed materials and corresponding reliance on Japanese technicians as indicating a Japanese reluctance to engage in technology transfer unless unavoidable. A common accusation insists that Japanese foreign direct investment has been geared to prevent, rather than assist, technology transfer. This is arguably unsurprising. Any rational optimising firm will seek to prevent technology diffusion where its implications can include a profit-reducing osmosis of key technologies to potential competitors. But this analysis seems more motivated by general paranoia (sometimes justified) of Japanese motives than any convincing evidence. Such an explanation fails to account for the presence of similar structures in the home base of these same multinationals. Establishing overseas facilities inevitably involves transferring some production technologies. The methods chosen by Japanese overseas firms replicate, to some extent, the training methods used at home. Factory floors of both Japanese and overseas branches disdain the use of manuals. The observed norm is training devices such as quality circles. We can only conclude that the subsidiary is set up initially to mirror many of the same technology implantation techniques used at home. The absence of printed materials is a manifestation of corporate methods, rather than a technique for keeping local labour in the dark. Distinctly Japanese labour relations prevail in the subsidiaries, such as reduced distinctions between management and blue collar workforces

(common eating areas and the like). To some degree at least the Japanese firm appears to apply the same methods of technical training that it uses in Japan to the task of technology transfer to its overseas subsidiaries. Supportive evidence can be found in the practice of transferring local labour back to Japan for purposes of immersion in the home production environment. This reinforces transfer of distinctive production techniques.

The Japanese view technological development in a somewhat idiosyncratic manner. Technological progress is dynamic and incremental. The implication flowing from this stance is that progress can only be pursued successfully by all members of an organization. It is not a job reserved solely for specialized labour like engineers. Japanese workers on the shop floor are deeply involved in the activity of technological improvement (Kimbara 1991, pp. 163–64). Translated overseas, the implicit nature of training dominates with little recourse to static manuals or texts.

The common use of this training strategy does not necessarily imply a superiority in Japanese methods of technology transferral, vis-à-vis those of Western multinationals, either from the point of view of the host economy or that of the profit maximizing firm. A firm's capacity and skill base largely affects its decisions. Such strategies do not necessarily lead to success given the altered social and economic circumstances of a host economy. Subsequent modification of home country practices indicates the necessity, if not always the enthusiastic willingness, to modify past practices to meet new circumstances.

The most powerful indication of this is a tendency amongst subsidiaries to move to substantial in-house production of inputs, to supplement and sometimes even replace the already noted utilization of Japanese subcontractors. This reflects the high cost of maintaining this transplanted *keiretsu* structure and the pressure to meet local content requirements (Shiowattana 1991, p. 190). Japanese multinationals seem to prefer in-house production, seeming to despair of local contractors ever meeting their quality requirements.[14] This degree of vertical integration is a significant departure from standard domestic practices of relying on quasi-vertical integrated networks of suppliers (*keiretsu geisha*).

[14] The degree to which these Japanese firms opt to use local contractors should also be judged on a relative basis. Compared with either similar Japanese investment in the US or Europe, more use is made of local suppliers in the Asian market. Urata (1993, p. 287) suggests that this is due to the longer history of such Asian investment. This would lead us to expect that over time not only imported *keiretsu* arrangement would be abandoned, but vertical integration would be also somewhat reversed.

Japanese firms fall back on familiar domestic patterns to transfer technology. This is a default model rather than an unquestioned imperative. Given sufficient experience in a host country, such patterns may be modified or even abandoned. An initial phase of substantial reliance on past proven methods may evolve into practices quite at odds with those evident in the Japanese core firm.

Malaysian Electronics Industry

A typical Japanese subsidiary is a majority or entirely owned operation often directed to the domestic market. As an assembly plant the level of technology transfer remains limited. Again there is a heavy use of immersion training of Malaysian employees in home factories. This seems to reinforce the basic labour relations, which typify most Japanese firms. As noted by Thong (1991, p. 141), if we consider such typical Japanese labour practices as enterprise unions, lifetime employment, promotion routines, lay-off practices, *ringi seido*, grievance handling or quality circles, only training practices are typically found to dominate these Japanese subsidiaries. If ever introduced, the other known characteristics of Japanese labour relations have either withered away or lingered in only a few scattered firms. Clearly training is the major vehicle for transferring and developing core levels of human capital. Given this essential role, Japanese firms will be most reluctant to surrender proven strategies. Only the strongest country-specific counterweights can undercut the logic of continuing with the status quo. Any clear evolution away from this pattern would become evident only after a number of years.

> … such human relations have loosened little by little in the course of recent rapid economic development, and we today find the old-style personal relationships only in exceptionally progressive branch factories in the countryside of Japan or in successful joint ventures in developing countries (Yasuda 1991, p. 284).

We find that expatriate management characterizes these firms. English rather than Japanese would be the usual second language amongst potential Malaysian hires. Difficult communications within a highly centralized multinational structure would add needless impediments in carrying out top-down decrees. The expatriates themselves are usually Japanese moving up the ordained promotion hierarchy before being brought back to headquarters in Japan. "Japanese companies have to send more expatriates to work as interpreters between the headquarters and local management." (Kawabe 1991, pp. 264–65), meaning that they need to be skilled in the political dynamics behind each centrally decreed decision,

itself often the product of the *nemawashi* process at headquarters. The contrast with Western multinationals is clear. Senior managers there represent a virtual United Nations of possibilities. This glass ceiling in Japanese multinationals can clearly cause problems over time. Local managers may grow to resent what they see as an arbitrary limitation set on their careers. This in turn can discourage the more promising of the locals from choosing Japanese rather than Western multinationals.

> Japanese-style business management is often not well accepted by white-collar workers in the offices because of the seniority system, the vague decision-making process, and unclear job descriptions. Contrasted with production management, which easily shows the results numerically, the performance of business management is not clearly visible, and it is influenced by such cultural factors as the values and attitudes of the society (Sato 1991, pp. 285–86).

However, we should expect some variance within the set of Japanese firms as well. Matsushita, more than most, stresses a distinct work ethic and management ethos (Thong 1991, pp. 143–44). It is difficult to see how this can be articulated in any sort of measurable technology transfer. Value-based strategies are not so easily transferable. Perhaps that explains the limited lasting power in attempting to transplant Japanese labour relations. Unlike Japan, training does not yield corporate loyalty. The sunk costs involved are much less likely to be recouped. This pattern will be especially strong if stated goals clash with specific country characteristics. Malaysian demand for sufficient family time dominates any more workaholic tendencies no matter what the stated work aims. The Malaysian tradition of early female retirement (age 45) clearly is at odds with standard Japanese promotion ladders (Thong 1991, pp. 144–45).

Indonesian Motor Vehicle Industry

Lindblad and Suryo (2002) look at a number of Japanese firms in Indonesia including joint ventures involving motor cycles, car components, and motor cycle components. What is apparent here, as it is in most Japanese multinationals, is that senior management is inevitably expatriate Japanese. In many cases they may be the only expatriates employed. The motor cycle component firm includes only 5 expatriate senior managers out of a total workforce of 927[15] (Lindblad and Suryo 2002, p. 27).

[15] In a similar fashion, the motor cycle company records 12 expatriates of the 6500 workers (Lindblad and Suryo 2002, p. 22) while the car component firm had only 5 out of a total of 300 workers (Lindblad and Suryo 2002, p. 24).

Though these firms are more labour intensive and evolve away from strict Japanese structures, the insistence on Japanese executives continues to dominate any significant drift away from head office principles. For the most part such managing directors are loyal lieutenants, unlikely to depart in unforeseen ways from head office initiatives. Local management would face a language barrier in most cases with the largely monolingual headquarters. In a highly centralized hierarchy this would needlessly add to the underlying transaction costs of requisite information flows (Chew et al. 1992, p. 119). Extending this argument, it is quite conceivable that the typical Japanese multinational wants on site management amenable to frequent and easy contact with the head office. Local, indigenous managers motivated by their own agendas and initiatives would not easily mesh in such a structure.

Lastly, all three firms widely employ the immersion strategy of sending local staff to Japan for periods of two to six months for intensive training with experienced Japanese workers. There has been an ongoing debate as to the motivation for such a widespread and extensive practice (In the motorcycle firm, 10 per cent of the existing staff had such stays in Japan). There can be two feasible reasons behind such programs. One is in line with an attempt to reinforce basic Japanese practices in foreign outposts. Local workers receive shock indoctrination at established factories in Japan and form the nucleus, together with an inevitable expatriate management, in spreading Japanese work practices and guarding against unwarranted drift. The alternative interpretation would view this as a mere stated premise rather than an actual motivation. The truth would lie in Japan's need for additional workers at bargain wages. During the bubble years, when labour supply became critical, such temporarily transported workers could solve corporate problems by ignoring immigration restrictions. However, the continued use of this strategy, despite falling labour demand in Japan, argues against this reasoning. No doubt corporate decisions have been motivated by both reasons in the past. What has changed over the years has largely been the relative strength of each cause.

All three Indonesian examples import their work practices directly from Japan. However there has been an inevitable drift away from a pure implementation strategy, driven largely by the underlying demands and constraints of the local market. If such departures were not common, there would be less of a need to continue the employment of expatriate top management and to insist on rotating local workers back to Japan for further training. We can tentatively conclude that the multinational's parent headquarters feels a need to control the pace of any such devolvement away from the Japanese norm.

Comparison with Western Multinationals

Western multinationals, despite some differences, do tend to start, at least, with distinct strategies in their ventures away from national home bases. Training is more a matter of explicit hierarchies, rules and printed manuals. Less is left to personal dynamics reflecting a Western preference to spell things out. Turnover while not welcome is somewhat expected. Local managers will often be allowed more leeway in making strategic decisions. (Japanese managers overseas have been kept traditionally on a rather short leash.) Given that satellite suppliers never featured in their organizational structure, Western multinationals are more likely to contract out to low cost qualified firms whether domestic or foreign.

Thai Electronics Industry

As we have remarked, the electronics industry is one where technology changes rapidly (though this may not extend to more mature products such as radios). The continuing update of technical manuals would become an expensive and somewhat futile task, with changes too rapid to incorporate. The limited scale of production in Thailand further exacerbates this problem. Small market size and low production runs enforce a policy of rapid switching between models in order to utilize spare capacity. The need to cover a multiplicity of models frustrates intentions to standardize procedures set down in a technical manual. This could be a plausible explanation of observed training procedures favoured by Japanese transplants. Plausible, but not convincing since the identical set of circumstances confronts Western firms operating in the same sector and market. Both the nature of the product, and the size of the market, do not seem to deter Western firms from both a greater substantial reliance on the printed word for training purposes, and on local technicians once the initial stage of training by imported experts has passed. As with the Japanese firms this reflects a distinctly different starting point.

Singapore Electronics Industry

We have not lost our geographical compass or proceeded unaware of late-breaking news regarding the political realities of the region. Singapore and Malaysia are far from identical. Though containing a sizeable ethnic Chinese population, political control remains with the Malays. The result of what could be a volatile ethnic mix has yielded more economic controls

in Malaysia than in neighbouring Singapore. Multinationals operating in Malaysia rather than Singapore should face more constrained choices. Perhaps this is one reason that Sony and Matsushita have chosen Singapore as the training centre for their Asian-wide operations. Lacking any external constraints, the expectations that training would closely adhere to home office conventions are not disappointed.

One clear difference comes in the existing skill base in a country like Singapore. This should create a greater reliance on local sources for skilled labour and essential technological inputs.

A higher level of education (in the host economy) may sometimes mean that it is easier to find local suppliers of advanced machinery and equipment – so that the needed machine technology can be imported in the form of blueprints, so that capital equipment imports can be low although technology transfers in general are high (Kokko and Blomstrom 1995, p. 465).

Nonetheless, Japanese and US multinationals do take distinctly different paths. There is a much greater tendency for US firms to go native. Rather than a colonial outpost, these are subsidiaries of equal importance. It is hardly surprising that the US is not tempted to imitate the Japanese by bringing along a collection of camp followers. Each relies on the familiar, at least initially. US multinationals increasingly having eschewed vertical integration at home, and never being seduced by *keiretsu* type arrangements, will prefer to live off the land rather than burdening themselves with sunk costs in terms of a pre-existing gaggle of suppliers. This is perfectly consistent with the distinct propensity of US firms to depend on more explicit means of technology transfer in the form of blueprints, training manuals and the rest.

Electronics industry data (Wong 2002, p. 856) from Singapore does indicate that while 58.3 per cent of Japanese firms purchase inputs from transposed local networks of Japanese subcontractors, only 16.6 per cent of US firms use anything resembling transplanted networks.[16] Reinforcing this difference, 50 per cent of Japanese multinationals import from their home-based networks with only 8.3 per cent of their US counterparts choosing such an alternative. As Wong (2002, p. 857) points out, "US firms exhibited a higher propensity to engage in external sourcing, in-

[16] Western suppliers often use their own initiative in overseas investment, not needing the umbrella of a national champion to risk foreign expansion. "Canadian small and medium enterprises invest or transfer their technology to developing countries … through autonomous moves; they are not often subcontractors to large multinationals" (Niosi and Rivard 1990, p. 1536).

cluding a higher degree of willingness to try out local indigenous suppliers."[17]

Not surprisingly, US multinationals rely on the external labour market, rather than needing to create a Japanese style internal market. Blueprints and training manuals necessary for local manufacture of capital equipment and physical inputs take the place of the implicit training methods that Japanese firms favour. More decentralized than their Japanese counterparts, the US relies on locals not only to operate the shop floor but provides indigenous management with the leeway to pilot the fate of overseas subsidiaries

Malaysian Electronics Industry

Initially US subsidiaries are interested in the type of cheap labour required for low skill assembly tasks. Malaysian-owned counterparts can and do spend more on labour training during this initial reported period, circa 1980 (Fong, 1986, p. 73). What is not surprising is the shift to a greater reliance on local skills as the subsidiary becomes more established.

A striking case can be made for R&D. Initially almost all such work is restricted to corporate headquarters, both for Japanese and the US subsidiaries.

Table 7.3: **Origin of Research and Development in Malaysian Subsidiary (1980)**

	Country of Ownership			
Degree of Dependence	**Malaysian**	**Japanese**	**United States**	**Others**
Complete Dependence	6	15	16	11
Partial Dependence	6	6	2	2
No Dependence	14	0	0	0
Total Number of Companies	26	21	18	13

Source: Fong 1986, p. 75.

[17] Wong (2002, p. 858) also notes that the Japanese do show signs of shifting away from reproducing their home base network of *keiretsu* suppliers. But unlike US firms, the tendency is to substitute local firms but to retain something of the same familiar network arrangement. There is also something of a suggestion that these local nominated firms even extend to becoming ersatz Japanese firms by adopting Japanese style labor practices. As expected European firms fall somewhere between these two extremes.

Over time R&D increasingly shifts to local Malaysian subsidiaries. A decade later, skills in Malaysia have developed to the point where Texas Instruments and Intel depend on local engineers to solve production problems arising in US plants. The same movement can be detected in Japanese firms but at a somewhat slower rate.

A Few Highly Limited Conclusions

When Japanese firms make an initial direct investment overseas, they simply fall back on what they know best. Strategically it makes sense to play to their perceived strengths when making inherently uncertain decisions. Technology transfer is done in much the same way as it has been done for a number of decades in their home base. We are not then surprised to note that investment, whether in human or physical capital betrays many of the characteristics we think of as belonging distinctly to Japanese firms. But the firms engaging in such overseas ventures tend to be those most internationally minded and based. The Toyotas, Sonys, Canons and others like them will be bearing the brunt of this investment. These are highly competitive firms, which is only another way of saying that they are flexible enough to adjust to changing economic environments in an effective manner. They are then not in any way doctrinaire enough to insist on maintaining systems of technology transfer that fail to meet corporate goals. In a longer time span, many of these firms, given experience with local constraints, do adjust their practices.[18] What we see is that firms operating in a specific country sector grow to resemble one another no matter what their corporate base may be. We would not expect to see Honda, producing in China, provide more of a contrast with Volkswagen or Ford than it would with Toyota, at least in terms of its technology transfer choices. However different starting points will tend to preserve some differences even after considerable modifications. For instance, approaches to labour relations seem too radically different to allow anything like complete convergence. Moreover, the country specific factors need to be sufficiently strong before they are able to overcome the

[18] Sony, for one, adopts its labor practices to reflect the prevailing norms of its host country. When questioned (6 August 2000) the then managing director of Sony (Australia) made it quite clear that Sony did not feel constrained by Japanese traditions when operating overseas. Lay-offs, for instance, would be handled in accordance with Australian requirements rather than ruled by imported Japanese standards. The most successful multinationals often shed any distinctive national characteristics.

expected inertia of the status quo. Where such factors, for whatever reason, are weak, the resemblance of an overseas subsidiary to a home based factory remains strong. At this stage, we put this forward more as a hypothesis than a defensible conclusion. Evidence is still scanty, limited largely to anecdotal insights. However, our strongest indications are that such characteristics as country, sector, or purpose play a far more determinative role than the national base of the multinational.

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8 Market and Technology Leadership in the Chinese Car Industry

Japanese and German Strategies in a Dynamic Environment

René Haak

Introduction

The People's Republic of China is becoming increasingly significant as a market and a production location for international car manufacturers. At the same time, the car sector with its components supply industry represents one of the mainstays of economic and technological development for the Chinese government. From the point of view of strategic management in companies operating world-wide, globalization and keener international competition are having a stronger impact on current investment in the Chinese market. The change in the Chinese car industry is manifesting itself on several different levels. The economic and political reforms and particularly China's entry into the WTO at the end of 2001 mark a radical change in the country's development. Foreign manufacturers are pressing into the country, eager for their share of rapidly growing demand (Haak and Hilpert 2003).

Car production is no longer tied to traditional locations. In principle, high tech products such as cars can be manufactured, more or less, the same quality all over the world. The peculiarities of the Chinese market and the specific advantages of its locations positively challenge the international car industry to get involved. Inter-firm co-operation, joint development (Haak 2000a), production and distribution and sharing components and technology as part of the international division of labour and decentralized car production are basic factors that will ensure that international strategic production management is successful in securing a global presence (Schacher 1998).

Foreign car manufacturers and the component supplier industry associated with them are introducing new organizational forms and new technologies. They are overthrowing existing manufacturing structures and making the market and the competitive situation in the Chinese car industry more dynamic. This upheaval is accompanied by much turbulence on the market. Only leadership in technology based on faster and better implementation of product and process innovation will bring about market

leadership in China. This technology leadership must be accompanied by a multifaceted marketing approach tailored specifically to the country which highlights policies regarding product design, service and similar tools in the attempt to gain the favour of Chinese consumers.

The Role of Management in Establishing Market and Technology Leadership

Despite the improved economic climate in Germany and Japan, the international competitiveness of German and Japanese car companies is still the subject of much discussion and social debate. For over thirty years, there has been an enormous amount of business activity in East Asia. Competition on world markets has become much more lively in recent years. These developments have had a considerable impact on the positions of the Japanese and German car manufacturers in global competition. The era of growth in traditional national markets is ending; more than ever before, car manufacturers and suppliers need to think and act globally to stand their ground in international competition. Corporate strategies devised by Japanese and German car manufacturers need to expand to include an international dimension which will ramp up international sales and provide opportunities for research, development, manufacture and assembly to take place in foreign countries. Any company wanting to achieve high production rates and sales income with an innovative product must look to the global market.

In order to achieve their goals, international Japanese and German car manufacturers must ensure that globally available resources are thoroughly exploited. Decentralization and globalization of goods and services is showing that different locations are good for different corporate functions. Division of labour along functional rather than production lines determines on the one hand the geographical pattern of economical activity and on the other structural specialization of the locations. For example, the early stages of a product might demand a location with good human resources for research and development; that is, the work force needs to be well educated and well qualified and the research infrastructure well equipped.

In this respect, Germany and Japan as traditional core countries for motor vehicle development still enjoy significant advantage over China. For the standardized, labour-intensive mass production of cars or, more precisely, car parts, a location with the comparative advantage of lower labour costs might be more attractive. China has the advantage over Japan and Germany here; however, the capital cost of human resources

represents only one aspect amongst many affecting the decision to set up a production base in China.

Management in Japanese and German car manufacturing companies have a permanent remit to apply strategies that will make their company the market leader. In formulating their strategic direction, they must take into account the company's business potential, the changing competition in dynamic markets such as China, prevailing social conditions and economic forces. They must generate new strategic solutions to make the company more competitive in the face of the lively motor vehicle market in China and the new international competition situation which has resulted from globalization and the strengths and weaknesses of the Japanese and German economies. The German and Japanese car manufacturers do not just want to play along in Chinese competition; on the contrary, they want to occupy the top positions in the market. In other words, they want to be market leaders. For Germany, Volkswagen is out in front, in Japan it is Honda and Toyota.

Strategic management for these car manufacturers is trying to achieve market leadership in China with new products at the peak of technological development. Market leadership requires the fulfilment of certain conditions: customer orientation and marketability practised in all areas of the company and by all employees and the establishment of a corporate culture well-disposed towards innovation. Innovation is not just confined to research and development, but is required in many areas throughout the manufacture of a motor vehicle – in the products, in the processes operating within the company and in those that deal with the market outside the company. The implementation of new technology is one of the driving forces, both in generating new sources of income and in increasing resource productivity, thus improving the overall competitiveness of car manufacturers. Continuous improvement to existing technology and processes and the development of new processes are components of strategic corporate management.

The challenges faced by Japanese and German car producers increase constantly with particularly their customers' desire for individualized cars and the trend towards shorter product life cycles presenting them with more and more work. In recent years they have responded with a much bigger range of vehicle types and variants. Increasingly complex production methods and rapid adaptation to market needs mean greater flexibility is required, which must be realized under considerations of cost, quality and supplier reliability. To this end, the Japanese and German manufacturers are pursuing strategies which ensure and increase competitiveness in an international context. Their aim is to use technology leadership to achieve market leadership in China.

China's Dynamic Economy

At the start of the new century, China is one of the most interesting but also the most risk-laden markets in Asia. The reasons for this lie in the interaction between various economic, social and political factors. China's economy is growing at a speed and on a scale previously only seen during the "Wirtschaftswunder" years in Germany and Japan. 8.5 percent growth is forecast for China in 2003 – a development that has been sustained for years now.

The foundations for this economic development were laid in the second half of the 1970s with economic and political reforms and a more open attitude towards the rest of the world (Zhang 1998). In recent years, the dynamic economy has mainly been the result of investment by companies financed from outside China and the increase in exports that this has initiated. The Chinese government continues to rely on increasing public investment, which also stimulates growth. Joining the WTO has brought further impetus to the development, with lasting effects on global car manufacturers (DEG 1999, p. 22).

China is not a consistently uniform economic area. Commerce and buying power are concentrated mainly in the coastal regions, where most of the internationally active companies have established a presence. In the North lie the old heavy industry areas; the modern technology and service centre Shanghai is developing in the East and, since the formation of the first special economic zones, the dynamic economy of the southern regions is developing along the lines of the former British Crown Colony, today the Special Administrative Region, Hong Kong (Keller, Mönter and Drinkuth 1999).

