EUROPEAN AND JAPANESE LOGISTICS PARADIGMS

AN EXPLORATIVE AND COMPARATIVE STUDY OF THE DYNAMICS OF LOGISTICS MANAGEMENT

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European and Japanese Logistics Paradigms

An Explorative and Comparative Study of the Dynamics of Logistics Management

Europese en Japanse logistieke paradigma's
een exploratieve en vergelijkende studie naar de dynamiek van het logistiek management

Thesis

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by

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To Miharu, Maki, Maya and Keita

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Preface

Five years ago, I stepped into a different world that I had never lived in. From shipping and logistics business to academia, my life made a complete change at the age of fifty. In Japan, it is rare that a businessman turns into a teacher and researcher halfway through his career.

As I had worked for the same Japanese company for more than a quarter century and often moved around across divisions, I thought that my life might well be planned and decided by myself, as to where to live and what to do, from a certain age onward. The chance came up when my two-year assignment completed at the logistics service arm of the company in the Netherlands in 2000. I decided to leave the company and bring that idea into practice.

Reading and writing all the time was not easy for a person who had lived in the battle fields of business for long. However, I knew that there was an abundance of knowledge accumulated in business practice, which is used only for that particular organisation, without being shared widely by those who need it. It is especially the case in Japan. If someone made an adventure to assume the task to build a bridge between business and academia, the work would be an effective stimulant for improving the management of economy. I had ambitions to become a contributor to that work.

Flow of goods is a collection of economic activities. It is contained in the complex system of the globe. Adam Smith (1776) said that division of labour brought forward economic development, and it is further accelerated by the use of sea transportation. The invention of steam engine, which enabled the development of steam locomotive and steamship soon after Smith wrote, and the succeeding advent of internal-combustion engine, made Smith's argument solid and definite in the form of economies of scale.

Economy has recently increased its scope of transactions on a global basis, and countries with vast population, such as China and India, are raising the tempo of economic growth to become the members of affluent society sooner. Flow of goods is exploding, whether it is raw materials or manufactured products. The structure of supply chain is evolving all the time.

Until now, little study has been done on how differently people react to the logistical circumstances. It has been generally observed that European and Japanese logistics practices are different. However, people has not investigated in depth how and why they are different. I took up this problem as my research project in view of the fact that I was one of the few persons who lived in both regions and had experiences both in business practices and researches.

Special attention was paid to the background of the difference of paradigms. This has compelling reasons for me to review a wide range of disciplines such as economics,

general management, human resource management, history, social anthropology, religions etc. in addition to logistics.

Time constraint always interfered me to do sufficient study of previous work in each discipline so as to hummer out propositions concerning new aspects in the field of logistics. I hope this thesis will serve as a trigger to open discussions of logistics paradigms in various areas of the world.

My research work proceeded under the supervision by Prof.dr. H.B. Roos and Prof.dr. J.A. Stam at Erasmus University Rotterdam. The opportunity to undertake the research at the university was offered through Prof.dr. J.A. Stam. I made my first contact with him by recommendation of the key members of Rotterdam-Japan Club. It was the start of my five-year relationship with the university. I can never overstress my gratitude to Prof. Stam for his kind support and personal assistance. I later met Prof.dr. H.B. Roos for the first time at the promotion ceremony for one of my colleagues. Instinct told me that he would be my life long teacher in logistics. I thank both professors for their kindest supervision and advice extended to me.

Professors H. Haralambides, P. Hesseling, R. de Koster, and H. Molenaar gave me excellent advice and warm-hearted support. I would also like to pay tribute to Professors T. Imai, H. Kokuryo, K. Miyashita, T. Shimojo, Y. Yamagata, and N. Nishiguchi, my teacher at Osaka City University 33 years ago, who passed away last October.

In the course of my research, I was greatly influenced by the theories of J. Groenewegen and Y. Shiozawa, in institutional and evolutionary economics, I. Nonaka and T. Takeuchi, in knowledge creation, and K. Koike, in human resource development.

I was given continued cooperation in the surveys by AW Europe, Fuji Photo Film, Holland International Distribution Council, Japanese Chamber of Commerce in Amsterdam, J.F. Hillebrand, Kintetsu World Express, Mitsubishi Logistics, Mitsui OSK Lines, MOL Logistics, Sony Europe, Suntory, TNT Logistics, Versteijnen, Yamaha Motor Europe.

There are an uncountable number of people who kindly supported me in my research project both in Europe and Japan. Among those are the members of Holland Logistics Forum, a voluntary study group of Japanese logisticians in the Netherlands chaired by M. Terauchi of Nippon Express, the members of Rotterdam-Japan Club, and the members of Dutch Japan Round Table.

I am also grateful for the encouragement and support extended by my friends, S. Asano-Karelse, C. Blake, R. Erven Dorens, J. Fransen, J. de Goey, J. Hellman, C. Molthan, J. Sodderland, Michiyo Stam, K. Struijk, T. Tsutsumi, D. van de Velde, and the colleagues of the Capacity Group RHV of the Faculty of Economics at Erasmus University Rotterdam. I thank Marlies Vossen very much for all the cumbersome administrative work

for me up to the final stage of doctorate.

Since April 2004, I have been working at the School of Marine Science and Technology, Tokai University, Japan. I am indebted to the university and especially Prof. S. Ueno, the Dean, Prof. T. Matsuo and all the colleagues of my department for various kinds of support and assistance.

And last but not least, I must mention the special persons, my wife, Miharu, and our three children, Maki, Maya and Keita, who supported me all the time and encouraged me when I encountered difficulty to continue my work. Without their love, my work would not be completed.

Masato Shinohara

Shimizu, Japan
January, 200

CHAPTER 1

INTRODUCTION

1. Introduction

The Far East, as the word indicated, is at a far distance from Europe. Not only due to geographical distance but also to differences in the ways of thinking, which are deeply rooted in the ideas about life and values.

In 604 A.D., Japan promulgated its first constitution. It provided the basis of value system on which people would be expected to perform their daily economic and social roles. The foundation of the work ethic, which was incorporated in the constitution, is still relevant in many working places in the present Japan. The first article of the constitution says, "*Harmony is to be respected.*" It is different from the foremost principles that are upheld in the European societies. In Europe, more emphasis was placed on the wisdom to find the truth. Economics has assumed the maximisation of utility as a truth, which often causes contradiction of interests among economic actors. There, harmony is not an aim to achieve but is only a by-product of market mechanism in the form of equilibrium.

Adam Smith's (1776) truth was the power of market, which is an important stimulus to economic development. It is only possible by transporting goods. *Logistics* has existed since the primitive stage of human life. It started as *subsistence logistics*, which dealt with daily provisions and housing materials, and has been growing larger in size and longer in distance constantly to develop itself to *systems logistics* (Hutchinson, 1987). In this context, logistics has grown from daily household management to the social management of material flows. The development of logistics has been accelerated by the technological innovations and the collaboration of people. Nowadays, an excessive number of facilities, equipment, transportation modes and computer systems are utilised, and an uncountable number of people are involved in the processes to develop resources, make products, transport goods, store them, and distribute them to consumers. In order to cope with the uncertainty of the environment and consumer demand, buffers have always been necessary at various points of distribution channels. Even so, competitions require stock to shrink and lead-time to be shortened to the minimal level. Logistics is an art of availability, which is realised through the struggle between cost and customer service (Christopher, 1992).

Factors to affect the effective flow of goods are not only physical but also human. People in different places make decisions and work in different ways. The difference in ways of thinking tends to cause miscommunication and misunderstanding, which lead to a lack of trust between people and the inefficiency of logistics. Logistics may well be governed universally in a single method of management so that it can be improved in the same concept and value system. In fact, however, the state-of-the-art logistics management still varies much by firms, countries and regions. At every corner of logistics chains, people think, make decisions and prioritise actions differently to keep economy in complexity.

We attribute the source of diversity in practices to a difference of *logistics management paradigms*. We use the term 'paradigm' to be defined as a consensus of the general rules for solutions that the people in a specific field of science or profession share and follow (Kuhn, 1962). The logistics management paradigm is, thus, defined as the framework that people commonly share as the general rules for solutions for a better logistics. Logistics management has been developed in accordance with a certain paradigm. So far, "the leaner and faster, the better" is thought to be a commonly shared paradigm. At the same time, as the movement of goods is rapidly growing and developing across borders and continents, it is becoming an imminent concern of the present generation to achieve more effective flows of materials and goods with less waste of natural resources and human efforts. Therefore, logistics is more and more exposed to the consequences of the difference of cultures and the behaviours of the humans, which are indigenous to countries or ethnic groups. In the course of efforts being made for the optimisation of goods flows, this amorphous problem must be dealt with accurately and given a proper guidance.

The objective of this dissertation is to explore different ideas of logistics in different cultural settings. We will focus on the future direction of business logistics management.

One reservation to be made is that the nature of this kind of study does not give us the proofs of statements that are made in various stages of this dissertation. The behaviours of mankind in logistics, which is the main subject of this study, cannot be calculated or anticipated precisely in advance, as they vary much in different situations or by the interactions among the actors. Therefore, this dissertation is intended for categorisation as an exploratory study, which is to offer an additional perspective to the existing logistics theories.

This introductory chapter proceeds as follows. Section 2 gives a research focus of this study. In Section 3, the basic framework of analyses is presented. Section 4 shows existing general observations of stereotyped European and Japanese logistics management styles, which are to be examined and refined in the following chapters. On this basis, four

research questions are presented. Section 5 explains the research process. Finally, Section 6 presents a structure of this dissertation.

2. Research Focus: Logistics Management Paradigm

In this dissertation, we will cast a light on the neglected aspect of logistics; i.e. the influences of value system that the paradigm of logistics management relies on. Human resource management (HRM) has been recognised as a basis for achieving sustained success in business. However, there have been few systematic studies assessing HRM practices in logistics, particularly in conjunction with cross-cultural and international HRM variables (Geringer et al, 2002).

Researchers and practitioners alike have been searching for an efficient and effective way of logistics management. This is, without doubt, a central issue of the logistics studies throughout the world. However, the solutions that have been presented so far tend to focus on the designing of better systems and operational processes (Berglund, 1999). The concept of 'logistics integration' tends to focus on the technical side of the matter (van Goor et al., 2003).

Information and communication technology (ICT) is progressing day by day in the field of logistics, as well as in many other fields of business. Truly, the volume of goods flow is growing and the speed at which they move is increasing. Stocks are also being squeezed as lead-time is shortened to the minimum. Without innovation in ICT, no better logistics can be achieved.

Nevertheless, logistics still have to rely on human resources to a great extent in order to achieve better collaborations in supply chains and smooth operations. There, we encounter various challenges. Managers may be looking only at the job territories of their own. Office staffs make mistakes at each point of acquiring information, transferring it to someone else or putting it into the central database. Floor workers may be unaware that the accumulation of mistakes and damages they make everyday is causing enormous logistical inefficiency in the supply chains. These perception gaps in logistics are more inconceivable and difficult to sort out than the technical problems that can be solved by introducing ICT or handling equipment.

In this research we investigate this awkward dilemma. We have always referred to the question, "What is the objective of the development of logistics management?" This fundamental question diverges into "Why are we reducing stock and personnel, shortening lead-time, transporting longer distances, making transport means larger and so on?" These questions all concern the basic paradigm of business logistics management.

In our general observation we encountered different behaviours of people in logistics between Europe and Japan. As the difference seems deeply rooted, the two management methods are unlikely to easily converge. It seems that European and Japanese logistics are governed in accordance with different paradigms of logistics management. In this context, our central question is set out as follows.

Central Question: "What is the setting of contemporary logistics management and how do its paradigms evolve?"

Firms are involved in supply chains of various goods in one way or another. They are trying to improve the efficiency of material and product flows in the way such as cost reduction, shortening of lead-time, increasing frequency of deliveries, postponing of decoupling (Roos, 2000) etc. Supply chain management, which is professed to be pursuing a total optimisation of supply chains of goods, is, however, covering merely a limited scope of logistics when it comes to the real practices. Often, supply chain management is to manage the supply chains to maximise the profitability of a particular firm rather than to maximise the benefit of all the stakeholders of the chains. This indicates that logistics management paradigms, in other words a common understanding of how logistics management is supposed to be, are composed differently in the mind of each actor. There is not a universally recognised paradigm of logistics management yet.

When we consider the central question, this point serves as our fundamental perspective. Thus, we present the following proposition.

Proposition: The key to the establishment of universally shared paradigm of logistics management lies in the improvement of cross-cultural collaboration of the people in the supply chain.

This dissertation tries to clear the view of logistics effectiveness, focusing on the management of human resources and the paradigms underlying in the logistics management by way of comparing the logistics concepts and practices between Europe and Japan. They will be observed and analysed in an inter-disciplinary perspective.

3. Basic Framework of Analysis

Man has a freedom of will, thus his behaviours are inconsistent and unpredictable. As such, trying to explain economic activities and their effects on the society is different from explaining physical phenomena and tend to lack rationality. Karl Marx (1971a) contends

that the alienation of the will of labourers from the production system becomes inevitable where the division of labour in production has been naturally developed, thus the mass of economic phenomena without the will of labourers becomes subject to certain natural laws. Henceforth, a scientific analysis of capitalism becomes possible. His theory is based on the framework where the upper structure (non-economic dimension of a society) is regulated by the lower structure (economic dimension of society), where the will of mankind is eliminated in his analysis. Therefore, according to Marx, recovery of the will of mankind necessitates the planning of social policies (Otsuka, 1966).

North (1997) sees the theories of Marx as follows: *Marxism was explicitly concerned with institutions, asked good questions, and had an explanation of long-run change, but the model had too many flaws. Making classes the unit of analysis and the failure to incorporate population change as a key to economics, the individual as the unit of analysis and the power of the economic way of reasoning. There had to be a way of melding the strengths of these diverse approaches into a theoretical structure. That is what others and I have set out to do in the new institutional economics.*

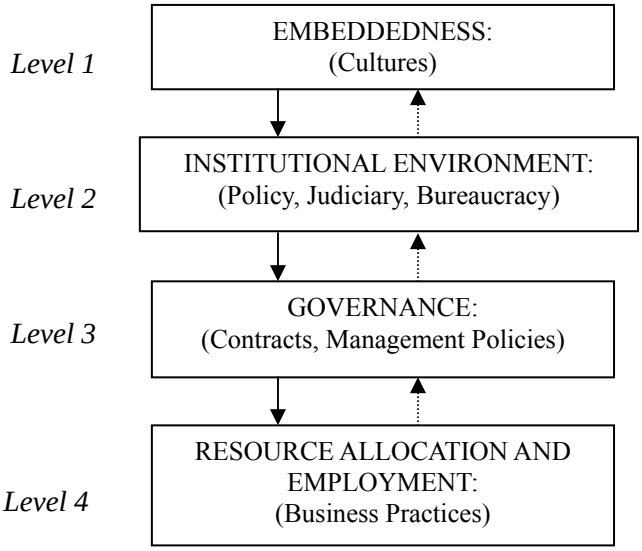
Max Weber, on the contrary, goes into the non-economic (cultural) dimension of the society and argues that its influences on the human decisions on economic activities are as large as vice versa. It means that the object of Weber's analysis is mankind, who exercises his own will when he acts (Otsuka, 1966).

How is mankind treated in the contemporary economics? There is an argument between the main-stream (neo-classical) economists and the institutionalists (and evolutionalists). The former see economy as the mass of individual wills, whereas the latter see it as the interactions of the wills of individuals and institutions. The argument centres on the viability of equilibrium theory, i.e. market mechanism or institutional evolution (Suenaga, 1960).

Here, in analysing logistics, we base our analyses on the complex system of logistics, which is constantly evolving; thus the supply of logistics service is asymmetric with the demand of the same. In this context, new institutional economics and evolutionary economics seem to offer useful tools for our analyses and explanations of the state-of-the-art logistics and the direction of its evolution (e.g. Coase, 1937; Williamson and Winter, 1991; Groenewegen, 1996; Shiozawa, 1997; Groenewegen and Vromen, 1999).

The following model of economics of institutions introduced by Williamson (1998) is useful as the framework of our study. (See Figure 1-1.)

Figure 1- 1 Economics of Institutions



Source: Williamson (1998)

Williamson drew this model to explain the role of institutions, which 'matter' much to understand variations of economic performances. As opposed to the Neo-Classical approaches to economy, which are concerned with the decision variables of price and production, the New Institutional Economics takes institutional environment and governance as its domain of study.

The Level 4 is described as '*resource allocation and employment'*, or more simply, business practices, where decisions on prices, quantity etc. are made in daily economic transactions. In the field of logistics, they are allocation of transportation means, location and volume of stocks etc. These business practices are directly regulated by the '*governance'* at Level 3; i.e. typically, contracts and management policies. It concerns contracts between logistics service providers and their customers such as manufacturers and distributors, and their policies of decision-makings. Governance is then influenced by '*institutional environment'* at Level 2; i.e. policy, judiciary and bureaucracy etc. They include national and international rules and regulations that constrain the flow and stock of goods. Institutional environment is generally and holistically affected by the '*embeddedness'* on Level 1; i.e. norms, customs, traditions etc., which are generally described as cultures (Hofstede, 1994). Logistics has traditionally been deemed to centre its embeddedness on the pursuit of efficiency of goods flows, which are naturally 'necessary evil'.

Over time changes are taking place in society. The duration of the change is different at each level. According to Williamson, Level 4 changes continuously. It changes every

second in some of the markets such as financial ones. Most other markets see daily variations in their transactions. Level 3 changes every one to ten years. Level 2 changes every ten to hundred years. Level 1, culture, changes over such a long span of time as one hundred to one thousand years. In this way, daily economic transactions are dynamically influenced by the various stages of exogenous factors (Williamson, 1998).

In this framework, it is emphasised that the four levels are mutually interrelated and influence each other. The values, norms and standards embedded in the mind of individuals interact with the value recognition of institutions to undertake daily decision-makings in the market, and the daily market behaviours contribute to structuring institutional environments and cultures in return.

This dissertation mainly deals with the interactions among the Levels 1, 2, 3 and 4. We hope to find a key to a better explanation of the determinants of paradigm, in which people struggle to optimise supply chains that they are engaged in.

4. Stereotyped Observation and Research Questions

Logistics has shown a similar development pattern both in Europe and Japan until recently. It is represented by transportation and storage. Until the industrial revolution, which took place in Europe in the 18th and 19th century and in Japan in the 19th century by introducing Western technology (Ishii, 1997), logistics had been relying on the natural power of mankind, animals, water and wind. Stocks were kept as close as possible to the consumers and users in small scales.

The industrial revolution changed the characteristics of logistics dramatically by the use of engines. The invention of powered transportation vehicles increased the distance and the volume of transportation, and the growth of factory production enlarged the size of storage.

Since the 1990's, the innovation of ICT has enhanced a dynamic evolution in the logistics sphere. As regards the software of the logistics management, contrary to the hardware as mentioned above, the situation has been different in the two regions.

At this very time of the formation of *systems logistics* (Hutchinson, 1987), diversion of logistics management became more obvious between European and Japanese methods.

There is apparently no record to show the differences between the two regions. However, it is commonly observed that there is something different in the way Europeans handle ICT in logistics compared to that the Japanese do. The followings are stereotyped views held by people.

Observation 1:

European logistics management stands on the concept of rationality and explicitness.

European logistics management looks logical. As it explicitly explains how supply chains can be rationalised for more efficient flows of goods, it is clear to understand and easy to implement.

Observation 2:

Japanese logistics management lacks efficiency and the clarity of standard.

Japanese logistics management is based on a mysterious standard. It is difficult to find out who make the rules and how they are observed. There are a lot of irregularities in the logistics practices. And yet it works!

Observation 3:

Japanese logistics management is not applicable to non-Japanese supply chains.

Because of the Observation 2, Japanese logistics management methods are applicable only to the Japanese. Although there has been a substantial contribution to the development of management methods in manufacturing from the Japanese automobile industry, such as automobiles, the Japanese logistics management has little to present to the non-Japanese.

Observation 4:

Japanese logistics management is being converted into the Western method.

European logistics management is more advanced than the Japanese one. In order to rationalise supply chains, the Japanese are adopting more of the European methods, and not vice versa. Therefore, the European logistics management still remain as the model for a better logistics in the future.

Whether the above-mentioned are relevant or not is difficult to judge. Often, arguments merely fall into the exchanges of view that are based on personal experiences and what people saw in practice. In the following chapters, we are investigating the relevance of

these general observations with more explicitness in various aspects. In order to do so, research questions are set out as follows.

Q1: Are there any differences in logistics management between Europe and Japan? If so, what are the differences?

Q2: To what extent do those differences exist? Are they attributable to the stages of logistics development, or based on the specificity of institutional environment and culture?

Q3: Are the differences widening or narrowing? What are the factors for it?

Q4: Is there a possibility that the different management styles can converge into a single universal paradigm? If so, what will it be?

These questions will be addressed in our research in the manner shown in the following section.

5. Research Process

The research is conducted in the following manner.

Literature Review

Logistics practices are influenced and directed by theories, which are presented from time to time by researchers, consultants and practitioners alike. Therefore, we first enquire into the history of development of logistics theories and the state-of-the-art management practices that are prevailing in the Western societies, and see if those theories are accurately explaining the actual situation of logistics and give appropriate suggestions.

Next, in taking logistics as *complex system*, we investigate relevancy of other disciplines such as, *inter alia,* general economics in the field of microeconomics, institutional and evolutionary economics, and the management theories in the field of human resource management and cross-cultural management. These related fields are expected to offer some new aspects for the analyses of logistics.

Observations and Theoretical Analyses

The stereotype of the difference of European and Japanese logistics management illustrated in this chapter is re-examined at this stage. A number of major factors are brought to light to provide more detailed explanation of the current status. A further study

is done to analyse the causes of the differences and interrelations between them.

First, logistics is examined from the economics perspective; i.e. a function of service and cost. We will investigate as to whether cost comparisons can contribute to assess the efficacy of logistics management or not. Second, we enter the aforementioned ambiguous part of analyses: i.e. the aspect of value system in terms of cultural specificity in logistics management. Special focuses are put on education and religion. These parts work as a core of the conceptual analyses making use of available theories and data in an interdisciplinary manner.

Third, differences and commonalities of European and Japanese logistics management are clarified in various aspects such as geographical, demographical, organisational, operational, conceptual and sociological ones. Then, we investigate the details of these elements. The results of those are further tested at the following stage.

Empirical Studies

The object of this research is the logistics management of Europe and Japan. However, within Europe we come across a great diversity of management methods by countries and regions. Therefore, our research will be focussed on the northern part of Europe, especially the Netherlands as a model, in the view that the country is widely recognised as the logistics centre of the region.

A combination of surveys by questionnaires and interviews was planned in consideration of the following elements.

a) Comparison of practices, concepts and management structures between Japanese and European business fields with respect to the logistics of manufacturing firms and the services provided by logistics firms.

b) Survey of the logistics management of Japanese firms in Europe.
This is to investigate how Japanese firms in Europe are trying to make a fusion of Japanese and European logistics management methods to achieve better-integrated cross-border logistics. If there are any difficulties, they will be clarified and categorized.

c) Comparison of human resources and value recognition by them in business management between in Japan and in Europe.
In a series of interviews with firms and surveys, we investigate the concept and practices of human resource management. Especially, focus will be put on the way intellectual skills are developed. By distinguishing what kind of notion the people

have for the ICT and the human resources and how much importance is placed on each of them, the relationship with each other in the logistics management will become clearer.

Syntheses and analyses

Through these surveys, challenges pertaining to the optimisation of logistics are clarified and sorted out into a number of categories. The impact of various regulating factors is evaluated. It includes daily working patterns of logistics, ways of communication, cooperation and supervision, training methods, decision-making processes, management involvement in operations, ways of quality assurance, employment system, personnel evaluation, promotion system, inter-company relationships etc. The cultural and institutional factors exerting influence on those managerial processes will be brought into consideration and analysis.

In doing so, the original observations are finally examined and the answers to the research questions are provided so that the dynamism of human resources, institutions and ICT may be clarified and explained.

Outlook

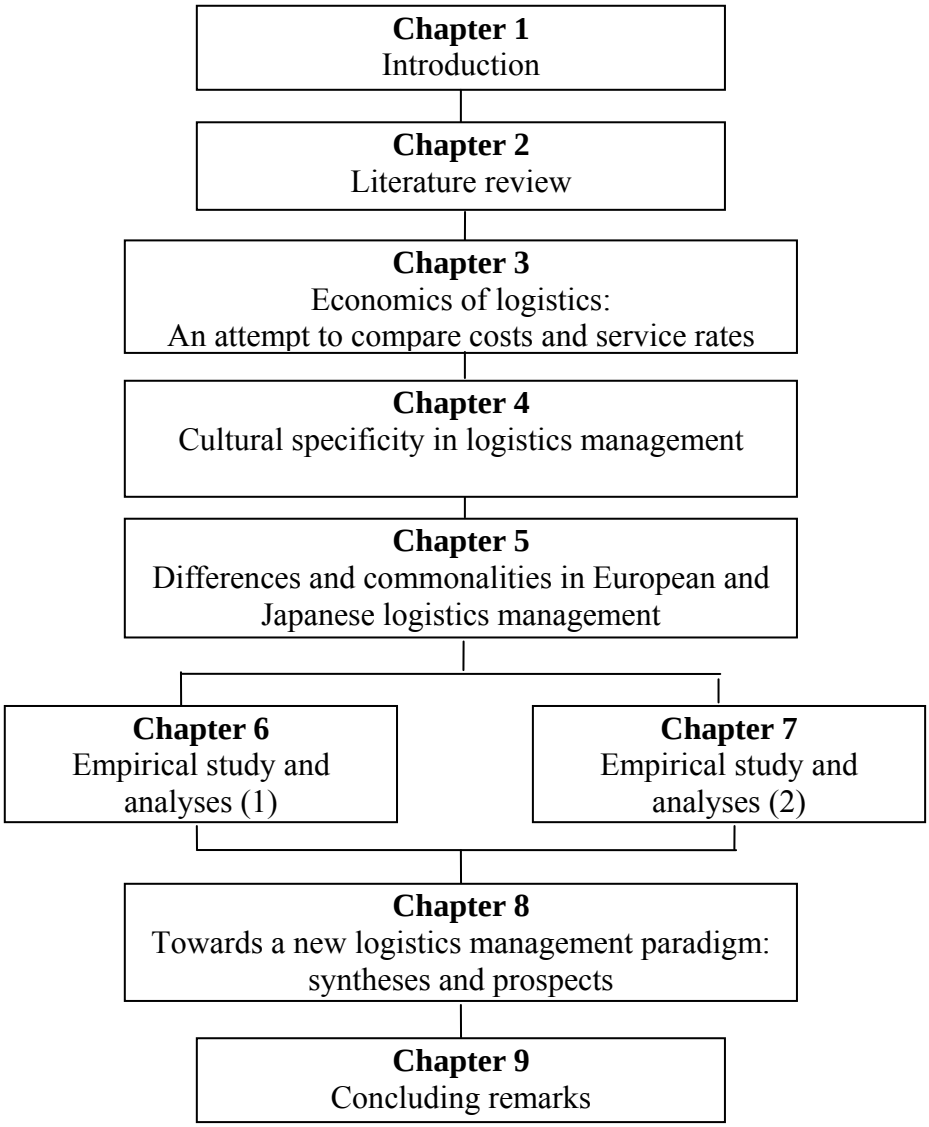
The result of the research should lead to a perspective of the future state of logistics and supply chains. An outlook is cast on the possibility to develop and share an integrated single global paradigm of logistics in order to bridge the gap between the European and the Japanese logistics management styles for more effective flows of goods.

6. Structure of the Dissertation

The structure of this dissertation is formed in line with the above mentioned research process. It consists of four parts. Chapter 1 gives definition and significance of this study, and shows the structure of this dissertation. Chapter 2 provides a literature review, where the overview of the preceding studies and other disciplines related to the area of this study is given. Chapter 3 concerns economic aspects of logistics in relevance to service and costs. The general perception that Japanese logistics is less efficient and costly is verified. The result of this investigation will serve as a basic assumption of this research. Chapter 4 investigates cultural specificity in logistics management, where special focus is given to education and religion. Chapter 5 tries to clarify what is common and what is different between European and Japanese logistics management. In this chapter, the four points of general observations given in Chapter 1 are examined. Chapter 6 and 7 are devoted to

empirical studies. The result of our surveys by way of interviews and questionnaires and publicly available data are combined to test the observations and the proposition. Chapter 8 gives syntheses and prospects, analysing the dynamics of factors to generate the differences, and provide answers to the research questions. Chapter 9 provides concluding remarks, with a summation, the limitations of this research and a suggestion for the future direction of the study in this field. (See Figure 1-2)

Figure 1- 2 The Structure of Dissertation



Chapter 2

LITERATURE REVIEW

1. Introduction

Until recently (e.g. up to the 7th edition of Concise Oxford Dictionary published in 1984), the word "logistics" had been generally known only in the context of military supplies. Logistics was the "art of moving, lodging and supplying troops and equipment". Major General Ed Leavy, one of the recognised logisticians of the U.S. military during World War II and subsequently the president of International Telephone and Telegraph, defined logistics as "all things and all actions necessary to support combat wherever, whenever, and whatever those requirements may be". This broad military definition is, in principle, well adapted to the idea of business logistics. Logistics *was* an art – not a science (Doyle, 1964).

Since that time, logistics studies have gathered interest of many scholars and experts and numerous theories have been developed. The discipline and philosophy of logistics and supply chain management has moved to the centre stage over the last two decades (Christopher, 1992).

Now logistics is, according to the definition by the Council of Logistics Management (CLM), 'the process of planning, implementing and controlling the efficient, effective flow and storage of raw materials, in-process inventory, finished goods, services and related information from point of origin to point of consumption (including inbound, outbound, internal, and external movements) for the purpose of conforming to customer requirements'.

The definitions of the word vary depending on the focus of the matter that is determined according to the needs of the time and occasion. There is a more simple definition for laypersons in symbolic words with 'Seven Rs'; i.e. 'Availability of the Right Product, in the Right Quantity and the Right Condition, at the Right Place, at the Right Time, for the Right Consumer, at the Right Cost' (Coyle et al. 2003).

Bowersox (1986) defines it in the context of *integrated logistics* as: 'a single logic to guide the process of planning, allocating and controlling financial and human resources committed to physical distribution, manufacturing support and purchasing operations'.

Christopher's (1992) definition is as follows: 'the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organisation and its marketing channels in such a way that current and future profitability are maximised through the cost-effective fulfilment of orders'.

Apart from the Seven R's, which is neutral but static and lacks a word to show the will of management control, all the other definitions are formed from the standpoint of manufacturers and suppliers, in which consumers are not exactly in the view. The objective is, therefore, centred in maximising the profit of the firm by rationalising the supply chains. Like in the military logistics, the objective of business logistics is to win the battle of competition in business according to the state-of-the-art definition of the words. We will discuss this in connection with the paradigm of logistics management in the later chapters.

One and all, the message given to us is that logistics is becoming more and more important for corporate management, and, further, that it can expand in an uncontrollable magnitude unless it is managed properly.