Economic Forerunner Regions in the People's Republic of China

The income of the population is rising, particularly in the industrial centres, and new groups of buyers with a lot of money to spend need to be supplied with high-quality consumer goods – cars in particular. The automotive industry can no longer leave China as a production base and as a market out of their strategies. New forms of business organization and logistics systems along with changes in market requirements have been the key factors driving the new patterns of geographical organization in the global car industry. The car manufacturers have developed a post-Fordist production model with flexible manufacturing systems based on different technologies. Wider ranges of products and increasing numbers of variants, the establishment of sys-

tem suppliers from Japan, Germany and the USA, decreasing manufacturing penetration and accelerated market consolidation through mergers and strategic alliances (Haak 2000b) were characteristic of development at the end of the 20th century. Development, which is overall speeding up, is particularly apparent in the shrinking life cycle of new products on the Chinese market.

At the beginning of the 21st century, global competition continued to become keener, affected by many different factors. On the one hand, the geographical distribution of the demand for cars is shifting. The car industry has established new centres of production outside of the triad: in Latin America, Central and Eastern Europe, in South Korea and, more recently, in China. It is noticeable on the other hand that customers are continuing to ask for more individualization. Associated with this are demands for better quality and more exacting expectations regarding the price-performance ratio. Evidence of tighter competition and complex global production structures can be seen particularly on the procurement side of car manufacture. A global sourcing strategy allows car manufacturers to exploit price differences against a worldwide standard. Pressure to realize economies of scale has driven both manufacturers and suppliers of components to consolidate and globalize. Furthermore, changes to the political and legal conditions such as those created through WTO agreements with many countries are making access to economically interesting areas offering new market opportunities easier and faster.

No company in the car industry wanting to sustain its global market position can seriously afford to neglect the Chinese market in the long-term. Market and technology leadership in China form the key to sustained success in penetrating other markets in East and Southeast Asia (Taylor 1996).

In the course of the 1990s and the first few years of the 21st century, China has established itself as an important car producer. It is a fact that China is now in third place after Japan and South Korea in East Asia. With these rates of growth, it is only a matter of time before China ousts South Korea from second place, particularly as the Korean manufacturers suffered a severe collapse in the course of the Asia crisis. The Chinese car industry on the other hand was able to continue to grow even under such turbulent financial, economic and exchange rate conditions.

China and the Car Industry

Alongside the foreign companies, there are also some Chinese businesses trying to gain a foothold in the car market. The Chinese car and component suppliers industry has its roots in the 1930s when the government imposed a programme for the manufacture of commercial vehicles. With Japanese and Soviet support, production sites for HGVs were established in the trade and industry centres Shanghai, Tianjin, Changchun and Nanjing between 1938 and 1958 (Reißler 1959, pp. 322–8). With the component supplier industry still weak at that time Chinese manufacturing and assembly plants were characterized by high manufacturing penetration.

Production of the first national passenger car started in 1958 in Changchun with the "Red Flag" and in Shanghai with the "Phoenix". The following decades saw the foundation of more companies in very different vehicle-manufacturing segments. Today, car manufacturers in China number around 130. This includes both the big joint ventures with foreign shareholders and Chinese-only producers, many of whom manufacture fewer than 1,000 vehicles a year.

In those early years, the Chinese car industry was characterized by a production system which can be described largely as a variant of the Fordist-Taylor model. Controlled by the centrally planned economy of the communist regime, the development of the factories exhibited clearly high vertical integration and little differentiation in the component supplier system. High levels of warehouse stocks, basic manufacturing technology and a low standard of quality were further characteristics of the Chinese car factories. No modern logistics systems were employed.

As the open market economy established itself from the end of the 1970s, contact was sought with the global players amongst the foreign car manufacturers with the aim of modernizing production and technology in the Chinese industry. The first joint ventures in the car sector followed in 1982. In addition, global concerns agreed terms for manufacturing under license with Chinese companies.

Volkswagen AG was the first German car manufacturer to engage in a joint venture in China. In 1985 Volkswagen started production of the "Santana" model in Shanghai. At this early stage, production took place in factories which were simultaneously used for the manually welded and assembled Chinese "Shanghai" model. This was a copy of the Mercedes Benz 180 model, a successor to the "Phoenix" mentioned above (Posth and Rieken 1998, p. 403).

At the end of the 1980s, there were around 5 million vehicles in China of which 75 percent were commercial vehicles and only 25 percent were passenger cars. The commercial vehicles were by and large locally manu-

factured models; the proportion of imported passenger vehicles was particularly high at this time. In 1985, for example, China imported 200,000 vehicles from Japan alone. To stop the outflow of currency, the Chinese government has since 1986 rigorously restricted vehicle imports whilst encouraging the development of a modern domestic car industry to produce passenger vehicles (Posth 1992, pp. 1013–30).

Of the approximately 130 car manufacturers currently operating in China, around 16 produce passenger vehicles. However only four of these companies achieve an annual output of more than 200 000 vehicles. These include SAIC (Shanghai Automotive Industry Corporation), FAW (First Automotive Works), DMC (Dongfeng Motor Cooperation) and Tianjin Automotive Industry Corporation (TAIC). Two manufacturers, Shanghai Automotive Industry Corporation and First Automotive Works, who work with Volkswagen in joint ventures, even achieve an output in excess of 200,000 vehicles annually (Grimm 1999, p. 7).

The other car manufacturers in China make at most 1000 vehicles per year. They have neither a competitive product nor sufficiently sophisticated production technology (Interview with Grimm 2000). A lack of potential for innovation together with meagre capitalization characterize these companies, weaknesses shared by the Chinese components suppliers where the situation looks equally unpromising. There are currently approximately 2,500 producers of components and parts for the car industry in China.

The organizational and geographical structure seen today in the Chinese car industry is the result of extensive institutional reform in the 1980s and 1990s. New production sites were opened in numerous Chinese provinces, which in quite a few cases has resulted in oversupply on the Chinese car market.

A Key Factor in Development – State Intervention

From an economic perspective, the transport infrastructure represents a bottleneck for the development of the car industry in China. With the exception of some excellent new infrastructure projects in the industrial centres on the coast, the motorway and trunk road system in particular is need of development to achieve an appropriate density and quality. The state is trying very hard to improve this situation with various infrastructure projects: USD 60 billion were invested in motorway construction in 1998.

The government's intention is to make the car industry one of the mainstays of the Chinese economy as quickly as possible in order to

accelerate development in other areas. The previous Chinese leadership had expert knowledge of the industry. Jiang Zemin and Li Lanqing worked in the car industry in the 1950s in Changchun and both spent time working in the car industry in the former USSR. From 1985–1990, as party leader in Shanghai, Jiang Zemin, together with the former Premier Zhu Rongji who was Mayor at the time, gave active support to building up the joint ventures with VW in Shanghai.

The Chinese government views the direct investment from foreign car companies largely as a crucial contribution towards strengthening the economic base of the country. Cars are now regarded as the key industry that will allow China to draw level with the rest of the world in economic and technological terms. The creation of new jobs, expansion of production capacity and import substitution all benefit the economic development of the country.

There are clusters of foreign parts suppliers in the coastal locations of Shanghai, Beijing-Tianjin and Guangzhou and in the interior provinces around the car industry centres Chongqing, Changchun and Wuhan. Economic policy is trying to use joint ventures to integrate foreign capital and know-how in order to improve the supplier networks and at the same time strengthen the economic, financial and technological basis of the regions.

Modernization in the Chinese car industry is not limited to the introduction of new models by foreign investors. Research and development are also being carried out in China, mainly within the context of adaptation to local conditions. One of the most striking examples of this is the Engineering Center set up by General Motors (Pan Asia Technical Automotive Center) in Shanghai. The Center has significance far beyond China as its role within group strategy is to carry out research and development for East and South East Asia.

Eventually in the long-term, 90 percent of the vehicles required by the Chinese will be from domestic manufacture. Bureaucratic restrictions limit allocation of capital from foreign investors to a maximum of half the total equity of the jointly owned company. The strategy pursued by central government is intended to establish three big internationally competitive production centres and three regional centres. The currently evolving structure has Shanghai dominating the Chinese car industry, with medium-sized production centres in Tianjin, Changchun, Wuhan, Chongqing and Guangzhou. There are also a number of small sub-centres manufacturing cars.

At the moment, only eight manufacturers play a significant role in the market. All of them have co-operative associations with foreign manufacturers. The clear market leaders are First Automotive Works (FAW),

Dongfeng/SAW and Shanghai Automotive Industrial Corporation (SAIC). There are five more which are also significant, but cannot be compared to the "big three". The "smaller five" are Beijing AIC, Guangzhou AIC, Tianjin AIC, Chongqing Chang'an and Guizhou Yunque.

FAW and Dongfeng/SAW are controlled by the State Development Planning Commission, an institution that reports to the Council of State. The big production centres in Beijing, Tianjin and Shanghai are controlled by the local government authorities.

The examples of Volkswagen, Citroën, Peugeot and Chrysler show that regulation by state and local authorities did not stop foreign car manufacturers from operating in China. All the leading global car manufacturers are now represented in China. The "big six" (General Motors, Ford, DaimlerChrysler, Toyota, Volkswagen and Renault) are present as are slightly smaller global players such as BMW, Honda and the French company PSA.

Two joint ventures with the Volkswagen group, Shanghai Volkswagen and FAW-Volkswagen, dominate the passenger vehicle segment. Over many years Volkswagen has managed to gain a market share of over 50 percent. The competition and market situation in China only changed when Honda and General Motors became involved in the 1990s; the failure of Peugeot's interests helped Honda to enter the Chinese market. The production facility in Guangzhou was extended to make 50,000 Honda Accord models. In the mid-1990s General Motors set up a new factory in Shanghai where 50 000 Buicks are manufactured. In the long-term, General Motors intends to develop the production facility in Shanghai further aiming to use it as a production base for the whole of Asia.

In the 1980s and early 1990s, Japanese companies were more restrained in the amount they invested directly, compared to their American and European competitors (Haak 2002; Haak 2003). The Japanese concentrated on using licensed production to gain a hold in the market (Haak 2000c). Suzuki, Daihatsu and Fuji Heavy Industries were the companies that chose this less risky approach (Bollmann 1999).

Mitsubishi Motors, in which DaimlerChrysler has a huge share, is one of the more recent competitors to appear on the Chinese car market. In Heilongjiang province, more precisely in Harbin, Mitsubishi Motors is building a new car factory. It is planning to develop a small car based on the Lancer for the Chinese market and to start engine production. The first application to the Chinese government for permission to build 20,000 to 30,000 units per year was made in 1998. 10,000 units of the Mitsubishi Pajero will be produced from 2003, as investment from DaimlerChrysler to expand production of the Beijing Jeep has failed to materialize due to falling sales figures. DaimlerChrysler has neglected production in recent

years. The factory has a capacity of 85,000 units; however only around 10,000 units were sold in 2002.

In addition, DaimlerChrysler will soon be starting production of the Mercedes Benz C and E classes in China. They will be partnered by BAIC (Beijing Automotive Industry Holding Company), which as early as 1984 was a player in the foundation of the Chrysler factory Beijing Jeep Corp. (BJC), of which DaimlerChrysler has owned 42.4 percent since the take-over. One condition of entering the Mercedes C and E classes segment was the restructuring of Beijing Jeep Corp. This is why Beijing Jeep Corp. has been manufacturing the Mitsubishi Pajero all-terrain vehicle as well as the Chrysler Jeep since 2003.

BMW is also one of the newcomers on the Chinese car market. In 2001, BMW established a joint venture with Brilliance Automotive Holdings Ltd. in Shenyang, in Liaoning province. In autumn 2003 BMW AG and its partner began trial production of the BMW 3 and 5 series and will eventually produce 30,000.

Brilliance Automotive has in the main been successful in the Chinese market with the manufacture of minibuses based on Toyota technology. In contrast, the new joint venture is targeting the premium segment in the Chinese car market.

In recent years, Toyota and Ford, who also count as newcomers, have made more powerful attempts to penetrate the Chinese market. In 2000, Ford received permission from the Chinese leadership to build up a joint venture with Chang'an in Chongqing mainly to manufacture small family cars. Mazda Motor Corp. is expanding its China operations, forecasting production and sales of 200,000 motor vehicles in China by 2007. As part of the strategic plan, the company will set up a sales holding company with FAW Group Corp. to oversee sales of locally manufactured Mazdas including three Mazda brand passenger cars produced by FAW Group subsidiaries FAW Car Co. and FAW Hainan Motor Co. Mazda and top shareholder Ford Motor Co. will begin joint production by 2007. A production facility with annual output capacity of 200,000 units will be built near Shanghai. Mazda, in charge of the production equipment and technical aspects of the factory, will produce 100,000 units of the successor to its subcompact Demio. The remaining output will be allocated to Ford subcompacts.

It is only in recent years that Toyota has entered into this dynamic and difficult market with direct investment (Haak 2001), having held back from close involvement for a long time. In the 1980s and early 90s, Toyota concentrated on the American and then increasingly on the European market. Toyota was only indirectly involved in the growth of the Chinese car market through the Xiali model (TAIC), which was manufactured

under licence from the Toyota subsidiary Daihatsu. The model was particularly successful in the taxi market throughout China. Toyota is also part of a joint venture outside of the car market which manufactures medium-sized buses in Sichuan province.

The majority of globally active car manufacturers hesitated for a long time before investing directly in the Chinese market, only becoming significantly involved after new framework conditions were created by international institutions and agreements.

Sustainable Growth in the Car Segment

The potential of the car market looks promising. As early as 1992 production passed the one million vehicle mark and today with over 1.7 million cars manufactured and sold annually, the Chinese market has already assumed an impressive size. China has become the tenth largest vehicle manufacturer in the world. The Chinese market, with its combination of a well-developed market with growth potential over coming years and an increasingly sophisticated, brand-conscious buying public has become particularly interesting for global vehicle manufacturers and their components suppliers (Haak 2001).

Car use has changed substantially over recent years. The proportion of institutions purchasing cars, such as authorities, businesses owned by political bodies (the state, province, city and so on) and other public institutions, for instance, taxi companies, has fallen in favour of private buyers. Demand for private use is booming, an indication of the rise in income in the industrial centres.

The years between 1991 and 1996 saw rapidly accelerating development in the car sector: annual average demand increased by 38 percent. The absolute figures are even more impressive: from 12,300 vehicles in 1986, production rose to over 500,000 in 1999.

A closer look at the relative production figures for cars, HGVs and buses for 1991 and the forecast for 2000 reveals a clear shift to passenger car production. In 1991, the percentage shares for cars, HGVs and buses were 11.44, 24.83 and 63.73 percent respectively. In only six years these figures have shifted in favour of car production: cars (30.44 percent), HGV (27.18 percent) and buses (42.35 percent). Forecasts for 2001 go even further: car production is expected to make up two-thirds of the total. The most important car manufacturers such as Guangzhou Honda, FAW Volkswagen or Tianjin Charade have produced more since the beginning of 1999 (Grimm 1999, p. 8). According to estimates from the Chamber for Foreign Trade in Shanghai, by 2005, the buyers will fall into groups as

follows: 55 percent private consumers, 9 percent taxi companies and 36 percent government and government offices.

By 2006 vehicle production in the PRC will reach 4.3 million units. The increase in production from 0.6 million (2001) to 2 million cars in 2006 is crucial for the direction of the market entry and technology strategies pursued by the foreign car manufacturers in China.

Trends in the Chinese Car Sector

With the increase in Chinese incomes even in small households, a trend has been apparent since the early 1990s: the popularity of small, privately-owned cars. Consequently, most car manufacturers are focussing their efforts on developing models of this kind. Shanghai Volkswagen is the only manufacturer that is not only making real efforts in this direction but also has available the necessary competence and resources to allow them to manufacture the right kind of small car for the Chinese market from start to finish in a relatively short period. In contrast, the Chinese car producers have problems particularly with the manufacturing technology but also with the quality of their products (Haak 2001).

Since the mid-1980s, Chinese manufacturers of small cars have given up producing their own engines. Chinese management has been pursuing a different strategy: that of importing Japanese technology. The Chang'ans Alto, Skylark and Charade models, which are equipped with engines from Suzuki, Fuji and Daihatsu, small car brands leaders in the Chinese market in the 1990s. However, the vehicle quality overall does not yet satisfy international requirements and each attempt on the part of the Chinese manufacturers to improve the quality of their products has resulted inexorably in an increase in the sales price, which has had a not insignificant impact on the numbers sold. Introducing and maintaining higher standards of quality whilst at the same time keeping costs under control is therefore one of the core tasks for strategic and operative production management in Chinese car factories.

Rising production numbers are however only one side of the coin. Increasing competition despite increasing demand is putting pressure on prices for each of the manufacturers. Even production of the Santana at Volkswagen in Shanghai is affected. In the first quarter of 2000, sales of the Santana fell by 17.7 percent. April 2000 saw a fall over the same month in the previous year of 24 percent to 16,840 vehicles (VW 2000, p. 31).

In order to deal with further drops in sales Shanghai Volkswagen has tried to bring prices down. There is another, crucial, issue other than bringing down high levels of stock: the market share of the company

should remain above 40 percent, whereby the market share of the Volkswagen group in China overall in 2002 was 50 percent. New sales and product strategies to penetrate many different segments of the growing market are under discussion at Shanghai Volkswagen.

It is clear that China's car industry will achieve lower profit margins overall with firm pressure to keep prices down. The First Automotive Works group, which in addition to its own HGV production has also entered into various joint ventures with foreign producers (VW and Ford), is feeling considerable pressure on costs. Between 1994 and 1998 gross profits fell dramatically from USD 143.65 million to USD 13.3 million. However a turnaround came in 1999 with the launch of new HGV models. As a licensee of Deutz, FAW builds the new HGV series with modern turbodiesel engines. Together with the Volkswagen Group, FAS is currently producing the Jetta, the New Jetta and various Audi models. More than 100,000 Audis have been sold since 1988. At the beginning of September 1999, the Changchun factory shipped the first "China version" of the Audi A6, successfully maintaining its position in the luxury car market with models from DaimlerChrysler and BMW.

Shanghai Volkswagen is also launching a new model on the Chinese market: the Passat B5. Since mid-2000, the Passat has been in series production in what the VW Group refers to as one of its most modern factories. Parallel to the traditional Santana and Santana 2000 models, advanced technology is now being used to penetrate the market. On product level and in manufacturing, Shanghai Volkswagen is setting new standards. It is the company's strategic goal to counteract the growing competition in the upper middle class segment offered by the foreign manufacturers in China.

General Motors, which is also represented by a production facility in Shanghai, is also concentrating on this market segment. Shanghai Volkswagen will only be able to maintain its market position with strategic technology leadership based on rapid and uninterrupted implementation of product and process innovations. The successes that came with the pioneering strategy are gradually being exhausted; now is the time to face up to the new challenges offered by the technological innovations in the car sector and to start market launches as soon as possible. With forerunner technologies that practically have a monopoly on the market segment, it is possible to maintain a leading market position over the whole life cycle of a technology. This market position can be secured with distribution and price configuration (Bullinger 1994).

Shanghai Volkswagen intends to start producing two new small cars in China over the next few years. One of these will be modelled on the familiar Lupo; however, plans for the more distant future include the development of a completely new model.

The Volkswagen Group – Market and Technology Leadership

The Volkswagen Group recognized the long-term opportunities in the Chinese market very early on. The first discussions about Volkswagen operations in the People's Republic took place in 1978. In 1982 Volkswagen and the Shanghai Tractor & Automotive Corporation signed an agreement on the assembly of the Santana, which at that time was produced in South America and Europe. Just one year later, the Santana was rolling off the production line in Shanghai. The signing of a joint venture agreement in October 1984 represented a further important milestone in Volkswagen's involvement in China. Along with Volkswagen (50 percent) the joint venture consists of three more partners on the Chinese side: the Shanghai Automotive Industry Corporation (SAIC, 25 percent), the Bank of China (BOC, 15 percent) and the China National Automotive Industry Corp. (CNAIC, 10 percent).

Assembly of the Santana and the development of an independent engine manufacturing facility were among the basic aims of the joint venture. In addition to capital, the Chinese partners provided the joint venture with land, labour, buildings, raw materials and energy. For its part, Volkswagen undertook to develop the manufacturing technology and to impart the necessary management expertise. In 1985 the Shanghai Volkswagen Automotive Company Ltd. (SVW) joint venture went into business. As early as 1993, Shanghai Volkswagen was producing over 100,000 Santana cars and an equivalent number of engines in the custom-built factory. Two years later, production had increased to 160,000 vehicles, which included 30,000 units of the Santana 2,000 successor model.

In 1996 200,000 vehicles rolled off the line in Shanghai, of which 80,000 were Santana 2000 models. With this rapid growth, Shanghai Volkswagen expanded its capacity to 300,000 vehicles and 330,000 engines per annum. According to director Robert Büchelhofer, the VW Group sold a total of 315,232 vehicles in China in 1999. 5 percent growth is expected for 2,000 and sales are estimated at EUR 5 billion. The VW group has invested around EUR 2 billion in China so far and employs more than 10,000 workers in Shanghai. Volkswagen will continue to base its involvement and growth and expansion strategies on the strategic concept of technology leadership: by 2005, VW will have invested an additional EUR 2 billion, expecting to maintain its 50 percent market share after China joins the WTO with the Chinese car market expected to double in size in the next three to five years (Bücheldorfer 2000, p. 28).

Volkswagen AG and its Chinese partner company Shanghai Automotive Industry Corporation are investing EUR 240 million to build a new engine factory in Shanghai. VW's joint ventures in China had a capacity

of 750,000 engines at the end of 2003. In its initial phase, the new factory will supply 180,000 engines, to be upgraded to 300,000 later. The new engines are primarily intended for installation in the Polo model. Shanghai Automotive Industry Corporation President Hu Maoyuan intends to learn engine manufacture from Volkswagen, so that his company will eventually be able to produce engines suitable for export. Between January and August 2003, sales of cars in China rose by 89 percent over the previous year. VW wants to double its vehicle sales in China of 800,000 units to 1.6 million within five years.

Volkswagen's leading position in the market and in technology is also supported by its involvement in North East China, in Changchun. Following successful entry into the market in Shanghai, the next step to expansion in the Chinese market was the conclusion of a licensing agreement between Volkswagen AG and the First Automobile Works (FAW). Audi production started in the North China province Jilin, in the town of Changchun, in 1988.

The second joint venture in China followed in 1991. Volkswagen owned 40 percent of the FAW Volkswagen Automotive Company Ltd. (FAW-VW) in Changchun. Today, the products manufactured are the VW Jetta, the New Jetta and various Audi models. In September 1999 the first Audi A6 rolled off the line. VW strategic technology leadership is seen very clearly in this market segment. Audi is in 2004 testing the new Audi A6 for the Chinese market.

Summary

China has developed over the last two decades into a very promising, but also very risky target country for international car manufacturers. Competition for market share is becoming keener, particularly due to China's entry into the WTO. Japanese, American and European companies are investing substantially in this dynamic market; their intention is not only to tap its full growth potential, but also to share in the locally added value in the long-term. Maintaining a presence in the country and being familiar with the market and general conditions give companies more scope for successful operation in one of the most important car markets in Asia.

The foreign car manufacturers have an important task in working with Chinese partners to develop the car and components industry into an integrated supply and manufacturing system. More modern forms of organization are finding their way into the Chinese car industry, encouraging the implementation of quality management systems. The certification of components suppliers is an important step towards achieving interna-

tional standards. However, seen against the global background, the shortfalls in the Chinese components industry still give cause for concern.

Growth in the Chinese car market is supported by the emerging middle classes. This group of buyers is concentrated in the coastal towns. Buyers of cars for private use have played a key role in the growth rate over recent years. At the beginning of the 1990s, they were still an insignificant group of consumers. However, it must be remembered that only those with higher-level incomes (over 100,000 RMB annually) can buy a car for their private use.

The dominant trend in the 1990s was the increase in demand for small cars and the increasing significance of the price as a sales argument. Recent years have seen a price war, which will continue to escalate with China's membership of the WTO and a rising market share for imported vehicles. Major trends in the very dynamic Chinese car market are quantitative growth and price differentiation. For example, in 2001 20 new models were launched on the market, compared to only seven in the years between 1996 and 2000. Clearly, Chinese consumers want to express their status and individuality in what they buy.

The German and Japanese manufacturers are reacting to this development by targeting their model policy. A new premium market is developing with the new free enterprise culture in China which wants to be supplied with prestigious cars of technologically high quality. The Passat B5 and Audi A6 models are supporting this development as are the Accord (Honda) and the Buick (GM). Increasingly, the Chinese are buying expensive cars for their private use at a market price over RMB 250,000 (approximately EUR 34,000).

Customers wish to differentiate on more than just brands and features; auxiliary services such as customer care and financing are playing an increasingly important part in the decision to buy. More intensive customer orientation and heightened marketing activity are therefore an integral part of the China strategy pursued by German and Japanese manufacturers. The sales and service network is currently developing faster than the car market itself. For example, Volkswagen is planning to expand its share of almost 50 percent of the Chinese market on the basis of its new range of leasing and financing services.

The key trends and features expected in the Chinese car market for the coming years can be summarized as follows:

- Prospects for growth based on demand for cars for private use are good.
- Liberalization will continue and foreign car manufacturers will be more involved, forcing internationalization of the production structures.

- More models and greater orientation towards service will bring further differentiation to the range of products available.
- China will become increasingly important as a base for research and development in the car industry.
- Components supply will develop, becoming increasingly competitive on a global basis.
- Cost considerations will become less important than quality and technology.

Under the different conditions prevailing today, the old strategies of using out of date models and obsolete technology to penetrate the market which are unable to provide competitive standards of quality on an international level are no longer workable. New strategies such as those already implemented by Volkswagen and Toyota are required. Innovative products that are more in tune with what customers want demonstrate the correct way forward. Cars built to the most exacting technological standards will also find a buyer in the dynamic Chinese car market.

The need for strategic realignment must not be seen as a result of political or statutory impositions. On the contrary, orientation towards the Chinese consumer in the form of increasing model differentiation, stand alone developments specifically for the Chinese market and the establishment of service and financing products are a direct result of the changing social conditions in China brought about by liberalization and globalization. Market entry and penetration in the Chinese market with the best technology and the most successful models is the key to successful positioning. Companies arriving late on the scene, such as Toyota, need to use advanced technology to secure their brand image in China in the long-term.

The market penetration strategies pursued by European, American and Japanese business in China differ; one of the main reasons for this is the way they are implemented. Global car manufacturers have at their disposal many opportunities for differentiation in the practical realization of their market penetration strategy. Readiness to conform, creativity and flexibility, intercultural skills and sensitivity on the part of management and consideration of the social-cultural environment and the specific local requirements are basic conditions for the successful implementation of competitive market strategies in China. However, it is crucial that the companies secure a prominent market position with technology leadership (Spur 1998). Although this approach requires additional expense, closely associated with opening up the market and developing resources, the real benefit is in getting ahead of the competition with the opportunity to have available potentially powerful technology.

Car manufacturers with international operations now have the task of establishing creative strategic technology management in China with a

view to the Asia Pacific region. This should embrace all the functions of the company, starting from the core areas: production, the product, organization, human resources and distribution. Four major players must have a permanent role in the analysis: the company itself, the customers, the competition and the state. These four elements with their own interests, different motivations and goals form a dynamic whole. If statutory provisions, regional distinctiveness and historical structures are not taken into account, the competitiveness of a company in China can be at risk.

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9 The Globalisation of Information Systems in Japanese Companies

Convergence or Divergence?[1]

Dennis S. Tachiki

Introduction

The 1990s is often referred to as the "lost decade" in Japan, where the bursting of the asset bubble economy left it mired in a prolong recession. In contrast, the "new economy" in the United States and Europe was taking off, spearheaded by highly innovative dot-com companies and fueled by a strong bull market. An International Data Corporation report (IDC 2000) paints a more mixed picture, however. Japan's overall information society index score still ranks among the developed countries, but its Internet infrastructure and informatization scores are closer to those found in developing countries. The main research problem driving our analysis, then, is whether Japan lags behind other countries in the diffusion of e-commerce, and what implications does this have for the flagging Japanese economy?

In answering this question, it easy to compare Japan with other countries, especially to the United States and Europe. This approach biases us toward a convergence model of economic development, however. If the United States is the exemplary model, for example, how would we account for the rapid rise of mobile commerce in Japan? Rather than assuming a strictly exogenous imperative, a recurrent question we ask is to what extent are endogenous factors also affecting the diffusion of e-commerce. To gain purchase on line of analysis, our analytical concern here is the extent e-commerce does and does not diffuse across industries and within establishments, and the consequent impacts on firm performance. Our measure of e-commerce diffusion is based on revenues generated online

[1] This research is part of the Globalization and E-Commerce Project of the *Center for Research on Information Technology and Organizations* (CRITO) at the University of California, Irvine. The material is based upon work supported by a grant to CRITO from the National Science Foundation (CISE/IIS/DST, Grant No. 0085852). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

over the Internet (CRITO 2002). The comparative merits and demerits of e-commerce against the existing Japanese style of management suggest it will diffuse unevenly across industries and within companies.

Table 9.1: **Market Size of E-Commerce, 1998–2005** [a]

	1998[b]	1999	2000	2001[c]	2002[c]	2003[c]	2004[c]	2005[c]
Total (million yen)	8,685	12,656	22,414	35,511	46,781	66,304	90,925	141,727
B2B [d]	8,620	12,320	21,590	34,027	43,950	61,270	78,430	125,430
B2B Ratio (percent) [e]	*99.3*	*97.3*	*96.3*	*95.8*	*93.9*	*92.4*	*86.3*	*88.5*
EC Rate (percent) [f]	–	–	*4.1*	*5.0*	*6.6*	*9.2*	*11.5*	*14.1*
B2C [g]	65	336	824	1,484	2,831	5,034	12,495	16,297
B2C Ratio (percent)	*0.7*	*2.7*	*3.7*	*4.2*	*6.1*	*7.6*	*13.7*	*11.5*
EC Rate (percent)	–	–	*0.3*	*0.6*	*1.1*	*1.9*	*3.1*	*4.5*

Source: ECOM 2002

Notes: [a] The definition of e-commerce used for the ECOM study is *"the conduct of commerce"* (e. g., exchange of goods, services, information and money between suppliers and buyers, associated with the commercial transfer of assets between economic units.) *through computer network systems using the Internet technology* (i. e., using the TCP/IP protocol. Network lines include the Internet, extranet, Internet VPN, and dedicated IP lines), *the transactional values of which can be identified* (i. e., giving quotations, providing information and other pre-order conduct are included, as long as it is clearly identified that the conduct has led to purchase and/or sales order).

[b] First year of survey.

[c] Projected figure.

[d] B2B E-commerce is where businesses/government bodies pay businesses in exchange for commodities (goods, services, information, etc.). Includes B2G where government bodies pay businesses in exchange for commodities (goods, services, information, etc.) and E-marketplace where B2B E-commerce on platforms used by multiple selling/buying enterprises.

[e] B2B or B2C percent of total e-commerce.

[f] The proportion of e-commerce against the total interim demands and final demands for the applicable segment.

[g] B2C E-commerce is where households pay businesses in exchange for commodities (goods, services, information, etc.). Mobile E-commerce using mobile terminals. E-commerce involving pre-order stages (quotes, commissioning, etc.) for automobile, real estate, etc.

N. A. = data not available

For the past three years, the ECOM (Electronic Commerce Promotion Council of Japan) has been improving the definition of and data collection on e-commerce to create a reliable database (ECOM 2002). Although the

annual ECOM survey is getting better at capturing current trends, its future forecasts often fail to foresee emerging trends. Moreover, the future forecasts look suspiciously similar to the government policy goals of the e-Japan Strategy. Taking into consideration these caveats, it is still a bit more reliable than many of the consultant generated forecasts.

According to this annual survey, Table 9.1 shows the projected size of the e-commerce market in Japan in FY2002 should amount to nearly 47 trillion yen (ECOM 2002). This is a five-fold increase over the amount of e-commerce transactions in 1998, when this survey first began. By FY2005, the ECOM forecasts the e-commerce market should triple in size to 142 trillion yen. During this period of time, the B2C market should account for 12 percent of total revenues, up from 6 percent in FY2002. In the following sections we disaggregate the B2B and B2C data to examine first the diffusion of e-commerce across industries, and second the nature of Internet use within companies.

Diffusion Across Industries

We seek evidence that the *keiretsu* fault lines across the industry sectors ease and channel the flow of B2B and B2C e-commerce. In addition, since the GEC Japan Database does not include "small-scale businesses" (1–19 employees), we elaborate on the rise of Internet companies to flesh out this side of the diffusion story.

Users of E-Commerce

According to a Ministry of Economy Trade and Industry (ECOM 2002) survey, since the 1990s, the diffusion of the Internet to Japanese companies has increased from less than 10 percent to 96 percent for "enterprises" (>300 employees) and from 6 percent to 45 percent for "establishments" (<300 employees). Table 9.2 orders these individual companies into their industry sub-sectors and type of e-commerce (B2B or B2C) to examine the spread of e-commerce across industries.

Business-to-Business

In Table 9.2 the manufacturing sector accounts for most of the e-commerce transactions across the B2B market in FY2001. The top three manufacturing sub-sectors are electronic and information products (44 percent) automobile (40 percent) and industrial and precision machinery (3 percent). The wholesale/retail sector is difficult to separate from the

Table 9.2: **Users of E-Commerce** [a]

Sector	2000	2001	2006
B2B			
Electronic/Information Products	55.5	44.3	24.7
Automotive	33.6	39.7	18.7
Industrial/Precision Machinery	0.5	2.8	5.6
Iron/Nonferrous/Raw Materials	1.8	2.6	6.6
Textile/Sundry Goods	2.7	2.4	8.8
Food	3.2	2.4	6.5
Transportation/Travel Services	1.3	1.6	5.1
Chemical Products	0.1	1.3	5.7
Info Processing/Software Related Services	NA	1.1	1.8
Construction	1.3	1.1	11.5
Paper/Office Products	< 0.1	0.4	4.1
Utility Related Services	NA	NA	0.7
Communications/Broadcasting Services	NA	<0.1	0.1
Financial/Insurance Services	NA	< 0.1	< 0.1
Total	**21,590**	**34,027**	**125,430**
B2C			
Automotive	24.5	23.4	14.2
Real Estate	21.4	22.0	8.7
PC and Related Goods	11.0	10.0	3.5
Travel	7.4	8.0	14.6
Entertainment	7.2	7.4	6.9
Other Products Sales	6.6	6.6	6.5
Other Services	3.8	4.7	15.6
Financial	5.3	4.3	3.8
Clothing and Accessories	3.3	3.9	8.2
Food	4.0	3.8	7.3
Hobbies/Misc./Furniture	2.7	3.3	6.5
Books and Music	2.4	2.3	3.3
Gifts	0.5	0.5	1.0
Total	**824**	**1,484**	**16,297**
(Digital Contents)	**50**	**93**	**–**

Source: ECOM 2002

Notes: Total percentages do not add up to 100 percent due to rounding errors.
NA = data not available

manufacturing related component in the ECOM data, but at face value, the textile and sundry goods (2 percent), food (2 percent), and paper and office products (<1 percent) are the most obvious candidates. That is, wholesalers more than retailers. In the bank and finance sector, the financial and insurance services account for a nominal 0.03 percent. Since the GEC10 Survey uses the standard industrial classification (SIC) to define the range of industries for inclusion in this study, we note that missing from Table 9.2 are the wood products, furniture, leather, and ceramics industries. These sub-sectors correspond roughly to companies falling outside the inter-firm boundaries of the horizontal and vertical *keiretsu*. In short, the diffusion of B2B e-commerce roughly follows the contours of the horizontal and vertical *keiretsu* relationships and spills-over into recently liberalized sectors. In contrast, where establishments have weak ties to a *keiretsu* group and/or where market entry is still regulated, we find nominal e-commerce activities.

Where the ECOM data becomes more problematic is in its future forecasts of e-commerce trends. By FY2006, the ECOM projects the electronic and information products (25 percent) and automotive (19 percent) sub-sectors should continue to top the B2B market. In addition, the industrial and precision machinery should grow to 7 percent, joined by the chemical products (7 percent) and iron and nonferrous metals (8 percent). This scenario suggests a greater integration of the supporting industries – that is, the cluster of companies in the materials industries, material processing industries, and associated industries (dies and molds, machine tools, founding and forging machinery, industrial furnaces, etc.) – at the foundations of the vertical *keiretsu* production networks. These sub-sectors are relevant to an export-oriented economy, however it is already clear that China and the other Asian economies will come to dominate the low and middle-technologies in these sub-sectors, pushing Japan to move up the technological ladder to more knowledge-intensive technologies. This suggests the ECOM forecast underestimates the potential growth in the service sector as an important B2B player in the future.

Our quasi-measures for the wholesale and retail sector also suggest greater growth in the textile and sundry goods (9 percent), food (7 percent), and paper and office products (4 percent). These are the sub-sectors where intense competition and consumer preferences require companies to pursue greater rationalization of their distribution channels. Although bank and finance business should increase as the economy improves, the ECOM projects only a nominal 0.03 percent growth in its online business.

Business-to-Consumers

In Table 9.2, across the B2C market in FY2001, the retail and wholesale sector accounts for significantly more of the e-commerce revenues than the other two sectors in this study. The top wholesale and retail sub-sectors are automotive (23 percent), PC and related goods (10 percent), clothing and accessories (4 percent), food (4 percent), hobbies (3 percent), and books and music (2 percent). This list of sub-sectors essentially covers all the segments in the wholesale and retail sector, but the depth of this diffusion is shallow. In contrast, the bank and finance sector, the financial services account for four percent of B2C total revenues, and the manufacturing sector a nominal amount.

By FY2006, the ECOM projects travel (8 percent → 15 percent) will move near the top of B2C list and replace real estate (22 percent → 9 percent) as the top services sub-sector generating B2C revenues. The automotive (23 percent → 14 percent), PC and related goods (10 percent → 4 percent) and finance services (4 percent → 4 percent) sub-sectors will contract, but the clothing and accessories (4 percent → 8 percent)), food (4 percent → 7 percent), hobbies (3 percent → 7 percent), and books and music (2 percent → 3 percent) should continue to grow. While the ECOM forecasts are becoming more accurate, it tends to miss nascent trends. We note that these are youth-oriented markets, but the rapid aging of Japanese society suggests other types of B2C services will emerge in the near future. This fundamental demographic trend is virtually ignored in the ECOM forecast. Thus, we expect further growth in the above industries; however, the major players five years down the road may look very different.

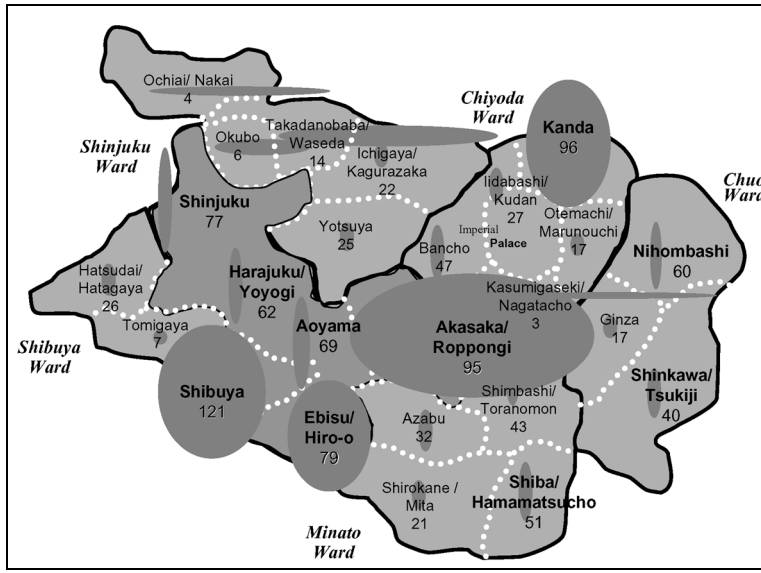
LOCATIONS AND STRUCTURE OF E-COMMERCE COMPANIES

In this section, we turn to the dot-com companies challenging the established brick-and-mortar business models of Japanese companies. Dot-com companies came from nowhere in the 1990s to become a nominal part of the industrial landscape over the past decade. In this connection, we ask, "Where do dot-com companies come from?" If you ask a knowledgeable person in Japan what is a prototypical e-commerce company, most close observers would mention one associated with the Bit Valley. We examine the geographical location and organization of these e-commerce companies in this section.

Clusters of Innovation

From 1999 a hot topic among Internet business people in Japan was the Bit Valley scene, a community of the Internet entrepreneurial companies situated in the Tokyo ward of Shibuya. One reading of the Chinese characters for Shibuya is bitter valley, leading to the moniker Bit Valley. The word bit is meant to convey the obstacles these entrepreneurs have had to overcome (bitter), their aspirations to create a Japanese version of Silicon Valley (valley), and the geographical location (Shibuya). Bit Valley led to the birth of the Bit Valley Association (BVA), a non-profit organization aimed at promoting personal contacts between people engaged in Internet businesses.

Figure 9.1: **Clustering of Internet Companies in Tokyo**



Source: Yukawa 2003

A Fujitsu Research Institute survey reveals that there are 1,541 Internet companies in the 23 wards of Tokyo at the end of February 2001 (Yukawa, 2003). Figure 9.1 shows the detailed breakdown of the wards with the highest density of Internet companies. Out of the 1,061 companies responding to the survey, 426 are located in the five central wards of Tokyo, especially Shibuya-ku, Shinjuku-ku, Chiyoda-ku, Chuo-ku and Minato-ku.

The increasing concentration of Internet companies in the Akasaka-Aoyama-Shibuya corridor of Bit Valley fame from 1994 is mainly explained by the unique social amenities catering to the lifestyle of young entrepreneurs. Yukawa (2001) has found that some attributes of the locations where Internet companies cluster include (1) the fulfilling social amenities for the young generation; (2) the existence of affordable spaces; (3) the existence of artists; (4) the existence of related educational institutions and (5) existing industries as the clients and the sources of human resources for Internet companies. These characteristics have developed in other parts of Tokyo, leading to a revival of declining urban areas. For example, the Kanda area, with the third large concentration of Internet companies in Tokyo, has become identified with the animation (*anime*) industry, where Japanese entrepreneurs have leaped to international fame in game software and animated pictures.

Other clusters of Internet companies are located in Sapporo in northern Japan and Fukuoka in southern Japan. The increasing numbers of clustering cases bring into relief the classical importance of private-public partnerships, involving the government, universities, and businesses, as another contributing factor to these clustering of Internet companies (Yukawa 2001). In addition, this geographical dispersion of industry clustering outside the Tokyo and Osaka corridor is a healthy example for stimulating economic activity in the less urban areas of Japan.

Organizational Structure

Approximately 24 percent of the Internet companies were founded before 1990, and the remaining 76 percent thereafter. Table 9.3 shows that the average Internet company is capitalized at less than 30 million yen. Most have less than 10 full-time employees and less than four part-time employees. By capitalization and establishment size, these Internet companies would be classified as small-scale businesses. Since this type of companies are not covered by the GEC Japan Database, we add this section to flesh out this emerging segment of the e-commerce economy.

The main business activity of these companies is concentrated in the area of Internet application companies (55 percent). Consulting companies, website developers, search engine applications, multimedia applications, and software and databases applications for the Internet are the main types of businesses. Intermediary companies providing products and services is the next largest category, accounting for 22 percent of the cases. For the B2C related business activities, market-makers providing online brokerage, travel services, advertising, and etc. characterizes this category. The infrastructure (10 percent) and e-commerce (8 percent)

companies, the last two categories, bring into relief the supply side of the story – the local capacity to implement e-commerce. The low level of business activities in the last category is due to the low level of enterprise integration activities among Japanese companies.

Table 9.3: **Organizational Characteristics of Bit Valley Internet Companies**

Establishments		Business Activities	
Founding (year)	**Percent**	**Business**	**Examples**
<1990	23.7		Telecommunications
1990–93	12.8		ISP
1994–97	30.4	Infrastructure 9.5 percent	Security provider
>1998	33.0		Hardware for networking
Capital (million ¥)	**Percent**		Data Center, ASP, Payment System, etc.
<10	8.9		
10–29.9	39.5		Consulting
30–49.9	8.7		Creation of websites
50–99.9	11.0	Application 54.5 percent	Search engines
>100	31.9		EC and multimedia applications
Employees (#)	**Percent**		Software and Databases for the Internet
Full-time			
<4	20.8		Market maker
5–9	20.4		Online broker, travel agency
10–24	28.4		Portal
25–49	13.6	Intermediary 22.3 percent	Content provider
>50	15.1		Internet advertising
Part-time			Content aggregator
<4	58.3		Research, etc.
5–9	19.5		
10–19	10.4	E-Commerce 7.8 percent	Online shopping
>20	11.7		Auctions, etc.

Source: Yukawa 2001

E-commerce Companies Established

It is difficult to enumerate the number of domestic Internet companies established from 1994, which is the year the commercial use of the Internet is claimed to have started on a full scale in Japan. There are many websites that connect buyers and sellers, such as online recruitment. These intermediary businesses often times run their websites from community sites and in many cases their source of revenue cannot be easily

identified. In the absence of data on all Internet companies in Japan, we limit our discussion to a survey of Internet companies in the Kanto region of Japan (Yukawa 2003).

Local vs. Global Companies

According to a survey by Yukawa (2003), most new Internet companies are actually hybrid domestic companies. There are few pure domestic dot-com companies that dominate the local market like Amazon.com or e-bay does in the United States. For example, the auction site operated by Yahoo Japan and the online bookstore, Amazon.co.jp are the most popular websites in Japan. But Yahoo Japan is not regarded as a pure domestic company because of Yahoo (US) large equity stake, and Amazon.co.jp is a Japanese website of its American parent company. In addition, Japanese dot-com companies tend to base their business models on those found in successful American Internet companies. Many of the Internet companies established by the pioneer Softbank Company, for example, are American versions adapted to the Japanese market.