The purpose of this chapter is to give an overview of the logistics and supply chain management theories and the fruits of the studies in related disciplines. In Section 2, we will see the overall scope of the disciplines that are more or less related to logistics. In Section 3, the overview of the disciplines starts with the general trend of logistics management theories from the earlier stage to the latest development. Section 4 refers to the treatment of logistics in the microeconomics theory methodology, focusing on the indifference curve and equilibrium. In Section 5, the approaches of institutional economics are introduced in order to give better explanations of the logistic issues. Further, the evolutionary economics approaches are examined for an extended view in Section 6. In Section 7, our theoretical review turns to the human resource management theories, where European and Japanese streams are compared. Section 8 introduces cross-cultural management theories to see how it is explaining the difference of logistics management between the two regions. Lastly in Section 9, a new domain of logistics management study is proposed as a conclusion.

2. The Sphere of Studies around Business Logistics

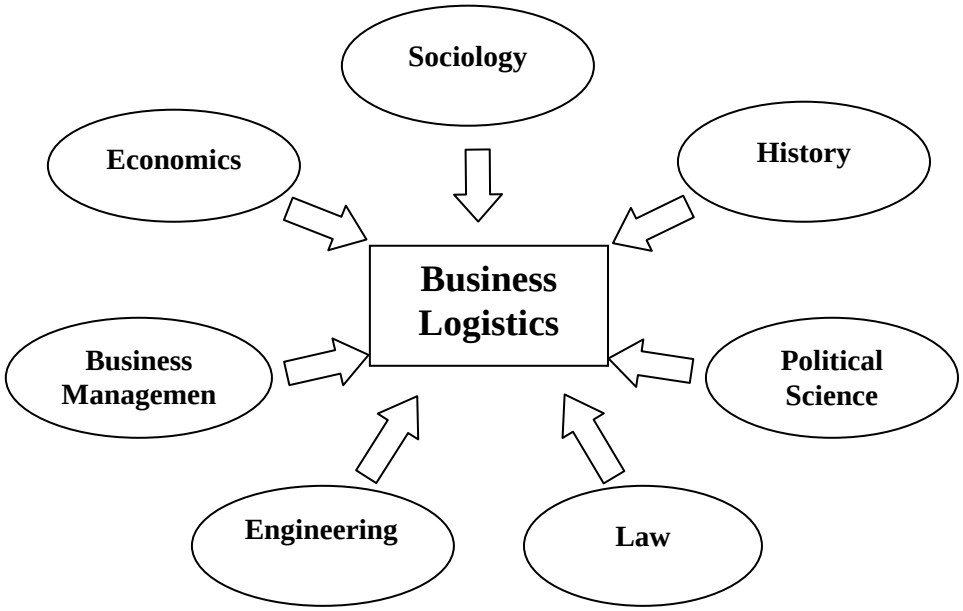
Logistics has long been treated as an auxiliary service to the front lines, which are the battlefields in the military and the sales in business. Doyle (1964) says, "Logistics is an art, not a science." He contends that one of the regrettable similarities between military and civilian logistics is that too often the logistician has great difficulty getting his story across

to top management.

Business logistics studies started with analysing physical distribution channels of products as part of the marketing theories (Smykay, Bowersox and Mossman, 1961), and have developed the scope in the social scientific and technological fields to establish their own field of study.

Business logistics covers all sorts of activities related to economic transactions such as moving, storing and packaging of materials and products, which includes the preparatory and some work for manufacturing and distribution. It means that various aspects of sciences are more or less supporting to improve the logistic efficiency. (See Figure 2-1.)

Figure 2-1. Sphere of Studies around Business Logistics



We analyse logistics in the sphere of complexity system (Shiozawa, 1997). It means that logistic is put into the dimension where various factors keep influencing on it to form the state of affairs and make it continue to evolve from one state to another all the time.

Economics, in which we principally keep our footing, offers profound analyses of the structures and the performance of economy and markets, where logistics systems perform. Our interest lies especially on the institutional and evolutionary approaches, which make it possible to cast a dynamic view on the development of logistics. In our study, the question is placed on the most effective use of natural and human resources.

Business management theories offer diversified approaches to logistics within the scope of the optimisation of corporate management. The theories of logistics and supply chain management and human resource management are mostly put into this category. As compared with the above question, the theories in the scope of business management should have their own limitation for the purpose of our study. We are investigating those theories in order to find out how the paradigm of logistics management has been cultivated. Other related sources such as cross-cultural management and organisational management theories will also be touched upon.

Engineering contributes to a great extent by constantly providing new technologies for handling, packaging, moving, transporting, storing, exchanging information and analysing. The information and communication technology (ICT), *inter alia*, has rapidly broadened the ability and the range of logistics management.

Law studies the right frameworks in which logistics can be done in an effective manner. For regional, national and local governments, it is always a matter of highest concern whether laws and regulations are to be made or the market mechanism should drive the situation to a desired condition in logistics. Safety standards and labour laws set out the welfare of the people, while the regulations on the market structure and the market behaviour concern very much the viability of the industry and companies as well as the efficiency of the market.

Political science is, in a broader sense, influential to the performance of logistics of the country or region. Not only the governance of logistics and infrastructure, which are directly influential, but political science is to cast eye on the comprehensive policy to let logistics work in an effective way. Policies on education, immigration, environments, financial transparency etc. are particularly important.

History provides enormous amount of lessons for the future of logistics. In line with the context of evolutionary approach in economics, study must be done into the historical background of the present state of logistics. This process certainly lets us avoid just following the fashion of theories.

Sociology offers a fundamental explanation of the past and the present situation of the societies where logistics belongs or works as physical networks. Our attention is paid to the social background of the difference of the way logistics is handled between regions and countries.

These disciplines altogether supply us with abundance of knowledge and methodologies to conduct our study, comparing and analysing the different states of logistics service management between the two regions, in search of a possible future paradigm of logistics management.

3. General Trend of Logistics Management Theories

1) Earlier Stage of Physical Distribution Management

Until the 1950's, logistics management had been treated on a fragmentary basis. Although logistics was regarded important even in the 1920's[1] in connection with marketing and manufacturing, no formal or integrated concept prevailed (Smykay, Bowersox and Mossman, 1961; Bowersox et al., 1986).

One of the earlier comprehensive approaches to the logistics management was made by Smykay, Bowersox and Mossman (1961), which used the term *physical distribution*. In the foreword of the book, W. Smith, director of Radio Corporation of America, refers to physical distribution as 'neglected field' and emphasises the necessity of scientific management in the 'so-called grey area between manufacturing and marketing'.

> *Physical distribution is concerned with the spatial arrangement of plant capacity and warehouse facilities so that movement costs are cut to a minimum while marketing requirements of the firm are satisfied. The connecting link between such locations is transportation. The field of physical distribution, therefore, revolves around the selection of the number of plants and their locations, the determination of the number, size and geographic arrangement of warehouse facilities and the choice of transportation methods employed. The object is to maximize both short and long run profit opportunities of the firm (Smykay, Bowersox and Mossman,1961)*

According to Smykay, Bowersox and Mossman (1961), a firm must adjust the physical flow of raw materials and finished products through a network of distribution alternatives. Forces influencing distribution system design are divided into *ecological forces* and *strategic forces*. Ecological forces are defined as environments that regulate physical distribution such as the status of competition, geographical variations in material supplies and customer demands, institutional rigidities such as physical facilities and transportation availability, and legal structure set out by the governments. Strategic forces are marketing strategies, in which pricing, product promotion and channel strategy must consider physical movement of goods, and once they are adopted by the firm, the physical distribution system must complement all stages of the marketing process. According to the particular ecological and marketing forces, the design of the distribution system may be

[1] Smykay, Bowersox and Mossman (1961) point out two early works noting the importance of physical supply: Clark, F. (1924) *Readings in Marketing*, The Macmillan Co., New York, and White, P. (1927) *Scientific Marketing Management*, Harper and Brothers, New York.

based on four different policies; i.e. 1) cost minimisation, 2) service maximisation, 3) profit maximisation, and 4) maximisation of competitive advantage. It is essential that management maintains flexibility in planning distribution system.

In order to achieve an effective balance in the logistical system, Smykay, Bowersox and Mossman emphasise the importance of centralised control over planning and operations located within the marketing organisation, and a high rank manager to oversee both marketing and distribution. In doing so, the scope of responsibilities of the distribution manager extends to include coordination with all other functional areas of the firm.

The earlier stage of logistics management theory tried in this way to elevate the role of distribution function of a firm to a higher level of strategic management concern.

2) Business Logistics Concept and Technology

In the middle of 1970's, van Buijtenen et al. (1976) introduced a new perspective of *business logistics* concept, in which they pointed out the fragmentation of approaches in logistics management practices and stressed the need for an integrated management. According to them, three characteristic or identifiable approaches to integrated *distribution management* have gradually emerged in the 1960's. They are:

a. Physical Distribution Management;
b. Material Management; and
c. Business Logistics.

In this categorisation, the Physical Distribution Management is basically concerned with the integration of finished goods distribution. Materials Management usually evolves out of a traditional purchasing orientation focusing on acquisition of raw materials, supplies, and goods-in-process inventories. Business Logistics is a comprehensive approach to integrate the above two with its roots in the science of military logistics. As of the 1970's, the integrated logistics management was discussed on the four factors: i.e. 1) increased acceptance of the systems approach; 2) increased customer or user demands; 3) the challenge of multi-national distribution; and 4) increased governmental influence in distribution policy and practice (La Londe et al., 1976).

Christopher (1976a) introduced the concept of *systems engineering approach* to the solution of logistics problems. It focuses on the concern with the totality of the company system and its awareness of interactions between the various parts of the whole. He recognises that there can be no doubt that companies attempting to follow through the total logistics concept to its logical conclusions have encountered considerable organisational and human problems in its implementation. Christopher (1976b) further suggested a new

concept called *marketing logistics*, where it is tried to make the interface between marketing and distribution, noting that distribution service is a key element in the marketing mix and supposed to be a top-level corporate concern.

On the technical management side, tremendous volume of literature and textbooks have been published since the 1960's. They, together with the practitioners' efforts, contributed to accelerating the improvement of logistical management quality in the following areas: (1) Warehousing systems; (2) Transportation systems; (3) Forwarding systems; (4) Customs clearance systems; (5) Finance and accounting systems; (6) Information systems; (7) Activity based costing; (8) Performance measurement; (9) Procurement logistics; (11) Just-in-time delivery; (12) Demand forecasting; (13) Material handling; etc. (Bowersox et al., 1986; Coyle et al., 2003).

Especially in the latter half of the 1990's, urged by the globalisation of economy, the innovation of ICT allowed logistics to make an enormous progress in the quantitative control over transportation, storage, and total coordination of supply chains in the form of combined management systems, Electronic Data Interchange (EDI), Internet etc.

The method of planning supply chain management was advanced in the areas of demand, production and distribution planning, thence in strategic network planning and integration of all those (Stadtler 2000).

We are at least in agreement that, due to the contribution of ICT development, logistics management has become closer to the *Seven R's* (Coyle et al., 2003) as far as the physical part of solutions for the problems are concerned.

3) Social Approach

Heskett (1976) cast an eye on the aspect of organisations. He doubted that new technology would continue to provide the primary means with which logistics problems were dealt with, and contended that major challenges would be met primarily by institutional change involving the spatial reordering of functions and facilities within an organisation and among cooperating organisations.

Hutchinson (1987) categorized the scope of logistics activity into three major areas of subsets as follows:

(1) Subsistence logistics

Subsistence logistics is concerned with the basic necessities of life such as food, clothing, and shelter, which is stable and predictable in general.

(2) Operations logistics

Operations logistics extends beyond the bare necessities by incorporating systems that

produce the luxuries or niceties of life.

(3) Systems logistics

Systems logistics incorporates the resources required in keeping a system in operating condition. These resources are spare parts, personnel and training, technical publications, test and support equipment, and facilities.

Where the stage of systems logistics is reached, harmony and coherence among logistic elements become the primary objectives of logistics management. Among others in the systems logistics, Hutchinson verged upon the concept of personnel and training. He notes that advance in technology and increasing product complexity results in an increased awareness of the importance of training. The critical nature of training is evidenced by reliability studies that show that as much as 60 per cent of product or system failures can be attributed to human errors of either commission or omission. He further explains the methodology of logistics training such as the preparation of scope, prerequisites, instructors, course materials, plan, examinations etc. His approach is dedicated to the technical aspect of training planning and its know-how.

In the last chapter of his book, Hutchinson (1987) made forecasts on the future of logistics. He looked at the social factors as well as economic and technological environment as being more influencing to change logistics in the future. First, the demographic shifts towards less developed countries will lead to a realignment of product and labour market. This will require larger logistics systems and improved managerial control through better communications. Second, socio-political changes toward "world-oriented" economy will mean more complex logistics systems. In this trend, special interest and more consumer-advocate groups will increase their sphere of influence.

Coyle et al (2003) sets 10 principles of logistics excellence as follows.

(1) Link logistics to corporate strategy.
(2) Organize comprehensively.
(3) Use the power of information.
(4) Emphasize human resources.
(5) Form strategic alliances.
(6) Focus on financial performance.
(7) Target optimum service levels.
(8) Manage the details.
(9) Leverage logistics volumes.
(10) Measure and react to performance.

These solutions are clear in word, but putting each of them into practice encounters tremendous amount of work to be done.

4) Supply Chain Management Theory

The geographical diversity of trade and manufacturing requires an extension of the scope of logistics management beyond the boundaries of firms to include suppliers and customers. This refers to *supply chain management*. A supply chain is the network of organisations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer (Christopher, 1992).

The important elements in the supply chain may be simplified as "who", "what", "where", "how", and "when". From the natural resources to the final products ready for use by consumers, what matters is to answer all the questions: who does it, what he does, where it comes from and goes, how and when it is done. At each chain of supplies, processing, storing, and handling take place, and transportation links between the chains.

Philips Electronics of the Netherlands introduced the concept of '*decoupling point*' in logistics chains. The decoupling point refers to a stock between production and consumption, which is indispensable to meet the consumer needs in terms of type, quality, quantity, and timing of the sale of the products. The research undertaken by Philips recognised that those customer needs were ultimately unknown factors for the supply chain participants. Therefore, it was useful and essential to identify how far the penetration of customer order went through the upstream of supply chain with regard to each element of variation of goods and its auxiliary services. This concept of *customer order decoupling point* suggests an effective way to the optimisation of supply chains (Roos, 2000).

In other words, the postponement of decoupling point as close as possible to the sale of the goods to the consumers can minimise inventory costs, but, on the other hand, it may lead to a higher production cost due to a lesser degree of mass production to take place (Schary and Skoett-Larsen, 2001).

Christopher (1992) identifies the current changes in the supply chain environment as follows.

a) The customer service explosion
b) Time compression
c) Globalisation of industry

d) Organisational integration

Customers are becoming more and more particular about quality of services attached to the goods sold to them; i.e. time is so critical for customers that 'Just-In-Time (JIT)' delivery is becoming essential; globalisation of manufacturing, material supply and marketing forces logistics to take care of the difference of customer demand, working procedures and efficiency; and organisations must be realigned to ensure the integration of logistics among marketing, procurement, stock control, manufacturing, distribution etc. Therefore, supply chain management requires logistics to be managed as a *system*, where the emphasis switches from a narrow functional orientation to the wider view of the *value chain*.

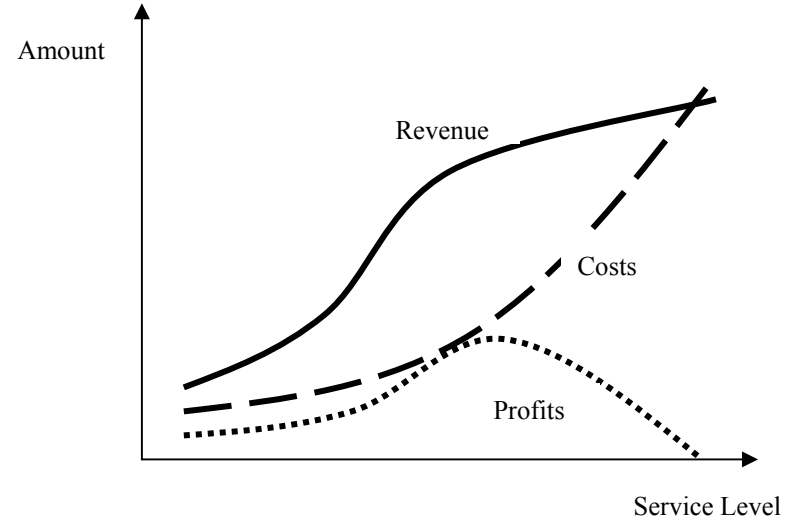
Value needs to be created in the eyes of the final consumer, who is, after all, paying for the product or service they consume. This focus on value is therefore translated across functional and company boundaries in both the design and delivery of the appropriate product-service bundle (Hines et al., 2000).

As customer service is the key dimension of logistics, Christopher (1992) looks at the trade-off between customer satisfaction and the cost of service. Having noted the basic fact of different cost for serving different customers, he suggests that the *Pareto Law* or the *80/20 rule* applies; i.e. 80 per cent of the profit of the business come from 20 per cent of the customers. Furthermore, 80 per cent of the total costs for service will be attributable to 20 per cent of the customers. The costs for service are related to EDI, 'Track and Trace', 'Value Added Service', budgeting, and, amongst others, the time and frequency of service provision in accordance with the requirement of customers.

With respect to the profit contribution of customer service, the revenue/service cost model is shown in Figure 2-2. As the service level goes up, the function of service costs increase, while the marginal revenue decreases. Hence, marginal profits start decreasing at a certain point of service level.

The more service is provided to customers, the more they are satisfied, unless they must bear the costs for the services. Generally, these costs are absorbed by the providers to a great extent in the environment of fierce market competition. However, since no budget is unlimited, it is inevitable to prioritise the service provision on the customers and the goods to be handled. In this context, the Pareto Law well suggests the appropriate weighting of stock keeping and distribution strategy.

Figure 2-2. The cost/benefit of service



Source: Christopher, M. (1992) p.42

Customer service is everything about logistics. However, customer service is yet often the least well managed. The quality of customer service performance depends mainly on the skill with which the logistics system is designed and managed. In order to improve the customer service performance, the following methodologies are proposed (Christopher, 1992).

a) Accurate measurement of logistics cost;
b) Benchmarking of effectiveness as well as efficiency;
c) Managing the global pipeline of materials and goods;
d) Strategic lead-time management;
e) Just-in-Time and Quick Response; and
f) Cross-functional and cross-company integration of organisations.

Hines et al. (2000) contends that no one area of supply chain improvement will allow an organisation to optimise its supply chain. Rather, it is the combination of the ideas, concepts and models that will allow firms to achieve increased competitive advantage from its supply activity. They termed the synthesis of this approach, 'value stream management (VSM)'. VSM focuses at the strategic, managerial and operational levels within the firm.

Apparently, the conceptualisation of supply chain management has almost matured and not much further can be developed as long as it is stuck to technicality. In order to achieve a better management in a supply chain, collaboration of the people and knowledge creation and sharing are essential across the boundaries of functions, companies and countries, which is obvious.

However, little are known to us about the human resources, which are the basis of making

decisions on the requirement of operations at each point of handling. It is always necessary for a logistics manager to determine every detail of the logistic operations taking market and environment changes into account, and to keep adjusting them to fulfil new logistics needs. How is it determined? How is it changing? What are the factors for the changes?

All floor workers and administrative staffs cannot be eliminated from the working places in logistics even if managers cannot any more tolerate their mistakes. Fully automated logistics can be applied only to a very limited part of supply chains. People will continue to be involved in counting boxes/units, order picking, packaging, loading/unloading pallets, designing systems, inputting data, driving vehicles etc.

The importance of cooperation, quick response and integration to achieve better service quality was made clear, but the human resources that achieve those aims with their power has not been discussed in detail enough yet.

On the North American Continent, Bowersox et al. (1989) issued a survey research report through the Council of Logistics Management. Among the various factors of *leading edge logistics*, they point out the human resources as being crucial both in terms of management and labour skills. One of the interviewees of the survey says that personnel are the 'vital link in the system'. However, concern about the ageing of population, the shortage of labour and the quick turnover of young workers, was also commonly expressed by the interviewees.

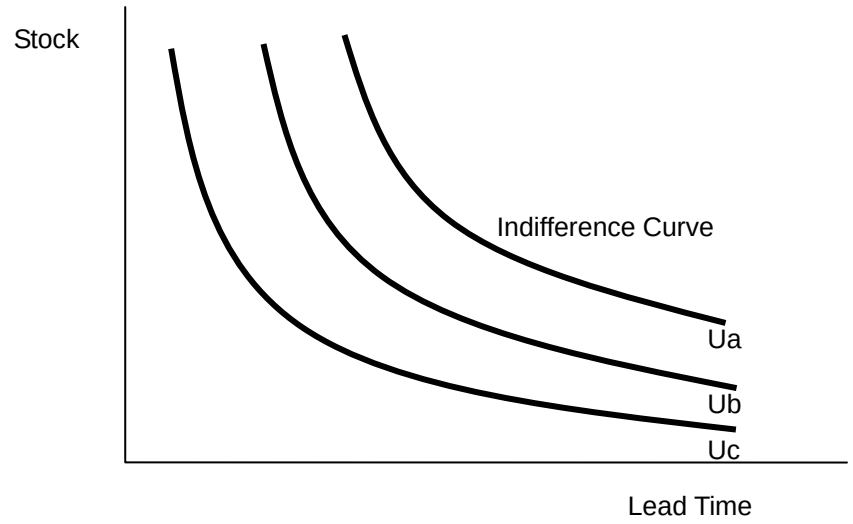
As such, the importance of human resources has been expressed over and over, but so far not much progress has been seen in the supply chain management theories in this area. Human resource aspect of supply chain management is such a complex and normative issue to tackle.

4. Logistics in Microeconomics

As logistics being part of economic activities, there should be a solid theoretical basis in economics. For this purpose, microeconomics provides a basic tool for explanation.

To simplify the matter, we assume that the supply chain management is a function of stock and lead-time. (See Figure 2-3.)

Figure 2-3 Indifference Curve for Supply Chain Managers



Source: Adapted from Mansfield, 1997

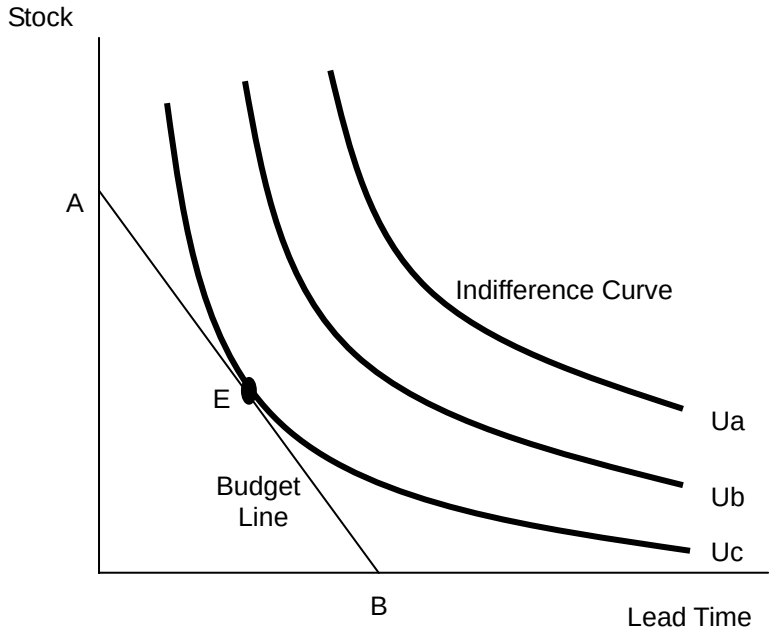
A supply chain manager sees his supply chains in the dichotomy of stock and lead-time. The more stock of the components and the finished products he has, the more his customers are satisfied with less lead-time in which the product is delivered to them. This also leads to a less profit for the supply chain manager because of the burden of stock cost.

If the supply chain manager reduces his stock to decrease his cost to realise more profit, lead-time increases due to the prolonged waiting of component supplies and transportation, and customers are less satisfied and he may lose the customer.

According to the method of microeconomics (Mansfield, 1997), the effect (utility) of supply chain management can be expressed with indifference curves as in Figure 4. For logistics, we put stock on the Y-axis and lead-time on the X-axis. The supply chain manager is indifferent among the various points on a particular indifference curve, since those points look the same to him in the effect of his logistics practices. The management of logistics becomes easier toward the upper right direction of the chart without any monetary constraint. Therefore, the supply chain manager's task is harder to achieve in the indifference curve Uc than Ua. He tries to achieve the best performance through the daily decision making of logistics.

In the actual circumstances, the effect of logistics practice usually faces a budget constraint. (See Figure 2-4.)

Figure 2-4 Equilibrium of budget and utility of supply chain managers



Source: Adapted from Mansfield, 1997

Under the budget constraint as shown in the line AB, the equilibrium point of E is given on the indifference curve Uc, where the budget for logistics is best utilised at the certain volume of stock with a certain length of lead-time. In the simplified model as this, the equilibrium E can be easily found by the supply chain manager.

As we often hear in the actual business field, one of the most imminent tasks of a supply chain manager is to reduce logistics costs. Figure 2-5 gives a model in the case of budget reduction.

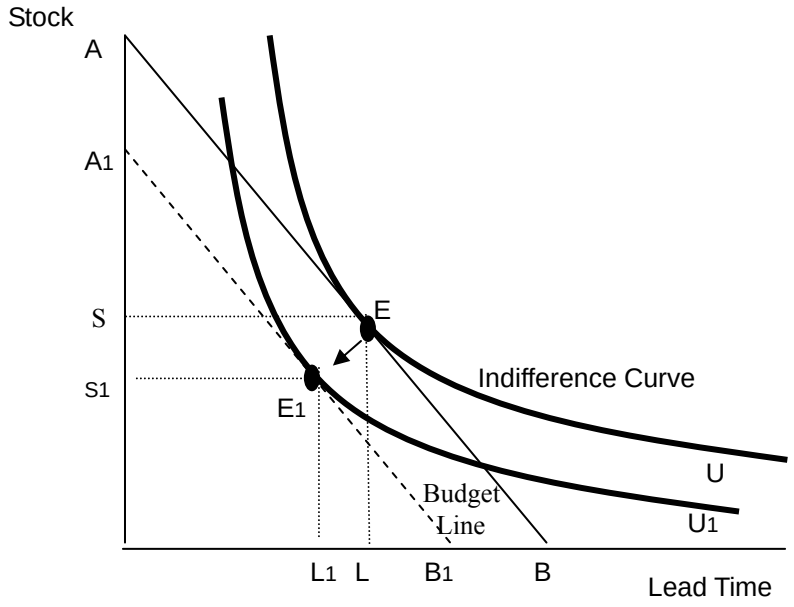
Here, the budget line is reduced from AB to A1B1. Consequently, under the given budget, the indifference curve shifts from U to U1 with equilibrium point from E to E1. This automatically requires the reduction of stock from S to S1 and the lead-time from L to L1.

However, in the daily economic activities, a tremendous number of constraints emerge to make it difficult to achieve this task. For example, a geographical location of the market may not allow stock to be reduced without prolonging lead-time. Reducing the number of stock points may create communication difficulties between the customer and the new logistics service provider. Longer transportation may cause more traffic problems than expected.

Therefore, the static model as above gives a limited explanation of the state of

current supply chains. Our discussion should go forward to include those elements as essential part of the study. In the next section, we will see if institutional economics can provide better tools to explain this.

Figure 2-5 The shift of equilibrium for supply chain managers in case of budget cut



Source: Adapted from Mansfield, 1997

5. Institutional Approach

Business logistics has been facilitating commercial transactions; i.e. buying and selling of goods. Soon after a transaction is concluded, the movement of materials occurs. In order to effectuate the facilitation, many prior arrangements are also made by practitioners in the areas of production location, procurement, transportation, stocking, human resource management, management systems, customs clearance and other documentation, and networking of all those elements.

What kind of value measuring decides those decisions? How are those elements combined with each other? How are those formations and networks changing over time? Those questions have been continuously asked, but very little have been known to us yet. The Original and the New Institutional Economics offer generic answers to these questions. We will first have a general view of the perspective of economy that logistics belongs to in the following paragraphs.

1) Approach of the Original Institutional Economics

Thorstein Veblen (1899), one of the founders of the Institutional Economics, criticised the assumption of neo-classical economics that economic actors always make a *rational* calculation. He observed the economy on the dimension where evolution of institutions and its impact on human behaviours are studied, instead of on the basis of neo-classical theories of equilibrium. That is, observing the endogenous dynamic changes in the social system is more important than trying to explain how rational reactions are calculated against exogenous changes in population technology, trading opportunity or ideology (Rutherford, 1994).

When we look at the attitudes of the economic actors, it is notable that the market is a melting pot of different values and thoughts. It becomes even so in the cross-border transactions, where a larger number and a variety of actors create an asymmetry of information and power among them with different background of cultures and norms.

How much rationality is seen in the calculation for decisions people make for the location of production sites, the employment of staff, the choice of transportation and warehousing firms, the investment in information technology and its maintenance etc.? We see many factors mentioned in the proposals people make for the official management board decisions at firms, and they are put into the melting pot to generate a seemingly reasonable conclusion, which sometimes turn out to be subject to the alteration of strategy due to the appearance of unpredicted factors soon after. Risk avoidance is often attempted in the form of diversification of supply sources, production sites, stock etc., which usually result in the complicated commercial transactions.

This is leading to a departure from the maximisation of utility in the economy, which is a major premise of the neo-classical economics (Rutherford, 1994; Groenewegen, 1996; Williamson and Winter, 1991; Williamson, 1998).

Firms are trying to make the most of the technological advantage, asymmetry of the information, scale etc. to sharpen their competitive edge. Veblen used the word '*opportunism*' for such behaviours. "The mitigating effect which personal contact may have in dealings between man and man is therefore in great measure eliminated. The whole takes on something of an impersonal character (Veblen, 1904)."

Veblen gave a strong message that economic actors do not make rational calculations, and tend to behave opportunistically. This foundation of the economic thought is also applicable to the analyses of movement of goods and the pertaining institutional arrangements.

2) Approach of the New Institutional Economics

To analyse logistic activities, the new institutional economics gives an effective explanation in some areas. Efficiency of logistics is deeply dependent on the *governance* structure of a firm. Setting up of rules and standards is explained within the scope of *institutional environment*, or the *rules of the game* (Williamson, 1998).

Coase (1937) focused upon the *nature of the firm*. This theory has its central question as to what determines the size of the firm and how it changes. In that perspective the concept of *transaction cost* emerged, which refers to a cost incurred for buying goods or services from outside the firm rather than making it for themselves; such as communicating, contracting and transportation costs, sales tax etc. Williamson developed the idea to form t*ransaction cost economics* (Dietrich, 1994; Groenewegen, 1996). The transaction cost economics tries to explain the boundaries of the firm (Williamson, 1998). According to the theory, it depends on the calculation of transaction cost whether a firm decides to produce certain goods or services within the organisation or outsource it. The choice is made for the more economical between the two.

However, the decision is not always based on a common rationality. Firms may make different decisions in similar circumstances according to the weight of priorities that can differ from time to time, and those market behaviours create the complexity of economy. The transaction cost economics explains these variances with the assumption of human *bounded rationality* and *opportunism* (Williamson, 1984). Bounded rationality is the concept that the rationality of the calculation of the people is always bounded by a limited amount of the information obtainable, the business customs, the difference of personal aims etc. although firms look like making an accurate calculation each time a decision is made for a transaction. Opportunism is a profit maximising behaviour in contrast with a *trust*-based relationship of business firms. It relies on the strategies of actors involved and path dependency, but at the same time asset specificity, attitudinal orientation, bases of power and type of bureaucratic organisation are also the key factors, whereas *trust* relies on discreteness, loyalty, openness, receptivity and the like (Groenewegen, 1995).