As for the types of domestic Internet companies established from 1994, Yukawa (2003) finds most Internet companies conduct B2C transactions. Table 9.4 shows these companies are mainly in the wholesale and retail sector and the bank and finance sector, but almost none in the manufacturing sector. In the travel industry, market reorganization accompanies the diffusion of e-commerce. For example, Kokunaisen.com, which was jointly established by three large airline companies in 2000, deals with domestic air ticket bookings for all three companies. Given the rigid divisions separating the major *keiretsu*, this type of intra-industry cooperation was virtually inconceivable before the diffusion of e-commerce. Moreover, the bank and finance sub-sectors are fairly well represented. In the field of finance, most of the major finance companies have taken large equity states in online brokers such as E*TRADE Securities and MONEX rather than establish their own subsidiary.

The major brick-and-mortar companies are now conducting e-commerce in such sub-sectors as online shopping and securities brokerage. Most of established convenience stores (CVS), for example, have built their own website to start online shopping since the late 1990s. The *keiretsu* companies, especially the *sogo shosha* (general trading companies) and financial services companies have been particularly active in this regard. For example, the largest CVS, Seven-Eleven Japan, established 7dream.com in 2000 through joint capital investment from six large companies, such as NEC and the Sony Corporation. In the same year, Family Mart established Famima.com, a joint venture with other large companies

Table 9.4: **Major Newly Established dot-com Companies (partial list)**

	Year of Establishment			
	<1998	**1999**	**2000**	**2001**
B2B				
	Info Mart	EC-COM	MetalSite Japan Kouzai.com Smart Online Corp. Food Net	
B2C				
MANUFACTURING				
WHOLESALE and RETAIL				
Auction		DeNa Price-down Engine		
Books		e-Shopping! Books cbook24.com	Book1.Inc	
Car		Autobytel	MPEC	
Flower		Flowerfarm		
Food	Oisix (97)		Winetsu.com	
Games				GameOn
Cyber Mall	Rakuten (97) ARSeed (97)	Bizseek Netprice eLady	e-seikatsu CURIOCITY	
Photo Printing	Digipri (96)			
Pharmaceuticals	Online Store (95)	INDI		
Publishing			Book-ing Digi-Book, Japan	
Toy		e-Shopping!Toys		
Travel	ComNet Enterprise (97)		Tavigator Skygate Kokunaisen.com	tabini
BANKING and FINANCE				
Bank		Web Lease E-LOAN Japan		Sony Bank
Securities	E*TRADE	MONEX kabu.com JET Securities		
Commodity Futures			e-Commodity	

Source: Yukawa 2003

such as Toyota Motor and NTT Data. The other CVSs are now following Seven-Eleven and Family Mart's click-and-brick business model by building their own website for e-commerce. This business model is now spreading throughout the retail sector, especially among department stores and various other types of retailers trying to fend off on-line competitors.

Independent vs. Subsidiary

By fiscal year 2000, Sotec Company became the first Japanese company to surpass ¥10 billion in online sales. Notably absent from Table 9.5 are dot-com companies such as Rakuten and others that have attracted media attention. Instead, the list consists of well-known companies such as Sofmap, a PC (personal computer) and peripheral retailers in the Kanto region (Tokyo/Yokohama). A drawing card to their website is that consumers can earn points that can be used for future purchases. Rounding out the list are well-know companies such as Cecile, Japan Air Systems, Prince Hotels, Yodobashi Camera, Kinokuniya, and etc. In short, the top 20 companies deriving revenue through the Internet all share one common characteristic: they are relatively well-known brick-and-mortar companies that have established click-and-brick business models.

Most of the new Internet companies are not independent because the entrepreneurial environment in Japan is not well developed (Tachiki et al. 2002). In the absence of bank loans and alternative financial options, entrepreneurs finance their new companies from personal resources. For cash strapped entrepreneurs, this leads to large cash drain on parents and relatives or an excessive financial dependence on large companies. This is a major reason that the Bit Valley area has not become a full-fledged cluster like the Silicon Valley, where venture capitalists play active roles to coordinate the innovation by matching people and new technologies. Moreover, the large companies themselves tend to establish their own subsidiaries to start new Internet businesses, squeezing out some of the smaller players.

The company listings on the MOTHER (Market for the High-Growth and Emerging Stocks) Board should provide one indicator of the maturity of Internet companies in Japan. The MOTHER board was created in November 1999. Compared to the rules for listing on the first (large companies) and second (SMEs) sections of the Tokyo Stock Exchange (TSE), the basic idea motivating the MOTHER board is to ease the minimum capitalization and number of profitable year requirements before an entrepreneur can list on a stock exchange. Conventional wisdom suggests a new stock exchange should have a critical mass of around 50

Table 9.5: **Leading Users of E-Commerce, 2000**

Company Name	Sales (¥ mil)	URL	Main Items
1 Sotec Company	10,279	www.sotec.co.jp	PCs, peripherals
2 Sofmap Company	9,536	www.sofmap.com	PCs, peripherals
3 Xing Inc. (JOYSOUND)	5,000	www.xing.co.jp	Online music distribution, cell phone call melody
4 Cecile Company	4,283	www.cecile.co.jp	Clothing, sundries, etc.
5 Japan Air Systems Company	3,654	www.jas.co.jp	Airline tickets
6 Entertainment Plus Inc.	3,600	eee.eplus.co.jp	Various tickets
7 Prince Hotels, Inc.	3,511	www.princehotels.co.jp	Hotel reservations
8 Yodobashi Camera Company	3,421	www.yodobasi.com	Consumer electronics
9 Kinokuniya Company	3,000	www.kinokuniya.co.jp	Books
10 Nissen Company	2,427	www.nissen.co.jp	Clothing, sundries, etc.
11 Sega Corporation	2,153	www.d-direct.ne.jp	Game software, toys, amusement goods
12 Giga Networks Inc.	1,837	www.giga.co.jp	Online music distribution, cell phone call melody
13 Freeway Company	1,800	www.freeway.co.jp	PCs, peripherals
14 Book Services Company	1,694	market.bookservice.co.jp	Books
15 Murauchi Company	1,619	www.murauchi.co.jp	PCs, peripherals
16 Nikkei Business Publications, Inc	1,479	store.nikkeibp.co.jp	Books
17 Mytrip Net Company	1,087	www.mytrip.net	Hotel reservations
18 Fancl Corp.	1,000	www.fancl.co.jp	Pharmaceuticals, cosmetics
19 Laox Company	1,000	www.laox.xo.jp	PCs, peripherals
20 Nihon Ryokou Kurabu Tomonokai Co.	1,000	www.jtam.co.jp	Travel

Source: Nihon Keizai Shimbun 2002

listed companies; but, by 2001, only 26 companies had listed on the MOTHER Board (TSE 2001). Moreover, the NASDAQ Japan has withdrawn from its collaboration with the Osaka Stock Exchange because the market has not grown as fast as originally anticipated. These developments will hinder the creation of Internet companies that are independent from the pull of the *keiretsu* companies.

DIFFUSION OF E-COMMERCE

The diffusion of e-commerce across the three industry sectors essentially follows two paths. First, the most global-oriented *keiretsu* companies are the major carriers of B2B e-commerce across the manufacturing sub-sectors and then spreading to the vertical *keiretsu* in the wholesale and retail sector and the bank and finance sectors. Second, the domestic-oriented wholesale and retail sector emerge unexpectedly as the most active in B2C e-commerce. By this connection, we found that the liberalization and deregulation of specific sub-sectors creates economic space for SMEs, especially Internet companies, to flourish online. After an initial euphoric take-off period, access to capital has been a constraining factor in their further growth, forcing them into the orbits of the *keiretsu* companies.

ADOPTION WITHIN COMPANIES

We seek further evidence about the ways e-commerce technologies are replacing or complementing existing business practices to meet online B2B and B2C customer demands. We use the CRITO GEC Japan Database to develop this analysis one step further to reveal the hybrid diffusion of e-commerce within companies. If customer demand is the main driver of Internet use in Japan, the "voice of the customer" is the point of departure for understanding the adoption of Internet use within Japanese companies – that is, starting with the sales and after-sales segments of the value chain closest to the customer in contrasts to the conventional wisdom of new product development beginning with R&D (Akao, 1990). Since the CRITO survey does not cover all segments of the value chain, we only focus on customer services, sales, distribution channels, and procurement segments.

Customer Services

One common definition of a customer in Japan is "the person(s) or organizational unit that is the next step in your process for taking a product or service from concept to market" (Tachiki, 2000). Table 9.6 shows Japanese companies (15 percent) are half as likely to provide both B2B and B2C online services to customers than the global average (33 percent). Moreover, they are slightly more likely to provide only either B2B (14 percent) or B2C (19 percent) services to customers than the global average (11 percent and 13 percent respectively).

Table 9.6: **Online Services**

Percent indicating a significant factor	Estab. Size		Industry Sector			Total	
	SME	Large	Mfg.	WRD	B/F	Japan	Global
Type of Online Service [e]							
Percent B2B only	29.3	45.4	53.6	22.3	18.5	29.8	23.1
Mean percent of online business services [f]	*14.1*	*22.5*	*37.6*	*0.7*	*2.0*	*14.5*	*11.0*
Percent B2C only	18.6	21.2	3.8	23.0	35.4	18.7	12.9
Mean percent of online consumer services [g]	*5.6*	*14.3*	*1.1*	*10.6*	*7.0*	*6.0*	*7.6*
Percent both B2B and B2C	14.5	33.4	24.0	11.7	27.0	15.2	33.3
Percent of Mfg. websites which support [h]							
Product specification	94.0	83.7	93.3			93.3	79.9
Product configuration	74.6	76.1	74.7			74.7	54.7
Service and technical support	47.3	54.4	47.7			47.7	54.4
Account information	24.6	12.3	23.8			23.8	17.0
Order tracking	27.4	14.0	26.6			26.6	21.5
Percent of WRD websites supporting [h]							
Product catalogue	99.1	60.1		98.1		98.1	69.8
Gift certificates and/or registry	49.3	31.3		48.8		48.8	20.6
Product reviews	1.2	53.4		2.6		2.6	48.6
Account information	0.3	38.0		1.3		1.3	21.7
Individual customization	0.3	11.1		0.6		0.6	21.3
Percent of B/F websites supporting [h]							
Online services (e. g., filing applications, claims, paying bills, transferring funds)	65.3	87.7			67.8	67.8	53.9
Access to account information	65.3	87.7			67.8	67.8	57.3
Online tools (ex. research & planning tools, etc.)	39.8	36.0			39.4	39.4	52.0

Source: CRITO Global E-Commerce Survey, 2002

Notes: See notes a-d for Table 9.2.

[e] Percents are based on the full sample (all establishments). Exact wording of question: "Are these online services to other businesses or to consumers or to both?"

[f] Percents are based on the full sample (all establishments). Exact wording of question: "What percent of your establishment's total services to businesses are conducted online?"

[g] Percents are based on the full sample (all establishments). Exact wording of question: "What percent of your establishment's total services to consumers are conducted online?"

[h] Percents are based on only those establishments that have a website and conduct business within the specified sector.

For those companies that conduct B2B or B2C, the percentage of online transactions for business services (15 percent) and customer services (6 percent) respectively is roughly similar to the global averages (11 percent and 8 percent). These rather unremarkable findings become more insightful when we consider that in the manufacturing sector, the customer is the next business unit in going from the forging of raw materials into parts and then assembling the components into a final product (i. e., supplier-assembler relationship) and in the wholesale/retail sector and the bank/financial sector it covers essentially the individual consumer. Consistent with these sector definitions of a customer, the adoption of online services across the industries follows the globalization fault lines in the Japanese industrial landscape: B2B online services are more likely in the manufacturing sector (54 percent) followed by the wholesale and retail sector (22 percent), and finally the bank and finance sector (19 percent), whereas B2C online services follows the reverse pattern beginning with sectors with the most direct consumer contact (bank and finance (35 percent) and wholesale and retail (23 percent) and then manufacturing (4 percent). Moreover, large companies are more likely to provide online services than SMEs. This overall pattern of online services underscores that the B2B and B2C stories are different and re-confirms our earlier general finding that Japanese companies use the Internet for special purposes within business functions rather than systematically integrating it across business units.

Table 9.6 distinguishes the types of online service use by industry sector, allowing us to understand why it is more segmented than integrated in Japanese companies than the global average. The manufacturing sector uses its website more for B2B procurement transactions (release information on product specifications (93 percent) and product configuration (75 percent)) than for back office functions such as service and technical support (48 percent), account information (24 percent), and order tracking (27 percent). The wholesale and retail distribution sector focuses particularly on the marketing side of B2C transactions (product catalogue (98 percent) and gift certificates and/or registry (49 percent)), but noticeably less so for sales functions such as product review (3 percent), account information (1 percent), and individual customization (1 percent). The bank and finance sector packages online services (68 percent) with access to account information (68 percent) for sales functions, but less so for marketing functions such as providing online tools (40 percent). The story that emerges from Table 9.6, regardless of industry sector, is that companies provide online services to meet their immediate customer demands, but they are less likely to provide online services where privacy is paramount, elaborat-

ing on our earlier findings about the defining factors dividing the drivers for and obstacles to e-commerce.

This story changes somewhat by establishment size. SMEs in the manufacturing sector clearly conduct more of their customer services online, both for procurement and back office functions, than larger companies. For the wholesale and retail sector, the SMEs are more active in conducting sales related to product catalogue and gift certificates, but the large (wholesale) companies provide greater access to product reviews, account information, and individual customization. In the bank and finance sector, the SMEs (regional banks, trust banks, securities) are less likely than large *keiretsu* banks to conduct customer service over their websites, but they are slightly more likely to provide access to online tools. For SMEs in the manufacturing sector and to some extent in the bank and finance sector, they are moving online to allow the voice of the customer to reverberate electronically further back into their value chain, whereas in the wholesale and retail sector they use their web-sites to reach out to new customers. Anecdotal evidence suggests these are SMEs falling outside a *keiretsu* nexus and/or falling within a segment of the economy undergoing liberalization or deregulation, but further research beyond the GEC Japan survey is necessary to development this storyline.

Sales

Moving the voice of the customer electronically back into the sales segment of the value chain, in Table 9.7, Japanese respondents report less online sales to both businesses and customers (13 percent), to businesses only (7 percent), or to customers only (1 percent) than the global average (15 percent, 13 percent, and 7 percent respectively). Nevertheless, when we limit the sample to only those Japanese companies actually conducting B2C, they are almost twice as likely to conduct sales online than the global average (36 percent versus 19 percent). Turning to the B2B story, Japanese companies (15 percent) are just as likely as the global average (15 percent) to conduct business sales online. In addition, 94 percent of the Japanese companies support online payments through their websites compared to 34 percent for the global average. This suggests a bimodal split in the use of e-commerce among Japanese companies: a large majority of companies conducting very little B2C and B2B sales online as opposed to a distinct minority of companies intensively conducting on average a third of their B2C sales online with a strong link to their accounts receivable system.

Table 9.7: **Online Sales**

Percent indicating a significant factor	Estab. Size		Industry Sector			Total	
	SME	Large	Mfg.	WRD	B/F	Japan	Global
Type of Online Sales[e]							
Percent both B2B and B2C	12.8	13.0	2.1	16.3	16.0	12.8	15.0
Percent B2B only	7.0	14.1	28.5	0.5	0.2	7.2	12.9
Percent B2C only	1.3	5.1	1.7	0.5	13.3	1.4	7.1
B2C							
Mean percent of total consumer sales conducted online (all establishments)[f]	5.0	1.4	0.6	6.6	0.7	4.9	3.8
*Mean percent of those only doing **B2C** sales online*[f]	*36.6*	*8.9*	*16.1*	*39.6*	*3.2*	*35.6*	*18.6*
B2B							
Mean percent of total business sales conducted online (all establishments)[g]	3.0	2.7	2.6	3.3	0.1	3.0	4.0
*Mean percent of those only doing **B2B** sales online*[g]	*15.2*	*11.4*	*8.5*	*19.8*	*1.2*	*15.1*	*15.1*
Web Payment							
Percent of web-sites that support online payment (only those doing online sales)	96.6	71.1	100.0	64.2	31.6	94.1	33.6

Source: CRITO Global E-Commerce Survey, 2002

Notes: See notes a-d for Table 9.2.

[e] Percents are based on the full sample (all establishments). Exact wording of question: "Are these online sales to other businesses or to consumers or to both?"

[f] Exact wording of question: "What percent of your establishment's total consumer sales are conducted online?"

[g] Exact wording of question: "What percent of your establishment's total business-to-business sales are conducted online?"

The industry sector and establishment size data provide some insight into where online sales activities are most advanced. Table 9.7 shows that when the sample is limited to only those doing B2C or B2B sales online, the wholesale and retail sector conducts a greater percentage of B2C (40 percent) and B2B (20 percent) than the other two sectors. The wholesale and retail sector (64 percent) also reports a high percent of website support for online payment. In contrast, the manufacturing sector conducts only 16 percent of its B2C and 9 percent of its B2B sales online, but backs it up 100 percent with an online payment system. This suggests these two sectors are reorganizing their sales and payment activities to an online system: the wholesale and retail sector for both sales and payment, whereas the manufacturing sector uses hybrid EDI and Internet networks

and payment systems. In particular, the SMEs are more likely to engage in such activities than large companies. Thus, it is the SMEs in the wholesale and retail sector that are the most active minor players using Internet-based networks for B2C online sales.

Distribution Channels

Japanese companies report in Table 9.8 that "completing directly with traditional distribution channels" (38 percent) as the main reason for using the Internet to sell products and services, followed by another 29 percent indicating they plan to use the Internet to replace traditional distribution channels. In other countries this is known as "channel conflict," but in the Japanese context it is a way of getting around channel bottlenecks. The distribution system in Japan is quite hierarchical, consisting of more than three intermediaries between producer and customer. Indeed, foreign companies often cite the complex multi-layered distribution system as a major structural impediment to doing business in Japan. The remaining companies strive to enhance their traditional distribution channels only (22 percent) or expand their distribution channels using the Internet (12 percent). In this segment of the value chain, then, the voice of the customer becomes a function of improving *quality*, reducing *cost*, and decreasing *delivery* time (Tachiki, 1990).

Table 9.8: **How Establishments Use The Internet To Sell Products and Services**

	Estab. Size		Industry Sector			Total	
Percent indicating Internet used to …[e]	SME	Large	Mfg.	WRD	B/F	Japan	Global
CHANNEL CONFLICT							
Compete with traditional distribution channels	37.2	37.8	23.6	47.9	19.2	37.2	27.4
Replace traditional distribution channels	30.0	18.5	3.0	47.5	16.6	29.4	13.2
ENHANCE or EXPAND CHANNELS							
Address traditional distribution channels only	21.4	29.5	48.8	3.7	31.5	21.8	44.1
Address new markets only	11.4	14.1	24.6	0.9	32.7	11.5	15.3

Source: CRITO Global E-Commerce Survey, 2002

Notes: See notes a-d for Table 9.2.

[e] Exact wording of question: "Which of the following statements best characterizes how you are using the Internet to sell products and services?"

Among the three sectors, the manufacturing sector has the greatest number of distribution layers between a company and its customers. This sector

primarily uses the Internet to enhance traditional distribution channels (49 percent) but it is less likely to replace traditional distribution channel (3 percent). Consequently, the EDI supplier-manufacturer networks remain relatively intact but they are moving towards the use of the Internet in the downstream segments of their value chain to distribute products and services. When we look downstream to the retail side of the story, you have supermarkets and department stores dominating the sector, followed by specialty stores, convenience stores, and cooperatives. The supermarkets and department stores are using the Internet to procure fresh and/or reasonable priced products directly from producers for consumers. For example, Aeon. (formerly Jusco Company), a leading retailer, by-passes wholesalers and orders goods directly from domestic and overseas producers. Specialty stores, once a vibrant sector, finds younger consumers are turning to discount stores or the Internet for computers, music, books, etc., forcing them to adopt a click-and-brick business model.

Squeezed between manufacturers and retailers, then, is the wholesale sector that is responding the strongest to the channel conflict questions. The biggest threat to wholesalers is "disintermediation" from the distribution process. In this connection, not only do online purchases pose a threat to their intermediary role, but also the liberalization of this sector (e. g., Large and Small Store Law) has led to the emergence of competitive challenges from direct marketing (telephone call centers, catalogue orders, etc.) and large mega-stores (e. g., Carrefour, Costco, etc.). In response, wholesalers are increasing purchases of private-brands by importing from China and other overseas vendors to by-pass high cost domestic producers (JETRO 2003).

The bank and finance sector reports less channel conflict than the other two sectors, however the "big bang" financial liberalization of the sector in the mid-1990s has opened the door to market entrance from non-bank bank competitors. The Japanese government policies have historically favored debt financing over equity markets and thereby restrict market entry through its monetary policies. Subsequent to the liberalization of this sector and the rise of the e-commerce after 1994, non-bank banks, such as IY Bank and Sony Bank, have been making headway in the area of retail banking and securities, requiring traditional banks and financial services to protect and expand their market share. Consequently, companies in this sector are more likely to use the Internet to enhance traditional branch distribution channels (32 percent) or expand into new markets (33 percent). Overall, the initial impact of the Internet and liberalization has led to a chain reaction spreading across the three sectors and gradually flattening and internationalizing the previously hierarchical domestic distribution channels in Japan.

Table 9.9: **Online Procurement**

	Estab. Size		Industry Sector			Total	
	SME	Large	Mfg.	WRD	B/F	Japan	Global
Percent doing online purchasing	32.4	45.4	54.5	25.9	26.4	32.8	50.8
Mean percent spent on parts for production [e]	*21.1*	*7.5*	*20.0*	–	–	*20.0*	*8.3*
Mean percent spent on goods for resale [f]	*0.0*	*1.4*	–	*0.0*	–	*0.0*	*6.8*
Mean percent spent on supplies and equipment for business is ordered online [g]	0.1	0.5	0.0	0.0	1.6	.01	8.3

Source: CRITO Global E-Commerce Survey, 2002

Notes: See notes a-d for Table 9.2.

[e] Question asked only to those in the manufacturing sector; percent based on all manufacturing establishments. Exact wording of question: "What percent of the money your establishment spends on direct goods for production, such as parts and components, is ordered online?"

[f] Question asked only to those in the wholesale/retail distribution sector; percent based on all wholesale/retail establishments. Exact wording of question: "What percent of the money your establishment spends on goods for resale is ordered online?"

[g] Percent based on all establishments. Exact wording of question: "What percent of the money your establishment spends on supplies and equipment for doing business is ordered online?"

Procurement

When we move further up the value chain, Table 9.9 shows customer demand for Internet-based transactions is weaker in Japan than the global average: only 33 percent of the Japanese companies purchase online compared to the global average of 51 percent. Much of this lag in downstream B2C purchases and integrating suppliers in B2B purchases. Whereas in upstream online purchasing, the manufacturing sector is the most active in procuring online, nearly half of which is parts for production. At the center of a manufacturing company's procurement segment of the value chain is some derivative of Toyota Motor's just-in-time (JIT) and *kamban* delivery system (Monden, 1983). Under this procurement system, companies decide whether to use an open or closed procurement system depending on the product architecture. For products with a modular design – that is, products using standardized, mass-produced components – online procurement is an option. But for integrated product designs – that is, products with high tech core components – a closed EDI system is the most secure way to protect intellectual property (Fujimoto,

2002). Japanese companies tend to use closed EDI networks for integrated product designs, but are more catholic about modular product designs. The subdued pattern of online procurement activity is thereby due to the existence of hybrid EDI and Internet-based networks for procuring parts for production.

The wholesale and retail sector (26 percent) and bank and finance sector (26 percent) are half as likely as the manufacturing sector to purchase online. The outcome for the wholesale and retail sector is consistent with our earlier finding that it is a heavy user of EDI networks. Nevertheless, the GEC Japan Database unaccountably shows no online purchasing for resale goods. For the bank and finance sector, in contrast to its active use of the Internet to reach external customers, its nominal online orders for supplies and equipment suggests less intra-firm online business activities.

Adoption of E-Commerce

E-commerce has diffused within companies in segments of the value chain closest to the customer. However, companies that spend the most on IS and are ready for e-commerce are not necessarily the biggest adopters of the Internet. Harnessed to their EDI legacies, the large *keiretsu* companies have adopted a hybrid open and closed network. Moreover, in the relative absence of privacy and security for Internet transactions, the large *keiretsu* companies have not integrated the Internet across their business functions. The organizational boundaries of Japanese companies still map the *keiretsu* intra- and inter-firm relationships, except at the customer interface and distribution segments. The rise of Internet support services and company interest in outsourcing business processes could possibly drive some change in *keiretsu* relationships in the future, however.

Impacts of the Internet and E-Commerce

The globalization and liberalization of the Japanese economy provides a good picture of the fault lines in the industrial landscape. In this section, we conclude our discussion by examining the impacts of the Internet and e-commerce on the performance of Japanese companies falling on either side of these fault lines, especially in the areas of efficiency, coordination, and commerce.

Table 9.10: **Impacts of Doing Business Online**

	Estab. Size	Industry Sector	Total				
Percent indicating a significant factor [e]	SME	Large	Mfg.	WRD	B/F	Japan	Global
EFFICIENCY							
Internal processes more efficient	28.6	31.5	40.5	25.2	20.7	28.7	33.9
Staff productivity increased	24.3	22.7	25.7	24.6	11.5	24.3	27.2
COORDINATION							
Procurement costs decreased	3.9	12.3	16.2	0.3	0.8	4.2	17.7
Inventory costs decreased	5.4	4.3	20.3	0.3	5.0	5.3	14.0
Coordination with suppliers improved	34.0	27.9	40.4	33.2	10.5	33.8	29.8
COMMERCE							
Sales area widened	3.1	12.3	9.3	0.8	12.3	3.4	31.4
Sales increased	1.1	6.9	1.4	0.4	13.5	1.2	20.5
International sales increased	5.0	5.8	20.6	0.0	0.0	5.0	19.5
Competitive position improved	10.1	9.1	14.6	8.8	6.1	10.1	29.8
Customer service improved	10.9	17.9	42.3	0.8	6.9	11.2	34.8

Source: CRITO Global E-Commerce Survey, 2002

Notes: See notes a-d for Table 9.2.

[e] Exact wording of question: "Using a 5-point scale where 5 is "a great deal" and 1 is "not at all", please rate the degree to which your establishment has experienced the following impacts since it began using the Internet for business. A score of 4 or 5 was classified as "high impact"."

Efficiency

In Table 9.10, Japanese companies are less likely to experience efficiency in internal processes (29 percent) and staff productivity (24 percent) than the global averages of 34 percent and 27 percent respectively. By industry sector, the manufacturing sector beats the global average on internal process efficiency (41 percent versus 34 percent). In our discussion of the GEC Japan Database, the manufacturing sector uses the Internet to rationalize operations management functions. We would have expected a higher degree of improvement in internal efficiencies of the distribution channels for the wholesale and retail sector, and for the back room operations in the bank and finance sector. The bank and finance sector is low on both internal process efficiency (21 percent) and staff productivity (12 percent). The large companies (32 percent) are more likely to achieve internal process efficiency than the SME (29 percent), but the SMEs (24 percent) are slightly more likely to report increases in staff productivity than the large companies (23 percent).

Coordination

On the coordination measures, Japanese companies are less likely than the global average to report decreases in procurement costs (4 percent versus 18 percent), decreases in inventory costs (5 percent versus 14 percent), but it does report more improvement in coordination with suppliers (34 percent versus 30 percent). This is an area where the manufacturing sector has made improvements, and this shows up when we examine the data by industry. The manufacturing sector equals the level of the global average on procurement costs and clearly exceeds it on inventory costs and coordination with suppliers. We attribute this result to the hybrid closed and open networks – that is, Japanese companies have only adopted open e-commerce technologies to the extent they improve on existing business practices. Where this is not the case, they still rely on closed EDI networks. The wholesale and retail sector only outperforms the global average on the coordination with suppliers measure, a segment of the value chain we documented large changes with the introduction of e-commerce technologies. The bank and finance sector reports low results on all three measures. Nevertheless, internal coordination is not a significant issue in this sector. Instead, the more pressing issue is meeting new competitive challenges from non-bank banks (e. g., Sony Bank, IY Bank, etc.). The SMEs are more likely to report decreases in inventory costs and coordination with suppliers than the large companies.

Commerce

Japanese companies have not benefited as much as the companies in the global average on the measures of commerce: widening sales area, increased sales, increased international sales, improved competitive position, and improved customer service. Only the bank and finance sector shows improvement in widening sales area and increasing sales, a key reason companies give for adopting e-commerce. The wholesale and retail sector reports improving its competitive position and improving customer service. Since the wholesale and retail sector and bank and finance sector focus their e-commerce in downstream activities, we would have expected more improvement in these sectors. Perhaps a combination of their domestic oriented market focus and the poor state of the Japanese economy has muted the potential positive impact of the Internet. The manufacturing sector exceeds the global average on improved customer service and increased international sales. By establishment size, large companies have benefited more than the SMEs; however, none of the measures exceed the global averages. Because the diffusion of

e-commerce tends to correct the inefficiency of each trade, large company's full-scale entry into e-commerce is promoting the market reorganization of each trade.

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10 International Human Resource Management Strategies Emerging from Global Integration and Local Differentiation

Christian Hirt

Introduction

The process of globalization is transforming the boundaries of the world and correspondingly those of the enterprise, leading into a world-wide global economy where national boundaries become less important. As a consequence of this phenomenon, enterprises attempt to achieve comparative advantages in terms of international competitiveness. Most businesses are forced to look at new ways of cost-cutting to keep a strong hold of their market share, while at the same time maintaining high quality levels. A remarkable increase in cross-border co-operation has been observed in recent years, evidence of which can be seen in the emergence of joint ventures and strategic alliances.

The tendency to internationalize business has led to growing numbers of people in international settings. At the same time knowledgeable people have become even more important as a source of competitive advantage. To recruit, retain, and develop those precious resources in an international context to create value becomes an important challenge. Companies are also faced with the challenge of optimizing cultural diversity resulting from diverging attitudes towards management practice, business behaviour and differences within the workforce as well as differences in consumer preferences.

This paper focuses on new approaches to international human resource management as a consequence of ongoing internationalization and globalization. Emphasis is placed on inter-firm co-operation between Europe and Asia by elaborating on particularities regarding the discrepancy between the foreign business strategy of Austrian enterprises and local adjustment requirements in Japan. This will be done by drawing attention to the theoretical framework of resource-based and competency theory and by presenting an in-depth case study.

Three core questions will be tackled. In a first step, the present-day reality of globalization and its impact on doing business in difficult and sometimes risky markets will be discussed briefly. This will lead us to the

characteristics of corporations operating internationally where will argue that even for smaller enterprises the definition of transnational corporations can be applicable if a leading position in a niche market can be taken up. Many organizations, irrespective of whether they are transnational or multinational, are structurally incapable of carrying out sophisticated strategies they have developed. Formal structures to implement strategic objectives are often limited to establishing the organization's framework and neglect the development of an organizational culture that emphasizes corporate beliefs and values. It will be argued that multinational and transnational corporations are even more susceptible to these factors than domestic organizations.

Secondly, in a further step, an embedded case study, which emphasizes the lack of potential for improving knowledge transfer and points out the difficulties of imposing the buying company's organizational structure upon the target company due to intercultural difficulties, will show that people are the key to managing complex strategies and organizations. In particular this holds true when doing business in a cross-cultural setting where organizations have to cope with different mentalities and the influence of traditional heritage and modern biases on the development of interpersonal norms. If adequate care is not taken, small causes may lead to large effects as even more complex problems in international human resource management become magnified. The case study will point out the various problems that might occur in an international business setting as well as approaches to dealing with necessary change.

Finally, by taking an approach which takes into full consideration the lessons extracted from the case study, a reflection of future development seems obvious. I will reflect on the importance of trust and loyalty and analyze a potential endeavour towards more individuality in the human resource management of societies that were originally collectively oriented. Possible solutions and recommendations on how to provide for organizational adjustments in Asia, predominantly Japan, will conclude this section on comparative management practice.

Resource-based View of the Firm and the Importance of Social Capital

Today's mainstream thinking about strategy seems to be based on the resource-based-view of the firm as first developed by Edith Penrose (Penrose 1968). Resources convey competitive advantage if they create unique value in the eyes of customers, if they are hard to imitate (for

instance because they are path-dependent and embedded), if they are rare and if their return can be exclusively appropriated (Barney 1986, pp. 99–120). All those characteristics apply to the most precious, most flexible and most insecure of resources, namely the human ones. They must not be addressed by international human resource management as individual entities but in their relations with others.

While in a Western tradition so-called informal relationships within organizations and with important stakeholders were either neglected or targeted as a nuisance to be overcome by process design and programs, the East has always understood their significance. Peoples' relationships forming a 'neural' net of information flows and mutual obligations may be considered as a resource that nourishes strategic design and supports strategy implementation, if activated properly (Zucker 1991, pp. 83–107; Scott 1995).

While they interact, individuals build and reproduce 'institutions', some formalized and articulated, others subtle and tacit. Different schools have defined those institutions either as regulations, as norms and values, as behavioural patterns or as cognitive maps. All of them mould further interactions while being smoothly adapted by those interactions (Giddens 1979). Western managerial thought has a tradition of mistrusting the emergent qualities of such social (or cultural) capital (Bourdieu 1992). Only recently, the disciplines of network theory and knowledge management have reframed them and sought ways to utilize them for purposes of corporate strategy.

To foster the emergence of social relations that remain spontaneous, informal and culturally embedded (such as relations of specific mutual obligations) seems to be an oxymoron at first sight. This can only be inspired by indirect intervention: Management can provide resources (esp. space and time), it can supply a technical infrastructure or a face-to-face meeting structure, it can activate energies by visions and objectives but it cannot create social capital directly and deliberately. The task of indirect intervention is difficult in a uni-cultural setting. It becomes even more difficult if it has to occur in an intercultural setting, where regulations, norms, values, behavioural patterns and cognitive maps differ. A first step will be that people become aware of their differences. Only then can they build on them, transform them into commercially viable syntheses, learn from them. After having pointed out the importance of social capital, the interrelation between globalization and human resource management will be elaborated in a further step.

Global Integration, Local Differentiation and Human Resource Management

According to Ohmae globalization results in a borderless world, where political boundaries have largely vanished, financial and industrial activity have become boundless, consumers and firms are global citizens, global needs lead to global products and people want to buy the best and cheapest products, wherever they are produced (Ohmae 1989, pp. 152–161). Lester Thurow emphasizes the latter by highlighting the fact that for the first time in world history, anything can be made anywhere and sold anywhere (Thurow 1996, p. 32). Theodore Levitt argues that standardized consumer products and the emergence of global markets characterize a new commercial reality. This process is accelerated by new technology and communication, transport and travel, which drive the world towards a converging commonality (Levitt 1983, pp. 92–102). Well-managed companies have moved from emphasis on customizing items to offering globally standardized products that are advanced, functional, reliable and low priced. They benefit from enormous economies of scale in production, distribution, marketing and management.

It is obvious that such a development also has a major effect on international human resource management in companies operating world-wide. Factors which influence the nature of work from country to country relate to the role of work in society, prevailing forms of management or levels of education. But also the governance of the national economy and the degree of internationalization have an impact, as work, understood as a human activity, is strongly influenced by cultural and societal factors. Such differences in work and behaviour can be easily identified in multicultural teams, where essential cross-cultural research has been done by Adler (2002) and Schneider (2003). Accordingly, we argue that a link between globalization and human resource management can be established by dint of cross-cultural management. Companies face the challenge of teams comprising people from different countries, functions and disciplines. International operation requires an ability to manage and work with people from diverse ethnic backgrounds. Competent and knowledgeable staff must be located, trained and kept. It will be shown that competence does not only imply professional and strategic ability, but also social and cross-cultural expertise. An ability to balance the conflicting demands of global integration versus local responsiveness seems to make sense for compiling a competence portfolio but is often lacking in international interfirm co-operation.

Bartlett and Ghoshal classify internationally operating corporations according to their key strategic capabilities (Bartlett and Ghoshal 1998, p.

18), where strong forces of global integration, local differentiation or world-wide innovation characterize a single dominant strategic demand. But ongoing globalization increasingly demands simultaneous development of global competitiveness, multinational flexibility and world-wide learning capability. It is assumed that this integrative transnational model for managing world-wide operations is extendable to smaller enterprises in niche markets. The following case study will focus on the human resource strategy in such a niche market and will show that in spite of attempts at great flexibility, competitiveness, and full management attention on the part of the enterprise involved, cross-cultural influences constrain the building of a completely learning and self-adaptive organization in a transnational sense. A lack of sensitivity and responsiveness to national differences as well as difficulties in implementing parent company knowledge and capabilities in human resource management conforms with the argumentation of Bartlett and Ghoshal (1998), who assert that all the attributes of a transnational are hardly attainable, and companies are more likely to develop organizational characteristics that move them toward this idealized form.

An interrelation between internationalization strategies and organizational characteristics can be established by attribution of different types of organizational culture according to Perlmutter's EPG profile (Perlmutter 1969, pp. 9–18). Strong influence of the national culture in question on the organizational culture of a foreign subsidiary can be seen in the following case study as well, and is typical for an initial stage in foreign involvement. However, in accordance with Meffert (1989, pp. 445–462) I believe that the organizational culture of successful globally operating corporations should to a large extend not be influenced by national culture. A promising approach can be found in a synergetic culture which, by optimizing different characteristics from parent company delegates and indigenous executives, sees cultural differences in the subsidiary as a useful resource. Such an understanding of organizational culture harmonizes with a synergetic strategy of internationalization, characterized by positive advantages in both global integration and local differentiation.

This search for optimum advantage in cross-border co-operation leads finally to the aforementioned case study derived from day-to-day business. Although the theoretical approaches discussed here regarding the idealized form of a transnational and a synergetic organizational culture seem comprehensible, the implementation process in practice itself reveals fundamental difficulties. The reflections and observations contained in this case study are aimed at interfirm co-operation in Asia, predominantly in Japan, and based on interviews with members of the top management involved personally as well as expert-knowledge based on experience in an accompanying consulting process.

A Cautionary Case Study

As a leading supplier for the global computer manufacturing industry, the 'A Group' operates in a niche market and provides special equipment to semiconductor manufacturers. Since it was founded in the mid 1980s, the A Group's operations have spread rapidly across Europe, North America, and Asia. The group's involvement in Japan resulted initially from a joint venture with a local company. Within one year an increase in the ownership share of the non-Japanese partner led to a 100 per cent take-over of the joint operation by the Europeans. As a result of the take-over of the business, the Europeans felt they needed to redefine their strategy and adopt a different approach to the existing personnel policies and operating infrastructure.

Although familiar with the Japanese business environment, the European managing director of the Japanese venture adhered to an ethnocentric mindset and decided to pursue a highly structured and rigid implementation and integration process after the final step up in ownership. To facilitate global communication and in an attempt to keep business processes operating efficiently, the European company's corporate culture was more or less completely forced on the formerly bicultural operation. Poorly described and imposed with little warning and with no processes respecting the consensus oriented approach to business in Japan, the top down imposition of the new way of doing business was immediately seen as a breach of trust in relation to past norms, and a threat for the future. The inevitable result was an increase in the number of employees giving their notice and an immediate worsening of the company's reputation within Japan. Business value suffered and morale continued to spiral downward both in Japan and in Europe. What went wrong?

The managing director was challenged by two contending demands. On the one hand he had to fulfill the expectations of headquarters, while on the other hand coping with the uncertainties among the Japanese workforce after the merger with a foreign company. The overarching strategic question was how to implement cost saving and streamlining measures necessary to compete internationally while not losing support from the Japanese staff. Aggravated by the foreign firm's fast move from a partnership to a 100 per cent take-over, management and employee confidence fell. Trust was lost and one consequence was the breaking up of what the Japanese had considered to be a well established organization and employment structure with traditional job security. In more technical terms, the managing director had to deal with the cultural isolation effect (Deal and Kennedy 2000, pp. 121–22), which occurs when survivors discover that the company they now work for is significantly different

from the one in which they worked before. What's more, the situation was complicated by the collision of two completely different cultures and business systems. Cultural collisions, almost without exception, result in cultural isolation for the surviving employees from the acquired firm.

According to Hall and Hall (1987), an essential aspect of Japanese organizations lies in the free flow of information across diverse divisions, departments and internal constituencies. In comparison with command-authority organizations, adaptation to any information-based organization poses difficulties, even within a familiar cultural environment. In this case, as in a traditional Austrian command-authority organization, information about restructuring measures did not leak through to employees. They were faced with decisions made by the 'foreign' management without being told why existing, proven structures had to be broken up and new business units created. For instance, within the formerly Japanese company, even small procedures were changed, down to the level of travel and expense policies. Prior to the merger, every department was responsible for making its own travel arrangements and enjoyed the feeling of autonomy this created. The procedure worked well. However, along with the business process redesign strategy of the foreign buying company, individual employees had to experience drastic changes in procedures and responsibilities with little warning and even less chance of providing input. Tasks which had been done by individual departments beforehand were now transferred to a new central business unit, which was swiftly established after the merger. Confusion among the Japanese staff was the consequence, and the business was paralyzed as consensus-oriented Japanese employees were unsure of how to go about their jobs. Traditional Japanese employees and management are usually not used to being faced with such radical changes, and particularly so when the source of the change is poorly understood and the process of change not sensitive to the trust-based cultural foundations that had made the joint venture work in the past. Access to information – so essential to the operation of a collective decision making entity – was disrupted and further problems emerged as the integrity of the bicultural business system was compromised.

The internal model of information constantly flowing within and across departments seems natural and intelligible among the Japanese, but is quite difficult to extend as naturally when it comes to openness with foreigners. This duality of Japanese behaviour with foreigners has also been highlighted by Hall and Hall when referring to Japanese attitude towards time, where a monochronic mode for foreigners and technology and a polychronic mode for virtually everything else were presented (Hall and Hall 1987, p. 114). In a merger, a disruption in estab-

lished patterns of information flow can be expected to occur. Even if, in such a case, Japanese staff might no longer consider it to be a serious problem, such a disruption may cause difficulties for foreigners, as all the information will never be received.

One can state the obvious – that the Japanese are not as open as the Europeans and Americans, for whom it is acceptable to be frank and to disagree openly. More hierarchical and respectful of age differences, the Japanese do not entertain open dissent in most business environments. This observation is mainly based on a common set of superficial perceptions regarding a lack of similarities in behavioural norms, while it is in fact the result of a complex set of underlying beliefs firmly rooted in the cultural origins of a network of relationships in the Japanese societal and business environment. For a detailed examination of Japanese beliefs and cultural origins, as well as cultural differences, refer among others to Nakane (1992), Benedict (1993) or Hodgson, Sano, and Graham (2000). Openness in communication and the free flow of thought is a cultural feature of Western societies and considered a virtue in many. Self interest and information work by the same set of principles. If you do not ask, you do not receive. However, the problem in a biculturally challenging situation is that many managers do not know what to ask, nor how to pose the question to get the response, action or information they are seeking. If you do not know how to ask, and in consequence how to overcome these cross-cultural obstacles, you may end up observing what the Japanese side of the venture is doing, and only be able to follow like a diligent and compliant apprentice, learning far too late what risks and opportunities are being addressed by counterparts in the enterprise.

By taking an approach which takes into full consideration the lessons extracted from this case study and set of related observations, it is likely that you will discover the logic yourself on a much more accelerated timescale. Once you have shown your interest and respect through obedience and understanding, there is a chance that also the Japanese will open up a little further, increasing the flow of information and decreasing the gap of understanding between East and West. However, based upon this particular experience and broader discussions, even the most subtle and sophisticated of managers should remember that there will always be gaps in the joinery between enterprises from different cultures and that, despite your best efforts, there will never be full and perfect understanding between all parties. Nonetheless, by applying the lessons set out in this paper, many of the largest risks and problems can assume a far more manageable dimension.

Another main feature within a Japanese company related to the free flow of information and relevant for modern management theory is the

capacity for and culture of collective decision making. Isolation from the information flow thus has two negative impacts – it cuts off individuals from the lifeblood of an information-based organization and it prohibits collective decision-making to proceed on a fully informed basis. Thus poor communication and centrally imposed alien cultural norms not only result in individuals being excluded from the decision making process – this is at least partly understandable as decision making processes differ from country to country and companies usually rely on varying the approved course of action – but also results in expensive internal isolation with severe consequences that a foreign management might not be aware of. In this case, the A company suffered from a loss of employees as their motivation decreased due to the unclear situation after the take-over. Not knowing which department one belongs to or which tasks one is supposed to do leads to a lack of specific identification with the company one works for, especially if the company is no longer Japanese, but rather foreign. The importance of identification with the company becomes clear if one takes a closer look at the Japanese employment system (Cole 1979; Shimada 1980; Sasajima 1993; Kanamori and Kosai 1997), with particular reference to the history of lifetime employment (Beck 1994).

From a Western point of view, interrupting or cutting off the information flow will probably result in discontent, but the simple expression of this unhappiness is to be expected and is easily tolerated with little impact on the organization. The Japanese consensus-oriented society, however, tries to preserve harmony and is also likely to tolerate dissatisfaction, which may be less likely to be voiced, particularly in public. Only if sweeping changes like a completely new organizational structure are imposed as a result of mergers and acquisitions with foreign companies and the erosion of the existing trust and cultural system is predicted, might a Japanese employee take action.

Regarding behaviour within Japanese companies, hesitant or reluctant communications-related behaviour might be explained by several concepts of obligation[1] unique to the Japanese system. Fundamental research in that field has been conducted by Benedict (Benedict 1993). A positive expression is found in an enormous willingness to perform. However, Japanese workers seem to have difficulty in drawing a clear line between performance and self-sacrificing devotion, including indecisiveness regarding expression of discontent. The most negative result is the phenomenon of *karōshi*, death by overwork. In a Western environment, one will easily perceive this unreasonable sense of duty as a con-

[1] In particular: 'on' (obligations passively incurred) and 'giri', 'gimu' (reciprocals of 'on' and implying the active repayment of obligations).

straint. The contrary may be found in Japan, where the sense of obligation is embodied in society and hence an impediment to offering resistance to exploitation prevails.