Williamson's (1998) framework of institutions as per Figure 1-1 can be used to explain the factors influencing logistics well. Daily logistical practices are directly influenced by contracts and corporate governance. They are then influenced by institutional environment such as national and international policy, judiciary and guidelines. These are in the end influenced by norms, standards, values, trust, way of communications etc., which are all embedded in the mind of people; i.e. culture. In other words, culture regulates the fundamentals of daily logistical practices in the direction that is not easily changed

quickly.

Williamson (1998) quotes Herbert Simon's (1985) words: "Nothing is more fundamental in setting our research agenda and informing our research methods than our view of the nature of the human beings whose behaviour we are studying ".

In the following section we are observing whether these theories can be applied to logistics.

3) Logistics in the Perspective of the New Institutional Economics

(1) Outsourcing of Logistics

The currently prevailing outsourcing of logistics by manufacturing firms can be explained to some extent by the theory of new institutional economics. Transaction cost comparison is a useful tool for making decision to outsource logistics or not, though it is not to say that every firm takes the same calculus. For manufacturers, transaction costs concerning logistics are those for contracting with third party logistics service providers, supervising their performances, solving disputes arising out of the execution of the contracts etc.

If transaction cost is low, the manufacturer can make more use of market mechanism by appointing logistics service providers, which tend to be based on a short-term relationship with them; whereas, if transaction cost is high, the logistics is handled by the internal organisations or outsourced to a company on a long-term contract with a support of mutual trust.

The concept of *third party logistics* (3PL) service refers to the provision of multiple logistics services for its clients and customers so that they may concentrate their own resources on the core business. Outsourcing of logistics to 3PL providers is expanding its scope to various fields of customers' functions. Mass customisation by postponing a part of production processes in the distribution channel is one of the typical phenomena (van Hoek, 2000). Further, 3PL providers are challenged by the non-asset type of consultants with the concept of *lead logistics provider* (LLP), or *fourth party logistics* (4PL) provider, with which more strategic element of service is claimed to be provided. This type of outsourcing is progressing very quickly and being on the verge of controlling logistics in the major developed economies (Foster, 1999).

However, it is not enough to interpret this phenomenon with transaction cost economics. A firm does not necessarily make a decision to outsource the management of all its logistics even if the calculus proves that it is less costly to do so than to manage them within the firm. It is because the calculus is made from *bounded rationality* of information obtained at the time. Other factors that cannot be taken into account in the calculus also

affect the firm's decision. The decision becomes vulnerable depending on whether the redundancy of the internal logistics staff can be made smoothly or not as a result of outsourcing, which is in fact varies in different regions and countries. The fear for the loss of know-how in logistics or its control over it may keep the manufacturer away from the outsourcing. On the other hand, outsourcing may be positively promoted, even if the cost can be higher in case that the manufacturer finds more value in acquiring new expertise from outside, or to eliminate persistent bureaucracy in the hierarchy of the firm.

New institutional economics puts importance on the observation of the variables of economic activities as they are in connection with the interrelation of the governance of firms and the institutional environment. To improve the reliability of logistics is a matter of governance. It is not directly linked with whether a company should outsource the job to an outsider or not.

In the process of these decision-makings, what is the core competence of the firm becomes a fundamental question; i.e. Is it to establish its position in the market as a manufacturer, an investor, a product designer/developer, a coordinator, or a combined roles of any of the two or three of them? Coase (1937) questioned as to what factors constitute the elements of the decision-making of people. In any decision of the firm in the similar cases, the decisive factors are not only the cost comparison but also the non-calculable matters such as the historical position of the firm, expertise held by the managers, taste of the top management, future vision, the expectation of customers, and the prospect of the availability of external services as alternative are all taken into account to some extent.

None of those factors are presented to the decision maker in an explicit manner. They are all considered within the range of bounded rationality. The logistics market is constituted with an enormous number of those '*intendedly but limitedly rational decisions*' (Williamson, 1998).

(2) Integration and Consolidation of Logistics

One other recent phenomenon observed in the logistics market is an attempt to manage a whole supply chain. (See Section 3.4) How does new institutional economics explain this?

Coase (1937) noticed the forces that determine the size of the firm. He claims that the forces are the consideration of the costs of using the price mechanism and the costs of organising a firm. When a firm has been formed, it is then determined how many products and how much of them each firm will produce.

Does this transaction cost theory explain the current integration of logistics in the form of supply chain management and the consolidation of logistics service providers into large

firms?

Supply chain management is an attempt to integrate control over logistics beyond the boundaries of firms. It is at the same time intended to keep arms-length relationship with the suppliers and distributors in order to avoid financial consequences arising from the termination of contracts with them to start a new relationship with others. And now an important part of management function, i.e. logistics management, is being outsourced to a 3PL provider, or LLP, so that the firm can concentrate its resources on the core business. It seems that the firm is trying to consolidate its controlling power on the logistics from the resources to the end consumers, but at the same time it is broken up into small fractions of management organisations.

If the size of the firm is determined by comparing the costs of external services and those of internal services, this phenomenon represents the conclusion that the external services are cheaper as the control power over logistics is outsourced. Obviously, the firm is trying to make more use of market mechanism. At the same time, the same firm is delegating their power to third parties. It means that certain management functions are also placed in the market mechanism. This move continues until it reaches equilibrium in the costs of internal services and outsourcing of them according to the static analysis.

Coase (1937) gives an interesting implication for this point as well that the dynamic factors are also important in that it moves equilibrium. Business people's functions are divided into initiative, or enterprise, and management. Initiative means forecasting and making new contracts in the market mechanism, whereas management merely reacts to price changes by rearranging the factors of production. Normally these two are combined in the behaviours of business people. However, Coase's analysis stops here.

Transaction cost economics has been at the heart of new institutional economics (Groenewegen, 1996). However, we note that there is a fundamental difficulty in comparing the two costs mentioned in the theory. For example, when a firm considers a realignment of supply chain by comparing the transaction costs, the current costs are derived from the actual figures in its books and the alternative logistics costs are based on the information obtained in bounded rationality. Normally, certain assumptions are made in the alternative plan and the firm can encounter changes in the circumstances, which may force it a reversal of the plan. After some time under the new supply chain management, if the firm again considers realignment, then the transaction cost comparison is made in a bounded rationality again. In this manner, transaction cost comparison is, in many cases, made between the actuality and the anticipation.

It is now clear that the integration of supply chain is done in a complexity and explained only partly by new institutional economics.

Last but not least, original and new institutional economics have not so far made any reference to logistics or supply chain management. This is the area that may well be attempted to cultivate more.

6. Evolutionary Approach

The evolutionary approach to economies is a legacy of Veblen and several other institutionalists (Louçã and Perlman, 2000). As opposed to neoclassical type with maximising individuals and equilibrium, evolutionary economics typically aims at an understanding, explanation and prediction of changes in elements of the institutional context (norms, values, legal rules) or in institutional arrangements such as contracts, firms and labour unions. It is investigated how institutional arrangements evolve and either persist or change within a given institutional context (Groenewegen and Vromen, 1999).

Groenewegen and Vromen (1999) characterise evolutionary approaches in terms of the following features:

- the unit of analysis is not the isolated, atomised individual, but the individual in interaction with the environment;
- the economy is basically an open system, subject to pervasive uncertainty, so that end states are hard to predict;
- institutions influence learning and selection processes in terms of initial conditions (history matters), lock-ins and trajectories;
- attention is paid to different selection mechanisms working simultaneously: efficiency and power.

Rather than neoclassical theory's end-state variant, in evolutionary economics special attention is paid to process variant, which brings theoretical concepts as follows:

- innovation is endogenous;
- the unit of analysis is the individual here also, but now in interaction with the environment;
- the behaviour of the individual is assumed to be procedurally rational: the individual is searching and creative. The individual can be satisfied without having maximised and creates organisational safeguards in order to cope with uncertainties;
- the coordination of the actions of individuals is taking place via institutionalised

markets, where values, norms, rules, and organisational structures like firms, affect expectations and offer individuals opportunities to learn.

The above framework is generally quite adaptable to the analysis of logistics. In logistics, individuals should be observed in interaction with the historical and geographical restraint. Logistics operates across borders and subject to uncertainty. Institutions in logistics refer to transportation systems, manufacturing and stocking locations, labour markets and technologies. Those elements of institutions are constantly influencing checking and selecting processes of supply chains. Different selection mechanisms are always seen between the efficiency of logistics and customer satisfaction (as power).

If we adapt the wording of Hodgson (2002) to logistics, it goes as follows. Logistics should be analysed in the perspective of processes, changes and structural transformations. The recognition of the historical specificity of logistic systems itself points to the processes of evolution and system change through time. While much of economic theory attempts to focus principally on that which is common to all logistics systems, evolutionary economics also emphasises the differences and the changes in logistic systems. Complex interactions and exchanges within and across the boundaries of the system bring about novel, emergent and unpredictable forms and events. Variation and diversity are part of both the natural and the economic order.

Evolutionary approach gives such a wide variety of perspectives on logistics. The above elements of analyses have been dealt with by sociology, social anthropology, psychology, human resource management, laws, engineering etc. The attempt made by the institutional and evolutional economist is to combine all those knowledge to explain economy in a pluralistic methodology. The problems in the institutional environment, “Level 2”, and in the embeddedness, “Level 1”, (Williamson, 1998), which transaction cost approach does not take into account, are in this way subject to the analysis of knowledge creation (Nonaka and Takeuchi, 1995) and learning process in the causation between individuals and institutions (Hodgson 2002). However, application of this approach to logistics study is a pioneering work. The recent development of institutional and evolutionary economics will broaden the scope of logistics study and give it a dynamic perspective.

7. Human Resource Aspects in Logistics

Institutional and evolutionary economics tries to fill the shortfall of new institutional economics, which treats human resources with the notion of embeddedness as exogenous

variant. For example, Beckert (2003) tries to apply sociological concept of pragmatist theory of collaboration and innovation. He states that what determines action is not the objective situation structure but the interpretation of it, which itself forms part of the situation and must therefore be included in any reflection on possible strategies. Further, the discrepancy between the perception of a problem in a situation and the solutions which are offered by routines blocks the unreflected continuation of action and designers are forced into a new line of action – a solution to the problem. This area of theorisation is yet to be cultivated, but we can find many suggestions from the management theories.

In human resource management theories a wide range of and in-depth studies in human behaviours and the control over and the development of them have been done. However, it has been applied little to logistics theories. Today, human resources attract little focus in logistics theories in the face of an abundance of technological innovation. We now review the literature particularly applicable to the human resource aspect of logistics management. Although, in fact, the solutions for increasing number of logistics problem are offered from the ICT side, it should also be recognised that the human involvement in logistics is larger than ever in its history with more diversity and complexity as all important decisions not only in operations but also in total resource allocations and realignments must be made by human beings.

1) Collaboration

Collaboration among the people and the companies in supply chains is a decisive factor for the quality of manufacturing and logistics. In this area of study, Christopher (1992), Lamming (1993), Nishiguchi (1994), Hines (1996), Cousins (2002) etc. have been playing important roles mainly with respect to manufacturing.

Christopher (1992) sees that the major reason for supply chain inefficiencies is the lack of co-ordination and linkage between the various parties in the chain. He calls it '*co-makership*' and defines it as: 'The development of a long-term relationship with a limited number of suppliers on the basis of mutual confidence.' In its absence, the relationship between the parties to the supply chain would stand only upon the transaction cost comparison, and the quality of logistics performance would become exogenous.

Christopher and Juttner (2000) further try to fill the void of empirical research by investigating how executives in industry manage strategic supply chain partnerships on a day-to-day basis for long-term success. They point out six aspects as the key areas for advancing the state-of-practice; i.e. 1) defining relationships, 2) developing the interface structure, 3) cooperating across systems, 4) managing people through change, 5) assigning a relationship manager, and 6) monitoring the relationships.

The work of the International Motor Vehicle Program at Massachusetts Institute of Technology, originally published by Womack, Jones and Roos in 1990, was one of the first presentation of the Japanese lean production system, which was defined as the combination of craft and mass production, using less of everything including human effort, space, investment in tools, engineering hours, which results in the shortening of lead time, less inventories, and production of larger variety of goods (Womack et al., 1991).

Lamming (1993) made a further extensive study of the automobile industry to investigate how partnerships are formed in manufacturing and suggests the development of concept to *lean supply*. He states as follows. "After fifty years of prevailing American mass production, the innovative concept of *lean production* was introduced by Toyota with the leadership of Taiichi Ohno, the head of production engineering, which operates with bare minimum of everything. It is not anymore possible to sell products unless thinking into the very hearts of the customers, each of whom has different concepts and tastes." Today, the individual worker has been forced to master in earnest the multi-kind, small quantity production system. It is based on the thorough elimination of 'waste' (Ohno, 1988). In order to achieve this, *teamwork* is given the first priority.

The Japanese automobile components industry and its relationship with the assemblers offered a new paradigm of collaboration in supply chains. It is described as *Keiretsu* or *Kyoryokukai*, where suppliers of components and assemblers cooperate with each other not only in quality control but also in product development, after-sales cares, and logistics towards *just-in-time* delivery of materials and products. Hines (1996) calls the relationship 'network sourcing' and ascertains that it can also work as a competitive edge outside the automobile industry, and in both the ups and downs of economic cycles. This is even leading to a new definition of supply management: the strategic management of external and internal resources and relational competencies in the fulfilment of commitment to customers (Cox and Lamming, 1997).

There is an excellent research focusing on the Japanese *subcontracting* in manufacturing by Nishiguchi (1994). He addresses that the Japanese subcontracting relationship is symbiotic and emphasises synergistic problem solving rather than antagonistic bargaining, between organisations, which is based on the institutional arrangements of problem solving. The Japanese are heavily dependent on the subcontracting systems today. However, Nishiguchi stresses that the system is not necessarily determined by cultural attributes but chiefly by the complex historical interaction among socioeconomic, technological, infrastructural, political, and strategic factors.

All these conceptualisations and researches provide us with good insights into the company-to-company relationships that create a basis for productivity improvement or lean production. Here, new questions arise: 'How are the relationships among companies

work particularly in the field of logistics?' 'How differently are the relationships treated in different countries?' 'What is the status of relationships of companies with different cultural backgrounds?' These questions will have to be examined in the empirical studies to come.

2) Trust

Trust is a key word for efficiency in supply chain management. Vokurka and Lummus (2000) say that top management commitment, worker participation, and education are critical factors in JIT implementations. However, problems are reported on the points such as cultural resistance to change, lack of top management understanding or commitment, and lack of performance measures. According to them, to ensure effective supply chain management, a company must assure the following.

① To openly share information with suppliers and customers;
② To create horizontal business processes;
③ To rely on a small number of outside suppliers;
④ To increase organisational and process flexibility;
⑤ To coordinate processes across organisational boundaries;
⑥ To empower employees to make process decisions; and
⑦ To make real-time decision support systems available.

They address that these business practices are not easy for companies to implement. Each of these elements requires a *trust* factor never looked at closely by most companies before.

Sako (1992) describes the two distinct approaches to relationships between companies as o*bligational contractual relation* (OCR) as opposed to a*rm's-length contractual relation* (ACR). OCR is characterised by a greater transactional dependence on trading partners, a longer projected length of trading, a greater willingness to accept or offer orders before prices were negotiated and fixed, less contractualism, a greater degree of uncosted sharing of technological know-how and risks associated with business fluctuations. Sako distinguishes trust into three types; '*contractual trust*', '*competence trust*' and '*goodwill trust*'. *Contractual trust* is a mutual confidence between business partners in ethical standard, namely that of keeping promises. *Competence trust* is given when a counterpart is regarded capable of performing the tasks as expected. *Goodwill trust* has been seen typical to Japanese business relationship, which refers to mutual expectations of open commitment to each other. However, she suggests that *goodwill trust* can also be deliberately cultivated to some extent by choosing trading partners carefully, and by frequent and intense communication between the parties.

In the Tayloristic *scientific* (Taylor, 1911) supply chain, there was a division of an

organisation into functionally specialised silos for purchase, research and design, production, marketing functions and more. It recommends keeping suppliers at a distance, buying their products with extensive intermediation by a bidding process to minimise cost. However, process re-engineering attempts with intensive use of information technology, rather than collaborative human trust, had mixed results during the 1990's. In order to streamline enterprise supply chains, reducing intermediation and increasing trust among partners has become essential (Gehani, 2000).

Schary and Skyoett-Larsen (2001) stresses the importance of *trust* establishment as being essential to collaborative effort in a supply chain. In the turbulent world of the supply chain, formal relationships cannot deal with the full complexity of supply. Devices such as relational contracting may be the only feasible paths, where the details are left for later decision. Once the trust relationship has been established, the collaboration can lead to mutual and innovative benefits.

On the other hand, Cousins (2002) opposes to the idea of inter-organisational relationship as an entity based on trust. He proposes a new paradigm to see the relationship as an inter- and intra-organisational process, where firms focus on a definable and deliverable outcome at the level of product or service to add value. In this context, he addresses that the Japanese procurement views suppliers as stakeholders and co-producers.

Trust is, in a generic term, a state of mind that is cultivated and maintained between persons, not between firms. People are expected to promote trust with each other in order to raise efficiency of logistics by way of enhancing knowledge and information sharing among them. However, each person feels different degrees of trust with others. Whether it is possible to maintain a certain degree of long-standing trust in the supply chain remains to be a question.

In this connection, further questions arise as follows: "Is trust treated differently in different countries?" "If so, how is it different between Europe and Japan?" "Is trust institutionalised?" These questions will also be examined in the empirical studies.

3) Human Resource Management

The origin of human resource management (HRM) dates back to approximately one hundred years ago. It started as a paternal recognition that employees not only need job security and wages but also education and relaxation. The theorisation developed its way through the control of personnel in scientific management (Taylor, 1991) to the

commitment by the industrial democracy (the 'Harvard Model') on the one hand; and the strategic HRM, treating employees as a means to achieving the organisation's strategy (the 'Michigan Model') (Pinnington and Edwards, 2000). HRM, which was introduced some twenty years ago as a new form of personnel management to bring together the preceding studies. Human resources are nowadays recognised as important elements of management of organisations (Boselie, 2002). Moreover, increases in importance of HRM are actually underway around the world (Bowen et al., 2002).

However, in the literature on logistics or supply chain management, little space has been filled by the human resource issues; despite the suggestion of Hutchinson (1987) to improve personnel and training. The main concerns of researches have been in organisational set-up, technical handling, systems approach, and horizontal and vertical relationship. Human resources have mostly been out of focus. However, practitioners are everyday facing human related problems and troubles caused by errors, negligence, misunderstanding etc. We note that there is a gap of perception on human resources between researches and practices. Therefore, it would be relevant to investigate the applicability of human resource management disciplines to the logistics field.

HRM practices cover a number of major facets; i.e. recruitment, training, capability development, assessment, remuneration, punishment, promotion, motivation, and retirement. HRM strategy should be designed and altered to meet the requirement of total business plan of the company and be adjusted from time to time in accordance with the changes in social and business environments. Following the recent globalisation of business scopes, it has become essential that HRM for logistics take care of the difference of culture, work ethic, educational background, language etc. (Clark, 1996). Those factors affect the way people work, cooperate with each other, make mistakes, become motivated or discouraged, and even conflict with colleagues and partners.

4) European Human Resource Management

The European model of HRM was developed by the initiative of Brewster and Bournois (1991). In their model, HRM strategy is only partly compatible with corporate strategy because HRM is influenced by behaviour and performance from both inside and outside the organisation, particularly the national culture and the industry sector in which the organisation operates (Pinnington and Edwards, 2000).

The characteristic of the European model is the accommodation of partnership between unions, employees and government. It assumes that national culture, which is extensively diverse in the region, has more influence on HRM and is more positive towards social partnership than the American model (Pinnington and Edwards, 2000). However, we must

be careful not to fall into a stereotype of a notional European style of HRM.

For example, HRM of the UK has been categorised as Anglo-American model, which focuses upon employee autonomy, deregulation, mobility, and enterprise level strategies in terms of pay, recruitment and training (Mabey and Iles, 1996). French HRM has been in a complex form due to the larger role of the state and other collective actors in determining the legal and institutional frameworks, though there is a sign that liberalism gradually gaining ground and the weakening power of unions are changing its HRM style (Jenkins and van Wijk, 1996). HRM in Germany was deeply affected by the fundamental social changes of the unification of the two Germanys as well as by the formation of a single market in Europe. However, although new employment practices are being implemented, its tradition still firmly stands on the character of co-determination, partnership, strong employee representation, and collective bargaining procedures (Scholz, 1996).

The Dutch HRM has a unique character of egalitarianism and consensus-seeking procedures. Employer-employee relationship is secured by the works' council system and the industry-wise collective labour agreements (CAO). Therefore, changes in industrial relations and HRM are occurring only gradually in the Netherlands (Heijltjes et al., 1996). Nevertheless, it is also notable that the booming economy with low unemployment rate for the last decade has shifted the Dutch employment situation towards shorter-term of employment and more result oriented wage system. This tendency is again tested in the latest down turn of the national economy since 2002 (Lawrence, 1991; Visser and Hemerijck, 1997; Expatica, 2003).

5) Japanese Human Resource Management

The post World War II growth of Japanese economy gathered attentions of the Western world to its unique HRM system, which had been cultivated over the history of the country (Nakane, 1967; Morishima, 1982; Odaka, 1984; Okumura, 1992; Chen, 1995; Hazama, 1997 etc.). Hazama (1997) termed the characteristics '*managerial familism*'. Morishima (1982) asserts that the culture embedded in the Japanese HRM is a modified Confucianism, in which loyalty is given more emphasis than the originally central virtue of filial piety.

Abegglen (1958) focused on the basic personnel practices underlying Japanese management; i.e. direct and collective recruitment from schools, life-time employment, distinction between factory and office personnel recruitment, seniority order system, bottom-up decision making procedure, and care for the employees' welfare. He further argues that this apparent old-fashioned and feudalistic value orientation was coupled with the Western technology to create astonishing vitality and productivity improvement. However, Odaka (1984) argues that some of those characteristics of HRM are not peculiar

to Japan but can commonly be seen in the European tradition, and that, in Japan, they are observed only at large companies. According to Odaka, the labour liquidity is very high at smaller companies in Japan. He finds the origin of the Japanese management style in the *close-knit society* of the Edo Era (1603-1868), when the country was divided into many fiefs governed by local lords under the central control of Shogun Tokugawa. As the life was mostly supported by rice farming with a minute irrigation system, the society was governed according to the spirit of collaboration. This lead to the creation of closely-knit communities, where some behavioural norms were cultivated; i.e. 1) total life-long membership, 2) selfless devotion to the community, 3) strict discipline and seniority-based rank, 4) harmony and concerted efforts, 5) authoritarian management with employee participation, and 6) contribution to employee welfare. Odaka calls it '*group-centred pattern of value orientations*'. The system was utilised to form a HRM method for modern enterprises in Japan. The benefit of this system is; first, stability of labour availability and job security; second, flexible personnel utilisation; and, third, strong employee identification with the company. This without doubt contributed to the rapid growth of the Japanese economy from the 1960's.

Odaka (1984) also points out the demerits of the Japanese HRM system in the following four items; 1) aggravation of employee dependence to the company and lack of creativity, 2) lack of employment market and discriminatory employment, 3) discouragement for young and able employees, and 4) lack of motivation and career development. There is a strong argument from the Western side that the last ten years of economic deterioration in Japan is largely attributable to these demerits.

The traditional Japanese HRM system looks to be fading away in the face of massive social shift towards the Western, or American, management system in various fields of business and societies. To date heated arguments have been taking place as to whether the traditional Japanese HRM system should be maintained or even promoted or not in order to secure competitive advantage in the global market (Nonaka and Takeuchi, 1995; Koike, 1997; Imai, 2002; Mizuno, 2002 etc.).

Odaka (1984) suggests 30 detailed solutions to cope with the aforementioned four demerits. They can be summarised in 8 items: 1) to flatten the bureaucratic organisations for more democracy, 2) to delegate power to the self-propelling small units on the front line, 3) to maintain life-time employment but limit it to the core personnel, 4) to introduce fair personnel assessment and promotion system, 5) to maintain seniority order system to some extent, 6) to enhance career development and develop employment markets, 7) to take measures for senior employee posting, and 8) to reduce employee welfare expenses and improve workplace environment.

However, a large number of prominent companies that put those measures into practice

are still in difficulties 20 years after Odaka proposed the solutions.

Toyota's management system (Wakamatsu and Kondo, 2001) gives suggestions from different angles to answer the questions. It is termed *Jidoka* in Japanese, which means 'self-working-system'. In *Jidoka*, the floor workers are given authorities to stop the production line when they think it necessary. In this way, problems in the production line are sorted out at the earliest possible timing, thus stoppage is minimized. In order to give discretion to the workers, they must be capable enough to judge and analyse the situation immediately when a problem occurs, and be able to solve them by repairing machines for themselves to a great extent for instance.

How is it possible to achieve higher reliability of workers at Toyota? The solutions in terms of HRM are as follows.

a) Multi-purpose workers

Toyota's workers are supposed to have multiple skills. They need to be skilled with a number of jobs at the same time. The skills are acquired through job rotations. This helps workers to avoid boredom of being assigned to a simple job for a long time, and allows the company to adjust the workforce according to the fluctuation of demand. Multi-purpose workers can also think how their working procedures can be rationalised and the waste of time can be minimized because a wider scope of experience gives a better view of the total process. "That is not my job." is the last word to pronounce.

b) Giving a thought to partners' jobs

Suppliers and logistics service providers are respected as key contributors to *Kaizen*, or improvement. Workers are trained to discuss *Kaizen* with various levels of collaborators so that they can be responsible for their task of providing a right product-in-process to the next worker in the production line.

c) Respect for the front line

Supervisors and managers are encouraged to keep close contact with the front line, where all kinds of *Kaizen* ideas should come from. Their most important job is to develop the capability of human resources on the floor. Toyota offers its employees 40 year working life planning. Detailed job requirements and the level of achievement are set out in a sheet, according to which the workers are periodically evaluated and monitored on their improvement. It is a life-long process of human resource development.

As such, *Jidoka* requires worker to think, judge, plan and suggest. In their manufacturing and logistics thought, human resources are always in the centre (Wakamatsu and Kondo 2001).

Koike (1997) casts a light on the details of *on-the-job* (OJT) and *off-the-job* (Off-JT) trainings, which, he asserts, have been one of the most important elements of Japanese competitive advantage in manufacturing. He addresses that *intellectual skills* play an important role in the Japanese human resource development. Intellectual skills denote; 1) a capability to do extraordinary work, 2) a capability to handle circumstance change, 3) a capability to analyse problems, and 4) a capability to handle uncertainty. These skills are cultivated through on- and off-the job trainings.

He suggests that, in order to grow intellectual skills efficiently, a *Broad OJT* is essential. This type of training can be achieved by giving workers job-rotation within a certain field over a rather long period of time, giving experienced workers a task of tutoring junior workers as well as doing their own jobs, making workers to report on the unusual happenings and problems at daily brief meetings, and having workers participate in machinery maintenance and repair. It is also suggested that the combination of a formal and an informal type of Off-JT is effective for intellectual skill forming. Here, the formal Off-JT denotes collective intensive training sessions held periodically, whereas the informal OFF-JT is a short meeting to give information or exchange views, which is usually held near the shop floor, supervised by the senior staff, from time to time, and even at a pub over a glass of Sake after work. The characteristics of Japanese Off-JT is the fact that it may often be offered to the employees of *Kyoryokukai* (suppliers' cooperation network) members.

The Japanese HRM system explained in the works of Odaka and Koike, and the Toyota method will provide effective tools to analyse the difference of logistics management between Europe and Japan.

8. Cultural Diversity and Logistics Management

Cross-cultural management in logistics is a new area. In the field of logistics, the role of an intercultural perspective as a way of sensitising managers to cultural diversity and to the cross-cultural dimensions underlying business and organisational performance still seems incipient (Canen and Canen, 1999).

Up to now, logistics management theories have concentrated on the technical and the organisational aspects of the subject, on the assumption that there is only one paradigm of the optimum logistics management. Operations and strategies are the main concern of the

people as well as the computer systems to allow them to do more cost-effective and speedy management. However, human factor in logistics is as important as those elements when we give a thought to maintaining and improving the reliability of logistics in the total supply chains. Individual persons are different and separately bound by the cultures in which they have grown up or spent substantial period of time in their life.

Logistics deals with the positioning and transportation of goods. What is important to consider in terms of goods and services, however, is not what they are and where they are found physically, but what they mean to the people in each culture (Trompenaars and Hampden-Turner, 1997). Utility is the value of the goods for the buyer. The economic theory teaches that the price of goods and services are determined by the utility people find in them. A different person finds a different utility in the same goods. Therefore, economics deals with average utility in a specific society. In the real economy, however, what must be looked after are different utilities in different areas of the world (Tatsumi, 1965).

In Japan, it is commonly found that utility is evaluated, to a greater extent than in the Western countries, by the service and the auxiliaries attached to the goods rather than the goods itself. For example, in Japanese markets, designs, packages, the way and time of delivery, the behaviours of sales person, after-sales care, personal seller-buyer relationships etc. tend to have great influence on the sales. If any of these elements are not satisfied enough, the customers make a decision not to buy the goods and look for other ones with better services or auxiliaries attached. This is the area where we must shoulder the responsibility for explanation in logistics management theories. Canen and Canen (1999) contend that education should take care not only of the knowledge of and sensitivity to cultural diversity but also of the deconstruction and challenging of existing stereotypes and assumptions.

Logistics is very much affected by the total human resource management and culture in the sense that transportation involves many people in many countries and handling of goods at distribution centres is done by a variety of workers who came from various parts of the world with different educational and cultural backgrounds. How we can create and maintain *trust* among those different types of people is always the central concern for practitioners.

Hofstede's (1994) famous theory of cultural differences based on the multi-country survey of IBM provides interesting tools for analysing the difference of logistics practices between Europe and Japan. He divides national cultures into five dimensions: *'power distance', 'collectivism vs. individualism', 'femininity vs. masculinity', 'uncertainty avoidance' and 'long-term vs. short-term orientation'*. Power distance is the emotional distance between the subordinates and their bosses. A larger power distance means, for

example, employees being afraid of their bosses, the bosses' autocratic or paternalistic attitude, and the people's general preference of those situations. Collectivism vs. individualism is rather more generally used for distinguishing the degree of priority on the interest of the group one belongs to or the individual. Femininity vs. masculinity refers to the difference of harmony vs. challenge on which people put more value. In the feminine society, people are expected to cooperate with each other and more employment security is to be assured. Whereas in the masculine society, people are encouraged and expected to aim for advancement in the career and result oriented salary and promotion systems are justified. The uncertainty avoidance rate is the degree of tolerance of ambiguity in society. Strong uncertainty avoidance is represented by job stress, strict rule observance, long-term serving for one organisation etc. Log-term vs. short-term orientation was added as the fifth dimensions in Hofstede's theory eleven years after the publication of the first edition. It represents typically the difference of perspective between East and West. Long-term orientation, also termed 'Confucian dynamism', is correlated with perseverance, seniority order, thrift etc.

Part of the result of Hofstede's survey is extracted for the purpose of this research in Table2-1.

Table 2-1 Country scores in five dimensions

	G. Britain	Germany	France	Italy	Netherlands	Japan
PDI (D-1)	35	35	68	50	38	54
IDV (D-2)	89	67	71	76	80	46
MAS (D-3)	66	66	43	70	14	95
UAI (D-4)	35	65	86	75	53	92
LTO (D-5)	25	31	-	-	44	80

Source: Hofstede, 1994

Note: PDI - Power distance index

IDV - Individualism index

MAS - Masculinity index

UAI - Uncertainty avoidance index

LTO – Long-term orientation index

The above figures show distinct differences in Dimension 2 through Dimension 5 between Japan and the Western European countries. Japan is categorised as more collectivistic, masculine, uncertainty avoiding, and long-term oriented country. Also, it is remarkable to see the difference of scores among the Western European countries. For example, France shows larger power distance; The Netherlands is far feminine. Great Britain is less uncertainty avoiding and short-term oriented. This outcome warns us to take

caution in dealing with the comparison of logistics between Japan and the holistic Europe.

Lessem and Neubauer (1994) divide Europe into four regions and give typology for them as in the Table 2. The *Western* is represented by the Anglo Axon pragmatism. The *Northern* is typified by French adiministrativeness and the 'Brussels' bureaucracy'. The *Eastern* indicates German holism and cooperativeness in its organisational approach with technical orientated attitude. The *Southern* is typically a Latin culture, in which things are done in a humanistic, social and communal way.

Table 2-2 European Cultural Typology

Sphere	Form	Substance
Western	Individual transaction	Commercial
Northern	Organisational order	Bureaucratic
Eastern	Technical system	Industrial
Southern	Social	Familial

Source: Lessem and Neubauer, 1994

Both Hofstede's and Lessem and Neubauer's approaches cannot avoid stereotyping of national cultures and embrace the jeopardy of over-simplification of the explanation about complex society. We will, therefore, use these frameworks of cultural differences in a 'paradigmatic' manner (Hofstede, 1994).

The management of supply chain must take the difference of cultures for granted. On this foundation, smooth communication each other and understanding of the unique circumstances of the counterpart must be ensured with mutual '*trust*'.

Gehani (2000) suggests five factors to promote trust among partners in supply chains; i.e. 1) selection of trustworthy partners, 2) frequent and positive trust building social interactions, 3) development and reinforcement of a clear shared vision by top management, 4) heavy focus on process capabilities, and 5) collaborative culture cultivation. However, when we observe the difficulty in the practices of logistics, this suggestion still leaves a question as to "how".

Conceptualisation is done, but the next step forward is in the complexity. People soon encounter a standstill and try to seek solutions by merely implementing new ICT systems. "Easy change" is in engineering business systems, designing software and building facilities; the "hard change" is getting people to accept change and alter their own behaviour (Gabel and Pilnick, 2002).

Gabel and Pilnick's (2002) methodology for business culture change, which was

sponsored by the Council of Logistics Management of the US, is one of the pioneering attempts to cast a light on the way cultural change in supply chain can be implemented. Table 3 shows the 'Eight-step new-system installation plan' for business culture transformation designed by them.

Table 2-3 The Eight-Step New-System Installation Plan

The Eight-Step New-System Installation Plan for Business/Culture Transformation

1. **Conduct Business/Culture Analysis (BCA)**
   The Business/Culture Analysis establishes the current state of business/culture effectiveness.

2. **Design Business/Culture Intervention Strategy**
   Determine the grid position of the organisation and select the intervention strategy. Set Business/Culture Plus change goals.

3. **Establish Score and Timetable for Embedding Stages**
   Set business and culture milestones for each of the three embedding stages. Establish what must change and in what time period.

4. **Develop Mission Statement, Values, Beliefs and Norms**
   The commitment to the new system and to the business initiative needs to be stated as a mission statement incorporating the key nonnegotiable values, beliefs and norms needed to drive change.

5. **Select Target Populations and Change Cells**
   Ensure top-management commitment. Select the general populations that will host the change cells. Use the guidelines for cell size, formation of cell nucleus and selection of first-generation change cells to target populations for change.

6. **Identify and Optimise Change Platforms**
   Change platforms are vehicles for managing human interaction. Meetings are the most ubiquitous change platforms. The engineering of new-system meetings, in all their shapes and forms, provides a key platform to stage new-system installation.

7. **Select Culture-Based Intervention Tools**
   An array of traditional change management tools needs to be retooled to incorporate culture-based processes. Once refitted as business/culture intervention tools, style management and coaching, training, team presentations, orientations, strategic planning, team building, project management, and business, information and management process improvement tools can be deployed creatively to effect new-system transformation.

8. **Begin the Transformation Process**
   Apply all new-system values, beliefs, knowledge and skills to transform the old system. Using command-and-process management approaches on targeted populations, select and implant change cells. Follow an embedding strategy that aligns business and culture, synchronises formal and informal rulemaking and integrates task and process actions. Do not stop until you have completed a first-cycle installation of the new-system upgrade to the organisation's human system.

Source: Gabel and Pilnick, 2002, page 248

This approach gives general ideas as to how steps should be taken to implant a new culture system. However, it is confined to the general management practice and takes Western Paradigm as given, lacking consideration of the direction in which logistics will

evolve.

"Frames are critical, governance structure risky, challenges numerous - and all have to be cross-culturally examined (Magala, 1999)."

9. Uncultivated Area - Comparative Logistics Study

Luo (2000) made a pioneering research into the cross-national comparative logistics between China and developed countries. His research suggests that logistics best practice is influenced by the national economic development level, economic system, and culture. Those factors shape unique characteristics of logistics in China. He, therefore, contends that the logistics discipline formed in the Western developed countries is not exactly applicable to the countries with a centrally planned economy.

Can we assume that the same conclusion is drawn to Japan as an economically developed country in East Asia? The lack of preceding research results does not allow us to offer an unambiguous answer to the question. For example, Bookbinder and Tan (2003) made an interesting research on the comparison of Asian and Western logistics systems, using IMD's World Competitive Yearbook. (See Table 2-4.) They conclude that a statistical cluster analysis of the data shows that Singapore, Hong Kong, Taiwan and Malaysia are among the top 14 logistically competitive countries out of 33, all the others being Western European and North American countries with Denmark ranked second next to Singapore. On the other hand, Belgium, France and UK are among the inferior second-class countries together with the Philippines and China. Japan is not included in the research. The good scores are, according to Bookbinder and Tan, attributable to deliberate investment in infrastructure, business-friendly processes, and harmonious labour relations. Obviously, this result does not coincide with the general notion held. The definition of 'logistics excellence' should be subject to reconsideration. Accuracy of comparing factors in terms of competitiveness is also questioned.

Table 2-4 Country Scores on Logistics Competitiveness

Cluster A		Cluster B		Cluster C	
Country		**Country**		**Country**	
Singapore	-27.6	Belgium	-4.1	Thailand	8.8
Denmark	-22.4	France	-2.5	Italy	15.2
Finland	-21.7	Spain	-0.7	Slovenia	15.9
The Netherlands	-16.7	UK	-0.3	Mexico	16.5
Germany	-15.6	Portugal	1.6	Czechoslovakia	16.7
Luxembourg	-15.0	Hungary	2.3	Korea	17.4
Hong Kong	-13.5	The Philippines	4.1	India	18.3
Austria	-12.8	China	9.4	Greece	18.6
Sweden	-12.8			Poland	19.8
USA	-11.7			Russia	22.1
Canada	-11.2			Indonesia	23.6
Taiwan	-9.6				
Ireland	-6.6				
Malaysia	-5.4				

Source: Bookbinder and Tan, 2003

There are tremendous number of books and literature written on the characteristics of Japanese general management system and its culture, and their comparison with the Western. However, most of them are focusing upon manufacturing industries (Womack, 1991; Nonaka and Takeuchi, 1995; Koike, 1997; Wakamatsu and Kondo, 2001 etc.). A comparison of the Japanese and the Western logistics management systems has not been made sufficiently yet.

Nevertheless, fortunately, we can make full use of an abundance of preceding study results in those adjacent areas in analysing logistics. Japanese method of business management has been drawing attention of Western practitioners and academics alike for quite a long time. Study on comparative manufacturing systems will certainly serve as a good lantern on the dark unknown road to this research area. The theories of knowledge creation (e.g. Nonaka and Takeuchi, 1995; Koskinen 2000, Halley and Beaulieu, 2001), and the newly developed management concept of spirituality in the field of management psychology (e.g. Krishnakumar and Neck, 2002; Howard, 2002) will also be a great assistance to the work.

Comparing European and Japanese logistics management is not an easy task, with a

view to the bounded rationality of data available. It is the main reason that few researches have been undertaken in this area. However, we consider it an effective bridge-building over the two different logistics paradigms, both of which have severally achieved a substantially high level of excellence.

CHAPTER 3

ECONOMICS OF LOGISTICS:
AN ATTEMPT TO COMPARE COSTS AND SERVICE RATES

1. Introduction

Since Japanese yen appreciated its value against US dollars dramatically in the late 1980's, which was triggered by the G5 Plaza Agreement of 1985, there has always prevailed a notion that prices in Japan are generally higher than in the rest of the world. Likewise viewed are the costs incurred in logistics. Due to the existence of complex argument as to whether the current currency exchange market level reflects the actual state of the economy or not, we have so far not been able to find sufficient information to support or contradict this notion. What is available as statistics is a fraction of information about transportation rates and warehousing costs.

Are logistics costs higher in Japan than in Europe? Comprehensive researches to compare the costs between the two regions are not found. Therefore, there is not a clear evidence for this notion. Logistics costs are difficult to compare between countries. Let alone the exchange rate fluctuation, the complex structure of service fees and transportation charges make a comparison of the charges for a particular service provided by different firms almost meaningless. Fees and charges are often determined in relevance to the other items in a comprehensive contract between firms, thus highs and lows of specific service fee depends on the situation and the needs of the customer within the framework of the holistic understanding of how the service should be provided in the project. However, the comparison of logistics management is still centred on the productivity of the firm. In this sense, Japanese logistics has been deemed more costly and inefficient, which means that their logistics management method is 'ineffective'.

In a traditional comparison of logistics management across borders, logistical excellence has always been considered in relevance to the cost for it (Christopher, 1992). A general perception has been, "The better the service, the more expensive." Then the question is, "Will it worth the cost?" In this very point, there is a possibility that the paradigms of logistics management differ in different regions.

In this chapter, we tackle the difficult question of interrelation between economic and cultural aspects of logistics management. First, we examine the meanings of cost and

efficiency in logistics. A comparison of logistical costs is attempted in order to verify the above notion about Japanese logistics costs. The information was collected from the official sources available in Europe, Japan and the United States. Next, we are investigating the recent development of arguments in economics, which challenge the traditional efficiency theories, which reflects the different dynamics of economic development in the Eastern part of Asia. We are, then, going into the deeply rooted background of the behaviours of people as economic actors and decision makers in supply chains. We will try to clarify the linkages between the phenomena seen in supply chains and the culture embedded in the logistics management.

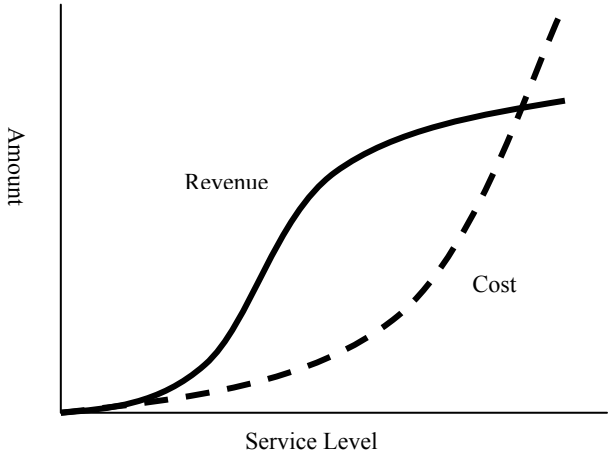
Section 2 gives the result of general logistics cost comparison. In Section 3, transportation costs are compared in terms of trucking, parcel delivery, railway and coastal shipping. In Section 4, port costs are compared. Section 5 investigates warehousing cost comparison. Section 6 is dedicated to the recent arguments in economic development, optimisation vs. relativism, which is expected to apply to logistics as well.

2. Economics of Logistics

What is excellent in logistics management? Christopher (1992) argues that competition has shifted its field from product quality and brand name to service. Service is defined as 'availability' and supported by logistics. Therefore, he asserts that excellent logistics management warrants excellent service and makes the firm competitive in the market. He also points out that the cost curve for service becomes steeper as the service level rises and reaches the point where a marginal service provision does not bring enough income to cover the marginal cost. (See Figure 3-1)

If service is a function of logistics, the cost of service comprises stock, transportation, after-sales care etc. Effectiveness of the service provided depends on whether those elements of logistics are functioning well or not. In order to improve the functionality of logistics, the integration of management control over the entire supply chain is necessary as well as smooth flows of accurate information. ICT is thus playing an important role for the operation. This is a line of thought that has been regarded as rational when we contemplate a better logistics management.

Figure 3-1. Revenue and Service



Source: Christopher, 1992

The above view is based on the following assumption. Firms try to increase sales by promotion and service provision, and at the same time to reduce the cost to the lowest possible level in order to maximise profit. Therefore, in pursuing the optimum supply chain, a combination of the most effective but economical means of logistical services is pursued in the chain. It means that there should be a point where the profit is maximised.

In this context, we are now trying to compare the costs incurred for logistics in various aspects in the following section so as to see which of the European or Japanese logistics is more effectively managed.

3. Logistics Cost Comparison

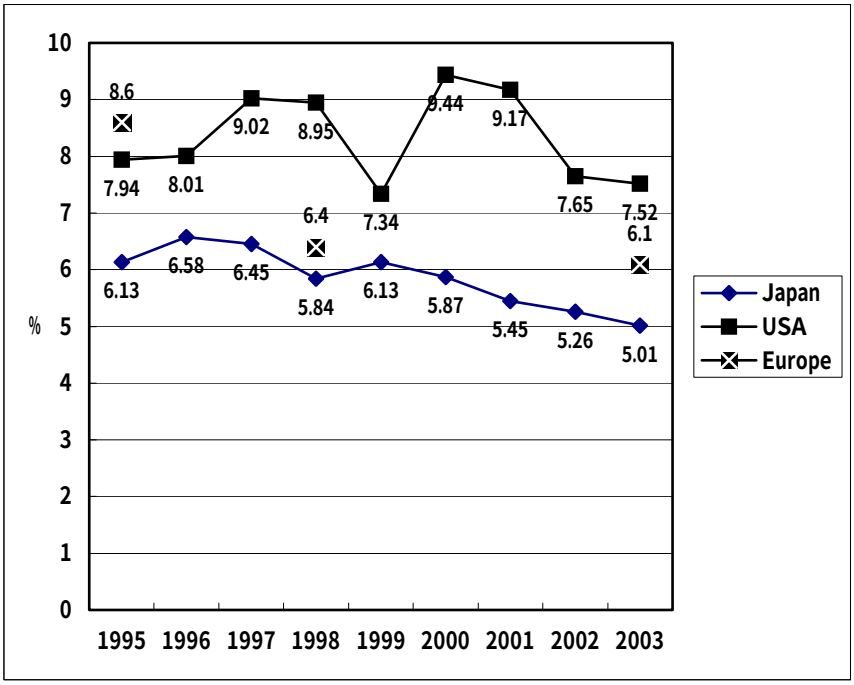
1) General Logistics Costs

According to the surveys on the proportion of logistics costs in the total turnover in Europe, Japan and the USA, which were done separately by different institutions, the logistics costs account for 6.1per cent of the total turnover in Europe, 5.01 per cent in Japan, and 7.52 per cent in the United States. (See Figure 3-2.)

The chart below shows chronological changes in the logistics costs in each country/region. It indicates that the ratios have been declining, and that they have always been lower in Japan than in Europe and the USA. The declining figures are a convincing outcome of logistics management development in each country/region. One can easily

take these figures as a supporting evidence to defuse the general notion that the Japanese logistics costs are generally higher than those of other developed countries.

Figure 3-2. Logistics Costs as a percentage of Total Turnover (All Industries)



Source: Japan Institute of Logistics Systems, 2003, for Japan and USA; ELA/ATKEARNEY, 2004 for Europe[2]

Remarks: 1) The figures for the US were drawn from Japan Institute of Logistics Systems, 2003, which refers to H.W. Davis (2003) "Logistics cost and services", the proceedings of the CLM Annual Conference.

2) The figure for Europe put in the year 1995 is for 1993. Figures were available only for 1993, 1998 and 2003.

However, the result of the survey does not automatically mean that the logistics in Japan are more efficient than in Europe and the USA. The difference of bookkeeping standards in each country/region causes some costs that are included in the figures for Europe and the USA to be not included in those for Japan. Typically, inventory-carrying costs are missing in the figures for Japan while they are for the USA and Europe. The figures excluding the inventory-carrying costs for 2003 are shown below.

[2] Logistics costs consist of transportation, warehousing, customer service, administration and inventory for the USA; transportation, warehousing, packaging, handling and administration for Japan; and transportation, warehousing, administration, inventory and transport packaging for Europe.

Table 3-5. Logistics Costs Breakdown as a Percentage of Total Turnover (All Industry) in 2003

Country/Region	Transpor-tation	Warehousing	Customer Service	Administ-Ration	Inventory	Total	Total (excl. Inventory)
USA	2.63	1.6	0.4	0.28	2.6	7.52	4.88

Country/Region	Transpor-tation	Warehousing	Packaging	Administ-Ration	Inventory	Total	Total (excl. Iventory)
Europe	2.6	1.5	0.5	0.8	0.8	6.1	5.3

Country/Region	Transportation	warehousing	Others	Total (excl. Inventory)
Japan	2.93	0.88	1.2	5.01

Source: Japan Institute of Logistics Systems, 2003, for Japan and USA; ELA/ATKEARNEY, 2004 for Europe[3]

These figures again do not provide a true picture of logistics cost comparison because the inventory costs, one of the main elements of logistics costs, should not be excluded from the costs. However, the inventory-carrying costs are difficult to measure in the currently prevailing accounting standard. There are not figures available so far for Japan because, for firms, disclosing inventory costs is awkward due to confidentiality. The figures for the USA and Europe are worked out using a certain coefficient, thus they are not actual costs either. Moreover, the definition of some other costs such as for customer service and packaging are not clearly mentioned. As such, the standard of calculation for each item is not uniformly made when the questionnaires are distributed in the three countries/region.

In comparing logistics costs across borders, there are disparities in the conditions such as geographic and demographic features, industrial structures etc., which greatly differentiate the cost structures but are difficult to quantify. The width of margins that logistics service providers enjoy may also influence the results significantly. As the above figures are the only statistics available as far as we have investigated, we must admit that there is not a definite answer to judge the accuracy of the general notion that logistics costs in Japan is higher.

Next, comparisons of quoted logistics service prices will be made.

[3] Logistics costs consist of transportation, warehousing, customer service, administration and inventory for the USA; transportation, warehousing, packaging, handling and administration for Japan; and transportation, warehousing, administration, inventory and transport packaging for Europe.

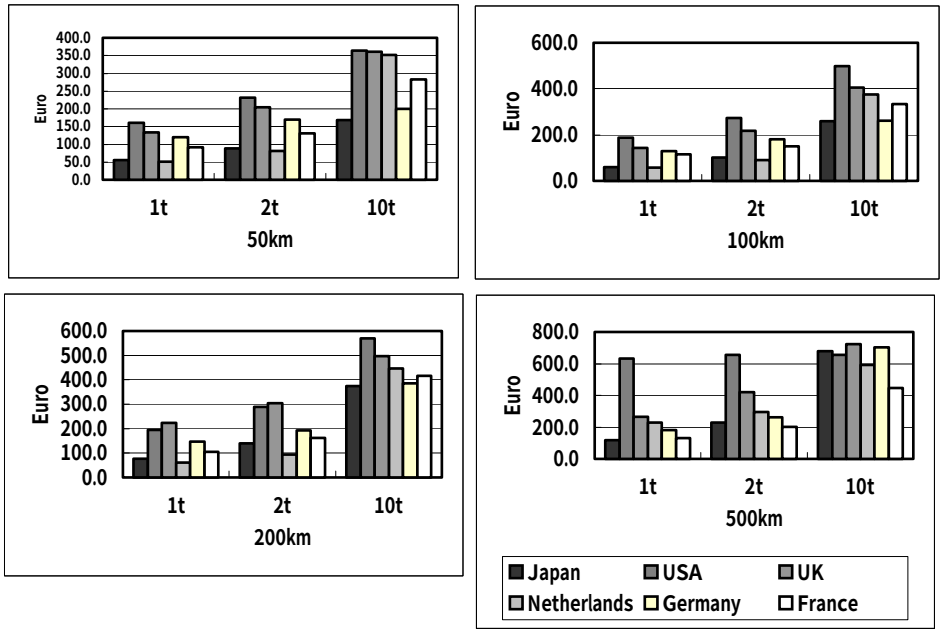
2) Transportation Rates

In 2001, the Ministry of Land, Infrastructure and Transport of Japan made a comparative survey on the freight rates of Japan, the USA and Europe. The result of the survey was published in 2002 (Ministry of Land, Infrastructure and Transport of Japan, 2002a).[4]

Figure 3-3 shows a comparison of truck rates for the distances of 50km, 100km, 200km, and 500km in Japan, the USA, the UK, the Netherlands, Germany and France.

Obviously Japan offers lowest trucking rates for most of the weights and distances. It is supported by the fact that fierce competitions are taking place among small truck operators in Japan. However, the heavier the cargo and the longer the distance become, the closer become the rates of the six countries. In the distance of 500km, the transportation of 10 tons of cargo in Japan costs even higher than in the Netherlands and France. This can be attributable to the geographical specificity of Japan, where there is a heavy competition for short distance trucking due to high population density and the long distance trucking along the coast of the main island costs a large amount of highway tolls.

Figure 3-3. Comparison of truck rates (Japan/USA/Europe)

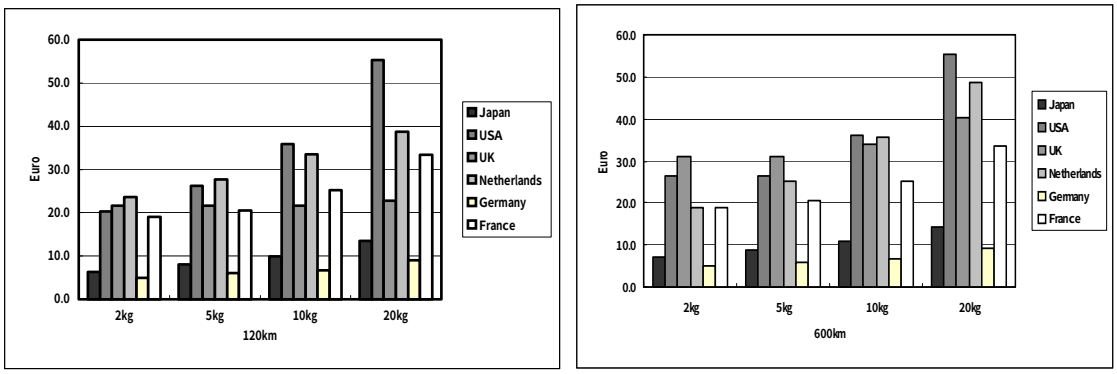


Source: Ministry of Land, Infrastructure and Transportation of Japan, 2002a

[4] The figures are translated at the exchange rates prevailing in the market at the time of survey as follows. Euro1.00 = US$0.8808; Euro1.00 = Yen117.61; Stg.1.00 = Euro1.6410

Figure 3-4 gives a comparison of the rates for parcel delivery services within two days. [5] Japan's parcel delivery services are the cheapest among the countries with an exception of Germany, which provides far less expensive services than the other European countries.

Figure 3-4. Comparison of Parcel Delivery Service Rates (Japan/USA/Europe)



Source: Ministry of Land, Infrastructure and Transport of Japan, 2002a

In the Japanese market a fierce competition is taking place among the top three service providers. It gives downward pressure on the rates and raise service quality levels at the same time. There are large differences in the rates between Germany and the other European countries. The incoherence is presumably due to the differences of the stage of development of parcel service business at the time of survey.

Concerning railway transportation, Japan is less competitive than the road transportation in comparison with other countries. Japan ranks in the middle range; more expensive than the USA, the Netherlands and Germany, and less expensive than the UK and France. (See Table 3-6.) However, it is also notable that Japan's railway transport is not the most expensive despite the geographic constraints and expensive land. The attributable factors are, first, the economies of density, which is brought by the dense population making economic activities only in the 30% of the whole land; and, second, the competition with road transportation. Nevertheless, calls for massive modal shifts from road to railway transportation in Japan are not likely to become a reality and the railway will remain to play a minor role (3.9% in 2002)[6] in the foreseeable future due to the

[5] For the Netherlands and Germany, the rates are for the services within three days. For the UK, deliveries over 1,200km takes three days at the maximum.
[6] Japan Federation of Freight Industries (2003) *Suuji de miru butsuryuu (Statistics in Logistics)*, in Japanese

infrastructural restraints. This means that the rate comparison of railway transportation does not provide a significant impact on the comparison of the efficiency of logistics.

Table 3-6. Comparison of Railway Costs Japan/USA/Europe[7]

in Euro

Terminal to Terminal	Japan	USA	
425km	500.0	397.3	Chicago/Detroit
1,091km	1,037.4	871.9	Seattle/Shelby

Door to Door	Japan	UK	
400km	629.8	676.8	Southampton/Manchester
600km	795.4	1,060.5	Southampton/Glasgow

Door to Door	Japan	Netherlands	
450km	670.4	660.2	R'dam/Frankfurt
820km	995.4	836.0	R'dam/Munich
1,015km	1,189.1	874.7	R'dam/Milano

Terminal to Door	Japan	Germany	
400km	553.9	349.2	Hamburg/Duisburg
500km	638.3	378.2	Hamburg/Frankfurt
1,200km	1,191.4	481.4	Hamburg/Munich

Terminal to Terminal	Japan	France	
600km	643.7	1,235.5	Le Havre/Chalons sur Saone
1,200km	1,115.5	1,889.7	Le Havre/Marseille

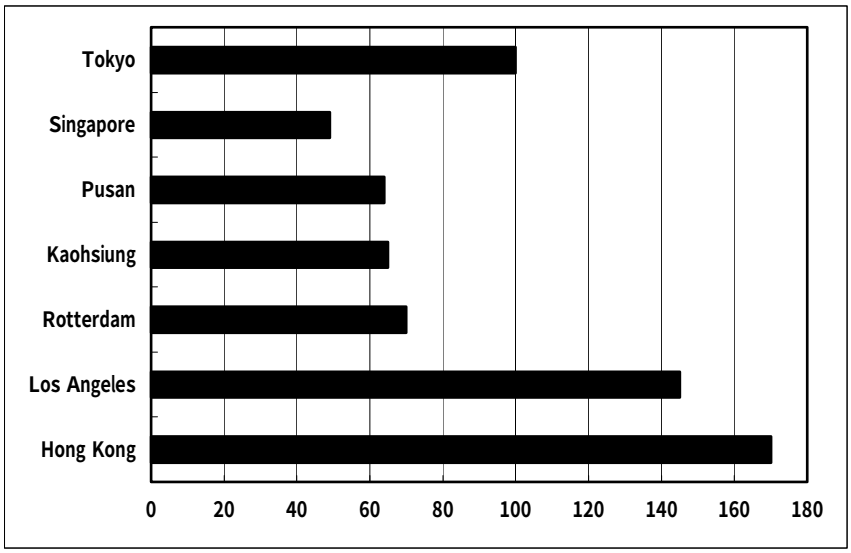
Source: Ministry of Land, Infrastructure and Transport, 2002a

3) Costs at Ports

It is said that Japan has been deprived of its position as the logistics hub of the East Asia by Pusan, Kaohsiung and Shanghai because of the high costs at ports. Figure 3-5 shows a comparison of the costs per container at major ports of the world. When the cost at the Port of Tokyo is 100, Singapore is merely 49. Pusan, Kaohsiung and Rotterdam cost 70 or less. However, Los Angeles costs 45% more and Hong Kong 70% more than Tokyo.[8] The Japanese port cost is in the middle range among the major ports.

[7] Due to the varying quoting systems, the rates shown in the table are based on various scopes of transportation from terminal-to-terminal to door-to-door or a combination of the two on either side.
[8] The figure for Shanghai based on the same assumption is not available.

Figure 3-5. Comparison of Costs at Ports per 40ft Container (Tokyo=100) [9]



Source: Ministry of Land, Infrastructure and Transport, 2002b

Acquiring or losing the position of a logistics hub port can present a misleading argument. To supply goods to a specific area or export products by ships, inland accesses from/to ports are compared for a choice in terms of shipping line network, inland access, costs, efficiencies and service quality in general. In Europe, shippers' decisions for a port are made mainly from among Rotterdam, Antwerp, Le Havre, Hamburg or even Marseilles to export or import goods. Those European continental ports share the same hinterland of Germany, France, Benelux, and the eastern part of the EU countries. However, in East Asia, the ports such as Pusan, Shanghai, Kaohsiung and Tokyo do not compete with each other in the way the European ports are competing, as each country has its own hinterland, which is separated from the others by the sea. Therefore, unlike among the major ports in Europe, the East Asian ports do not scramble for cargoes as much due to the fact attributable to the difference of geographic conditions. It means that the Japanese ports do not lose cargoes merely because of high costs. Export and import cargoes go

[9] The figures are on the following assumption:
Type of the ship: 3,700 TEU container ship of 50,000GT
Handling volume per call: 1,200 containers
Calling time: Inbound = daytime; Outbound = night
Exchange rates: Taiwan NT $1.00 = Yen 3.78; Korea Won 1.00 = Yen 0.0935; HK$1.00 = Yen 16.39
SP$1.00 = Yen 69.47; DGL1.00 = Yen 51.68; US$1.00 = Yen 125.50
Port costs include the following: rent of land (terminal); Mooring facility charge; office worker cost; labour cost; equipment cost; equipment maintenance cost; electricity cost; off-dock container handling charge; tonnage tax; harbour due; pilotage; tuggage; route patrol boat charge; and mooring charge.

through a Japanese port after all whether on a trunk line vessel or on a feeder vessel as far as there is a trade. The choice of a port in the East Asia is largely constrained by the volume of the hinterland's export and import rather than the operational efficiency of the port. Therefore, the comparison of costs incurred at ports do not exactly work as a tool to measure the competitiveness of the ports or the viability for a future standard of maritime logistics.

Japanese Ports

When Japanese ports were dominating the ocean transportation in Asia until 1980s, a large portion of Asian container cargo was transported to and from Japan as the country was the main importer and exporter in the region. This situation should not be confused with being a hub port. If a port is to be regarded as a hub, it should have a substantial spokes of feeder routes to serve neighbouring countries. At that time, there was only a small volume of East Asian cargo was transhipped at the Japanese ports. Japan's past position as East Asia's main ports was merely backed by the dominant size of economy in the region. It was not a hub in the context that Hong Kong, Singapore and Pusan are aiming to play the role at present. Competitions in the East Asia actually take place between production sites rather than ports.

Competition is, therefore, not as much applicable to the ports across borders in the East Asian sea transportation as it is to the European ports. Pusan, Kaohsiung and Shanghai have been recently growing rapidly against the background of economic development in each country. Shipping lines are considering the reduction of the number of calling ports in order to achieve quick turnaround with larger vessels. In this movement, an increasing number of containers are being transhipped at Pusan or Shanghai for final destinations in Japan rather than transported directly to Japanese ports. This constitutes a formation of a real hub-and-spokes structure in East Asia as a new phenomenon. The development does not damage Japanese ports as generally feared now. Transhipment generates merely a small amount of income for the hub port such as container handling at the terminal and some charges incurred to feeder vessels calling at the port. For the Japanese port at the final destination, the containers in any way arrive. To be a hub port or not, as such, does not determine the life or death of a port as much as the existence of hinterland industries and consumer markets does.