Some valid points on the difference between Western and Japanese have been made by Nonaka and Takeuchi (Nonaka and Takeuchi 1995). In reference to the Japanese intellectual tradition it is argued that a slight trace of Cartesian rationalism can be found in Japanese thinking. However, the 'Japanese approach' is determined by an integration of the teachings of Buddhism, Confucianism, and major Western philosophical thoughts. Not only the Japanese view of knowledge but also the Japanese approach toward management practices have been influenced by these traits. Western management practices are still dominated by the Cartesian dualism between subject and object, mind and matter or mind and body, whereas the Japanese intellectual tradition is oriented towards complementarity and does not make either-or distinctions. Basically, the Japanese seem to be pragmatists rather than ideologues, while the Europeans appear to be rationalists. Originating from an intellectual knowledge perspective, these differences, which result in diverging behaviour patterns, might provide an explanation for cross-cultural complications between the parties mentioned here.

While individuals from Austrian culture trust in laws, regulations, and service (work) instructions, an abundance of unwritten imperatives define the acceptable norms, which exist for Japanese workers. This holds particularly true for matters, which a Western employee would not be willing to tolerate without protest. To relativize this argument, one needs to emphasize that Japanese workers are not only victims of this different way of thinking and acting, but also have been the historical beneficiaries within the Japanese employment system; at least until a couple of years ago, when enterprises were no longer able to guarantee secure employment conditions. If members of a society accept these unwritten obligations – and this seems to hold true for Japan – their way of acting is understandable and offers a certain web of security.

Lessons Extracted from the Case Study and Future Development

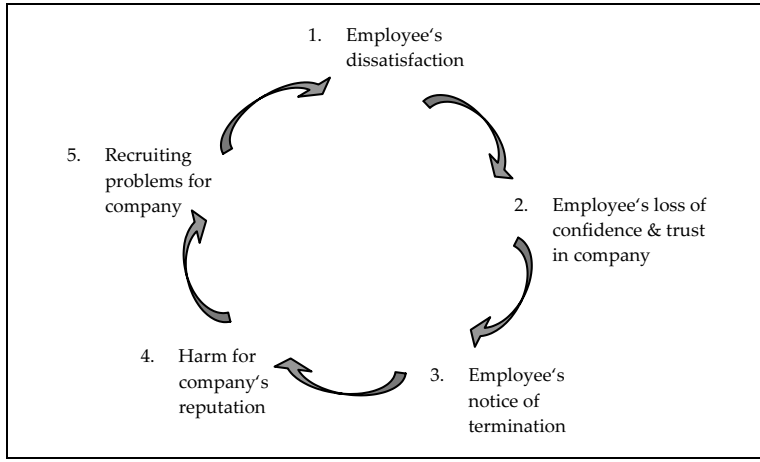
In times of downward economic movement, declining loyalty among employees is observable and there is a tendency to change employers voluntarily. In the past, mainly young workers were willing to work for a non-Japanese firm, but they often lacked qualifications (specialized know-how, language skills). Experienced workers – including the bulk of the older workforce and independent experts – were more likely to show

antipathy to working for foreigners. According to JETRO (JETRO 2000, internet), the situation seems to be changing. Japanese employees are becoming more self-confident and decisive. Interest in changing jobs to work for a foreign-affiliated company is increasing. This interest is particularly strong among upwardly mobile business people. This group of people, aged between 25 and 35, emphasizes performance and ability instead of seniority, as is traditional in Japanese companies. Foreign companies in Japan will have to make the best of this situation in trying to recruit from this pool of workers willing to change.

The situation foreign companies are confronted with is comparable to a vicious circle (see Figure 10.1). If employees lose confidence in a company and are no longer able to identify with it, they will ultimately quit. Within a typical merger situation when Japanese workers are suddenly faced with working for a foreign company, it is likely that they will also quit more easily due to the missing social obligations in a non-Japanese business environment. The foreign company has to cope not only with losing workers and thus fluctuation, but also with the fact that recruiting in Japan is difficult due to the preference for familiar conditions, like the traditional employment system. If people quit, the reputation of the company will also suffer, especially among Japanese who are known for their interpersonal relations and group consciousness. Every single remark of a former worker will harm the company's reputation and lessen its chances of recruiting on the Japanese labour market. For a foreign company, building up a reputation is arduous and any damage, however slight works counter-productively. If not counteracted, this process will lead to a cascade effect that might in the end endanger the survival of the foreign company's subsidiary. Finally, if a company nonetheless succeeds in recruiting Japanese staff, a slight risk of discontent among employees might remain. This may result either from the workers' dissatisfaction at not having been able to remain in a Japanese working environment or the lack of social familiarity of a Japanese company, as mentioned before.

It seems obvious that in this case study the actions of the foreign company's senior management in Japan did not generate the desired effect. Knowing that a foreign company has certain starting disadvantages compared to a Japanese counterpart, a joint venture strategy was followed for market entry. This was intended to accelerate the establishment of a reputation in the Japanese market, which usually takes quite a long time. However, in a specialized field like the semiconductor manufacturing industry, a reputation can mainly be built among experts. The bulk of the population, including the work force, does not have enough information about this industrial sector. Consequently, along with think-

Figure 10.1: **Vicious Circle for Foreign Companies in Japan**



ing about recruiting, foreign companies will not only have to keep image considerations in mind, but also focus on the appropriate target group.

Obviously, even if group consciousness in general prevails in Japanese management or a Japanese environment, there is no guarantee that this behaviour will prevail, once foreign – not Japanese – employers are involved. As the case study pointed out, a loss of confidence and trust in an employee can lead to reluctance to identify with the employing company. This results in the employee's willingness to voluntarily terminate the employment situation. In the traditional Japanese employment system this seems hardly imaginable and due to obligations and the restriction to groupism for a Japanese employer unlikely to happen. Consequently, the question whether Japanese distinguish between Japanese and foreign employers, which might cause them to behave differently, arises. From a foreigner's perspective, this seems to be the case. However, a change of attitude among the Japanese work force, apparently valid if in a Japanese-foreign employment relationship, appears difficult to trace.

Individualism is commonly attributed to Westerners. Hence, in general, individualism and groupism collide in Japanese-Western relations. This is also the crux of the issue of post-merger integration involving Japanese companies and their Western (in this case Austrian) counterparts. Up to now the issue has been mainly to reconcile two different sets of cultural values and promote trust and free flow of information between

two cultural groups; nowadays there is an additional challenge. If there is a certain tendency to more individuality – expressed in handing in one's notice of resignation, at least when foreign partners are involved – foreign companies will have to face the challenge of coping with converging behaviour patterns, as completely different prerequisites will influence their contemplations.

Finally, trust and language are also important cultural barriers to co-operation across national boundaries. Individual and collective performance suffers when trust is damaged because of cultural misunderstandings, as described above. The establishment of trust is a long process, starting with establishing an initial comfort level and maintaining mutual confidence over an extended period. In literature the requirement of trust for the functioning of international joint ventures is well established (Inkpen and Beamish 1997; Dolles and Wilking 2003). A trust–based society such as Japan can lead to lower transaction costs, which might result in a competitive advantage of Japanese companies over their counterparts. It can also increase the risks of failure for a cross-border initiative when the trust system is not fully understood nor reciprocated.

Europeans often tend to assume that trust is a given. The assumption of trust in a European cultural environment may not be based on an extensive set of personal interactions or shared educational background as it is in Japan, nor on shared interest in a well articulated commercial logic nor on the grounds of economic necessity. If there is not a shared view of the merged enterprise and no basis for the establishment of a functioning system of mutual trust, the case for acquiring, merging or forming an alliance may even be questioned. If the trust system fails and the venture founders in one or more areas, the resulting imposition of approaches to resolve conflict may well increase the scale of the damage and make the entire bicultural venture – in all likelihood – an unrecoverable write-off for both parties. Europeans often rely on legalistic means to enforce the strict terms of a contractual arrangement or business agreement, which is anathema to the conflict-avoiding Japanese, whose relationship-based business culture is notably short of lawyers. The Japanese normally prefer to find a mutually acceptable way out and may prefer to compromise rather than 'lose face' or tie themselves up in litigation for an extended period. The case study presented showed that in at least one Japanese-foreign employment relationship, this does not always have to be the case and a loss of confidence and trust in the foreign employer does not have to result in sub-optimal compromise.

In addition to diverging concepts of trust and its implications, the importance of linguistic differences is not to be underestimated and will therefore be discussed briefly in this concluding section. When expatri-

ates converse in their native language they often fail to recognize the degree of exclusion they create for others, in turn resulting in resentment and isolation for themselves. In addition to spoken language, non-verbal signals can be significant, too. The friendly smile of a Japanese team member does not necessarily mean either agreement or commitment, and a 'false positive' interpretation is likely to lead to confusion, embarrassment, disrespect and frustration. Both trust and understanding can suffer as a result. The same risk holds true for nodding as well, which among Japanese people is often no more than a sign of obedient behaviour. A command-authority based individual may assume that nodding is an expression of agreement and not the silent acceptance of orders. If those involved in the situation described above had been aware of these cultural differences and acted in accordance with that understanding, the case could have had a far more satisfactory outcome.

Conclusion

This paper focused on human resource management strategies and difficulties European companies might face in Asia due to the impact of ongoing globalization, with a particular consideration of the Japanese employment market. The topic was approached by reflecting on existing literature covering the resource-based view of the firm and the importance of social capital, followed by a discussion of the interrelation between globalization, internationalization strategies and cross-cultural factors in international human resource management. Experiences from a cautionary case study based on an Austrian Japanese merger and implications on inter-firm co-operation in Asia finally pointed to some lessons to be learned which should be taken into consideration when engaging in the Japanese market. In general, it is assumed that these concluding findings seem to be applicable to most companies from a Western cultural background.

The first lesson shows that due to the changing general framework of the labour market in Japan, foreign companies will have to make the best of trying to recruit from a pool of more self-confident and decisive workers who are willing to change. Here lies an opportunity for foreign companies in Japan. Long term survival in the Japanese market will depend on their ability to make use of this new pool in recruiting and on their awareness of cultural differences.

However, facing a situation comparable to the vicious circle discussed above, companies will not only be challenged by recruiting but also by retaining existing staff. The next lesson stresses the importance of a

foreign company's reputation in the labour market, which is all the more necessary to compensate for a lack of traditional Japanese employment features in foreign companies. In reference to the case study described above which took place in a manufacturing environment, JETRO publications (JETRO 2000, internet) confirm that the manufacturing and construction sectors show declining employment in Japan, where an implicit offer of lifetime employment with the same company from school graduation to retirement has been traditional. Labour market mobility, however, is on the rise, fuelled by changing values, corporate bankruptcies and restructurings, and mid-career lateral transfers by specialized workers in high-tech fields.

As a lesson resulting from the change of attitude and a potential distinction in behaviour towards Japanese and foreign employers, we can deduce that foreign companies will have to consider that consistent behaviour from Japanese employees cannot be taken for granted if the Japanese working environment disappears.

Finally, the importance of trust is essential; however if, along with the impact of ongoing globalization and changing foreign ownership, confidence is shaken, losing face will no longer be a reason for the Japanese worker to remain in an unsatisfactory employment situation in a foreign-owned firm.

As far as foreign companies are concerned, a possible way to cope with such situations could lie in the willingness to maintain a constant flow of information and to strengthen the establishment of trust in order to find the right path between adjustment to Japanese procedures and implementation of Western attitudes. It was shown that inter-firm co-operation generates difficult situations in human resource management, caused, for example, by a decline in the number of employees or by employees' changing attitudes. Therefore, management of cultural diversity and an ability to balance the conflicting demands of global integration versus local responsiveness seem to be growing ever more important. Owing to several differences, cultural diversity might be seen as an obstacle to effective human resource strategies in corporate operations. Effective interfirm co-operation therefore requires that the needs and objectives of all parties involved be balanced out, as diversity is essential for the development of new strategies and the enhancement of a company's competitive edge. Nevertheless, many enterprises still have difficulty bridging the gap between effective management of human resources and achievement of significant advantages in both global integration and local differentiation.

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11 The Management of Asian Employees in an American Multinational Companies

The Role of Supervisory Social Support and the Empowerment of Employees

Timothy Bartram, Raymond Harbridge, Bryan Tan and David Smith

With the presence of Western multinational enterprises throughout South East Asia operating in high-tech and service-based industries, questions of how to effectively manage a South East Asian workforce are extremely pertinent. Winning the 'hearts and minds' of employees is often regarded as an important contributing factor in organizational effectiveness. Despite the proliferation of cross-cultural research in South East Asia on topics such as management style, leadership and cultural management, little research has been undertaken regarding the role of supervisory social support and its impact on employee empowerment, organizational commitment and job satisfaction.

The role of supervisory social support and employee empowerment is not, of course, specific to South East Asian countries. In almost all industrialized countries there have been intensive efforts to improve employee performance. Increased competitive pressures have forced many companies to reappraise existing practices and experiment with new organizational practices in an effort to increase employee performance. One important organizational practice is psychological empowerment (Walton 1985; Wright and McMahon 1992; Huselid 1995). Empowerment can be defined as increased task motivation resulting from an individual's positive orientation to his or her work role (Spreitzer 1995). A fundamental part of empowering employees has been the importance placed on the style of leadership (for example, charismatic, transformational and degree of supervisory social support) (House 1977; Lawler 1986; Spreitzer 1995). Empirical research focussing on a leadership style that emphasizes social support, and its role in facilitating feelings of empowerment among employees, is extremely sparse. The empowerment of employees however, has begun to emerge as a critical topic in management studies (for example Conger and Kanungo 1988; Spreitzer 1995; Kirkman and Rosen 1999; Herrenkohl, Judson and Heffner 1999).

The importance of investigating the relationship between the concept of psychological empowerment and supervisory social support has its

conceptual heritage in expectancy theory and the seminal work of Bandura (1977) concerning self-efficacy. Empowerment techniques that provide emotional support for subordinates and create a supportive atmosphere can be more effective in strengthening self-efficacy beliefs (Bandura 1986). Early research indicates that adequate supervisory social support may have a number of beneficial outcomes for both employees and the organization, particularly in 'high involvement management' (Lawler 1986) and 'commitment'- based models (Walton 1985). Disparate streams of research have indicated that supervisory social support is associated with reduced stress levels (House *et al.* 1979; House 1981), increased job satisfaction (Michaels and Spector 1982; Mueller *et al*. 1994; Price and Mueller 1981), increased task motivation (Lawler 1986), improved self-efficacy beliefs (Bandura 1977; Deci and Ryan 1985), and increased organizational commitment (Deery and Iverson 1995).

Despite the growth of interest in psychological empowerment, there has been little scholarly attention to the study of this construct within South East Asia. Liden, Wayne and Sparrowe (2000) suggest that scholars should further develop social interactions within management research. This point is extrapolated by the fact that empowerment researchers have devoted their attention to the construct of empowerment and its consequences within a Western context (Thomas and Velthouse 1990; Spreitzer 1997). This study is unique as it sets out to investigate the relationship between supervisory social support and the cognitions of psychological empowerment. We intend also to investigate the consequences of empowerment and supervisory social support such as organizational commitment and job satisfaction and the role of contingent-based rewards. Although we have adopted the psychological definition of empowerment, our approach is interactional. We test our hypotheses using a sample of 171 employees of an American information technology subsidiary operating in Malaysia, Singapore and the Philippines.

In this chapter, we investigate the direct influence of supervisory social support on Spreitzer's (1995) conceptualization of psychological empowerment. We further argue that supervisory social support may also have consequences for organizational commitment, and that empowerment may influence levels of organizational commitment, and that organizational commitment and empowerment may influence feelings of job satisfaction. Based on theory, we suggest that contingent-based rewards can play an important role in building organizational commitment. Through the use of Partial Least Squares analysis, we attempt to contribute to a greater understanding of employee empowerment at the South East Asian workplace.

Prior Research on Psychological Empowerment

There is growing interest in empowering employees to take initiative, embrace risk, stimulate innovation and cope with their uncertainty in the face of increasing international competition (McDuffie 1995; Walton 1985; Huselid, Jackson and Schuler 1977). The concept of empowerment is embraced under the guise of the movement away from 'control' towards a proactive and strategic 'commitment' style of management (Walton 1985).

Contemporary research on psychological empowerment has focused on articulating the empowerment process and the psychological underpinnings of the construct in terms of self-efficacy and autonomy (Conger and Kanungo 1988; Spreizer 1995; 1997; Thomas and Velthouse 1990; Spector 1986). To conceptualize empowerment in motivational terms, Bandura's (1986) notion of self-efficacy is advanced. Empowerment refers to a process whereby an individual's belief in his or her self-efficacy is enhanced (Conger and Kanungo 1988). In accordance with expectancy theory, an individual's motivation to increase his or her effort in a given task will depend on expectations concerning effort leading to the desired performance and that that performance will lead to desired outcomes. Empowerment as an enabling process affects both initiation and persistence of subordinates' task behaviour (Bandura 1977). Empowerment research has been extended also to self-managed teams and the consequences of the empowerment of employees at the workplace (Kirkman and Rosen 1999; Spreizer 1995; Herrenkohl, Judson and Heffner 1999).

The term 'empowerment' evokes a wide range of concepts. Herrenkohl, Judson and Heffner (1999) review some of the current uses of the phrase: a redistribution of power and authority (Block 1993); maximising employee contribution to the success of the firm (Peters and Waterman 1982; Walton 1985); full participation of workers in decision making (Walton 1985); shared vision between employees and management (Senge 1990); and self-motivation (Tracey 1990).

Conger and Kanungo (1988) defined empowerment as the motivational concept of self-efficacy. Thomas and Velthouse (1990) argued that empowerment is a multi-faceted construct. They defined empowerment more broadly as increased intrinsic task motivation manifested in a set of four cognitions reflecting an individual's orientation to the work role: meaning, competence, self-determination and impact. For a complete discussion of the terms see Spreitzer (1995) and Thomas and Velthouse (1990).

Supervisory Social Support

A great deal of research has been conducted on the role of social support within the work setting (House 1981; Cohen and Wills 1985). Most academic interest in the social support construct is concerned with the role of social support (that is work supervisors, co-workers, spouses and a combined category of friends and relatives) in the mitigation of stress and health-enhancement at work (Cobb and Kasl 1977; House *et al.* 1979). However, very little research exists concerning the relationship between supervisory social support and psychological empowerment and organizational commitment.

Kahn and Antonucci (1980) define social support as 'interpersonal transactions that include one or more of the following key elements: affect, affirmation and aid'. Affect is defined as 'expressions of liking, admiration, respect or love'. Affirmation refers to 'expressions of agreement and acknowledgement of the appropriateness or rightness of some act or statement of another person'. Aid refers to 'transactions in which direct aid or assistance is given, including things, money, information, time and entitlements'. A number of definitions of social support have been developed, however authors tend to add on to the variety of definitions of support and its component elements (House 1981).

Supervisory Social Support and Empowerment

Researchers have recognized the role of managerial and supervisory social support in the empowerment of employees (Lawler 1986; Bowen and Lawler 1992; Spreizer 1995; Ramus and Steger 2000). Researchers however, have not expressly linked supervisory social support and Spreitzer's (1995) conceptualization of psychological empowerment. According to Bowen and Lawler (1992), employees in an environment of increased job involvement require greater management development to deal with the added complexity. 'Supervisors now have fewer shots to call, need to be re-orientated toward supporting the front line, rather than directing it' (Bowen and Lawler 1992, p. 37). Supervisory support is regarded as a critical antecedent of employee creativity, more so than autonomy, resources, challenging work and workload pressures (Amabile 1993).

In accordance with Lawler (1986, p. 212), 'good leadership can be felt at all levels in an organization. It gives people direction, energy and a sense of competence – in other words, "empowerment".' Leaders should value subordinates' learning, growing, developing and exercising com-

petence-based power. The role of social support is crucial in high-involvement management – the supervisor listening to subordinates and engaging in meaningful dialogue, minimising subordinates' feeling left out and being mistreated (Lawler 1986; House and Howell 1992; Conger and Kanungo 1988). According to Bandura (1986, p. 400), 'people who are persuaded verbally that they possess the capabilities to master given tasks are likely to mobilize greater sustained effort than if they harbour self-doubts and dwell on personal deficiencies when difficulties arise.' Empowerment techniques that provide emotional support for subordinates and create a supportive atmosphere can be more effective in strengthening self-efficacy beliefs (Bandura 1977; Deci and Ryan 1985). Based on the above, the following hypothesis is proposed.

Hypothesis 1: Supervisory social support will be positively related to psychological empowerment.

Social Support and Organizational Commitment

In the present analysis, organizational commitment is defined in terms of 'the strength of an individual's identification with and involvement in a particular organization' (Porter *et al.* 1974). Organizational commitment can be generally characterized by at least three factors: a strong belief in and acceptance of the organization's goals and values; a willingness to exert considerable effort on behalf of the organization; and a definite desire to maintain organizational membership (Porter *et al.* 1974). Organizational commitment represents an active relationship with the organization such as that individuals are willing to give up something of themselves in order to contribute to the organization's well-being (Mowday, Steers and Porter 1979).

Meyer and Allen (1997) noted that a central theme in commitment research involves the extent to which employees are made to feel that they make valuable contributions to their organization. As Meyer and Allen (1997, p. 48) note, 'for some employees, the importance of their contributions is communicated through the trust the organization appears to place in their work-related judgements. Consistent with this point, affective commitment has been positively related to participation in decision making (Rhodes and Steers 1981), latitude or discretion over activities (DeCotiis and Summers 1987; Gregersen and Black 1992), task autonomy (Dunham Grube and Castaneda 1994), receptiveness of management to employee ideas (Allen and Meyer 1990), and job scope (Marsh and Mannari 1977; Mathieu and Zajac 1990; Meyer Allen and Gellatly 1990).

There is a growing body of evidence to suggest that supervisory supportiveness plays an important function in the development of affective commitment (Mottaz 1988). This research emphasizes the importance placed on supervisors supporting employees and treating them fairly, and recognising their contributions (Meyer and Allen 1997). The role of supervisory social support as a determinant of organizational commitment has its conceptual heritage in the exchange perspective, which suggests that organizational commitment is largely a function of work rewards and values (Kalleberg 1977). As Mottaz (1988, p. 470) notes, 'Social rewards refer to those extrinsic rewards from interacting with the job. They are based on the quality of interpersonal relationships and include such factors as friendly, helpful and supportive co-workers and supervisors.'

Abraham (1999, p. 445) argues that 'organizational commitment is the culmination of a series of social exchange relationships through which the organization demonstrates its support to reward increased work efforts and meet demands for approval and affirmation'. Strong support leads to personification with the organization (Abraham 1999). Abraham (1998) suggests that social support may moderate the relationship between emotional dissonance and organizational commitment. However, Abraham (1999) did not find a significant correlation between social support and organizational commitment. In the South East Asian context however, we postulate that things might be different. Accordingly our second hypothesis is:

Hypothesis 2: Supervisory social support will be positively related to organizational commitment.

Psychological Empowerment and Organizational Commitment

Liden, Wayne and Sparrowe (2000, p. 410) argue that 'empowerment may contribute to a sense of commitment to the organization through a process of reciprocation'. Reciprocity occurs when one person treats another well, the norm of reciprocity obliges the return of favourable treatment (Gouldner 1960). The reciprocity norm may oblige employees to recompense advantageous treatment they receive from their work organization (Rousseau 1989; Eisenberger *et al.* 2001). Intuitively, organizations that provide jobs that encourage self-determination ensure that employees build competence, encourage employees to impact the organization and create roles for employees that are meaningful should encourage greater identification with the goals of management, loyalty and attachment to the organization (Liden, Wayne and Sparrowe 2000).