Japan accomplished the first industrial revolution in Asia in the early 1900's. Since the 1960's the country has been supporting the growth of Asian economy by way of investment and procurement. The pattern of regional economic growth is named 'flying geese', which symbolises the pattern that the economic growth proceeds, being led by Japan and followed by NIEs, China, ASEAN, and the rest of the region in turn (Ministry of Economy, Trade and Industry, 2001).

As the economy grew in the neighbouring countries, the gross domestic product (GDP) of those countries gradually approached the level of Japan. So does the trade volume. Consequently, the container handling of the major East Asian ports has superseded that of Japanese ports by early 1990's. This is not the reflection of cost competition but the result of the catch-up of the neighbouring economies and the growth of markets, which is a natural tendency and even benefit the Japanese ports in the end. (See Table 3-3 and 3-4.)

Table 3-3. GDP of the East Asian Countries

In million dollars

	1980	1990	2000	2002
Japan	1,073	3,052	4,765	3,992
China	303	383	1,079	1,237
Hong Kong	29	75	165	162
Taiwan	n.a.	n.a.	309	282
Korea	62	253	462	476

Source: Institute of International Trade and Investment, Japan

Table 3-4. Number of Containers Handled by Port in East Asia
in TEUs[10]

	1980	1990	2002	2003
Tokyo	632	1,555	2,712	3,280
Yokohama	722	1,628	2,360	2,408
Kobe	1,456	2,596	1,990	2050
Pusan	634	2,348	9,436	10,408
Kaohsiung	979	3,495	8,493	8,840
Shanghai	n.a.	n.a.	8,610	11,280
Qingtao	n.a.	n.a.	3,410	4,239

Source: Containerisation International Year Books

4) Warehousing Costs

Generally, the price of land and the personnel costs in Japan are higher than in Europe. Therefore, warehousing costs in Japan are generally perceived more expensive than in Europe. Table 3-5 shows a comparison of warehouse rents at various major logistics hubs near the port. According to the statistics, the rents are twice to three times higher in Japan than those quoted in the USA and Europe. This represents outstanding high storage costs in Japan, which is caused by the high land prices.

However, statistics that exactly compare all the costs concerning storage and handlings between the two regions are not available. In the warehousing services, storage unit and volume and the types of handling work greatly vary according to contracts. A firm may need more stock keeping of products, while another more cross docking or value adding. The diversity of work in a warehouse goes into order picking, sorting, labelling, packing and some more value adding. The differences naturally make it difficult to find out the details of the costs incurred and make the total warehousing costs incomparable with each other. Until statistics are completed in accordance with a precise activity based costing, it will be meaningless to attempt to compare warehousing costs between Europe and Japan.

[10] Twenty-foot equivalent unit

Table 7-5. Comparison of Warehouse Rent (2005) in Euro*

City	Rent per M^2/year
Los Angeles (Off Port Area)	45
Los Angeles (Port Area)	63
Rotterdam	45~50
Hamburg	60~65
Osaka	109*
Yokohama	136*
Tokyo	177*

Source: Prologis

Remarks: * Multi-tenant warehouse. The rates are inclusive of Common Area Maintenance (CAM) charges.

** Currencies are translated at the current market rates as of 1st June 2005: Euro1.00 = Yen 133.60 Euro1.00 = US$1.2330

4. Efficiency and Efficacy

'Optimising supply chains' is clamoured for in the logistics management theories. However, 'optimisation' is a word difficult to define. Logistics management has assumed efficiency as a benchmark to achieve the optimum state of supply chains and that cost reduction leads to more efficiency. This is based on the Taylorian scientific management theory, in which explicitness of management should lead to more efficiency (Taylor, 1911)

In economics, efficient flows of materials ensure effective use of resources, which is one of the main goals of economic policy. What we could use to measure the efficiency was displayed in the previous section. Every service has a cost. However, the costs are not always reflected in the market rates of the logistics services. The comparison of the costs also distorted by currency exchange rates and the tremendous diversity of services. The inter-linkage among revenue, service level and its cost, which Christopher (1992) presents as shown in Figure 3-1, gives only a static approximation of the economy. The model eliminates the possibility that the service is provided with expectation that it will return ample revenue in the future. In other words, a part of the revenue of today may be a *quid pro quo* to the service extended to the same customer in the past. The same service may not always bring additional revenue in the future. Many services are provided in vain without enough reward. Many revenues are obtained without additional services. All those inter-linkages are disorderly and depend on time and circumstances. The time element is an important factor when we consider the question of logistics management paradigm.

According to Christopher, efficient logistics management brings better profits to a firm. The profitability depends on the accuracy of logistics management, which is customer

specific. However, in his theory the state of accuracy is not derived by calculation but by the compilation of the result of customer surveys. Indeed, firms are day by day endeavouring to find out what kind of services can lead to better business by sensing the explicit and implicit reactions of customers. Has any firm been successful in identifying the most accurate and cost-effective service for a specific customer that maximises its own profitability? In reality, services are subject to fierce competition, thus today's innovative service will turn out to be an outdated one tomorrow. Whether the service provided in the past was effective or not is only perceived as sensation. The theory of inter-linkage among revenue, service level and its cost thus provides only a static application of the past result to the judgement of what has to be done in the future.

The bounded rationality (Williamson, 1984) acts also in logistics management in this way. We have hitherto seen that effectiveness of logistics management is difficult to measure in a dynamic way. An inescapable conclusion drawn from the analyses in this chapter is that available figures about logistics costs and the service rates in terms of transportation, port operation and warehousing give little help to compare which of European or Japanese logistics management works more effectively.

5. Conclusion

In this chapter, we tried to identify determinants of logistics management effectiveness according to the principles of economics; i.e. efficiency. Efficiency is a function of costs. There was a general notion that Japanese logistics costs were higher than other major developed economies. It implied that Japanese logistics was less efficient than the European. In order to judge whether this notion is correct or not, the US, European and Japanese logistics costs and services were compared, using the survey results publicly available so far.

The comparison of all-industry logistics costs to the total costs among the USA, Europe and Japan showed that the Japanese logistics costs accounted for lower percentage of total turnover than the other two economies. There could be an argument that inventory costs were not included in the figures for Japan. However, the exclusion of the costs from the US and European statistics did not particularly justify the above notion, either. Moreover, we found that the survey results did not provide a true picture of the logistics cost comparison due to the incoherence of the definition of each cost and the diversity of geographic and demographic conditions of the three regions.

The comparisons of various logistics service rates did not show any evidence that the Japanese rates were higher. As for road transportation rates, Japanese rates are mostly

lower than the US and the European except for the heavier cargo of 4 tons or more for a longer distance of 500km, which is naturally not suitable for trucking in the Japanese geographical conditions. Parcel delivery services in Japan are more competitive than the US and the European countries except Germany. Railway transportation rates are higher in Japan than in the USA and the Netherlands-Germany range, but lower than in the UK and French. Port cost per container at Tokyo is lower than at Los Angeles and higher than at Rotterdam. Warehouse rents in the port areas in Japan are overwhelmingly higher than in the USA and Europe. However, the rent is only one of the warehouse costs, which consist of costs for manpower, handling equipment, systems and communication. Statistics of those costs are not available at all due to complex contractual variations in business practice.

Statistics is affected by the fluctuation of currency exchange rates, the incoherency of cost definitions, different accounting procedures, the degree of competition, which can influence ups and downs of service rates, and so on. For now, therefore, we conclude that logistics costs do not exactly represent logistics efficiency and their comparison is not a universal tool for measuring effectiveness of logistics management. It consequently means that the paradigms of logistics management do not always rely on the efficiency. We take this finding as our fundamental premise in analysing the differences of logistics management between the two regions in the following chapters.

Our research will proceed to an investigation as to how decisions are made in logistics. There must be some other factors for making difference to decisions at various points of supply chains. If effectiveness of logistical service is not measurable in the *four-dimensional* space-time (or beyond time and space) and the efficiency does not alone play a role of the determinant of future actions in logistics management, there must be some other factors to influence decision makers in logistics.

CHAPTER 4

CULTURAL SPECIFICITY IN LOGISTICS MANAGEMENT

1. Introduction

To work with the people who have different cultural backgrounds can cause anxiety and frustration with the difficulty to understand their thought and behaviours. Europeans and Japanese have been experiencing this kind of frustration, as well as fascination, with each other for many years. However, there is some difference in the degree of difficulty that the people of the two regions have felt. In business management, Europeans have historically taken the role of implanting ideas to those in the other regions of the world, whereas the Japanese have been the faithful students of the Europeans in many cases. 'Internationalisation' meant, for the Europeans, diffusing their knowledge to and exerting influences on those in the non-European regions, whereas, for the Japanese, it meant adapting themselves to the western way. Only recently some Japanese have proclaimed their management concepts and practices; e.g. *Kaizen* and *JIT*. However, the majority of Japanese still waver in their judgement as to what elements of their traditional management methods to keep or renounce.

In general, when a Japanese manager has been assigned to a position at his company's European branch office, he feels so much obsessed with the mentality to adapt himself to the European management method that he becomes utterly exhausted after some years, being too much reactive to the European culture. In the end, he tends to escape from bothering about converting himself to a European style of manager, or even totally reject the opposite culture and shut himself up in the Japanese community.

It is so difficult to mingle people with different cultural background. We should not undervalue cultural influence on the way logistics is managed. The paradigm of logistics management is closely linked to the idea of values; i.e. efficiency, customer satisfaction, market share, profitability, relationship etc. Therefore, it is dangerous to make an assumption that the currently common paradigm of logistics management is universally and eternally valid for the improvement of supply chain function. As the world evolves in the complex system, the paradigm of logistics management may also change in accordance with the changing value system.

In this chapter, we tackle the difficult question of interrelation between economic and cultural aspects of logistics management. First, we examine the meanings of cost and efficiency in logistics. A comparison of logistical costs is attempted in order to verify the above notion about Japanese logistics costs. The information was collected from the official sources available in Europe, Japan and the United States. Next, we are investigating the recent development of arguments in economics, which challenge the traditional efficiency theories, which reflects the different dynamics of economic development in the Eastern part of Asia. We are, then, going into the deeply rooted background of the behaviours of people as economic actors and decision makers in supply chains. We will try to clarify the linkages between the phenomena seen in supply chains and the culture embedded in the logistics management.

In Section 2, a general investigation is made into the relationship between culture and management. Section 3 deals with the educational aspect. European education system will be looked at in connection with the enlargement of the European Union. For the Japanese education system, the influence of Confucianism and Kokugaku on the evolution of Japanese logistics paradigm will be given focus. In Section 4, we are looking at the influence of the systems of belief, especially religions and philosophy. It will be investigated how Christianity and Buddhism/Shinto influence the logistics paradigms in Europe and Japan respectively. A conclusion is given in Section 5.

2. Culture and Management of Supply Chains

In Chapter 2, we made a review of literatures that dealt with the cultural aspect of business, and found that the study had only recently begun in the field of logistics management. Existing logistics theories take culture as given and merely try to cope with the resistance rising out of the cultural differences to force people into a single method of management (e.g. Canen and Canen, 1999; Gabel and Pilnick, 2002). Those studies have relevance in the technical point of view that they are devoted to establishing methodology for smooth communication of people involved in a supply chain across borders, though national cultures tend to be stereotyped in them.

Economics deals with the choice of resources, in which scarcity is an assumption (Stiglitz, 1997). Management study deals with efficiency and profit maximisation, which is assumed to contribute to a better functioning of economy (Drucker, 1946). Logistics is embraced in the field of management study in the sense that efficient flows of materials and products should bring more profit for a firm. This paradigm of logistics management is commonly held in the mind of people involved in the supply chain. However, it does not

mean that the paradigms held by the people are exactly the same, because there are various views as to what is profit. For example, someone takes the maximisation of profit based on the magnitude of profit for the year, while another takes it for several years. The choices of resources to maximise the profit thus differ between the short-term and long-term range.

Essentially, the flows of materials and products link resources, production and consumption. The movements contribute to the growth of economy in terms of national income. However, a goods flow does not increase utility on its own but only help the utility of the goods to realise by way of filling the scarcity. Sometimes it has negative effect on the resource allocations. The increase in the movement of goods necessitates more energy consumption and investment in extra infrastructure, causing external diseconomy such as traffic congestions and damages to the environment. The effort to stimulate free global movement of goods can be one of the primary causes of the serious environmental destruction. We must admit that the movement of goods is a necessary evil, but it tends to be neglected in many logistics studies.

Economics assumes that firms try to maximise profit. Practitioners of the West and the East in the past and the present would agree on this assumption. However, actual behaviours of those people in the market, or 'resource allocation', sometimes show the existence of a great distance from this central idea. Institutional economics explains this phenomenon with the concept of 'bounded rationality' and 'path dependency' (Coase, 1937; Simon, 1985; Williamson, 1998). There has not been significant progress in explaining the phenomenon in the field of economics yet.

Nevertheless, to find out what kind of paradigm will regulate the evolution of the flows of materials and products in the future, it is necessary to observe economy beyond the boundaries of disciplines. The cross disciplinary study is integral in the context that future logistics management will have to deal seriously with the mission of effective global resource allocation as the central concern in order to reduce the risk of further destruction of global environment. A sociological approach to this issue is essential in the sense of analysing what kind of cultures lie behind the decisions made in business.

Hofstede (1980 and 1994) asserts that culture, as the *software of the mind*, influences the way decisions are made in the management of business, and it has a great diversity among countries. In his research, European culture is characterised as being individualistic, feminine, uncertainty assuming, and short-term oriented; whereas Japanese culture is collectivistic, masculine, uncertainty avoiding, and long-term oriented. If we apply this theory to logistics, European logistics is explained as being managed on the basis of arms-length relationship with a short-term target of profitability, and less tolerant of unexpected incidents; whereas Japanese logistics is represented by a close network of long-term human relationships with a strict discipline to achieve goals, and a precise

planning to avoid unexpected problems.

Warner (2003) agrees that there is a subtle link between the cultural distinctiveness of nation states and their business and economic performance, instead of invoking a crude economic or technological determinism. He continues that, as being a pattern of taken-for-granted assumptions of people's thought, action and feeling, culture affects how they produce goods and services. Logistics are without doubt expanding globally. Supply chains are extended increasingly across borders, involving more people than ever to handle and transport goods, add value to them, make and operate equipment and systems and so forth. Those people act in accordance with their own value system in which they grew up. The more the supply chain is extended, the more difficult it becomes to analyse the inter-linkage among revenue, service level and its cost. There is a complex causal relationship between culture and the economic and management variables it may shape (Warner, 2003).

He continues that, as goods flow increasingly across borders, logistics management culture becomes more alike among countries and regions. This *convergence* of cultures enforces the functioning of the economies of scale and scope. On the other hand, miscommunications and misunderstandings between the people of different cultural background may cause conflicts and the *divergence* of management cultures. Supply chains will be subject to a substantial alteration in that event. Warner (2003) concludes that, while distinctive features of culture have been partly maintained, economies and their managements have moved towards *relative convergence*.

These are, in fact, the views presented from the European side. A semantic implication of 'culture', or 'Bunka' in Japanese seems somewhat different between Europe and Japan. Setting of cultural dimensions and the ongoing convergence of management cultures in the European view still carry an implication of *conversion* from the obsolete to a modern culture (Debroux, 2003). That two different cultures converge with each other means some of the different elements of the two are mixed to form a new style of culture. However, it is not yet clarified what elements of Japanese culture may be taken into the convergence.

We are now trying to get into this complex investigation. As a first step of this challenging work, we are taking *education* and *religion* to clarify how they are influencing logistics. The reason why education and religion are taken first is that they are the fundamental institutions in which people develop their pattern of value recognition. Education forms a framework and religion builds a platform. We consider that these two institutions play a key role in the formation of paradigm in business management. By nature, this kind of study is not suitable for quantitative analyses. The approach made in the following sections will be an explorative attempt.

3. Education and Logistics

Education takes place partly in the 'institutional environment' and partly in the 'embeddedness' within the framework shown in Chapter 1. (See Figure 1-1.) It directly influences the 'governance structure' in business, to which contracts and management policies are referred, and, further, play an important role in the cultural formation process. In order to identify factors for the formation of a future logistics management paradigm, we are going to make a comparison of European and Japanese education systems and the core concepts contained in them in this section.

1) European Education

Europe's institutional education system dates back to the Hellenic ages, when many schools were already pervasive in the society. The aim of the education was a pursuit of *wisdom*. Socrates and Plato, his follower, defined *wisdom* as the recognition of the eternities, which was named '*idea*' (Plato, 2002). Plato's *Academia* was later succeeded by numerous followers, which provided education to the youngsters to explore the *idea* (Mason, 1955; Imamichi, 2001).

Universities were the product of the Middle Ages, which started as stables of people who had the same objective of the quest for *veritas*, being apart from the needs of the nation or society. They were contrasted with the 'scholasticism', which were aimed at practical education by the request of aristocratic circles or within the system of churches (Imamichi, 2001).

Although there is an argument whether the Middle Ages were a period of the 'Dark Ages' or not, when 'argumentation' was said to be denounced to a great extent according to some people, the Renaissance, which arose in the 13th century, played most important role in the development of science in Europe by encouraging the real quest for truth and became an instrument to the Scientific Revolution in the 16th and 17th century. The Copernican Revolution established a method of mathematical proof, while Galileo Galilei formed a foundation of mechanism, in which a proof was given by physical causes. Later in Europe, antagonism arose between the Continental rationalism and English empiricism as methodologies to find the truth until the middle of the 18th century. The two methodologies were united in the Age of Enlightenment of the 18th century. In the period, all the mechanically unexplainable were denounced and value was brought only to the scientific. It was exemplified by the Industrial Revolution in Europe in the same period. This approach is reflected in the present days' research methodology (Mason, 1955;

Kearney, 1971; Imamichi, 2001).

The current European education system, both in vocational training and higher education, is effectively integrated across borders within the European Union. In 1976, the first decision was made by the European Community to set up an information network as the foundation for better understanding of educational policies and structures in the member states. The principle of decision was to better coordinate interaction between education, training and employment systems. Since then, the central component of Europe's educational policy has been the comparison of ideas and good practices on the basis of solid fact-finding and first-hand experience (European Union, 2002).

In 1986, it was decided to pay more attention to the exchange of students by launching of Erasmus Programme (currently part of the Socrates Programme), a grant programme for pupils, students and teachers. It aims at increasing mobility to enhance the exchanges of 'knowledge' in the region and raising its level (European Union, 2004).

In the area of logistics studies, European education system has been well structured in the form of vocational training, higher education and academic research institutions. Among them, professional higher education such as the Dutch *hogeschools* has been contributing to the improvement of logistics knowledge and management practices. At the research level, each country has a logistics association, of which major members are researchers at universities and research institutes, consultants and logistics service providers. They are bound to form European Logistics Association (ELA) for pan-European cooperation to be made for further improvement and innovation of the management method. ELA also sets a set of standards in supply chain / logistics management to certify individuals who meets the criteria, through the European Certification Board for Logistics in line with the EU directive. This serves as the assurance of commonality of the standard of competence for logistics quality (ELA, 2004).

The standardisation of the management of logistics has been promoted in this way and coordination between schools and industries has been made effectively in Europe. This system is incorporated in the paradigm of European logistics management.

2) Japanese Education

Japan implemented European education system at the start of Meiji Era, which began in 1968. The fundamental principle was *Wakon Yosai*, namely 'Japanese spirit with Western knowledge', in which it was encouraged to introduce European scientific knowledge and practical methods of social management, but, at the same time, to maintain the Japanese Confucian spirit. Until the end of the Pacific War in 1945, the school system had been mostly following the European system, with two kinds of higher education at universities

and technical colleges, or the schools of professional education, such as in medicine, business, technology, teacher training and maritime training. However, the education reforms driven by the U.S. occupation army after the war gave Japanese education a complete change towards the American system in a direction of unification and generalisation. Education in the areas of professional studies including business and technology was transformed into the curricula of universities. In this way, Japanese universities increased to become available for everyone, though their levels are widely varied.

Japanese education system for logistics study did not develop its own paths in general. Japanese industries have traditionally had the habit of not requiring job candidates to have prior knowledge in the specific field to perform their duties. Vocational trainings for technicians have been given at technical secondary schools and a limited number of two-year technical colleges, but not further than that. It is more practically done on the job in-house after joining the firm, and it normally lasts in an informal manner throughout his career at the firm. Therefore, school education has mainly been dedicated to fundamental sciences and humanities. Standardisation and certification have not been commonly invoked for assuring quality of management, but rather it was secured by sharing of knowledge in a tacit form (Odaka, 1984; Nonaka and Takeuchi, 1995; Koike, 1997 etc.).

The Japan Federation of Freight Industries provides a training course for 3PL human resource development, and the Japan Institute of Logistics Systems offers certification courses for logistics management in several grades. These are the phenomena that Japanese logistics knowledge is being codified and externalised for standardisation. However, they are offered as executive courses and there is little link with school education in this field yet. International collaboration in the logistics education is hardly seen there, either.

Then, what role did education play in generating the characteristics of the Japanese logistics management; i.e. extensive pursuit of customer satisfaction, close intra and inter-firm collaboration in supply chains, and long-term perspective in relationship building? *Wakon Yosai* seems to have relevance.

In cultivating Japanese norms and values, Confucianism was always been in the centre of education in the country's history. Wakon, or 'Japanese spirit', was thus the embodiment of Confucian doctrine. Boot (1999) argues that it proceeded in the stream of general education but, in the European context, it was aiming for the goal that can be seen as religion. Indeed, Confucianism gives precept and doctrine as Christianity does, but the point that it does not have an object of worship positions Confucianism outside the category of religion.

Confucianism was originally transplanted into Japan from China in the fourth century

AD (Ishida, 1989). The teaching is represented by humanity and virtue (*jin*), filial piety (*ko*), loyalty (*chu*), trust (*shin*), learning (*gaku*), and ritual (*rei*) (Confucius, approx. 2c. BC). When Crown Prince Shotoku promulgated the Seventeen Article Constitution in 604, the first Japanese constitution, the discipline of Confucianism was already widely incorporated in it. For example, Article 3 stipulates an absolute obedience to the imperial order, which is represented as c*hu* or loyalty. Article 4 regulates leaders to keep decorous behaviours as leading principle, which is *toku* or virtue.

Yui (1977) contends that Confucianism had the greatest influence in cultivating the norms of human behaviours in Japan in Edo era of 1603-1867, where the country's modern education system has its roots. After the Warring State Period of 16th century, Tokugawa Ieyasu took control of the most of the Japanese archipelago as *Shogun*, or 'the governor and chief commander under the Emperor', in 1603, which was the start of 264 year long stable Tokugawa Shogunate governance. In this period, the culture and the social systems, which had been imported from China in the various stages of Japan's history, were mostly assimilated with the primary Japanese ones and naturalised there. That was enforced in the period of *Sakoku*, or the 'National Seclusion Policy', which lasted from 1639 to 1854, The education of Confucianism was strengthened in the middle of 17th century, when neo-Confucianism of China influenced the Shogunate. The teaching puts stress on the virtue that individuals inherently have, which is regarded as the source of social order. 'Virtue', 'justice' and 'loyalty' were regarded especially well suited to keep the social order for the Tokugawa Shogunate (e.g. Yui, 1977; Debroux, 2003 etc.).

On the other hand, a movement against the China study also emerged at the later stage of Tokugawa governance, It was called *Kokugaku*, or 'National Studies'. *Kokugaku* was started by Kada no Azumamaro in the early 18th century and developed by Kamo no Mabuchi and Motoori Norinaga in the mid and late 18th century. The central doctrine of *Kokugaku* was based on *Shinto*, Japan's indigenous religion, and aimed at reviving the original Japanese values with the imperial family in the centre. This doctrine became the foundation of nationalism in the Meiji era from the late 19th century. However, as the occupying allied forces after the Pacific War prohibited this teaching, the ideology fell into a decline and has had little influence on the school education of Japan since then (Ishida, 1989).

Another educational influence was given by the Dutch Studies, which started with the arrival of the Dutch navigators on a ship in distress, 'De Liefde', in 1600. It was supported by Tokugawa Ieyasu and later passionately spread among many intelligent *Samurai* who gathered at private schools. However, the teaching was mostly limited to medicine, surgery, technology and natural sciences, thus did not have significant influence on the governance scheme of Japan (Sugita, 1959; Imazu, 1977).

In the 17th and 18th century, at the top of the Japanese school education system was Shoheizaka Gakumonjo, which was started by Hayashi Razan, a Confucianist scholar. He was sponsored by Tokuwaga Shogunate, and the school later became an official national university. Each fiefdom (*han*), the head of which swore allegiance to the Shogun, also had its own secondary school called *Hanko* (fief school) for the young *Samurai*. There were many small scales of private schools as well. At the commoner level, numerous private elementary schools called *Terakoya* were opened in towns and villages. At all the schools, the main subject taught was Chinese classics such as Confucian doctrine and his followers' teachings (Ministry of Education, Culture, Sports and Science of Japan, 2004).

This generalisation of school education in the Edo era played an important role to establish a knowledge sharing system in Japan, which was based on the commonly shared language, accounting system, work ethics and values.

In 1867, there was a collapse of feudalism headed by the Shogun Family of Tokugawa. From that point, the emperor directly ruled the nation on the basis of massive investment for militarization and industrialisation. The first modern educational principle was promulgated in the form of *Kyoiku Chokugo* (Meiji Emperor's Message on Education) in 1890. All the pupils were instructed to memorise the words as they were the most important missions from the emperor. The content of the message was the combination of Confucianism, Kokugaku and western ethics. Filial piety and loyalty were brought from Confucianism. Imperial centralism was taken from Kokugaku. Patriotism was taken from the western idea and stressed in order to strengthen the national power in the imperialistic struggles of the world. Before the Meiji era, nationalism was not necessary for the Tokugawa Shogunate as far as the coastal borders were closed to the outside world and the nation was in peace. However, when the Japanese ports were opened forcefully by the conclusion of Treaty of Peace and Amity with the United States in 1854 and the following similar treaties with European countries, patriotism suddenly became a main issue in order to gather people's mind to contribute to the security of the nation. The idea was made more explicit by the Meiji emperor after the Restoration. A widely accepted view is that the unique combination of the three different ethics was suitably fitted to the advancement of militarism for the next fifty-five years until the end of the Pacific War in 1945. Ishida (1989) called this system *Kasei Kokka* (tribalistic nation). This principle was implanted deep into the mind of the people and had a great influence on the work ethics of the Japanese even after the Kyoiku Chokugo was abolished in 1945.

However, if one looks at the current practices of education at schools in Japan, he will find little sign of Confucian disciplines in their teaching. By the defeat in the Pacific War, fundamental changes in the social system and the principle of education were brought in by the General Headquarters of the occupying allied forces. Instead of filial piety, the

western style of fairness and egalitarianism was promoted, although it is still hardly adopted in the Japanese society. Teaching of loyalty to the emperor or the nation became a taboo in the classroom. This is attributable to the educators' reaction to the pre-war imperialistic education, which utilised Confucianism and Kokugaku as a vehicle to force the people to extend loyalty to the militaristic nation and eventually caused them great sacrifices in the battles of the Pacific War. Consequently, it is now commonly said that the young generations in Japan are more individualistic, less respectful of the senior, less loyal to the employer, less hardworking etc.

Nevertheless, the principle of conduct that has been maintained since the 4th century has not easily perished in the mind of people. In the work places, both at offices and the shop floors, Japanese workers still show great loyalty to the employers and the customers. Sometimes the degree of loyalty goes beyond reason. School education explains only a part of the characteristics as mentioned above.

The post Pacific War detour of educational principle for Westernisation has recently been given second thoughts among researchers, policy makers and mass media alike, and the value of traditional Japanese work ethics has been re-evaluated. For example, Takahashi (2004) contends that Japanese style of seniority order system will work more efficiently in Japan than the western style of result oriented pay and promotion system. Sakuma (2004) proposes to rebuild the sense of inward security by cultivating trust between the senior and the junior staff, which the Japanese used to take for granted at every workplace. What is lying underneath this movement? Is there any fundamental belief that is penetrating the mind of the Japanese people? We must take up the systems of belief to find an answer to this question. Religion has been playing the major role to cultivate people's belief and value system in many societies. Although having diminished its influence in recent decades, religions still have an underlying impact on the daily decision-makings and actions of people.

4. Religions, Philosophy and Logistics

It is apparent that the influence of religions on business has recently diminished both in Europe and Japan. In the field of logistics, apparently little sign of religious element is detected in the daily practices or management decisions. Has it died away or is it still active behind the screen? It is worth investigating this in order to analyse the direction of future development in the logistics management paradigm.

1) European Religion

European religion has been divided into the Protestants and the Catholics since the Reformation, apart from the Orthodox, which has had a minor influence on the western European economy. This religious division had a great influence on the value system. Hofstede's (1980) research result shows distinct differences in the degree of power concentration and conservativeness; i.e. Work places in the Latin countries have more power concentration and people are more conservative than in the Northern European countries. In some countries the two religions coexisted with even power. For example, until the 1980's all the Dutch industries had two sects of labour unions for the Protestants and the Catholics. These situations caused difficulties in the communication among workers and between management and employees. It was one of the causes for the compartmentalisation of societies in the public and private working environments still remaining to a certain extent in Europe (Lawrence, 1991; Pinnington, 2000). The doctrinal particularism in the European religions remained firmer in the modern history than in Japan and still has significant influences on the way people work and make decisions.

On the other hand, however, Europe is increasing its sphere of unification both conceptually and geographically. In May 2004, the European Union added ten new members to the existing 15 nations. So far, the region still maintains its original concept of Europe as being the Christian region in the western part of Eurasia. It has clearly been separated from the Islamic and the Buddhist worlds. In this context, the future accession of Turkey, where more than 95 percent of the population is Islam, is generating various arguments and creating the atmosphere of cultural unease among the people of existing member countries. In this sense, cross-cultural supply chain management has always been a matter of concern for the European people since the start of regional integration.

Logistics has developed its scope well in the northern part of Europe. It has a foundation in Weber's (1991, originally 1905) theory of Protestant Ethic and the Spirit of Capitalism, in which diligence is given maximum value and placed in the centre of doctrines (Otsuka, 1966). Protestantism assures the equality of people and individual freedom. This is widely reflected in the state of relationships among people and firms. Equal partnership is thus more easily established in the Christian societies than in others (Hara, 1977).

However, recent development of logistics methods is greatly influenced by the American pragmatism, in which the function of human work, especially of shop floor workers, has ceased to be the object of innovation. Rather, materialistic rationalisation of management and operations using a large scale of computer systems is thought to play a key role to improve the efficiency of total supply chains than the effort of workers. Therefore, shop floor workers are not expected to think or contrive for operational improvement. This estrangement of management from the attention to human resources, especially of the

frontline, is often seen in the recent logistics management paradigms in Europe. This has thus inevitably eliminated the involvement of religions in the overall logistics management in the current time.

2) Japanese Religions (Buddhism and Shinto)

The foundation of Japanese religion has its roots in the mythologies about the birth of the nation. The initial religious state was animism, in which people believed that *Kami* is in all the creation. In the Western concept, the word *Kami* is translated to 'God', but a nuance of the meaning of *Kami* is rather like the deities of ancient Greece. According to Nihon Shoki, one of the first history book of Japan published in 730, eight million *Kami* were born from the earth, thus they were everywhere and had superhuman power. Amaterasu Ohminokami, one of the *Kami*, then became the ancestor of human beings, the first of whom was the Emperor Jinmu. This thought was later formed as *Shinto* in the early 13th century (Ujitani, 1988; Bito, 2000; Ohno, 2001).

The essence of this original religion of Japan is still at work in the mind of Japanese people in the way that they respect the genealogy, not only of family but also of various relationships in the society. Appreciation and thankfulness is shown to ancestors and precursors for the present well-being. Therefore, the teaching is to enshrine and worship various *Kami* and the ancestors, who also became *Kami*. Every town and village has a shrine that guards the local inhabitants. The shrine is owned by the community and the rituals are dispensed by the locals. In this context, we think that evolutionary and communal approaches in business logistics relationships in Japan have their origins in this religion (Ishida, 1989; Ohno, 2001).

This ancient religion, being peculiar to Japan, had various kinds of interactions with Buddhism, which came from the continent in the middle of 6th century. Buddhism was well accepted by the senior statesmen at the time as a means to strengthen the governance of the nation. The Seventeen Article Constitution of 604 shows two important signs of influence of Buddhism as well as that of Confucianism. The first article preaches the value of peace and harmony. The second article orders to respect the three treasures; i.e. Buddha, the teachings of Buddhism and the priests. Crown Prince Shotoku was himself a highly reputed scholar of the religion and its earnest supporter. Within only a half century since its introduction to the country, Buddhism became such an important element of cultural and political backbone in Japan (Bito, 2000).

Buddhism in Japan went through various reforms and confrontations between sects, especially in the 13th century, but has mostly been supported by the rulers of the time. The core of the teaching in Mahayana Buddhism, which spread in the eastern Asia, is the

understanding of *evanescence* and *relativity* of the creation. *Shogyo Mujo*, the idea that nothing is eternal because all the creations are changing constantly in the universe, is embedded deeply in the mind of the people. Also, it is assured that even the deity, or ordinary people, can become Buddha by accumulating good deeds, as well as those who have attained enlightenment as priests (Uematsu, 1998; Bito, 2000; Kanno, 2001).

As illustrated above, there are some common ideas shared by Shinto and Buddhism. Shinto, which has great flexibility in adopting the elements of other religions and thoughts, played an important role in the symbiosis of the two completely different religions most of the time in the country's history. The most typical thought of the Japanese is that everybody can become *Kami* and Buddha, which have close interactions with human beings in a daily life (Uematsu, 1998). Such a flexible interpretation of, and the skill of modification to, the concept of the original thoughts have been working as converging dynamics for the Japanese adaptation to the social environmental changes through time (Warner, 2003).

We surmise that the respect for the precursors in the Shinto principle and the idea of *Shogyo Mujo* in Buddhism are both reflected in the daily decision-makings and the practices of Japanese logistics management in the modern times in the context that rationality is subordinated to continuity of relationships and adaptability to the circumstantial changes kaleidoscopically.

Next, we will look at the close relationship between business and religious rituals in Japan. According to Uematsu (1998), Japanese peer merchant/craftsmen groups have traditionally had a particular Shinto shrine to dedicate to. For example, the ship builders of Otsu were dedicated to Kibune Shrine, the cotton merchants of Osaka to Sumiyoshi Shrine, shipping companies to Sumiyoshi Shrine and Kotohira Shrine etc. Every Japanese shipping company has a small Kotohira Shrine in its head office and also onboard all the ships they own. People pray to Kami for the safety of navigation, which is largely beyond control of human power.

Buddhism has also influenced business decisions. Sumitomo Masatomo, a Buddhist priest and the founder of Sumitomo Zaibatsu (conglomerate), left a number of family mottos for his followers. He disciplined the subordinates to dedicate themselves to Buddhism and Shinto by promoting benevolence and fairness and avoiding opportunism. This spirit is explicitly reflected in the current motto of Sumitomo Group, in which the central teaching is to avoid unreasonable profit taking. Ito Chubei, the founder of Itochu and Marubeni, was a dedicated sectarian of Jodoshinshu, one of the largest sects of Buddhism. He organised a seminar every month for the employees to listen to the sermon of Buddhist priest. His mission was, "Business is the way of Bodhisattva." Suzuki Yohei VI, former owner and president of Suzuyo, the largest logistics company in Shizuoka,

promoted Buddhism by starting *Tomoiki Undo* or symbiosis movement within his company to combine the Buddhist thought and corporate spirit. Doko Toshio was one of the most influential business persons and social reformers of the post Pacific War period in Japan. He took the positions as president of IHI and Toshiba, president of the Federation of Economic Organization of Japan (Keidanren), and chairman of the Second Ad Hoc Commission on Administrative Reform. He was known as a dedicated sectarian of Nichirenshu, another large sect of Buddhism, and practiced moderation to show the necessity of lean management in both public and private sectors (Taguchi, 1996; Uematsu, 1998).

These work ethics demonstrate interesting similarity with those of Weber's (1991) Protestantism that diligence and virtue in business is regarded as a road to salvation. However, longstanding and communal approaches of business practices as mentioned above are more idiosyncratic to the contemporary Japan and reflected in the relationship among collaborators in the supply chain. Japanese emphasis on the longstanding relationship and inter-firm networking is thus closely linked to the educational policies and religions that have been pervasive in the country.

European monotheism justifies logicality and fairness as common goods and Japanese polytheism makes the people elastic to the exogenous agents of circumstantial changes.

5. Conclusion

The proof of influences of education and religion on the logistics management is hard to establish. However, our investigation suggests that they directly and indirectly regulate the value system that is supporting the decision-makings in the field where logistics is carried out. The analyses made in this chapter still remain as a supposition, but they provide a clue for explaining why differences exist in the state of logistics management between Europe and Japan.

The concept and practices of European logistics management have been standardised through the development of cross-border cooperation and coordination of the education system in the framework of the European Union. In its process, direct involvement of religions drastically diminished in Europe, with the function of labour in the logistical innovation becoming more and more limited and knowledge concentrating on the management side. However, the underlying value system of governance based on logicality seems to have high level of permanency, which is based on the philosophical education dating back to the Hellenism, and egalitarianism and fairness, whose origin is found in the Christianity. These principles are not always assigned maximum value to by

the non-Europeans.

In Japan, some signs are detected that the Japanese style of logistics management is based on the value system that used to be composed of the education of Confucianism and Kokugaku, as institutional environment, which was in effect abandoned even as long as half a century ago. In addition to it, the logistics management seems to be still influenced by Buddhism and Shinto, as institutional culture, which people refer to when they try to cultivate the collective competence such as the ability to organise extensive collaboration by sharing of knowledge between generations. In the decision-makings and practices of logistics, longstanding trust and loyalty seems to be respected and total harmony is strived for, which have origin in Confucianism, whereas institutional genealogy and relativism can be related to Buddhism and Shinto.

With the view to the fact that little of the present daily life, school education, on-the-job or off-the-job trainings are regulated by religious disciplines in general, the difference of logistics management between Europe and Japan we see now seems to be the consequence of the past institutional environment that used to prevail in the society. The state of current practices and decision-makings in supply chains is a product of the past to a great extent. We have seen here a certain implicit link between the upper structure (institutional environment and embeddedness) and the lower structure (practices). We term them as the factors of specificity. Williamson's (1998) framework, as illustrated in Figure 1-1, is, therefore, also relevant in the world of logistics. His statement that the embeddedness, or culture, changes over the period of one hundred to one thousand years is also relevant in the field of logistics in the context that educational principles and religious beliefs even abandoned decades ago still seem to be the major factors of specificity in the paradigms of management.

Where is the Japanese value system in logistics going from here? Their manifold attitudes toward the European logicality and technology orientation are partly explained by catching-up of management backwardness, and, thus, Japanese logistics management is, in fact, steadily making conversion to the European way. The Japanese system does not seem to be applicable to the non-Japanese economies in the short term. However, there is a possibility that the Japanese human relativism and the idea of evanescence will have more influence on the new paradigm of logistics management in the course of the convergence of western and eastern ideas in the longer term. This will come about only if the elements of the Japanese management culture are more widely and eagerly introduced to the non-Japanese societies. Then, what the Japanese can offer to the non-Japanese is a concern for us.

CHAPTER 5

DIFFERENCES AND COMMONALITIES IN EUROPEAN AND JAPANESE LOGISTICS MANAGEMENT

1. Introduction

The differences of business logistics management between Europe and Japan are an interesting theme for study with the view to the possibility to find an acquisition of methods for a more effective supply chains. To investigate them offers new perspectives and unique ideas for a better management.

In the manufacturing sector, Japanese management method was studied extensively by the American in the middle of 1980's, taking the lean management style of the Japanese automotive industry as an example of efficiency (Womack, 1990). Since then, Toyota's *just-in-time* supply of components in use of the *Kanban* system, and Kaizen activities have been introduced to many companies in the world and those words appear in the textbooks of operations management, logistics management etc. (e.g. Chase et al., 2004; Coyle et al., 2003; van Goor et al., 2003).

However, further details of the differences of logistics management between the western and the Japanese has not been made clear yet either by practitioners or academics alike. The main reasons include the facts that the language barriers that stand firm between the two regions limit the exchanges of information and opinions by people; and, because of this, there are very few researchers who have had the chance to see the differences in practice, let alone the practitioners who rarely publish.

According to our observation, there are two aspects of Japanese logistics management. One is the precision of operation and service provision; i.e. the control of procedures, time management and the pursuit of customer satisfaction. The other is a hesitation to apply their methods to the non-Japanese people.

As illustrated in Chapter 1, the concept of Japanese logistics is generally deemed irrational and difficult to understand by the non-Japanese. The practitioners' behaviours look puzzling and lacking logicality. Many assume that the Japanese system simply lags behind the Western, thus is in the process of *catching-up* with the advanced system. However, there is no statistics or empirical data to prove or deny this stereotype. There is not even a proof that the differences ever existed or not.

We attempt to take this difficult task to investigate the existence of the differences and, if any, the elements that constitute them so that we can break the partiality of the general observation. The objective of this chapter is to show how differently logistics is managed between Europe and Japan.

This chapter is structured as follows. In Section 2, we take a perspective of the current movements of logistics management that are commonly observed both in Europe and Japan. In Section 3, a general view of the differences in logistics management is presented. Section 4 gives a detailed observation of the differences of core elements in European and Japanese logistics. Section 5 provides a synthesis of our observations and answers to the questions set out in Chapter 1 in comparison with the propositions made there.

2. What are the Commonalities of European and Japanese Logistics?

Although the style of logistics management is in many ways different between Europe and Japan, there are also some elements of paradigms that are commonly esteemed by the logisticians in the two regions. It is a result of the global-based dissemination of general management methods and knowledge sharing, which are regulated by the current state of institutional environment such as the globalisation of markets, the diversity of customer tastes, and the development of information and communication technology (ICT).

Therefore, logistics management is generally evolving in the same direction as the institutional environment changes. The results of our survey by way of interviewing logistics practitioners in the two regions show the following main elements of the evolution that are common in Europe and Japan.

1) Lean Logistics

In accordance with the mega changes of the world trading patterns towards an integrated market, competitions are becoming fiercer across borders. In the logistics, also, the requirements of customers are increasing in diversity, depth and volume. Shortening of lead time and the reduction of costs by lowering stock level are among others the most typical of many supply chains.

For example, the concept of *just-in-time* (JIT) supply of goods was introduced by Toyota, the leading Japanese automobile manufacturer, and has been adopted by many other Japanese companies. “Keeping stock is vice.” says Toyota’s management (Ohno, 1988; Wakamatsu and Kondo, 2001). Later in 1980s, the concept was thoroughly studied by the researchers appointed by the US automotive industry, and the essence is being introduced

to a tremendous number of companies in the world (Womack et al., 1990 and 1991). JIT is nowadays one of the important elements of logistics paradigm (Vokurka and Lummus, 2000).

At present, the reduction of logistics costs is the central idea of logistics management. Van Gool et al. (2003) explain the cost objectives of logistics management: 1) less administration staff, 2) less fixed assets, and 3) less stocks. To be added may be fewer distribution centres, logistics service providers, processes, documents, and shop floor workers. This lean management system was much influenced by Toyota's JIT concept and has become a common paradigm of logistics management (Christopher, 1992). However, the processes to realise these objectives are different in its width and depth between the two regions.

2) Developing ICT

The dramatic increase in the speed and volume of the exchanges of information, which was triggered by the development of Internet communications, has made it much easier for logistics practitioners to handle data concerning the goods and to share them with their collaborators and customers.

The competitions among systems developers make it possible for the same logistics concept to spread all over the world. For better logistics management, firms need computer systems to handle a large volume of information at a high speed and have it shared by a great number of people. This restructuring of management method and realignment of information data processing is under way both in Europe and in Japan, irrespective of what the members of the participating group in supply chain think about logistics excellence at large.

3) Value Adding Logistics

Logistics is not anymore just physically distributing and storing goods. It takes part in creating value and adding it to the goods. Both in Europe and Japan, the concept of logistics management includes processing and providing information, and the work that used to be seen as a part of manufacturing processes. For example, the information about the consumer demand and the status of the goods in supply chain may provide excellent tools for management decisions and guidance for short-term and long-term strategy planning. It also contributes to enhancing collaboration among the people across firms (Christopher, 1992).

The final parts of manufacturing such as assembling, examining/testing, packaging,

labelling are in many cases taken away from the manufacturing plants and put into the distribution centres. They are carried out by the logistics service providers. This is aimed mainly at reducing stock levels by way of postponing the decoupling points as close as possible to the delivery of goods to the consumers (Roos, 2000).

Japanese logistics, which started with wholesaling with transport equipment and storage facilities (Miyamoto, 1951), and European logistics, which has evolved from forwarding, share the same concept of value adding in logistics and are increasing the scope of their function at the present times.

4) Integration of Supply Chains

The lean management concept necessitates less stocks and faster transportation. The recent development of ICT and transport innovation has made it possible. As a result, it has become possible to integrate a number of supply chains for management and control horizontally and vertically. Integrating a number of stock points and distributing the goods efficiently from a limited number of distribution centres are progressing in various industries. *Milk-runs* are also becoming introduced to the component supplies for many manufacturers. A recent development in both regions includes the fact that a number of competing firms share the same facility of logistics service providers as a distribution or procurement centre. Without the Sophistication of ICT, none of the integration of logistics is physically impossible. The tendency from local optimisation to total optimisation changes the concept of logistics from static chains to dynamic networks (Christopher, 1992).

5) Outsourcing

As the scope of logistics management widens and its responsibility becomes greater, logisticians are gradually taking a key role in corporate strategy planning. Intensifying global competitions make it inevitable for firms to concentrate their financial and human resources on the most effectively working areas of business. It means that non-core areas of business are being outsourced to the outsiders that do the jobs as their core business.

In Europe, by nature, arms-length relationships among firms were better suited for this outsourcing by way of involving consultants. In Japan, outsourcing was commonly practiced within the network of *Keiretsu* group of firms. However, this trend has recently become widespread among the non-Keiretsu firms in the course of diminishing lifetime employment system and seniority order promotion, which decreases the number of workers for additional jobs and necessitates dependence on outside expertise.

The paradigm as illustrated above penetrates into various supply chains across borders once its effectiveness has been trumpeted by the powerful players in the market. The development of ICT and logistics studies makes a stimulating effect on this phenomenon. However, it should be noted that what is shared so far is 'concept', not 'practice', of logistics management. It means that, although people share the view of what is effective, they may act differently or prioritise different matters in various stages of goods flows.

3. Assumed Differences in Logistics Approach between Europe and Japan

According to our experiences, a comparison of European and Japanese logistics management gives distinct differences in its appearance and substance. The differences are caused by the natural and social environments and the cultures embedded in the mind of people.

Table 5-1 is an expansion of part of Williamson's (1998) framework, as illustrated in Chapter 1, showing the observations of the different elements of European and Japanese logistics practices and corporate governance.

Table 5-1. Comparison of Logistics Practices and Corporate Governance

		Europe	**Japanese Logistics**
Level 3	**Governance** (Contracts, Management Policies)	Clear Job Descriptions Clear Job Territory, No Overlaps Compartmentalisation Contractual Collaboration Top-down Decision Making Short-term Solutions	Unclear Job Description Teamwork, Overlapped Jobs Close Collaboration Trust-based Collaboration Bottom-up Decision Making, Long-term Solutions
Level 4	**Resource Allocation & Allotment** (Business Practices)	Large Scale of Facilities ICT Reliant Operations Less Off-the-job Meetings Fair Competition Ready-made Services Lack of Customer Care	Small Scale of Facilities Human Reliant Operations Frequent Meetings Unfair Competition Custom-made Services Excessive Customer Care

In this model, we illustrate the generally mentioned differences of logistics practices at Level 4. European logistics is represented by large-scale warehouses and opts for the pan-European integration, which resembles the American method. Therefore, logistics in Europe is heavily supported by computer systems and the competition is structural. The *European Distribution Centre* (EDC) scheme is one of the examples (Vermunt and Binnekade, 2000).

On the other hand, Japanese logistics seems to have maintained a traditional logistics system to a great extent, in which most of the facilities are still comparatively small and the involvement of human resources is widespread, although the development and introduction of high technology in logistics is progressing in an increasing speed as well. Apparently more workers are still assigned to the jobs in Japan than in Europe, thus more reliability is expected in individuals' work. Competitions are influenced by longstanding relationship between companies. Therefore, in addition to the open price competitions, fierce non-price competitions are also made among firms. As relationships between people last long in Japan, whether internal or external, it is easier to make long-term planning of collaborations between firms. Toyota's JIT and *Kaizen* concepts are based on this (Ohno, 1988).

Level 3 shows commonly mentioned differences in the governance between Europe and Japan. The European way of management is based on a job description, which explicitly defines the job scope and the responsibilities of the person. On the other hand, Japanese way of job assignment is to lead the person to identify what is expected to be done in relation to the task of the team he belongs to (Nakane, 1967). Therefore, the assignment is frequently adjusted according to the change in the members and the short-term and long-term objectives of the team. This means that European job description is much clearer than the Japanese one, and as his job scope is protected as a territory, there is little overlap of the jobs among workers; whereas the Japanese regard the overlaps of jobs among the co-workers necessary in order to ensure service quality, which necessitates securing of relief staff in case of absence. As a result, the exchange of information among workers takes place more densely in Japan than in Europe.

Decision-making processes are also different. In Europe, top-down decision-making is a common method, where top management takes an initiative in forming strategies and action programmes; whereas in Japan front-line workers are encouraged to participate in planning for quality improvement and discussing strategic matters. In the Japanese process of decision-making, junior management takes an initiative in the formation of strategies. They are examined and amended by their senior managers and then proposed to the directors' board for a final approval (Odaka, 1984; Sako, 1992).

The above working process necessitated Japanese corporate management to assume a sharing of information and knowledge among the people, which is only attainable by long-term relationship. Through this process, close network of *Keiretsu* (a group of affiliates) emerged. On the other hand, European workers are more independent in decision-makings as discretions are assigned to individuals in a clear manner(Hines, 1996).

Therefore, in Europe, competition is visible and the achievement of short-term results is

encouraged, whereas, in Japan, competitions are more wide-ranging and beyond space-time, thus the results are evaluated on a long-term basis (Shinohara and de Koster, 2002).

4. Analyses of Logistics Differences between Europe and Japan

In this section we will analyse the details of main elements of the above-mentioned characteristics of Japanese logistics as compared with the European as follows. The analyses are based on the surveys we made through inspections of sites and interviews with European and Japanese logistics practitioners.

1) Demographic and Geographic Factors and Land Policies

First, we investigate how invariable factors of demographic and geographic conditions affect the state of logistics. This is outside the institutional framework presented in Chapter 1. However, we think it worth checking these factors in the first place in order to distinguish whether the difference of logistics management paradigm is attributable to institutional or non-institutional factors.

The geographic and demographic conditions of a country certainly make great differences in the warehouse design and transportation modes. Japanese land consists of many islands and is covered with mountain ranges, whereas most of the European land is flatter and utilisable for industries. The geographical restrictions on logistics seen in the limited areas such as adjacent to the Alps and the Pyrenees in Europe are more commonly observed in Japan. Therefore, logistics management in Japan must tackle the narrow and hilly roads for transportation and limited land availability for storage facilities or industrial complexes.

A typical Japanese modern warehouse has the following characteristics. (See Figure 5-1.)

- Sizes of warehouses are generally small.
- Most of them are multi-story with low ceilings: Usually the building is 2 to 5 floored. The use of high racks is not permitted due to the possibility of earthquakes.
- Floors are divided into many compartments and there are several columns to support the ceilings, which occupy much space and disturb smooth flows of goods inside the warehouse.
- Between the floors, a number of elevator services are available.

A typical European modern warehouse has the following characteristics. (See Figure 5-2.)

- Sizes of warehouses are generally large.
- Most of them are single-storied and the ceilings are high. Racks can be built up to approx. 12m.
- Floors are not divided into compartments unless operationally necessary. There are few columns to support the ceiling.
- A large handling area is available for cross docking or value adding operations.

Figure 5-1 A typical Japanese Multi-story Warehouse

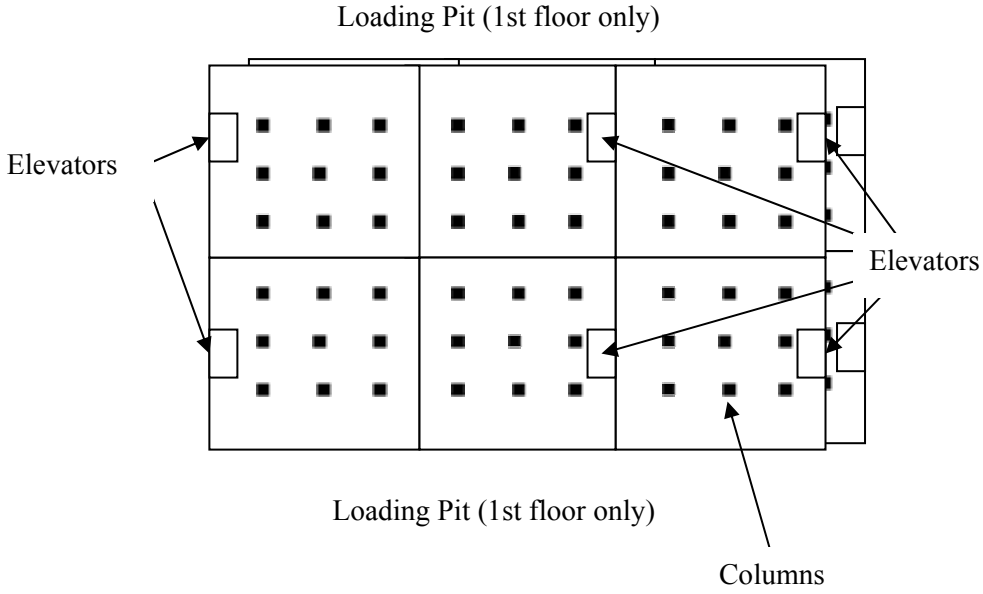
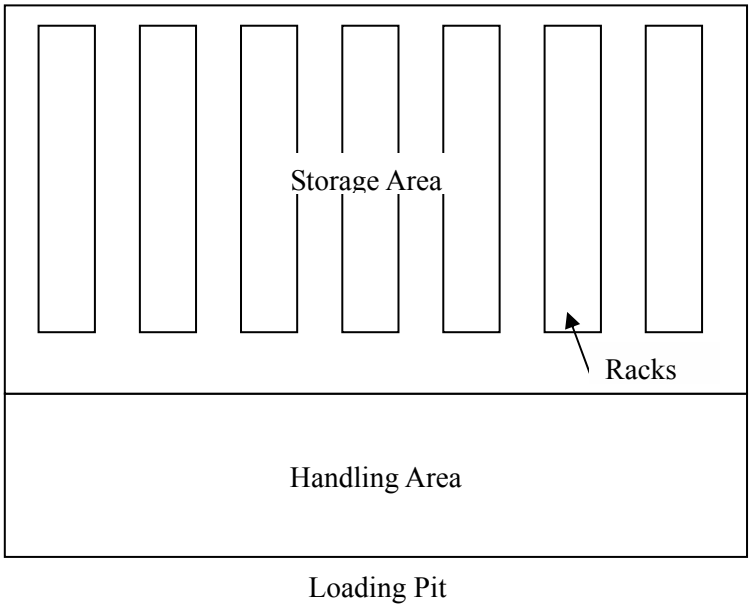


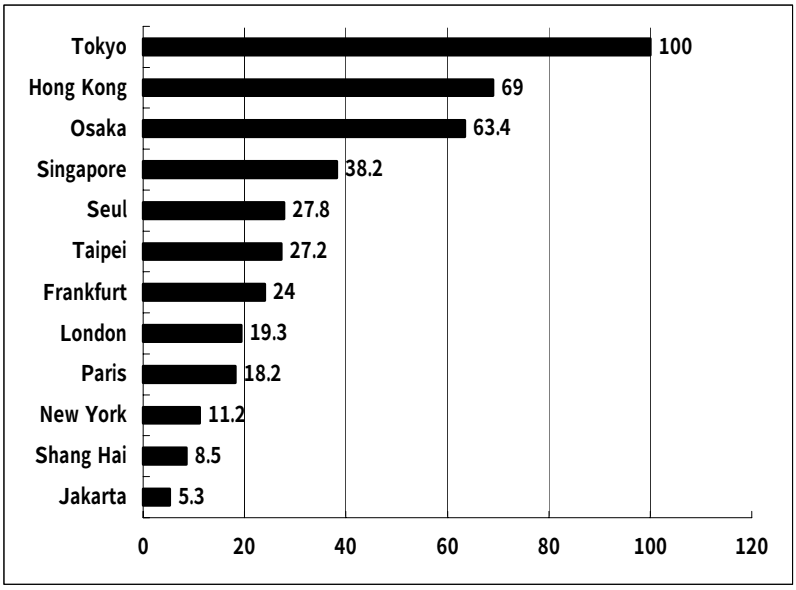
Figure 5-2 A Typical European Flat Warehouse



The shortage of land causes extremely high land prices. (See Figure 5-3.) The property market in Japan has always been subject to speculative actions. Therefore, the high land prices have been one of the main reasons for the existence of small warehouses scattered around all over the country, and most of them are multi-story. In Japan, land for commercial use is mostly small and owned privately. This is attributable to the Farmland Reform Act of 1945, by which peasants were allowed to own land individually. Since then, the property right of the small landowners has always superseded the 'use' of the land for the public benefit (Ueda, 2004). This has kept it extremely difficult to integrate small lands and reallocate them to streamline the infrastructure for the distribution of goods because of the owners' adhesion to the land. On the other hand, in many of the European countries, land is owned by the government or municipality, or owned privately but the right of the owner is restricted for the sake of the public welfare. Therefore, it makes it easy to enforce public policies in case of necessity to redevelop the area to convert it to an industrial complex or improve transport infrastructure.

Figure 5-3. Comparison of Land Prices in Commercial Areas

(in per cent: Tokyo=100)



Source: Ministry of Land, Infrastructure and Transport of Japan
Remark: Land prices as of 01.01.1994

The facts illustrated above indicate that the geographical constraint on logistics makes

some of the common paradigm of logistics management difficult to realise in practice, if attempted. For example, integration of stock points is interfered by the limited availability of land and the transportation bottlenecks; and smaller warehouses cannot afford a large amount of investment in the ICT for smoother operations.

The other element is a demographic factor. There is a common business environment in Japan. That is a spread of fierce competitions in all sorts of businesses, which can be attributable to the concentration of a large population in small areas. In Japan, approximately 127 million people live in an area of 375 thousand km², which makes a real population density of 338 inhabitants per km². It is apparently not as high as the European highest density of the Netherlands, where 472 people live per km² as of 2004. However, if it is taken into account that 70 per cent of the Japanese land is covered by forests and woods in mountainous areas, which is not utilisable for industrial activities, the population density becomes, in effect, 1,126 inhabitants per km² in Japan, as compared with 482 inhabitants per km² in the Netherlands based on the utilisable land of 98 per cent.

This demographic situation causes fierce competition not only for space but also in the markets of all types of goods, from automobiles to fast-moving consumer goods. Markets are always affected by mob psychology. If one starts selling a new product, this immediately attracts a great number of followers, who come up with similar goods at more competitive prices. Therefore, the competition works as a threat for transporters and warehouse operators of a possible discontinuation of the longstanding relationships with their customers, and forces shrinking of margins on the costs of services. This circumstance drives Japanese practitioners to devote more of their energy to customer relations.

As such, the difference of geographical and demographical backgrounds and land owning system of the region influences the difference of the paradigm of European and Japanese logistics to a great extent.

2) Quality Assurance and Trust Building

In this section, we overview the difference of the ways European and Japanese logistics practitioners view quality assurance, service and trust in logistics in connection with the function of human resources. The observation is based on the interviews that took place individually with fifty-five firms and organisations.[11]

First, we need a definition of ‘quality’ in logistics. We consider that it is represented by,

[11] The firms and organisations interviewed are shown in Appendix 1.

inter alia, the following elements: 1) the number and extent of mistakes in the operation; 2) the speed at which service is provided; 3) the timing of service provision; 4) the accuracy and propriety of service; and 5) the exactness of information and its timely provision to customer.

In a daily working practice in Japan, quality is assured by the tacit commitment of all the people involved in the supply chain. People tend to distinguish insiders from outsiders; i.e. collaborators from competitors. This recognition is shared and confirmed mutually by the insiders from time to time in an informal way (Nonaka and Takeuchi, 1995; Nakane, 1967). Therefore, we view that, in many cases in Japan, commitment is made mutually between the similar organizations of the firms that collaborate each other; e.g. for R&D, ICT, production, repairs, logistics etc. The quality of goods and services is maintained and improved at various stages so that the companies involved in the close link can achieve a long-term growth and keep competitive edge. This is the way they can secure the growth of business and the employment.

In Europe, on the other hand, our observation is that independence has been respected for both individuals and companies. They are, in principle, free to sell their products or services to any customers, even to those competing with each other. Therefore, the quality is supposed to be assured for the sake of competitive edge and in order to maintain the firm's sound independence. Nowadays European logistics markets show increasing examples of cooperation between competing firms such as a joint procurement and a sharing of warehouse and its management systems. They are the movements not only to seek economies of scale to a greater extent, but to collaborate with firms whenever it is regarded logical. These phenomena have not emerged much in Japan due to the traditional mindset of the people to distinguish *Uchi* and *Soto*, or inside and outside of the *Keiretsu*.

The following examples show some of the distinct characteristics of Japanese style of customer relations on quality assurance in logistics and its application to their operations in Europe.

Import of wine to Japan (See Figure 5-4.)

Company-S, one of the largest Japanese wine importers, buys French and German wine and ships them to Japan in ocean containers. Though many of the containers are fully laden at the suppliers' warehouses and shipped directly to Japan, a substantial volume of wine is also collected and stored in a warehouse in the Netherlands as buffer stock. The warehousing service is provided by the subsidiary of a Japanese logistics service provider. The reason why the Dutch warehouse was chosen is that, first, shipping lines operating between Europe and Japan offered Company-S more competitive rates for the shipments from Rotterdam than from any of the French, German or Belgian ports; second, the

Netherlands was ideally situated as a consolidation centre for the wine from both origins of the wine; third, a Japanese logistics service provider, which had a global logistics partnering relationship with Company-S, was successfully operating in the Netherlands.