Carson *et al.* (1999) investigate four commitment profiles and their relationship to empowerment, service recovery and work attitudes. The authors suggest that levels of empowerment – from highest to lowest will be: dually committed; organizationists; careerists and uncommitted. Carson *et al.* (1999) argue that empowerment is an outcome of organizational commitment. Moreover, Laschinger, Finegan and Shamian (2001) investigate the impact of workplace empowerment, organizational trust on staff nurses' work satisfaction and organizational commitment. The organizational structures relevant to empowering workers include having access to information, receiving support, having access to the necessary resources to do the job and having an opportunity to learn and grow. As predicted, empowerment has a direct effect on affective commitment.

In terms of the individual psychological empowerment cognitions, scholars have suggested that autonomy and organizational commitment may be positively related. Deci and Ryan (1987, p. 1025) suggest that 'autonomy connotes an inner endorsement of one's actions, the sense that they emanate from oneself and are one's own'. Hackman and Lawler (1975) argue that job characteristics which emphasize skill variety, task identity, task significance and feedback should invariably be associated with greater meaningfulness of work, knowledge of results of work activities and employee growth. These critical psychological states should lead to personal and work outcomes such as high internal work motivation and organizational commitment. Empirical research by Mathieu and Zajac (1990) found a small positive correlation between autonomy and organizational commitment.

Herman and Gioia (1998) argue that for work to be meaningful, the work needs to be a valued part of the organization, employees need to know not only how the work they do affects others and the organization's strategic goals, but also how they – individuals – can make an impact. Responsibility for outcomes, measurement of results and meaningful rewards are also important components of increasing the meaningfulness of work. Mottaz (1988) found that task significance is positively associated with organizational commitment. There is limited research concerning the relationship between meaningfulness and impact and organizational commitment (Mathieu and Zajac 1990).

Mathieu and Zajac's (1990) meta-analysis revealed that perceived competence exhibited a large positive correlation with commitment across five samples. Morris and Sherman (1981) interpreted this finding as indicating that self-referent processes may serve as a means of linking an individual to an organization. That is, individuals will become committed to an organization, so long as it satisfies their growth and achievement needs. This interpretation is tentative due to the lim-

ited research in the area. Morris and Sherman (1981) reported that sense of competence emerged as a significant predictor of organizational commitment. It seems that non-extrinsic factors are important influences on commitment – especially to the extent that they influence self-referent processes that may themselves be components by which the individual links his or her identity to the organization (Morris and Sherman 1981).

In the most comprehensive study linking Spreitzer's (1995) conceptualization of empowerment and affective commitment, Liden, Wayne and Sparrowe (2000) found that two of the four cognitions of empowerment (namely, meaning and impact) were significant predictors of affective commitment. At the team level of analysis, using a version of Spreitzer's (1995) conceptualization adapted for the team level, Kirkman and Rosen (1999) found a direct positive relationship between empowerment and organizational commitment. Based on the above research, the following hypothesis is proposed:

Hypothesis 3: The four cognitions of psychological empowerment are positively related to organizational commitment.

Performance-contingent Rewards and Organizational Commitment

Extensive research exists in the area of rewards, motivation and job performance (Lawler 1986). There is little research, however concerning the relationship between performance-contingent rewards and organizational commitment. The small amount of work linking extrinsic rewards and commitment has yielded important results. In a survey of nursing home employees, Williams Podsakoff and Huber (1992) found a significant positive relationship between the use of performance-contingent rewards and affective commitment. In accounting research, two studies have examined the relationship between reward systems and commitment. Ferris (1981) found a positive relationship between utility for rewards and commitment, while Quirin, Donnelly and O'Brien (2000) found a significant positive relationship between budget-based compensation, and affective commitment. Furthermore, individuals who perceive a lack of procedural justice and equity concerning the reward system are more likely to exhibit feelings of dissatisfaction, denigration of the norms of reciprocity, thereby reducing organizational commitment, particularly feelings of loyalty to the organization (Rousseau 1989). Oliver (1990) found that organizational commitment

and organizational rewards were positively related. Work rewards are key determinants of organizational commitment (Angle 1983). Mottaz (1988) found a positive association between organizational commitment and pay equity and promotional opportunities. Based on these findings we hypothesize:

Hypothesis 4: Performance-contingent rewards will be positively associated with organizational commitment.

Performance contingent Rewards and Job Satisfaction

A great deal of research exists concerning the relationship between performance contingent rewards and job satisfaction (Locke 1976). Lawler (1971) contrasts 'discrepancy' theory – the view that pay satisfaction depends upon the difference between obtained pay and valued pay – and 'equity' theory – the view that pay satisfaction is a function of obtained pay in relation to the individual's perceived inputs and outputs in relation to other people holding similar jobs. It is clear that those individuals who believe they are inequitably paid are dissatisfied with their pay. Discrepancy theory predicts a linear function relating pay with satisfaction. Locke (1976) argues that ten satisfying and ten dissatisfying categories influence the extent to which individuals feel satisfied with their jobs. It is suggested that 'money: received a monetary raise or bonus or tip; made a profit; got money for overtime work; promise of a raise; getting a contract' may cause an employee to feel satisfied (Locke 1976, p. 1311).

Research is mixed concerning the relationship between extrinsic rewards and job satisfaction (Locke 1976; Poulin 1995). Poulin (1995) reported that supervisors who were more satisfied with salary/benefits expressed greater job satisfaction. Hackman and Lawler (1975) also found significant and positive association between job satisfaction and pay. Miceli *et al.* (1991) found that executives preferred rewards based on performance, but this was not the case for managers. Orpen and Bonnici (1990) reported inconsistent results when studying university teachers in Australia – they found that those more satisfied with their pay were, in fact, those who felt they received more pay. Yet neither job demands nor job input decreased satisfaction with pay when expectations for more pay were not met. These findings are developed in our next hypothesis.

Hypothesis 5: Performance-contingent rewards will be positively associated with job satisfaction.

Job Satisfaction, Organizational Commitment and Psychological Empowerment

A strong relationship between commitment and satisfaction is well established (Bateman and Strasser 1984; Conlon and Gallagher 1987; Mathieu and Zajac 1990; Becker 1992). Porter *et al.* (1974) suggest that it is not unlikely that organizational commitment is rationalized by subsequent attitudes of job satisfaction. The cumulative effect of job satisfaction may lead to overwhelming and relatively stable feelings of organizational commitment (Hackman and Lawler 1971). For a more complete discussion of the relationship between job satisfaction and organizational commitment see Mowday, Steers and Porter (1979).

Results of a longitudinal analysis of the antecedents of organizational commitment reveal commitment as a cause of satisfaction. Using a time-lagged multiple regression model with job satisfaction as the dependent variable, Bateman and Strasser (1984) concluded that satisfaction is not a cause of commitment but rather a result of it. Perhaps employees become committed to the organization before attitudes of satisfaction can meaningfully emerge. In contrast, Marsh and Mannari (1977) and Porter *et al.* (1974) view that organizational commitment is a time-lagged outcome of employee satisfaction. Partial correlations between each organizational commitment and intrinsic and extrinsic satisfaction found that both types of satisfaction and organizational commitment were positive and significant (Conlon and Gallagher 1987).

There is evidence to suggest that empowered individuals tend to have higher job satisfaction. The meaning dimension of empowerment was found to be significantly related to work satisfaction (Spreitzer 1997). Individuals should derive a sense of satisfaction with the work itself when they feel that they have been directly involved in outcomes that affect the organization. Hackman and Lawler (1971) suggest that individuals who are capable of higher order satisfaction will experience satisfaction when they learn that they have, as a result of their own efforts, accomplished something that they personally believe is meaningful. In a similar vein, greater autonomy and the sense of self-determination may also be satisfying because any accomplishments can be attributed to oneself. In terms of self-efficacy, individuals who have confidence in their ability to succeed are happier with their work than those who think that they may fail (Liden, Wayne and Sparrowe 2000). Our final two hypotheses deal with the matter of job satisfaction.

Hypothesis 6: Psychological empowerment will be positively associated with job satisfaction.
Hypothesis 7: Organizational commitment will be positively associated with job satisfaction.

Method

The research site for this study is a large American multinational organization operating in the information technology industry. Worldwide, the organization has more than 9000 clients in 44 countries. In the Asia-Pacific region, the organization has operations in 13 countries and employs more than 11 000 workers. Specifically for this study, three South East Asian subsidiaries located in Singapore, Malaysia and the Philippines were surveyed.

All of the workers surveyed in this study are front-line white-collar professional workers, who tend to work in teams with minimal supervision by management (for example supervisory, clerical and professional employees). 304 questionnaires were distributed to the three South East Asian subsidiaries in Singapore, Malaysia and the Philippines. Surveys were distributed by a researcher to all the employees of the subsidiaries along with reply-paid envelopes. Respondents were assured of complete confidentiality and anonymity. A total of 176 questionnaires (57.9 per cent response rate) were returned via mail – 101 from the Singaporean operation, 54 from the Malaysian operation and 21 from the Philippine operation. Of these questionnaires, five were deemed unusable due to large amounts of missing data, giving a useable sample of 171[1].

Preliminary analysis of the data did not reveal significant differences between the Malaysian, Singaporean and Philippine employees on the psychological constructs presented in this paper. All of the participants were full-time employees. The sample consisted of 56.1 per cent male and 43.9 per cent female respondents. The mean age of the respondents was approximately 31 years. Moreover, the majority of respondents held a bachelor degree, with the second largest proportion of employees holding a GCE 'A' level or Polytechnic Diploma. The mean response for dependents was 1.20.

[1] A small amount of missing data was observed in the remaining sample of 171. Mean substitution was used to impute values

Empowerment

Spreitzer's (1995) 12-item measure of psychological empowerment was used. The scale contains three items for each of the four dimensions of empowerment. Employees indicated the extent to which they agreed with each statement on a five-point Likert-type scale. Each set of items was summed to form the four dimensions of empowerment: meaning (mean=12.2, s.d=1.59, alpha=.58); impact (mean=10.98, s.d=1.86, alpha=.63); competence (mean=11.2, s.d=1.66, alpha=.56); and autonomy (mean=11.10, s.d=1.86, alpha=.60). The meaning item was adopted from Tymon (1988). The competence scale was taken from Jones (1986). Hackman and Oldham's (1985) autonomy scale was used to create the measurement of self-determination and the impact scale was adopted from Ashforth's (1989) helplessness scale.

Job Satisfaction

A six-item job satisfaction scale was adapted from the Job Descriptive Index (Smith, Kendall and Hulin 1969). An example item is 'I generally consider my job to be a waste of time', rated on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). We summed responses to form an index of job satisfaction (mean=21.61, s.d=3.43, alpha=.82).

Organizational Commitment

An abridged five-item version of the Mowday, Steers and Porter (1979) measure was used to assess organizational commitment (mean = 18.53, s.d = 3.24, alpha = .87). A sample item is, 'I find that my values and the organization's values are very similar', rated on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Extrinsic Rewards

A three-item measure of pay for performance was adapted from Spreitzer (1995). The items asked the extent to which individual pay depended on how well an individual performed, specifically whether pay level and pay raises were dependent on performance. An example

item is, 'My pay level rises with performance', on a five point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items were summed to form a composite measure (mean=10.60, s.d=2.56, alpha=.88).

Social Support

A six-item measure of social support from one's supervisor drawn from House and Wells (1978) was used in this study. An example item is 'How much can your supervisor be relied on when things get tough at work?' on a five point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items were summed to form a composite measure (mean = 22.29, s.d = 4.25, alpha = .91). Studies of social support have most often asked people to rate how much emotional support they are receiving from others (for example the immediate supervisor). The resulting answers are usually termed subjective or perceived support.

Results

Partial Least Squares (PLS) analysis

To test the data collected in this study, partial least squares (PLS) analysis using the program PLS-Graph version 3.0 was employed. PLS is a powerful regression-based technique that is appropriate for testing latent variable[2] models with small samples. PLS forms part of the family of techniques referred to by Fornell (1982) as 'the second generation of multivariate data analysis techniques.' PLS comprises the simultaneous analysis of both a measurement model, and a structural model. In a measurement model, the relationship between the observed items used to measure each construct, and the underlying latent variable these items represent is assessed. As Barclay Higgins and Thompson (1995) note, this is a necessary step in order to ensure the measures of each construct are reliable before going on to assess the relationships between latent variables in the model (that is, analyse the structural model). The measurement model was assessed by computing average variance extracted estimates for each construct.

[2] A latent variable is a variable, which cannot be directly measured – instead, it can only be estimated using a series of indicators (observed or manifest variables) (Hair *et al.*, 1998)

Average Variance Extracted Estimates

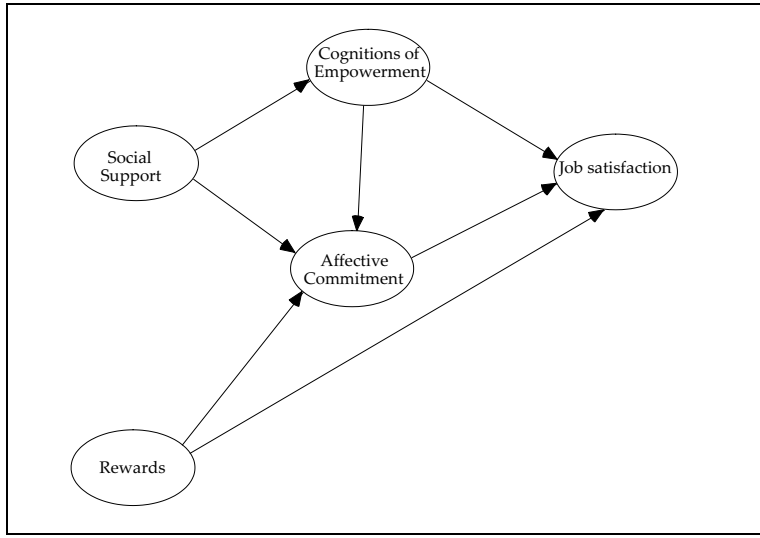
Variance extracted estimates are a complementary measure to Cronbach's alpha, in that they provide further information about a construct's reliability by calculating the overall amount of variance in the observed variables explained by the latent construct (Hair *et al.* 1998). Higher values occur when the indicators are truly representative of the latent construct, with guidelines suggesting that variance extracted values should exceed 0.50 for each construct used (Hair *et al.*, 1998). As can be seen from Table 1, all estimates in this study were in excess of the 0.50 cut-off, providing evidence of the reliability of each construct.

Table 11.1: **Average Variance Extracted Estimates (VEE)**

Variable	VEE
Commitment	0.6509
Job satisfaction	0.5357
Rewards	0.8105
Meaning	0.5495
Autonomy	0.5445
Impact	0.5816
Competence	0.5147
Social support	0.7008

After undertaking the measurement model analysis, the next step is to assess hypothesized relationships between structural parameters, which is the testing of the structural model. In this study, bootstrapping was used as a re-sampling procedure to examine the stability of estimates and to determine the level of significance of each path. Using this technique, 100 samples were created by sampling from the original data set, in order to obtain 100 estimates for each parameter. For more detail regarding bootstrapping within PLS, see Chin (1998), and Chin and Gopal (1995). The model is shown below in Figure 11.1.

Figure 11.1: **Proposed Model**



Structural Model Analysis

Significant positive relationships between social support and each of the four cognitions of empowerment were observed ($p<0.01$).[3] Thus, Hypothesis 1, supervisory social support will be positively related to psychological empowerment, was supported. The results indicate that increased levels of social support provided by supervisors have beneficial outcomes for the organisation, in that they enhance feelings of psychological empowerment. Furthermore, a direct significant relationship between social support and affective commitment was obtained ($p<0.05$), supporting Hypothesis 2, that supervisory social support was positively related to organizational commitment.

The results for the relationship between the four cognitions of empowerment and organizational commitment are mixed, indicating only partial support for Hypothesis 3, that the four cognitions of psychological empowerment are positively related to organizational commitment. Specifically, the relationships between meaning and affective commitment ($p<0.05$), and autonomy and affective commitment ($p<0.01$) are signifi-

[3] One-tailed tests were used to determine the significance of each path analyzed in this study.

cant. However, the relationships between impact and commitment, and competence and commitment, are not significant. As discussed in an earlier section, Liden, Wayne and Sparrowe (2000) also found a significant relationship between two of the four cognitions of empowerment, and affective commitment. In the case of Liden, Wayne and Sparrowe (2000), meaning and impact were the two significant predictors of organizational commitment. The result in this study reinforces meaning as a predictor of affective commitment, as well as supporting prior research linking autonomy and affective commitment.

A direct positive relationship between access to rewards and organizational commitment was observed ($p<0.01$), supporting Hypothesis 4, that performance-contingent rewards will be positively associated with organizational commitment. This result indicates that as the use of rewards increase, so too does the level of affective commitment experienced by the employee. Similarly, a direct positive relationship between access to rewards and job satisfaction was observed ($p<0.01$). Thus, Hypothesis 5, that performance-contingent rewards will be positively associated with job satisfaction was supported, indicating that employees in the sample were more satisfied with their job when they were afforded access to performance-contingent rewards. The fact that Hypotheses 4 and 5 are both supported indicates that the provision of opportunities to obtain performance-based rewards leads to a more committed and satisfied workforce.

In examining the relationship between the four cognitions of empowerment and job satisfaction, only the path between meaning and job satisfaction was significant ($p<0.05$), indicating only partial support for Hypothesis 6, that psychological empowerment will be positively associated with job satisfaction. The fact that the relationship between autonomy and job satisfaction is not significant indicates that the relationship between autonomy and job satisfaction is indirect, through organizational commitment, rather than direct.

As expected, the relationship between affective commitment and job satisfaction was positive and significant ($p<0.01$), supporting Hypothesis 7, that organizational commitment will be positively associated with job satisfaction. This is consistent with a wealth of prior research that has consistently reported significant relationships between the two variables, indicating that more committed employees are likely to report higher levels of satisfaction with their job than less committed employees.

Squared multiple correlations (R^2) for each dependent variable are shown below in Table 11.2. Table 11.2 indicates that the model has very good explanatory power, explaining 37.7 per cent of the variance in organizational commitment, and 40.7 per cent of the variance in the ultimate outcome variable, job satisfaction.

Table 11.2: **Squared Multiple Correlations (R^2) for the Model**

Variable	R^2
Commitment	37.7%
Job satisfaction	40.7%
Competence	7.1%
Meaning	10.6%
Autonomy	13.0%
Impact	6.1%

Discussion

As predicted, psychological empowerment provides an important mediating role between the constructs of supervisory social support, organizational commitment and job satisfaction. The results of this study suggest that the relationship between supervisory social support, attitudes of employees towards work and work outcomes are complex. The results show that organizational commitment has an important mediating role between two of the cognitions of empowerment (that is autonomy and meaning) and job satisfaction. Therefore, as employees' affective commitment increases, perceived autonomy by the subordinates has an indirect relationship with job satisfaction. Among the direct effects, the link between supervisory social support and the four cognitions of empowerment may be one of the most important contributions of the paper. Several researchers have argued that the leader or supervisor has an important role in the empowerment of employees (House 1977; Lawler 1986). With the trend towards high-commitment and involvement-based models of management, the role of supervisory social support is critical in the empowerment of employees. Given that research has highlighted the beneficial outcomes of empowerment: creativity (Ramus and Steger 2000); innovation (Spreitzer 1995); and effectiveness (Conger and Kanungo 1988; Kirkman and Rosen 1999) these results have important managerial implications.

These findings suggest that within the South East Asian context, the role of supervisory social support is a factor in propagating feelings of empowerment amongst employees. Given the growing importance of high-tech and service industries in South East Asia, empowering employees will be critical to competing in the market place. Supervisors have to be more communication-minded, sensitive to the needs of subordinates, be willing and empathetic listeners and be approachable and understand-

ing. Traditional arguments (see Hofstede 1980) have suggested that South East Asian employees are less likely to value and seek greater autonomy. However, our findings suggest quite the contrary. The South East Asian employees in our sample that possessed feelings of autonomy and meaning had higher levels of affective commitment and consequently job satisfaction.

Managers, such as parent company nationals, need to consider the importance of social support given the cultural significance of paternalism and personalism throughout Pacific Asia (Pye 1985). Paternalism, for example serves to maintain sensitivity to hierarchy (Hofstede 1980) and the maintenance of social order via micro units of society such as families, rather than institutions such as universal law. Personalism involves emphasis on interpersonal trust, harmonious relations, avoidance of conflict and sensitivity to 'face'. To maintain a good face means to stay trustworthy and to honour obligations in one's social and economic transactions (Redding and Hsiao 1990). Chew and Lim (1995) have observed that enduring values such as loyalty, paternalistic authority, cohesion, and altruism have manifested themselves in the approach towards role relationships within work organizations in modern times.

Another important finding of this research suggests that creating feelings of autonomy and meaningfulness amongst employees may intensify affective commitment. Therefore, these two cognitions of empowerment may highlight some of the important determinants of high-commitment based models of management (Walton 1985). Within the context of South East Asian white-collar professionals, designing jobs that have the latitude for self-determination and are meaningful to the incumbent are important steps in building commitment-based management. These results have been echoed by a number of Western researchers (Hackman and Oldham 1975; Mathieu and Zajac 1990; Mottaz 1988).

In terms of cultural and contextual idiosyncrasies, the results of the PLS model are generally supported by the disparate findings of a number of other studies that have been conducted in Western settings (Hackman and Oldham 1975; Spreizer 1995; Liden, Wayne and Sparrowe 2000). The congruent nature of these finding with those conducted within a Western setting are supported by the work of Hulin (1991). Evidence on item bias and item relevance obtained in cross-cultural studies of work affect and motivation from Western and non-Western cultures suggest that assumed cultural universality is at least a good starting point (Hulin 1991). Our results echo this observance. The central argument of Hulin (1991) is that job characteristics considered satisfying in one culture are generally regarded as satisfying across a variety of other cultures, often to the same degree based on results of instruments translated into the appropriate

languages. According to Hulin (1991, p. 457): 'significant differences in job satisfaction among a sample of job incumbents in terms of work role affect may be carried in the job characteristics, even cross-culturally; social information may merely reinforce positive and negative interpretations of events and characteristics already found to be satisfying or dissatisfying by job incumbents.'

The limitations of this study provide several suggestions for future research. First, this study uses cross-sectional data – which is merely a 'snapshot' at one point in time. Therefore, no statements about causation can be made. A longitudinal research design, investigating causality and the duration of psychological empowerment is clearly an important advance. A longitudinal research design would help in assessing the causality of the relationships identified in this paper (for example affective commitment may enhance a sense of psychological empowerment). Second, a number of important variables have been omitted in this study. Organizational commitment, for example, is a multi-dimensional construct (see Meyer and Allen 1997, for a review). Further research could focus on the relationship between the antecedents of commitment identified here, and other forms of organizational commitment, such as continuance, normative commitment and dual commitment. Third, future research directions should involve greater cross-cultural emphasis, as we recognize the inherent limitations of transferring organizational theories across cultures. Moreover, larger samples may have enabled us to compare across the three countries, Malaysia, Singapore and the Philippines. As has been noted in recent management theory (for example Dorfman 1996), that what works in one country may not necessarily work in another culture. Future research should attempt to make comparisons between cultures concerning psychological empowerment and other management constructs (Spreitzer 1995). Fourth, given the specific context of this study, one organizational setting, the issue of generalizability is a further limitation. Further research should focus on exploring empowerment across different organizational contexts and organizational participants because respondents in this study may have been sensitized to empowerment issues. It is particularly important to examine empowerment across levels of the organizational hierarchy in more demographically diverse settings (for example not-for-profit organizations and the public sector) (Spreitzer 1995).