Those wine bottles wait for shipping orders at the Dutch warehouse after arriving from the origins. When orders come, consolidation of different types of wine is made into full container loads at the warehouse and they are shipped out from Rotterdam on the earliest possible ship. At the Dutch warehouse, the warehouse workers put a small label on the back of each bottle. Those labels show a description of the products, country of origin, importer's name etc. in Japanese, which is required by the Food Hygiene Act of Japan. The warehouse is also requested by the importer to make a sample check of the bottles. The checking items are the condition of label, transparency of the content, and cork. Bottles will be eliminated from shipment if their label is not evenly adhered, sediment is found in the content, or the cork is found moulded.

Unfortunately for the importer, those defective bottles cannot be returned to the suppliers for a refund of the purchase value, because they are not deemed defective as the content is still in a normal condition on the European standard, thus the sales contract does not allow Company-S to reject the products. However, they cannot be sold in the Japanese market. The retailers accept only products in a perfect appearance. Those defective goods are destroyed in the Dutch warehouse by permission of the customs at the importer's cost.

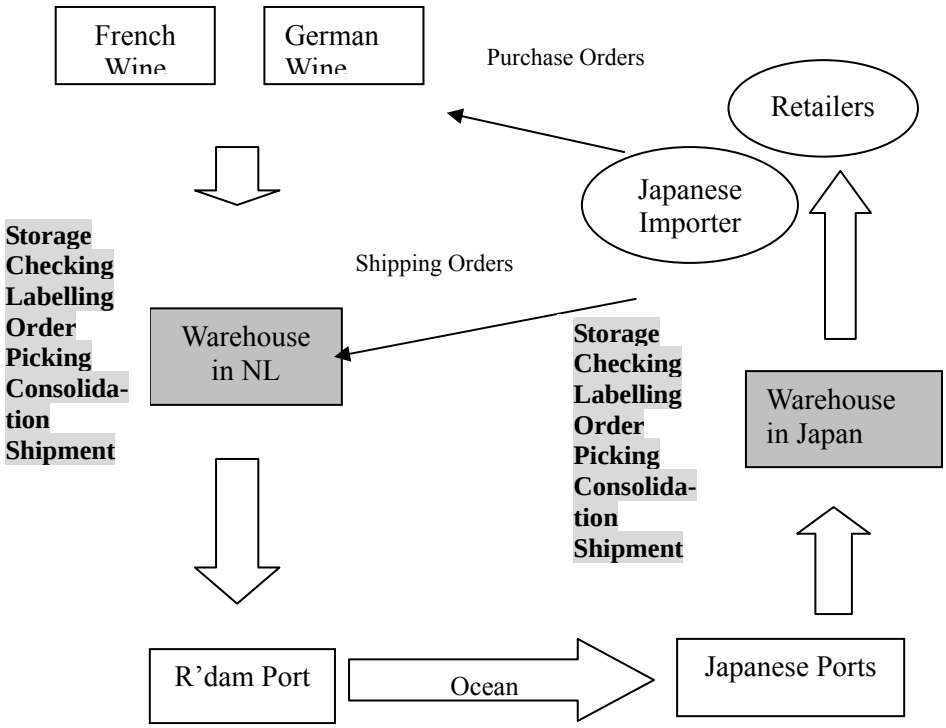
Moreover, the bottles are rechecked when they arrive at a warehouse in Japan, which is operated by the importer's *Keiretsu* logistics service provider. There, the inspection is done for each bottle thoroughly. Usually, more bottles are found to be defective by them. This time, the importer has already paid for the ocean freight and the import duty. Therefore, the financial damage to the importer is larger.

Why do they not order full inspection of all the bottles in the Dutch warehouse before shipment? If it were possible, it would save a large amount of costs presently incurred for the transportation, import duty and storage cost, which is as six times as expensive in Japan according to the manager of Company-S. One of the main reasons is attributable to the availability of different type of human resources to assure the service quality for warehousing between the Netherlands and Japan. In a Dutch warehouse, management must rely on unskilled workers, mostly migrant, for that type of work, who tend to change often. At a Japanese warehouse, those who are working on the wine bottles are mostly local housewives employed part-time. Such labour is available constantly at a low cost because the labour market for them are almost non-existent in Japan, thus it is always a buyer's market. Their job skills are high due to the fact that they have been working there for many years and are dedicated to keeping the service quality level high.

Also indicative is that, for the Japanese, Dutch workers and its management systems are

still regarded as '*soto*' (outsiders) rather than '*uchi*' (insiders) in the perception that the Japanese do not share the same paradigm of quality assurance with them. The institutional *trust* is an important element for decision-makings in logistics in Japan, and it is only cultivated over a long time (Sako, 1992).

Figure 5-4 European Wine to Japan



Japanese automobile components to Europe (See Figure 5-5.)

Another example concerns quality assurance for automobile components, which are manufactured in Japan and sold to a number of assemblers in Europe. Company-A, a Japanese automotive component manufacturer, dedicates itself to maintaining product quality and shortening lead-time for their customers. In order to meet the requirements, the company took the measures to have the stock close to the buyers in Europe so that it can supply the customers just-in-time. The choice for the storage place was made on a warehouse operated by a Japanese logistics service provider in the Netherlands. Geographically it was within a reasonable distance to the manufacturing plants of the

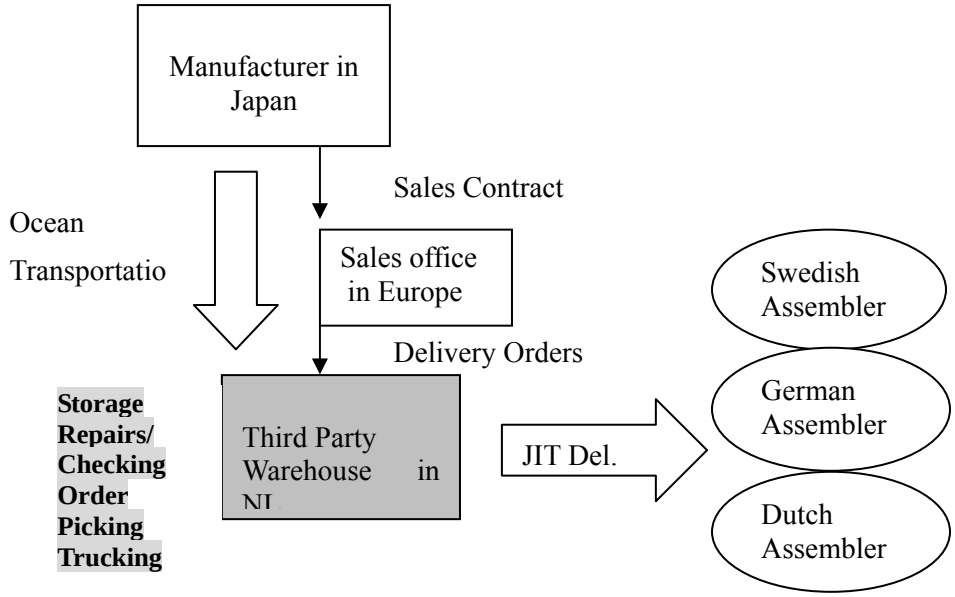
assemblers, located mainly in Germany and Scandinavia. Also important was the commitment to the customer made by the service provider by way of offering space, equipment and facilities, and attending to the visiting engineers.

This second-tier stock works as a European distribution centre. Although it is costly to keep stock in an intermediate point, it was regarded essential to meet the buyers' requirement to the utmost level.

However, merely placing stock closer to the destination was determined not enough for satisfactory service. In the automotive industry, approximately 30,000 parts and components are used to assemble one car. If one of the key components is found defective, while just-in-time manufacturing is undertaken, it can cause a stoppage of assembly line and create a serious damage to the assembler. Therefore, constant supplies of the right quality of components without mechanical defect are as important as the price and the timing of delivery.

In order to meet this tough requirement, what they decided to do at the Dutch warehouse was to secure an opportunity for the final check, repair and modification before delivery. From time to time, some technicians came from Japan on a temporary basis and stay at the warehouse to do that job. This kind of excess dedication to quality assurance is not seen in the European management, as it is not economical and disagreeable to the current logistics theories in terms of stock minimisation and efficiency. However, the Japanese firm was determined to continue this operation in order to assure the quality of their product and maintain their reputation from the customers. Logistics efficiency and customer satisfaction often contradict with each other. This case is an example that Japanese firms take long-term relationship building through customer satisfaction on quality of product and service as a more important factor than short-term profitability. As such profitability is often sacrificed by Japanese firms on the excuse of building a long-term relationship with the customer.

Figure 5-5. Japanese Automobile Components to Europe



3) Service and Return

Benders and Huberts (1997) suggest that, in Japan, manufacturing has been in the centre and logistics has been in a subordinate role in efficiency improvement. It may look so when we see the innovative methods of JIT, *Kanban* and *Kaizen* that were all initiated by manufacturers. However, if one looks at the content of contribution that logistics service providers have made, it is not exactly the case.

In Japan, service is generally regarded free of charge. Therefore, it has traditionally been difficult to charge fees to clients for extra services such as information provision, consultation or value adding work. A quick and flexible delivery of goods is taken for granted. Therefore, rather than being treated as a subordinate role, it may well be seen as an indispensable part of business. People are not even conscious that the service improvements made by the logistics service providers constitute the whole structure of business relationships in Japan.

With the development of electronic interchange of data and information, logistics service providers are nowadays required to make more and more investment in computer systems to provide those services. However, fierce competition in logistics business does not usually allow the firm to recover the investment cost by increasing the rates. How is that cost recovered?

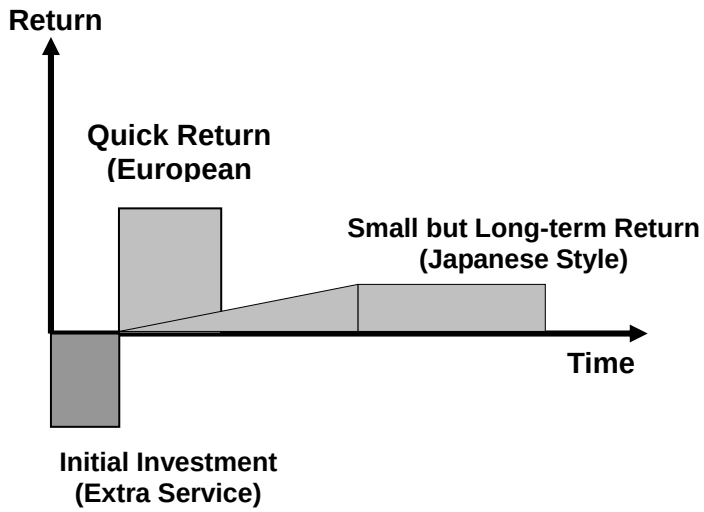
Japanese customers do not usually pay for the service directly but compensate for that

by offering business chances to the supplier for a longer term. *Trust* is the key word for the maintenance of long-term relationship. In order to establish mutual trust between a client and a logistic service provider, the employees of both firms should have been working together for a long time. Newcomers are always looked at with suspicion and they are forced into an endurance game until the test has been passed after some years.

The JIT concept is manipulated by some powerful customers in Japan, where they simply order the suppliers to deliver the components exactly when they are necessary. Therefore, small suppliers tend to keep ample, often more than enough, stock at their premises on their own account so that they can meet the requirement of the powerful customer. It is often seen that a long queue of trucks are waiting for their turn to deliver the goods in front of the customer's manufacturing plant. In this way, those suppliers try to obtain *customer trust* and secure business with large and powerful firms for a long time. However, it is not known how long and how much the firm will secure the return from the specific customer, and how high the profitability of the particular business will be.

This practice is different from the arms-length business relationships in Europe, where a shorter-term return must be explicitly ensured by calculation when a supplier makes concession to the customer. If the concession is not expected to generate reasonable return in the future, the supplier will say "no" to the request of the customer. In this case the calculation is made within the scope of foreseeable future. The Japanese system of cost recovery is often blamed by the Europeans as leading to an unfair treatment of new entrants into the market. (See Figure 5-6.)

Figure 5-6. Extra Service vs. Return



4) Management Involvement

Benders and Huberts (1997) made a survey of Japanese firms in the Netherlands, asking the Dutch staff the characteristics of Japanese managers. Two major negative points mentioned in their responses were 'slow decision-making' and 'lack of insight into the operational process'.

Slow decision-making may be attributable to the case such as that a Japanese manager requires a thorough research of a certain issue and its background circumstances, which is normally done first by his junior staffs in Japan before the proposal is put on his desk. In Japan, it is regarded risky to rely on one person's view for a decision. Therefore, managers and junior staffs at different levels of related divisions are required to check and make corrections to the proposal before it is presented to the board meeting. Once a decision is made officially, actions are taken very quickly and collectively. At that stage, no objection or hesitation is allowed any more because it is assumed that all the people involved in the decision-making process have already been offered a chance to express their opinions. Therefore, to be more accurate, the characteristics would be described as 'slow but thorough investigation followed by a quick action once the decision has been made'.

The 'lack of insight into the operational processes' may call for arguments. It is often mentioned in Japan that '*Genba*', or the frontline, is the most important for business management. Therefore, Japanese senior managers often walk around on the shop floors to make sure that the people are working in a desirable atmosphere with alertness and also to reiterate to the staff that the management always pays attention to the frontline operation.

At Japanese logistics firms in Europe, more of the higher ranked Japanese managers expressed their concern about the day-to-day warehouse operations than the Europeans at the same rank. However, they do not give detailed directions to the shop floor workers. Directions are supposed to be given to them by the lower ranked managers. The grasp of the situation and the giving of directions are clearly separated in the Japanese management style. The meaning of 'insight' may be different between European and Japanese perceptions.

The reports on operational matters must reach Japanese top management without fail at accurate timing in the context that they are always conscious of customer feedbacks. Especially, accidents and damages to the goods are deeply concerned about by them. It often occurs that a general manager of a logistics service provider pays a visit to the client for apology immediately after an incident has happened to the client's goods in his firm or during transportation, even if it is outsourced. This is deemed essential in order to keep

trust-based long-term relationships with customers.

This circumstance can create a rather awkward feeling among non-Japanese staff of a Japanese firm located in Europe. While Japanese staff tends to be extremely sensitive to the mistakes or damages to happen at their company, non-Japanese staff work on the assumption that mistakes occur at a certain percentage. It often happens that the Japanese manager tries to take very severe disciplinary measures on the person who made mistakes or damaged the goods. Sometimes reproach is given in a loud voice in the presence of the other staff.

A Japanese manager is supposed to have trained his non-Japanese staffs to be able to react properly to the client when something wrong happens. Otherwise, a single occurrence of mistake, damage or theft could lead to a termination of contract by the client due to the lack of 'sincerity'.

The Japanese management is based on the bottom-up system, where junior staffs make proposal to the management on policy matters (Odaka, 1984). Therefore, it may look contradictory to the above-mentioned heavy involvement of senior managers in the operational matters. However, those two phenomena coincide well in the concept that Japanese managers encourage front-line people to initiate the improvement of operational excellence and are willing to take up their opinions for managerial strategy planning and decision-making if they are well considered. However, this in turn works adversely as Japanese senior managers lack strategic thinking such as in the case of supply chain realignment.

5) Keiretsu and Independence

Once *trust* has been established among the firms that are in a collaborative relationship and they think it necessary to maintain the level of the quality of work, the relationship gradually leads to a tighter cooperation among the firms consisting of a core manufacturer, suppliers, distributors and logistic service providers. In Japan, even if there is no capital relationship among the companies, directors are often assigned from the core manufacturer to the smaller participating firms so that they can keep initiative to improve and assure quality of products and services. In this way the core firm ensures knowledge development at lower personnel cost, without a risk of increasing the number of its own employees. For the suppliers and logistics service providers, in turn, this system works as a facility to ensure the continuation of business for a long time. Such a group of companies is called *Keiretsu* (affiliated companies) or *Kyoryoku-kai* (Cooperative Circle). (See Figure 5-7.)

Logistics service providers have a similar relationship with the core manufacturers or large retailers, in many cases in the form of *Keiretsu*. They share information about the flows of goods and distribution patterns for more logistical efficiency. The difference between a *Keiretsu logistics* and a *third party logistics* is not very clear in Japan. As *Keiretsu* is in fact an informal tie of firms without any legal arrangement, a third-party logistics service provider can gradually become a member of *Keiretsu* after some years of test period.

Keiretsu system contrasts well with the Western business environment, where independence has been esteemed. People move from one company to another more often than in Japan. The management of companies tries to keep managerial independence whether they are large or small, and the relationship between companies is governed by a written contract. Therefore, long-term relationships between individual workers and among firms cannot be taken for granted without written agreements. Therefore, the inter-firm relationship is not spontaneously enriched and maintained for a long time in a collaborative relationship between the staffs of the two companies. On the other hand, people in the Western region tend to maintain personal relationships with many people co-related with each other in business for a long time irrespective of who become their employers.

From a large enterprise's point of view, the forming of *Keiretsu* has worked very effectively to ensure quality of products and services to customers. Therefore, also in Europe, collaboration in the form of virtual company has become more common. For example, core components of automobiles are jointly developed in a working environment where those who belong to different companies work together as if they were employed by the same firm. They are prompted to improve the quality of products by doing so.

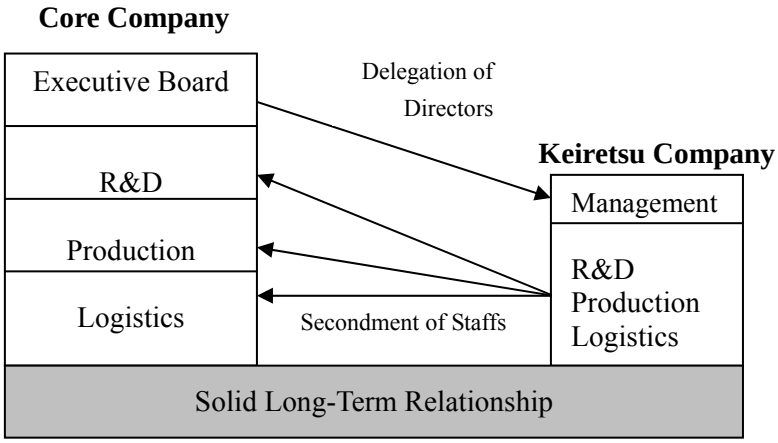
However, Japanese firms have recently recognised that the costs incurred to keep the exclusivity of the relationship is not rewarding in terms of profitability, thus started outsourcing logistics without long-term commitment. Keeping exclusive distributors, warehouse operators, truckers, forwarders etc. is becoming more and more burdensome for the core firm because the life and death of those dependent companies totally rely on the business capacity of the core firm. In another case, some *Keiretsu* logistics service providers have grown big enough to be a global player and thought it too restrictive in its business development as far as it remains in the *Keiretsu* group. This phenomenon is detected more in Japan in recent years such as in the case of Hitachi Transport System, and Fujitsu Logistics, which are aimed at being more independent in decisions-making (Dow Jones, 2003; Nippon Kaiji Shinbun, 2004).

Nowadays *Keiretsu* relations even in Japan may be dissolved any time once a financial situation has made it difficult to maintain the co-reliance between the two firms. The

recent drastic dissolution of *Keiretsu* structure at Nissan, the second largest automobile manufacturer in Japan, was initiated by the French top manager, who was assigned from the largest shareholder, Renault (Gosn, 2001). Although it was undertaken by a non-Japanese, the breaking up of *Keiretsu* and the resulting revitalisation of the firm prompted many other Japanese firms to follow suit to some extent.

The world market is changing rapidly, and, thus, logistical requirements are also changing accordingly. As the commitment to the quality of products and services has been heavier and cost competition are fiercer than ever, it is a new challenge for logisticians of both regions to keep balance between the flexible arms-length relationship and the long-term collaboration between firms.

Figure 5-7. Personnel exchanges within Keiretsu



6) Cross-Border Development

One of the most distinct characteristics of the European logistics is the international nature. Apart from the British islands, the European continent has historically been a battlefield of logisticians and, at the same time, the melting pot of logistics management methods across the borders. The language barriers, the biggest obstacles for smooth business transactions and the flow of goods, have mostly been overcome by some of the internationally-minded logisticians; forwarders, road haulers, ship operators etc. (Klein and Paelink, 1978).

'Integration of supply chains' is the recent key word for better logistics in Europe. It is vertical and horizontal integrations, and mergers and acquisitions of logistics service

providers. This is closely linked to the integration of European markets, which started in 1993 with the elimination of customs duties on the trades within the European Union. Competition among international firms is stimulating the transfer of production to lower cost countries and the countries closer to the consumer markets. A great number of Japanese manufacturers such as automobile, motor cycle, photo film, construction machinery, beverage and seasoning producers transplanted their production to Europe in the latter half of 1980's and through 1990's. The component suppliers also followed those core companies. This coincided with the intention to become the insiders of EU in the run up to the single market creation.

The cross-border development of European logistics has been enhanced in this way to a great extent. The concept of European Distribution Centre (EDC) was promoted by the Netherlands with its advantage in the geographical position and the availability of internationally oriented logistics experts. Other countries are also trying to catch up with this movement to become a logistics hub for the regions covering the surrounding markets across borders. This phenomenon greatly influenced the internationalisation of European logistics. More and more logisticians are moving across borders and trying to streamline supply and distribution channels.

This has not been found in the Japanese logistics management until recently. There have been some major logistics service providers operating outside Japan to serve their longstanding Japanese customers. However, their scope of business has mostly been limited to that level and there have been very few cases of having developed their business with new non-Japanese customers.

7) Knowledge Sharing

Logistics business has traditionally been regarded as one for the doers. Especially, warehousing and trucking were thought to be not requiring a high level of knowledge. Therefore, it is only recently that logistics became recognised as an academic discipline and widely taught at universities worldwide. Logistics was an "art" - not a "science" (Doyle, 1964). However, higher education and research activities of the United States in the field of logistics developed an abundance of new ideas and contributed to raising the knowledge level in this field. In Europe, the originality based on its historical background was added to the theories, especially the international elements in the context of cross-border logistics (van Goal et al., 2003). Now logistics has become a subject commonly taught in the field of management and technical studies at many higher educational institutions in Europe.

Moreover, logistics consultants have also contributed greatly to the development of

logistics theories. Derivative to making logistics knowledge a business, it has been playing important roles in conceptualising, structuring, explicating and streamlining logistics management and practices.

The Japanese have not contributed to these movements enough yet. Although some of the universities offer courses in logistics, many of them are still only a small part of the marketing and distribution or the transport economics courses. Consulting is far less developed in Japan, thus a firm that wishes to streamline its supply chains tend to seek free advice from its friendly logistics service providers, who rarely come up with structured ideas.

As such, Japanese management style is still less strategic in its logistics planning than the European. The close and longstanding relationship with Keiretsu or friendly suppliers and service providers has, in a sense, delayed the development, accumulation and sharing of logistics management knowledge.

5. Conclusion

In this chapter we investigated the differences and commonalities of European and Japanese logistics on the basis of field surveys. So far, the answers to the Question 1 as set out in Chapter 1 can be refined as follows.

Q1: Are there any differences in logistics management between Europe and Japan? If so, what are the differences?

Answers to Q1

1) The concepts of logistics excellence are commonly shared between Europe and Japan in some points. Those points are lean management, better utilisation of ICT, value adding in logistics, the integration of supply chains, and the acceleration of outsourcing. However, those commonalities appear only in the superficiality of the concepts. The way they operate logistics appears quite different.

2) The geographic and demographic specificity of the two regions form differences in physical appearances of logistics. The high density of Japanese population and the expensive land make Japanese modern warehouses multi-storied with low ceilings, and the congested hilly roads call for the avoidance of long distance carriage of cargo. Whereas, in Europe, a large flat warehouses are commonly used, which enables stock

integration to serve a wider range of markets. It means that, in general, Japan naturally favours locality in logistics service, while Europe is better suited to integration.

3) Japanese dedication to the assurance of product and service quality is closely linked with logistics. In order to satisfy customers, excessive efforts are made in the front line to maintain the level of the quality. It is ensured by the commitment placed on the daily work done by each worker, which is established on the basis of longstanding relationship of people and firms. Therefore, higher quality for a reasonable price is the key concept in Japan. This is fundamentally different from the European concept of quality assurance, in which quality is directly reflected in the price of product and service.

4) In Japan, the providing high-level of services is taken for granted by customers. This can cause more personnel costs to be incurred in order to serve customers. The recovery of those costs is generally made on a long-term basis by a tacit commitment of the customer for a continuous business with the service provider. In Europe, it is expected that the return covers the cost of investment, or concession, within a foreseeable period.

5) Japanese logistics management places more importance on the quality of frontline work than the structural planning. Therefore, managers devote more of their time to customer service and after-sales troubleshooting. Whereas, in Europe, marketing and after-sales customer service are usually separate.

6) The networking of core manufacturer, suppliers and service providers are more commonly seen in Japan than in Europe. It is operated in the form of *Keiretsu*, in which participating firms tend to share the same destiny. Therefore, logistical operations have traditionally been outsourced to a third party within the network in Japan. The boundaries of firms are, thus, not as clear as in Europe, where independence of management on the basis of arms-length relationship is esteemed.

7) As natural for an island country, cross-border development of logistics in Japan has not grown as much as in Europe. Overseas deployment of Japanese logistics is limited so far to providing service to the existing Japanese customers that transplanted their business to that country. Whereas, in Europe, cross-border integration of supply chains is commonly observed as a result of the unification of the regional economy, and it is effectively applied outside the region.

8) The history of logistics studies and education in Japan is shorter than the European. The contents of the studies are still at the stage of application of Western ideas. Less use of logistics consultants is also attributable to the fact. Consequently, the longstanding paradigm of Japanese logistics management has not been investigated or studied profoundly enough.

Our investigation of the differences of logistics between the two regions concludes with the following salient features.

The emphasis of Japanese logistics management is put on the customer satisfaction, and excess energy is consumed for it. In order to ascertain it, the management closely monitors the *Genba* (frontline), and the sharing of knowledge among workers and across organisations within the Keiretsu group supports the effort. This is closely connected to the long-term gradual recovery of the costs based on the longstanding relationship of firms. This total system of logistics management is closely connected to the specific style of human resource interchange that Japan has cultivated. The relationship between the customer and the supplier does not change and rarely reversed in the life of the individuals who are engaged in the supply chain. Therefore, there is hardly an equal partnership between them in Japan.

In the European logistics management, return on service cost is more explicitly measured and satisfactory return is to be assured before the service is provided. Rationality of decision-makings is advocated more than in Japan, thus short-term result orientation tend to be seen in many occasions. Independence of companies and the management is generally esteemed, thus unreasonable customer requirements can be rejected by service providers. The style of European logistics management is strategic rather than operational.

Consequently, it is so far deemed difficult to apply the Japanese style of logistics management to non-Japanese supply chains.

These conclusions lead to the evaluation of the validity of the general observations presented in Chapter 1 as follows.

Observation 1: European logistics management stands on the concept of rationality and explicitness.

Observation 2: Japanese logistics management lacks efficiency and the clarity of standard.

Evaluation: It is the assumption of the European logistics paradigm that European logistics management is based on rationality and explicitness. However, their decisions are rational within the scope of calculability. On the other hand, behaviours of Japanese logisticians may look irrational and lack financial accountability. However, decisions made based on the customer satisfaction and long-term cost recovery may also fall into the wider sense of 'rationality' in the environment where they have cultivated their culture.

After all, the rationality is defined on different dimensions in Europe and Japan, and they both eventually apply only to the sphere of 'bounded rationality' (Simon, 1985).

Observation 3: Japanese logistics management style is not applicable to non-Japanese supply chains.

Observation 4: Japanese logistics management is being converted into the Western method.

Evaluation: So far, the Japanese logistics management style has not spread across supply chains outside Japan. However, its applicability to the non-Japanese supply chains has not been tested well yet. In order to do so, the concept of values contained in the paradigm of Japanese management style must be made clear and tested whether it can be sympathised elsewhere.

Apparently the Japanese logistics management is generally adopting itself to the methods developed in the Western region. However, it is not justifiable to determine that there will be a conversion that the Japanese logistics management is changing towards the Western and not vice versa. Some of the concepts that are represented by the practices such as JIT and Kanban emerged in Japan and already been shared worldwide. It will be a subject of further study whether the paradigm that the Japanese have cultivated can be made comprehensible to the non-Japanese in order to commit the question of its applicability to them, whole or partly.

We made intensive surveys by interviewing fifty-five firms and organisations (See Appendix 1) and have synthesised the statements made in various words by the interviewees in this chapter. What have been displayed here are the opinions of the

majority of them. We have pointed out some of the important factors for the differences of European and Japanese logistics, which have not been recognised by many people in a concrete manner.

In this sense, our analyses have advanced from the initial general observation to the one with more solid background. In order to strengthen the foundation of our observation, we are going into two sets of empirical studies by questionnaires in the following chapters.

CHAPTER 6

EMPIRICAL STUDY AND ANALYSES (1):
JAPANESE PERSPECTIVES OF DUTCH WORKING CULTURE IN LOGISTICS

1. Introduction

In Chapter 5, differences of logistics management between in Europe and in Japan were investigated and analysed according to our field survey. In this chapter, we will investigate the result of our questionnaire survey of cross-cultural logistics management, where two working cultures are mixed in the operational practices. The Netherlands has been taken as an example.

The Netherlands has been one of the European countries most favoured as a logistics hub (NDL/BCI, 2001). Manufacturers, distributors and logistics service providers use Rotterdam Port and Schiphol Airport as gates to European markets, and set up logistics centres in the country to oversee pan-European supply chains to keep product stocks and spare parts for swift distribution to customers. As a result of efforts made by the Dutch government and service providers to bring about flow and supply of goods into the country, the Netherlands has now become a large melting pot of Dutch and non-Dutch logistics centres, generating income for local service providers and employment for the Dutch citizens.

Why was the Netherlands chosen as a location for logistics hub? Will the Netherlands continue to maintain the position of the *European logistics hub* in the future? If there is any mismatching of logistics paradigm, what is it? Why does it occur?

In order to answer these questions, we will look at a perception of the Japanese in the Netherlands from the view point of human resource dynamics in logistics. This is taken as an example of the mismatching of logistics paradigm in the compound of different business cultures, where Japanese business culture generally carries more weight in human resource utilisation (Odaka, 1984; Koike, 1997).

A rapid and continuous appreciation of Japanese Yen, which took place after the Plaza Agreement of the Group of Five (G5) countries in September 1985, caused a fundamental change in the strategies of Japanese industries. Japanese manufacturers started transferring their production from Japan to various countries where they could produce goods at a lower cost or geographically closer to large consumer markets. Centralisation of stock also

became a key strategy for them in order to minimise the stocking cost and shorten the lead-time to product delivery.

Their European supply chains were considered with the view to entry into the single market as an insider of the European Union. The transplant of production into the region became an urgent matter of consideration for many manufacturers and distributors.

The Netherlands was chosen as a logistics hub by many of the Japanese companies as well as a production site for some. However, initial enthusiasm was partly reversed by reality over the course of time. After nearly ten years of experience in production and logistics management in the Netherlands, the same Japanese companies now point out several factors as challenges to harmonising the different logistics paradigm of Europe and Japan.

This chapter gives an analysis of the current competitive position of the Netherlands and the underlying challenges the people are facing in the new environment of cross cultural management, and brings into view the analyses of its backgrounds for a possible harmonious balance of criteria for a logistics hub of the future.