Understanding how supervisory social support may empower employees and lead to greater organizational commitment and job satisfaction is the central challenge of this research. Herein we suggest that the role of supervisory social support in the empowerment of employees has generally been neglected in the literature. We further suggest that, super-

visory social support may lead to workplaces that empower and satisfy committed employees. This research contributes to the management literature by providing a holistic model of previously disparate management research and empirically testing it with a sample from South East Asia using PLS. It is our hope that this exploratory study stimulates further research in empowerment in South East Asian workplaces.

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12 A View on Changes and Challenges in East Asia

René Haak

Let me begin this last chapter of this volume with the economic region: Asia, more precisely East Asia, the focus of the following discussion. East Asia, understood here as the geographical region stretching from the Kuril Islands in the North to the Indonesian archipelago in the South, is still considered today as one of the less advanced regions of the world compared to Western Europe and North America from an institutional point of view. Particularly in direct comparison with Europe's spectacular progress in achieving integration over recent years, East Asia still presents a very narrow spectrum of regional organization and collaboration (Buzan and Segal 1994). Using Europe as a reference point seems difficult as the regions have completely different premises but it help to unterstand the changes and challenges in this region.

Europe and East Asia are characterized by completely different political circumstances (Arndt and Pflüger 1995). Immediately after World War II, Europeans began to reappraise the past and draw far-reaching political and social conclusions which still now determine the actions of the European states. Particularly France and Germany, but also the Benelux countries and Italy made efforts early on to achieve a new order in Europe with the goal of safeguarding human rights, democracy and the rule of law (Hrbek 1993). These states came to the conclusion that European integration would promise more success in the achievement of this goal and in preventing totalitarian and authoritarian tendencies than would isolated efforts within a narrow national framework. In a Europe still suffering at first hand the effects of the dreadful experiences of World War II, union was also considered an effective way of keeping Germany under long-term control.

In the East Asian region there has been no comparable cross-border political or historical reappraisal with all that that implies economically, socially, corporately and culturally. On the contrary, the East Asian states are observably in a process of national self-assertion, which manifests itself not least in high regard of their national sovereignty. These states are therefore not prepared to cede national rights to supranational organizations. In addition, there is still a great deal of political resentment towards Japan, as there has not yet been a comprehensive reappraisal of its past as

a martial and colonial power (Böhn 1992; Platz and Rieger 1996). These subjects have been aired politically and addressed publicly in Japan only lately, when for example on the occasion of the 50th anniversary of Japanese surrender on August 15 1995, the head of the Japanese government at that time, Murayama, expressed his regret for the horrors of World War II, and in recent excursions into foreign policy on the part of the current Prime Minister Koizumi.

Even though in many states in the East Asian region, flexible pragmatism seems to be the order of the day, and there is less concern with accounting for the past in routine business, Japan's historical legacy remains an obstacle to a far-reaching process of integration (Pohl 1994). There are reasons other than history for the low level of integration in the region that originate in the socio-cultural, religious, political and economic differences between the countries.

Politically, the region spans democracies such as Japan, South Korea and Taiwan, authoritarian regimes such as Indonesia and the Philippines and totalitarian states such as China and Cambodia (Binderhofer, Getreuer-Kargl and Lukas 1996; Dürr and Hanisch 1986). Japan has had a democratic constitution since 1947, but democracy in other states in the region (for example South Korea, Taiwan and the Philippines) is still very much in its infancy and, in Western European understanding at least, not at all sound. The political unrest in recent years in Indonesia and in the Philippines, the treatment of the opposition in Malaysia and the violation of human rights in many East Asian states (for example in Laos, China, Myanmar and Cambodia) make integration of the states and political contact between them extremely difficult.

The religious situation in the East Asian region is also heterogenous: Muslims in Indonesia, Buddhists in Thailand, Atheists or Confucianists in China, Christians in South Korea and in the Philippines and Shintoists in Japan are just a few examples (Bechert and Gombrich 1995; Edsman 1976; Weggel 1989). No other region of the world, Latin America, Europe, North America, nor even Africa can boast such variety. A clash between different Asian ideals and social models originating in the political, social, religious and historical areas of conflict is not impossible (Huntington 1994). For example, the ASEAN states still harbour considerable resentment towards China, which with its economic development over the last twenty years has been able to resume its role as a major power (Hilpert and Haak 2002). The rise in the Chinese defence budget and Peking's claims to the Paracel and Spratly Islands which are also claimed by ASEAN members are indicators of future conflict. The Taiwan issue is also far from being clear and military threats by the People's Republic of

China in the Taiwan Straits are putting a further strain on moves towards regional integration.

There are other economic and political factors that stand in the way of regional integration. Economic growth in the Asian countries is based largely on successful exporting. Japan is very worried that increased regional integration in East Asia would partition off the trading blocks EU, NAFTA and the potential East Asian block from each other and create exclusive groups (Hilpert 1993).

If this partitioning does come about, external trade in the East Asian region would develop into a zero-sum game as all the exports and imports would be taken by countries in this region. Growth supported by exports would therefore no longer be possible. Japan in particular, which has already been plagued with serious economic and structural problems for more than ten years would, as a largely export-oriented country, suffer. The growth engine of export, already weakened, would fail and the difficult situation in Japan, which stagnating domestic consumption is doing nothing to help, would become even worse. Against this background, attempts by the Japanese economic and foreign policy makers to use APEC (Asian Pacific Economic Cooperation) as an instrument and to promote the liberalization of commercial policy which is also desired by the WTO (World Trade Organization) are understandable.

Another economic problem is the widespread protectionism in the region. In each of the countries which are all at very different stages of economic and social development, the amount of protectionist activity varies (Dieckheuer 1995). The introduction of a free trade zone in the region would result in the profits from the increase in trade effected by a reduction in duty flowing mainly towards the more prosperous countries. They have always had relatively open trade connections and would only suffer small losses in income from duty (Hilpert 1993). This background makes sense of the recent free trade agreement between Japan and Singapore, which on the basis of their per capita gross social product are two of the richer countries of the region, and clearly leaders. Singapore leads in East Asia as a metropolis of service and trade and Japan in East Asia, as the second largest industrial nation in the world. We will see new free trade agreements between Japan and other nation in the near future.

Even if the reasons given do not exactly accelerate formal integration in East Asia, there have been particularly in the last ten years, signs of development in the region quickly making up ground, focussing mainly around ASEAN (Association of South East Asian Nations) ASEAN was created in 1967 in Bangkok (Rüland 1995). The five founding states were Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei

became a member on 8 January 1984, Vietnam on 8 July 1995, Laos and Myanmar on 23 July 1997 and Cambodia on 30 April 1999. The founding statement, the Bangkok Declaration of 8 August 1967 gave the three fundamental goals of the association:

> '1. To accelerate the economic growth, social progress and cultural development in the region through joint endeavours in the spirit of equality and partnership in order to strengthen the foundation for a prosperous and peaceful community of South-East Asian Nations;
> 2. To promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries of the region and adherence to the principles of the United Nations Charter; [and]
> 3. To promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields; …'
> (http://www.aseansec.org/history/asn_his2.htm).

These goals would indicate that the focus of the joint policy is economic and cultural. However, evaluating ASEAN against its own targets shows that its achievements in these two central areas of policy, economics and culture, might be considered meagre. When ASEAN was founded, it was impossible not to take historical circumstances into account; after the fall of Indochina, the fear of more communist attacks in East Asia worsened. This fear became manifest when, in 1971 in Kuala Lumpur, four years after the foundation of ASEAN ZOPFAN (Zone of Peace, Freedom and Neutrality) was launched as a security policy concept; here, neutrality signified mainly the absence of influence of foreign states in the region (Feske 1991). To overstate the case, in its initial stages, ASEAN was an anti-communist association looking for wide support from the West (Schütte and Lasserre 1996, p. 13).

The foundation of ASEAN should however also be seen in the context of an early wave of 'Third World regionalism'. In East Asia, indeed, in the whole of Asia, ASEAN was the first subregional co-operative association to include neither established nor newly industrialized countries, but developing countries exclusively. Buzz words such as 'south-south co-operation' or 'new world economic order' associated with fantastic ideas about dissolving asymmetrical distribution of power between the rich countries of the North and the poor countries of the South defined the spirit of much development and regional political discourse (Rüland 1995).

Nine years after Bangkok, regional integration received new impetus, which was motivated primarily by security policy. On 23–24 July

1976, the first meeting of the heads of government of the ASEAN states took place on the Indonesian island of Bali. At this first ASEAN summit, an agreement, the Treaty of Amity and Cooperation in South East Asia, TAC, and a framework agreement on an action program (Declaration of ASEAN Concord) were signed. A closer look at these documents reveals:

- 'An agreement on mechanisms to deal with conflict peacefully;
- the explicit renunciation of threats or the use of violence;
- the establishment of a 'High Council' to deal with conflict by regional trials;
- the intention to carry out major projects jointly;
- mutual guarantee of duty relief by creating a Preferential Trading Arrangement, PTA;
- the establishment of a central ASEAN secretariat in Jakarta' (Stahl 2001, p. 25).

A year later, regional co-operation was strengthened particularly as regards economic policy. At the second ASEAN summit, 4–5 August 1977 in Kuala Lumpur, the association responded to the difficult economic situation world-wide with comprehensive resolutions including a rice reserve, an oil regulation programme and a swap arrangement where there were problems with the balance of payments. Intensive collaboration with neighbouring states and with the European Community were also decided.

During 1976 and 1977 the direction for regional integration was essentially laid down, but no significant changes took place for several years. The third ASEAN summit did not take place until ten years later, from 14–15 December 1987 in Manila. However this was disappointing in so far as no further steps towards integration were taken. Limited progress was made in key points such as institutional reforms, integration of economies and economic policies and joint defence.

Another five years passed before the fourth summit was held in Singapore in 1992. ASEAN aims were widened to include the Singapore agreement. In the three central documents (1. Singapore Declaration, 2. Framework Agreement on Enhancing ASEAN Economic Co-operation, 3. Agreement on Common Effective Preferential Tariff (CEPT)) the states in the association agreed to widen collaboration in matters of security, to strengthen the ASEAN institutions and to set up a free trade zone in East Asia – the Asian Free Trade Association (AFTA) – which would reduce duty step by step over 15 years to 0 to 5 per cent for all industrial goods and remove non-tariff obstructions to trade (Erdmann and Kreisel 1994; Freiwald 1996).

The economic success of the ASEAN member states, illustrated in the 1970s and 1980s by average growth of 7 per cent annually in the national gross domestic product, was only the result of regional collaboration in that the joint security policy ensured political stability (Uhlig 1992). It was mainly the efforts of individual member states of the association which were responsible for the growth and less so the agreements within the framework of the Asian Free Trade Association.

Part of the success story of ASEAN is that after years of effort to create a nuclear weapon-free zone in South East Asia, at the fifth summit conference in December 1995, the Treaty on the South East Asia Nuclear Weapon-Free Zone (SEANWFZ) was finally implemented. The signatory states declared themselves willing to renounce the development, the construction and the purchase of atomic weapons. However, it should be noted that still up to the present day, each state is free to accept ships or aircraft equipped with nuclear weapons from other states in their own sovereign territory, which is not completely in line with the theoretical concept of a nuclear-free zone.

The path towards peace and stability in South East Asia which started in 1992 in Singapore continued with the ASEAN 2020 vision which was agreed at the informal summit in Kuala Lumpur in December 1997. The following is a précis of the declarations of intent and the goals: peace and stability in South East Asia with peaceful resolution of conflict; the development of a partnership for dynamic development and reduction of economic differences between the states and the establishment of a association of humane societies. The 'Hanoi Action Plan' and the 'bold measures' agreed at the sixth ASEAN summit on 16 December 1998 in Hanoi targeted primarily an economic revival of the region following the crisis in Asia in 1997–8.

These agreements can be characterized more or less as an ad hoc programme intended to return the states to steady growth. It is considered that economic growth is the necessary prerequisite for modernizing the countries and creates the necessary framework conditions to allow all the ASEAN states to make up ground. At the end of the 1990s the economic objectives were given priority over the efforts to achieve integrated security. At the third informal summit in Manila in November 1999, this trend was underlined when no more objectives for security policy integration were set. However, at the 34th ASEAN foreign minister conference in Hanoi, the positive progress of the ASEAN forum, particularly the ASEAN Regional Forum (ARF), in the security dialogue for East Asia was highlighted and the significance of ASEAN for security policy integration was further reinforced.

In the 35 years that ASEAN has existed, it has been more successful in security policy than in economic policy. Early on ASEAN was concerned to find a way to calm the initially very tense relationships between the member states. Whereas from the beginning of the European integration process, regional exchange of goods together with the political motives for integration were of great importance (particularly for Germany: Europe was its most important market after the USA) in South East Asia, it was more the decisions on security policy which had an integrative effect. Peace in large parts of South East Asia, long-awaited particularly in Vietnam and Cambodia, represented one of the most important mainstays for the dynamic development of the economy in the ASEAN countries and their integration in the global economy.

Key impulses for favourable economic development in the ASEAN countries were provided particularly by Japan, as an advanced industrial state. In the mid-50s, Japan began its dynamic rise to becoming the second largest industrial nation in the world, proving spectacularly that it was possible to make up ground in industrialization. Japan was elected as a model for economic development by Malaysia amongst others. 'Look East' was one of the key slogans which the Malaysian Prime Minister Mohammed Matahir frequently used in his modernization propaganda, shunning the Western development models in favour of recipes for success from Japan. Even though the Japanese business models became less celebrated in the 90s, Japan's leading economic position in East Asia is undisputed. With only 7.5 per cent of the population, Japan made around 60 per cent of East Asia's gross domestic product. Japan's leading role in the region can be illustrated with the 'flying geese' model.

The model describes the regional economic interdependencies of East Asia, which resemble a staggered chase in which Japan is pursued by the Newly Industrialized Economies (NIE) – Singapore, Hong Kong, South Korea, Taiwan – these by the ASEAN states and the ASEAN states by China. The countries all entered the phase of industrial development at different points in time: in Japan this was in the 1920s and 1930s, in the NIEs it was in the 1970s, in the ASEAN states it was during the 1980s and for China it was the end of the 1980s. This has resulted in a dynamic mix of development in East Asia which did not stop completely in the Asia crisis in 1997–8, but was merely interrupted.

The flying geese model assumes further that countries in a certain stage of development can only produce those products which are appropriate for the capital and technology with which they are equipped. Technologically more complex products and the necessary means of pro-

duction associated with them must be imported from countries in front of them in the model and therefore on a higher development level. In a countermove, the countries that are not yet quite so well developed export more labour-intensive products into more developed countries as they can manufacture them more cheaply with their lower wage costs and associated outlay (Böhn 1992, Pohl and Weggel 1984).

As a country develops, the availability of capital, human resources and technology improves so that it can manufacture higher value products and control the appropriate production processes (Schütte and Lassere 1996). As the wage costs in this country are still relatively low however, it gains competitive advantage over the country on the next higher level of development and is able to force it out of its traditional product ranges. However, as the country in its turn is forced out of production in some areas by countries on lower development levels, there is a shift in each position in the model overall. Each country therefore has its own fixed place within the model with the prospect of going through the same development processes as countries on higher levels. Due to the different developmental stages and the associated competitive advantage for each country, division of labour over the region is pronounced. Associated with this is the intensification of intraregional trade and intraregional direct investment, which again is growing much faster than the exchange of goods and capital with other regions.

In the flying geese model, Japan will always be out in front with the leading economic role in East Asia. However, the condition for this is that the technology transfer from Japan to the other East Asian countries only takes place with a definite time offset. If, for example, the NIEs were able to use modern information systems to catch up with Japanese industry more quickly, Japan's position out in front would be under threat. Therefore, it would seem more sensible from the Japanese point of view to keep the management of their industrial 'transplants' in the other countries in the region Japanese and only outsource those areas of the company which are not involved in the development of new products or manufacturing technology. This keeps the industrialization and development process in the East Asia region largely dependent on the development process in Japan, unless European and American companies strengthen their involvement in the region should their strategic situations or economic objectives change.

Comprehensive economic integration in this region would eventually reduce the heterogeneity of the countries and make Japan's strategy of maintaining its leading role much more difficult. One should also not forget the 'little tigers' – South Korea, Taiwan, Hong Kong and Singapore

which since the 1960s have shown impressive development in industry and services and have made their influence felt in East Asia (Gaffga 1996; Hilpert and Haak 2002).

In addition, China's boom since the early 1980s has brought an enormous economic dynamic to the region. Both in international business and in international economics, it is widely recognized that the current rise of China has wide implications for the international economic and political order in general and for the East Asian region in particular. The states in the region are facing the challenge of an economically and politically successful China. China's industry with its low sales prices and its improving product quality, is set to become a major competitor in global manufacturing products' markets, including the Japanese domestic market, which is quite a worrying prospect for Japan's economic and political elites. On the macro level, China is challenging Japan as East Asia's center of economic gravity in terms of production and markets. In the 1990s, China initiated a new phase of regional business co-operation. Even though this new trend was mainly launched and promoted by Japan and Australia, ASEAN played a key role in a formal sense.

From the point of view of ASEAN there were primarily two trends which gave efforts towards multilateral co-operation and integration new urgency: the American retreat from the region (unification of Vietnam, withdrawal of American military from bases in the Philippines in 1992) left a power vacuum which gave rise to old and new concerns and fears regarding the hegemonic ambition of Japan and China. Furthermore, from the point of view of ASEAN, at the beginning of the 1990s, global tendencies to form political trade blocks increased. The East Asian states saw here the danger of losing important export markets in North America and Europe (Maull and Nabers 2001), which was equivalent to losing one of the central catalytic functions for increasing industrialization or in more general terms for the modernization it required. For the ASEAN member states, symptoms of this block building tendency were particularly apparent in the European Union's plans for a single domestic market and in the formation of NAFTA.

How did ASEAN respond to these changes? From the economic policy point of view, the association relinquished its reservations on the concept of East Asian-Pacific economic co-operation. In 1989, it agreed to the foundation of APEC (Asia Pacific Economic Cooperation) which was promoted by Australia (Hilpert 1992). 1992 can be seen as a turning point in terms of both security policy and the economy. At the fourth ASEAN summit in Singapore, discussion on security policy was widened as part of the ASEAN Regional Forum as was the attempt at economic co-

operation within the member states based on a free trade zone, the ASEAN Free Trade Area (AFTA).

In the context of this development, institutionalized political integration emerged in both economic and security policy. These included APEC mentioned above (founded 1989, 1991 summit), the East Asian Economic Caucus (EAEC), which began in 1991 as the East Asian Economic Grouping and since 1997 has been organized as the ASEAN+3 meeting initially for foreign ministers and then as an annual summit for the heads of state and government of the ASEAN member states with China, Japan and South Korea (Korhonen 1988). Furthermore there is KEDO (Korean Peninsula Energy Development Organization), founded in 1996 and ASEAM (Asia Europe Meeting) also since 1996.

What brought about these East Asian co-operative processes? It seems that with the exception of KEDO, they were triggered by economic involvement on regional and transregional level (Maull and Nabers 2001). Transnational and multinational companies from Japan with their internationally networked company structures (keiretsu), overseas Chinese companies in trade and investment and also Korean mixed conglomerates (chaebol) and internationally active Taiwanese groups drove the forms of horizontal and vertical division of labour in East Asia on (Schütte and Lasserre 1996, pp. 65–90). In addition to company networks, the role of networks of scientists, politicians, journalists and business associates should not be underestimated in their efforts to breathe life into and drive on regional co-operation and integration. Since the 1960s, a number of unofficial discussion forums have emerged, where scientists, business associates and journalists talk to government representatives about co-operation issues in East Asia. The most important forums are the Pacific Economic Cooperation Conference (PECC), which lead to the foundation of APEC and above all the Council for Security Co-operation in Asia-Pacific (CSCAP), which complemented the ASEAN Regional Forum in the area of security policy.

On the whole, economists still dispute the value of informal business integration and the tendencies towards political co-operation and integration (regionalization) in East Asia. For instance, ASEAN is frequently held up as a example of the success of interstate co-operation outside of Europe; however a number of experts doubt the durability of these relationships. Some scientists tend to decry the organizational forms of collaboration on security and economic policy that have emerged over the last ten years as talking shops and grant them only little influence in the increasing stability in East Asia and particularly in the ASEAN states (Maull and Nabers 2001). Other authors, on the other hand, including acknowledged international economists, stress the enormous capacity to

learn of the countries in East Asia which the impressive economic growth rates over the last few decades have proven. They argue that East Asia on the basis of this proven capacity for learning and the development of regional co-operation with formal integration could catch up with West and possibly overtake it (Bergsten 2000).

However, it is difficult to share this optimistic assessment. A striking example: the Asian crisis, which started in July 1997 with the devaluation of the Thai Bath and gradually died away in 1999, clearly showed the structural problems with interstate co-operation in East Asia. The economic and internal political difficulties experienced by most of the founder members of ASEAN during the Asia crisis and the expansion of ASEAN at the end of the 1990s to include three very troubled members, Myanmar, Cambodia and Laos created an additional burden for the co-operative negotiations of the association. New regional and transregional co-operation processes must be put on a broad and solid basis so that crisis events in the region can be dealt with. Without international help, the Asian crisis would not have been overcome so quickly.

Whilst in Europe, for example, the level of integration rose considerably with the agreements in Maastricht, attempts at integration in East Asia happen on a much lower level. The conditions for East Asia becoming a single integrated area are already unfavourable given the heterogeneity discussed above. In Europe, almost two thousand years of shared culture and geographical proximity have produced an almost homogenous entity in comparison to East Asia. In recent years, European integration has been balanced. Despite the North-South divide that exists in the European Union, the range of economic power is much smaller than in East Asia. The political, cultural and economic differences in East Asia must be seen as a serious obstacle to an integration process comparable to that in Europe. A single currency, even it were to be seriously considered by the East Asian states, is a long way away. A JPY block would not be acceptable to many countries for historical reasons. There would be no point in having a single currency without China as the second most important commercial and industrial power in the region and without the economic potential of the overseas Chinese (Hilpert and Haak 2002).

The existing commercial ties, co-operative and integrated areas in East Asia are currently characterized by informal organizational structures. Co-operative ventures in East Asia have therefore fundamentally a different quality from those in the early stages of the European Union. The unwillingness on the part of individual countries in South East, and also in North East Asia to cede their national rights as sovereign states to a supranational organization is the key reason for the low

level of institutionalization in Asian economic relationships. One of the consequences of this is that decisions are frequently made on the basis of the smallest denominator as all member states must agree. Fundamental structural reform and real turnarounds in economic, currency and security policy leading to closer co-operation and wider integration should not be expected in the near future.

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