In Section 2, we see how the Netherlands has been dominating the position of logistics hub in Europe, and the sources of its current competitive advantage are identified. In Section3, how the Netherlands has been promoting its advantages is investigated. Section 4 gives an empirical research detail. The methodology and the result of the survey is explained as to how the Japanese who are engaged in logistics in the Netherlands compared the European countries and made a decision to locate their production/logistics centre in the Netherlands; and how their perspective of the Dutch competitive advantage has changed, especially with regard to working culture. Section 5 concentrates on the analyses of the gap between the initial decision-making factors and the consequence of direct investment. The approach suggested by new institutional economics is taken. The final part is given to a conclusion.

2. Dutch Predominance as European Logistics Centres

The Netherlands is a well-recognised European hub of ocean transportation and inland logistics. Rotterdam is the largest port in the world by the total throughput (Port of Rotterdam, 2004). Schiphol is the fourth largest cargo airport in Europe (Aircargo Amsterdam Area, 2004). These facts are the result of the choice made by industries and, at the same time, work as a motive for more companies to choose the Netherlands for a European Distribution Centre (“EDC”).

Netherlands has both hard and soft infrastructure that supports supply chains (Roos,

2000). EDC is a concept of centralising stock for an efficient distribution of goods to at least five countries in the Europe/Middle East/Africa region. It can be combined with carrying out of added value services or postponing manufacturing activities to customise the product further downstream in the logistics chain (Vermunt and Binnekade, 2000).

According to the statistics of the Holland International Distribution Council ("HIDC"), 51% of the EDCs are located in the Netherlands among the European countries. (See Table 6-1.) The Netherlands surpasses by far the countries in the second and the third places, Belgium (18%) and Germany (11%) respectively (HIDC, 2003).

Table 6-1. EDC Market Shares (Outsourced and Own Account)

The Netherlands	51%
Belgium	18%
Germany	11%
France	8%
UK	8%
Others	4%

Source: HIDC, 2003

European Logistics management is much different in its concept and practices from that of the United States. The differences are attributable to the diversity of social environments. Each country in Europe has its own legal systems, tax rules, government administrations, language, business customs, work ethics etc., and those factors have been greatly influencing the flow of goods across borders, whereas the United States has more monolithic institutional environments and the embedded business culture. This is why 'traders' have had an important role for the vitalisation of the European economy since the Middle Ages (e.g. Wilson, 1978).

De Koster and Warffemius (2002) identify main location factors that attract EDCs to the Netherlands as: its central geographical position within Europe, the availability of logistics know-how, the knowledge of customs and tax regulations, the transport infrastructure, the two main ports of Rotterdam and Schiphol, and the availability of multi-lingual employees. These elements represent very well the characteristics of European logistics management paradigm. They are re-examined in the following sections.

3. What Elements the Netherlands have been Promoting as its Competitive Advantages

For foreign manufacturers and logistics service providers, a selection of a logistics hub is not as easy as choosing a transport mode. It is because a multiple factors affect the processes of logistics operations and the result of the decision, in terms of efficiency, can vary in any directions by the function of those elements. For example, the choice of a place as EDC may first appear geographically ideal for integrating the existing distribution networks of the neighbouring countries, but through time it may turn out that the people, who are expected to work in full collaboration across borders, do not cooperate with each other well enough because of a historical disharmony of the two nations in politics or a religious discord.

The institutional environment, which is presented in an explicit form of elements, is clearer than cultural elements, 'embeddedness' (Williamson, 1998). When a firm makes a decision on the location, the factors which cannot be shown by figures or clear words tend to be eliminated. Thence the decision made only with the examination of explicit factors is taken as a rational one.

The way the Netherlands has been promoting its competitive advantage in EDC is worth attention. Holland International Distribution Council ("HIDC"), as a promoter of Dutch EDC raises nine points of advantages of the Netherlands as follows (HIDC, 2001).

① The central geographical position in Europe
The country is the gateway for Europe for incoming and outgoing shipments and is located close to the main European markets.
② The quality of the infrastructure and the main ports (sea and air)
③ The tradition of trade and transportation
④ The extensive service offerings
Almost every international logistics services provider offering warehousing, transportation and value added services on a European scale can be found in the Netherlands. In addition to professional Dutch companies, many international logistics companies from other European countries and from the USA, Japan and Australia are well represented.
⑤ The quality, international orientation and supply chain capabilities of the industry
⑥ The cooperative and stable government (national, regional and local)
⑦ The country's flexible legislation and the businesslike attitude of the Dutch customs and tax authorities
⑧ The positive and flexible attitude of the workforce, coupled with high productivity
⑨ The multilingual workforce

Of these items, some are explicit and some are not. How is the calculation made in

comparison with those of the other countries in Europe? In fact, the rationality of calculation is quite restricted when a company makes a decision on one country for the location of EDC. This is procedural rationality (Groenewegen and Vromen, 1999) Presumably, the human related factors such as quality, capability, attitude and cooperativeness are not put into calculation but checked with the reputation of other people including self evaluation of the Dutch promoters. The notion that the Netherlands is traditionally a logistics centre and good expertise is accumulated both institutionally and personally must have helped to support the decision to choose the country. But among other things, 'to follow the majority' type of mentality of the decision makers must have been most influential at the last moment.

When we give thought to the excellence in logistics, we should take this *bounded rationality* into account (Simon, 1985).

4. Choice of the Netherlands as a Logistics Hub and Underlying Challenges

In order to test the general observations made in Chapter 3, the following survey was carried out. It was meant to identify the reasons why the Netherlands was chosen primarily as a European logistics hub by Japanese firms, and next, what sort of factors are detected now as underlying challenges by the logistics front line.

1) Methodology

Our research took a method of questionnaires to Japanese firms located in the Netherlands. The questionnaires were sent to 62 companies in 2000 and replies were received from 38 firms in 2000 and 2001. Therefore, the response rate was 61%. The majority of large size Japanese companies, active in the Netherlands, are included in the sample.

The addressees were chosen from the member list of the Japanese Chamber of Commerce in Amsterdam, which covers almost all the Japanese companies registered in the Netherlands. The choice of the companies was made for those that fall into one of the following categories of business.

- Manufacturing
- Trading
- Wholesaling
- Logistics Service providing

We discovered that many respondent firms were doing more than one type of business

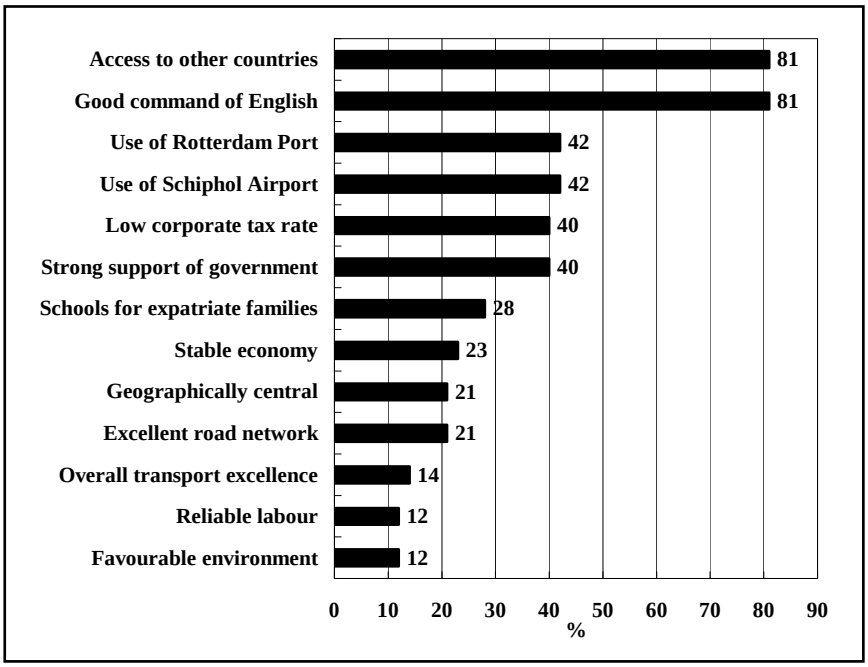
of the above. Therefore, specific categorisation of respondents is not meaningful.

The questions were asked as to the reasons to have located their productions and/or distribution centres in the Netherlands; perceived disadvantages of other possible locations in Europe at the time of decision-making; and the disadvantages they had found in the current circumstances in the Netherlands. The questions were answered in a multiple-choice method. (See Appendix 2.)

2) Result I (Advantages of the Netherlands)

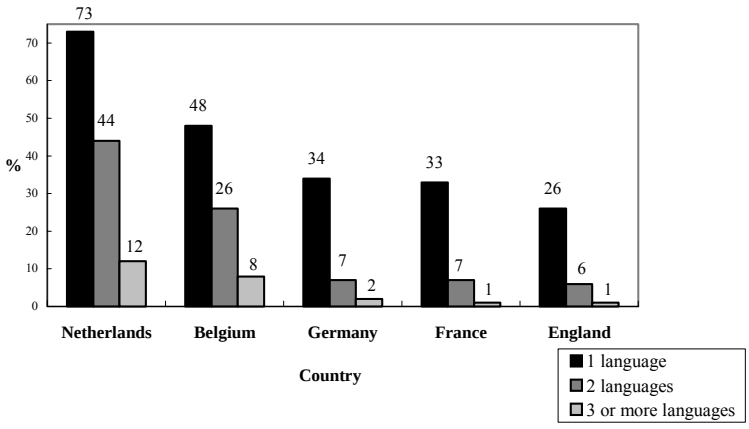
The result of our survey shows two equally outstanding reasons that Japanese firms placed their production and/or distribution centres in the Netherlands. (See Figure 6-1.) Those are 'the access to the major markets in neighbouring countries', and 'the good command of English language by the Dutch workers', both of which were chosen by 81% of the respondents. 42% of the respondents found the existence of 'Rotterdam Port' or 'Schiphol Airport' advantageous; and 40% for the 'low corporate tax rate' and/or the 'support of the local governments'. It is interesting to find that as many as 28% of them found value in the 'easy access to Japanese or international school' for the children of the managers who are to be seconded from Japan. It is also notable that the 'availability of reliable workers' was chosen by only 12% of the respondents.

Figure 6-1. Reasons for the choice of the Netherlands (Japanese perspective)



The access to other countries is, without doubt, the most important element for logistics operations. Geographically, the Netherlands is adequately located to serve two large markets in the regions, the region from Belgium to France and the other from Germany to the Central Europe. Moreover, its advantage is strengthened by the English language proficiency of the Dutch workers, which surpasses its neighbouring countries. It is also well known that the Dutch ability of speaking other European languages, such as French, German, Spanish etc., is helping them to secure their logistical superiority. (See Figure 6-2.)

Figure 6-2. Foreign Language proficiency of people by country



Source: European Commission

In the second half of the 1980s, a substantial number of Japanese firms made direct investments in Europe. Until then, the Japanese presence in Europe had been seen mainly as exporters of goods. However, their fear of being blocked from entry into the European market or any other inconvenience that might be caused to their business in Europe after the establishment of the European common market prompted them to seek the position of the 'insiders' of Europe, which would mean manufacturing of their goods in Europe with sufficient local content and selling them as European products.

A great number of Japanese manufacturers started constructing factories in Europe, but the investments by those core firms (assemblers) were not enough to maintain the quality level that they had maintained in their goods and services in Japan. Then, component and material suppliers, many of them in *Keiretsu* (affiliated network) group, were asked, or advised, to follow those core companies and started producing high-quality goods and services in Europe to supply them. Mutual trust and long-standing relationship of sharing

the same business concept was supposed to enable the maintenance of the product quality (Volleman, 2000).

In these processes, the Dutch proficiency of English with a good geographical location seems to have attracted Japanese decision makers considerably.

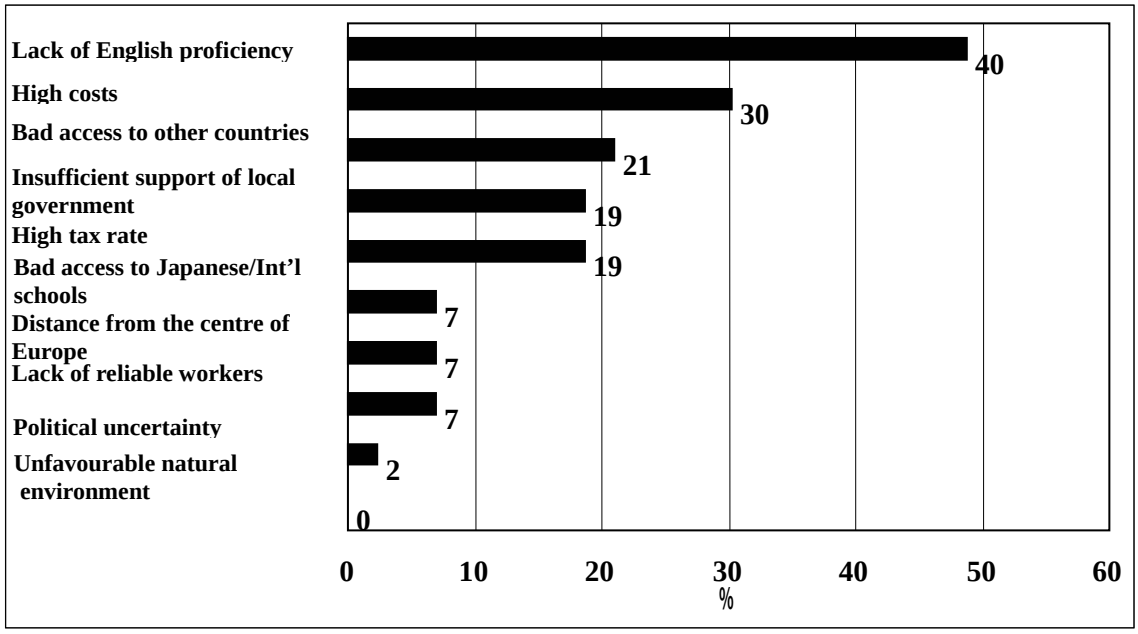
3) Result II (Disadvantages of other European countries)

Figure 6-3 shows disadvantages that the respondents perceived in the other countries when they made a decision to establish their production and/or distribution centres.

The figure shows again how much the Japanese put priority on the communication in the English language. 49% of the respondents think the other European country disadvantageous because of the lack of English language proficiency of the workers. 30% of them show concern over high costs. Lack of reliable workers is pointed out by only 7% of the respondents.

The Results I and II may be summarised as follows. The Japanese firms put highest priority on the geographical advantage and the workers with good English language communication skill. High cost or high tax rate countries were not chosen, but the lowest cost country was not necessarily the first priority. The availability of reliable workers in Europe was not highly prioritised, which means either that the quality of work to be done by the workers was not taken into account, or that the decision makers assumed to be able to ensure reliable work.

Figure 6-3. Perceived disadvantage of the other locations in Europe (Japanese perspective)



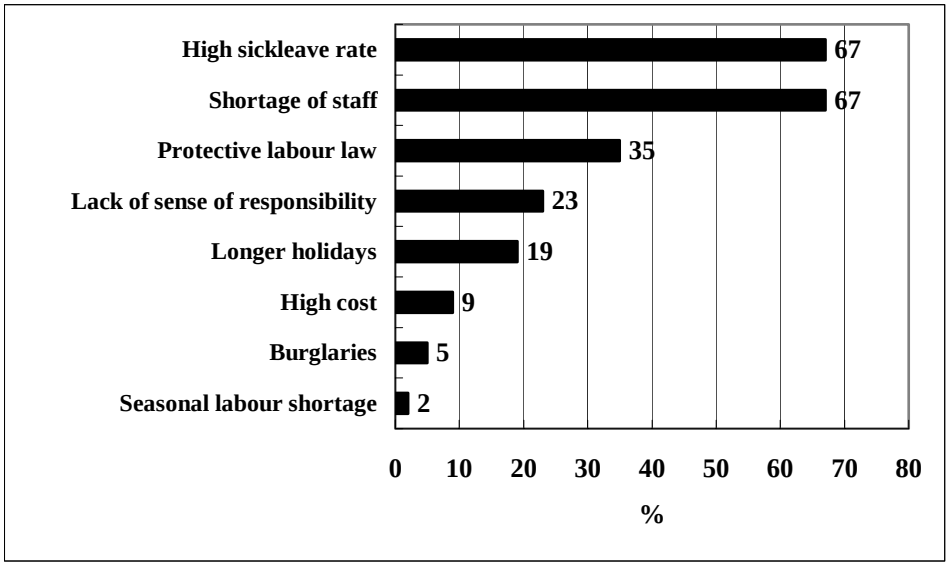
4) Result III (After the honeymoon period)

Although decisions were made on the Netherlands by the Japanese firms based on the criteria as shown above, the more experiences in the European operations they accumulated, the more difficulties they faced in achieving the expected results in terms of quality standard of products and services.

Figure 6-4 shows the challenges Japanese companies in the Netherlands are facing now. The questions were meant to identify the gap between the initial perception and the reality.

67 per cent of the respondents surveyed pointed out the high sick leave rate and also the shortage of staff as serious hindrance for logistics management in the Netherlands. 35 per cent of the companies think that the Dutch workers are too much protected by laws. 23 per cent pointed out a lack of the sense of responsibility held by workers.

Figure 6-4. Challenges faced in the present Netherlands (Japanese perspective)



Although in fact there is not a complete set of statistics about the comparison of sick leave rates by country, Figure 6-5 partly explains how high the rate of worker absence is in the Netherlands.

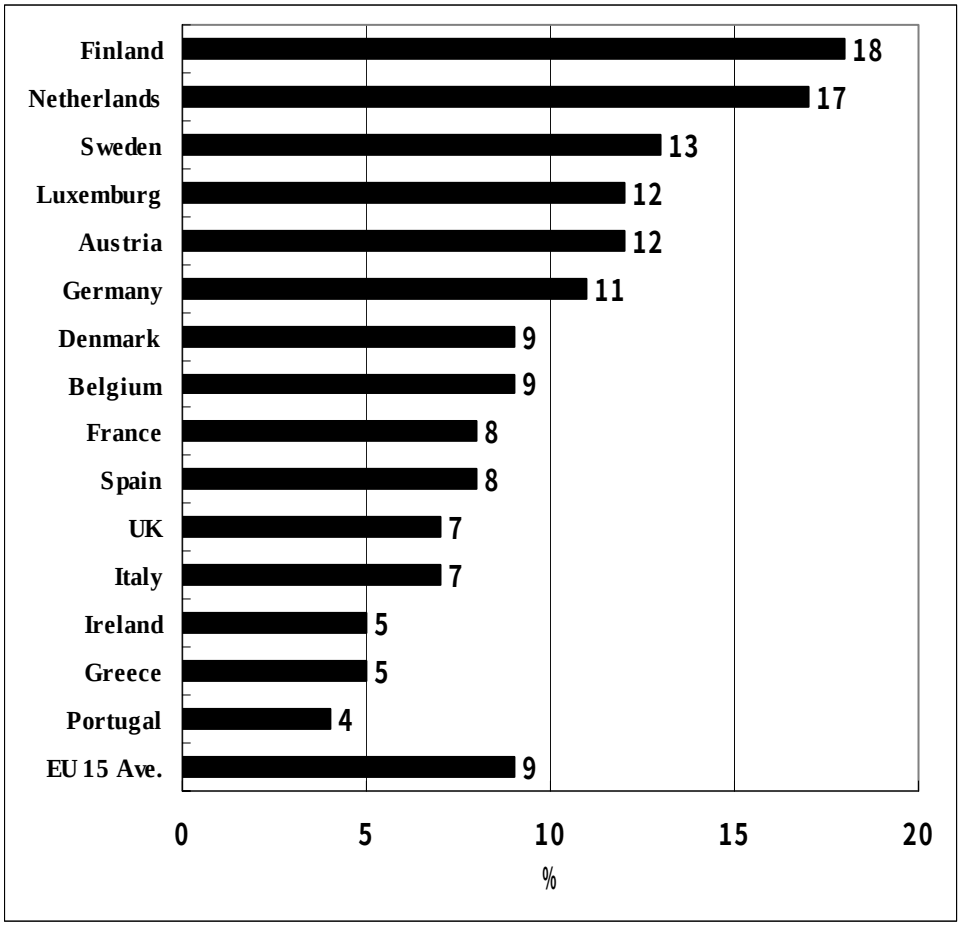
Difficulty to keep reliable staff is mentioned by many Japanese managers with reference to the high turnover of employees, which is attributable to the growth of employment agency activities in the buoyant economy in the 1990's.

The notion that Dutch workers are sheltered from competition by protective labour laws

is represented by the difficulty to make redundancy. Even in the case of dismissing the employee who violated laws, broke rules or caused damage to the employer, the company does not fully escape from the duty to pay a dismissal allowance to the employee.

Concerning the sense of job responsibility, there seems to be a very large fundamental gap of perception between the two nationalities, Japanese and Dutch, which prescribes various processes at offices and shop floors (Keizer, 2000). For example, we often hear that the Japanese cars manufactured in Europe are of lower standard than those manufactured in Japan. One of the generally recognized reasons for this is that the shop floor workers in Japan have stricter standards of their own than those stipulated in the rules set out by the firm. In Japan, workers are encouraged to set their own standard higher than the one given by the firm, whereas in Europe it is regarded a deviation from the rule, which is not allowable.

Figure 6-5. Workers reporting absences over the last 12 months due to work-related health problems by country



Source: European Foundation

5. Analyses from the Institutional Perspective

From the result of the above survey, it is obvious that there is a large gap of Japanese perception of the Dutch working culture between the one held before establishing a production/logistics centre in the Netherlands and the one after some time of operation in the country. This represents an asymmetry of information (Stiglitz, 2001)

In the decision-making factors, Japanese investors considered explicit factors well, such as geographical advantages, government support legislations, and school locations for expatriate children. Whereas, implicit factors in connection with human elements were not investigated seriously except for the foreign language ability of the people. It was not easy to find the data either.

However, experiences of operations in the Netherlands start revealing human related difficulties for smooth operations. High sick leave rate, shortage of staff (which is the result of sick leave, high job turnover and long holidays), protective labour laws (mainly the interpretation of the same), and the lack of the sense of responsibility held by the persons in charge are the items pointed out by Japanese managers.

Williamson's (1998) framework is now used to observe the institutional structure of business logistics sphere. Table 6-2 is a modified model of framework for logistics.

Table 6-2. Institutional Framework of Business Logistics

Level 1	Embeddedness	Values/Utility, Business Cultures/Customs, Human Relationship, Trust, Reliability, Co-Working Spirit, Service Concept
Level 2	Institutional Environment	Policy (Government/EU), Infrastructure, Laws, Industrial, Relations, Labour Market, Management Theories
Level 3	Governance	Contracts, Corporate Rules, Management Missions, Strategies, Business Plans, Training Scheme, Tacit Agreements/Understanding, Information, IT Systems
Level 4	Resource Allocation & Employment	Transportation, Storage, Forwarding, Third-party Logistics, Fourth-party Logistics, Value Adding Operations, Systems Designing/Control, e-Commerce, Reverse Logistics

At Level 4, logistics practices are shown. In logistics, resource allocation and employment is daily practices of transportation, storage and forwarding, while some new types of practices are being developed in the areas such as third-party or fourth-party logistics, value adding operations, systems designing/control etc. Reverse logistics deals

with the waste and recycling as well as the return of goods from customers, which are gaining more attention and policy initiatives due to the increase in the global environment concerns.

Level 3 describes how those logistics practices are regulated corporate governance and contracts. Contracts between companies and internal rules and regulations are the most explicit regulator, while management missions, strategies and plans, tacit understanding among workers or partners, IT systems and information exchanged among people involved in the logistics are more indirectly affecting the daily practices.

At Level 2 are social institutions such as EU decrees, national policies and laws that are influencing all types of logistics operations, conditions of labour and employment, and logistics management theories of various kinds.

Lastly, at Level 1, all those elements are influenced by cultures embedded in the mind of people engaged in logistics, which include business cultures and traditions, the concept of corporate and human relationships, regulating the legislation and standard working rules. They have indirect but longstanding influences on the way that logistics is managed and will evolve in the future.

Governance of human resource allocation (Level 3)

In Europe, the scope of work is strictly regulated by an employment contract in general. An agreement must be reached not only when the person is newly employed, but also upon the annual assessment of the existing personnel. This is completely different from the Japanese employment system. In Japan, employment has been 'granted' to a person by the employer rather than agreed upon between the two. Therefore, a job description is also granted and changed anytime by the discretion of the employer. Although the employment situation have recently been changing dramatically and younger employees are rather easily changing their employers, in most cases an employment contract is not yet made and the conditions are not discussed until the fixture of employment has been made.

Many Japanese managers complain about the narrow interpretation of the job scope by the European employees. Difficulties often occur when the management wants to make a change to the job description of an employee, even within the scope of the existing responsibility stipulated in his employment contract. A job description, in the European sense, determines the 'territorial' boundaries as well as the responsibility to assume. People are not expected to step into the territory of the others. According to the Japanese management style, upgrading or broadening of a job description is given when the person is seen to be prospective and have good potentiality. Therefore, the proposal is regarded as a reward rather than an additional duty, thus the person accepts it even without extra remuneration.

A narrow interpretation of job description can easily lead to a lack of understanding of what the others are doing inside and outside the company. Japanese managers often complain that European employees do not take into account what the fellow workers are doing. This can cause a conflict among co-workers and between the companies with a business partnership.

There is a tradition in Japan that a senior employee coaches the junior on the job. This is a very effective method of maintaining and transferring knowledge and skill across generations. On the other hand, this system can also cause a duplication of jobs and an extra employment cost. Whereas, in Europe, knowledge is power. It is a castle to protect, thus if he gives all his knowledge to his subordinates, his position may become precarious. Therefore, individuals try to develop their own land and build up a soaring castle of knowledge. However, a disadvantage is that those castles are seldom shared with others. This system can cause a lack of spontaneous on-the-job training and coaching on shop floors and at offices in Europe.

Labour market condition and its environment (Level 2)

Job-hopping is a recent common phenomenon in Europe, especially among young people. A company management always faces a risk that the employees can leave the company any time. This may cause a serious disruption of business plan execution when an important project is dependent on the capacity of a small number of staff.

This labour market condition also causes a lack of endurance of employees in case of business hardship, where they tend to move to another employer in the event of financial difficulty rather than to struggle to improve the situation together with the colleagues. Possible discontinuity of smooth logistical operation due to a lack of long-term commitment of the employees as a result of the excess liquidity of the labour market is a great risk for logistics management. During the interviews with the Japanese managers working in Europe, quite often mentioned was that they could not take steps to cultivate the human resources because prospective young employees deemed to be good candidates for future managers tend to leave the company quickly for a better position elsewhere.

In Japan the same phenomenon is seen in the labour market more and more among the people in the twentieth. It has been spreading from smaller companies to large, established firms such as those in a Zaibatsu group and banks. The move is commonly seen throughout the world. However, we observe that it has not spread throughout the generations in Japan and the Japanese management method has not been adapted to this labour market change yet.

The Japanese managers, who are used to the long-term employment system, expect that their subordinates correctly understand the institutional and corporate environment

surrounding their functions, know the functions and backgrounds of their colleagues, and perform their own jobs with the spirit that they will play a role as managers next. Cultivating the young generation's accountability and the capability to take responsibilities is the most important job for them.

We leave the discussion as to whether the quick turnover tendency in the labour market will become taken for granted or not in Japan to future studies in the area of labour economics and sociology.

For supply chain management, the current increasing instability of human resource availability work adversely to the continuous logistical streamlining. It obviously discontinues the sharing of knowledge and smooth communication. In order to keep the institutional environment suitable for cross-border supply chain management, a longer term of people's commitment will be the precondition.

One other point of concern of the Japanese managers is the sick leave system as institutional environment. In the Netherlands, and also commonly in Europe, employees are entitled by law to take paid-leave when they become ill, which must be given to them apart from the annual holiday entitlement. Employees' burden of proof of illness varies in its level by country and it depends on the company rules for details. For management, there is a great risk that a large number of employees can be away from their jobs without prior warning.

The causes of sick leave vary. Apart from the genuine illnesses, absenteeism is detected by them in the cases such as mental stress and influenza. As usual, stress related illness is hard to deny and assures the patients a few months of recuperation. With influenza, home doctors are said to advise the employee to be away from work for almost two weeks in order to fully recover from it.

It is partly a matter of corporate governance, but is also deeply rooted in the social environment, where the protection of the welfare of workers causes extravagance in individuals' behaviours. This is usually not the case in Japan. There, a sick leave system is not assured by the labour laws, thus most companies treat it within the scope of annual holiday entitlement. This is why the Japanese managers are bewildered to see the high sick leave rate in their European employees.

Business culture and work ethics (Level 1)

(1) Customer Service

It is often seen in Japan that a shop clerk is deeply apologising to a customer for running out of stock of a certain commodity. Customer service personnel at a logistics firm often apologise their customers for a mistake or the delay of the delivery of goods. Japanese employees have traditionally been trained to think that they represent the shop or the

whole firm they work for when they face their customers.

In Europe, the staffs do not in general have the habit to apologise to customers for the problem they themselves did not cause. Therefore, Japanese managers feel very uncomfortable to see their European staff argue with their customers on the cause of the trouble or refuse to provide services outside their normal working hours.

Japanese customers in Europe expect logistics service providers to treat them in the same way that they are treated in Japan. For Japanese logisticians, from the top to the bottom, it is their utmost duty to serve customers. Many requests of customers, e.g. rate quotation and information about particular matters, are made to a logistics service provider near the office closing time or even after the closure for the day, and they expect the answer to come first in the next morning. Likewise do the Japanese manufacturers to their customers (distributors and retailers). A just-in-time availability of service is taken for granted in Japan.

As far as Japanese logistics service providers can offer this kind of faithful services to Japanese customers in Europe, their *raison d'etre* in Europe will be maintained. Consequently, in order to keep their business going in Europe, Japanese managers must keep themselves deeply involved in the daily operational matters and customer services.

'A customer is a king' is a principle commonly applicable to many business cultures. However, the interpretation of the words in day-to-day business and the actions taken are very different between the Dutch and the Japanese. Japanese version of the equivalent word is 'A customer is God.' The nuance of the two similar expressions is actually different. In the European version, service providers are expected to serve the symbol of power (i.e. king). Therefore, the customers take the superior position in the price negotiation and service request. In the Japanese version, it is assumed that service providers should always appreciate the order granted by the customers (i.e. God), thus a satisfactory service is a token of appreciation. This leads to a fundamental question. That is whether customer services are central or peripheral in the corporate management. The observation made in this empirical study shows that Japanese managers regard customer service a central matter in the paradigm, and they feel it is not in Europe. In integrating cross-border supply chains, this difference of perception is one of the most difficult parts of the challenges, which is implicit and tacit.

(2) Quality of Life vs. Customer Satisfaction

Long holidays taken by the European staff are always the subject of complaint by Japanese managers. This comes mostly out of their envy, though. In Japan, holidays are in the centre of arguments in the context that people long for a better quality of life but cannot take holidays much. The average length of holiday taken has become longer through time,

but there is still a huge gap in the length between Europe and Japan. It is a legal right for the employees to take the holidays entitled in both regions. Most European employees try to exercise the entitlement fully every year. Many Japanese do not have the habit to consume holiday entitlement in full unless it is absolutely necessary. A summer holiday has become more common there, but it is still in the range of five to ten days. The Japanese legal system does not obligate employers to give employees sick leaves separate from holidays. Therefore, employees must save at least some of the holiday entitlement in case of illness.

Another distinct difference is whether, during the holiday is taken by someone, his/her function is taken over by the colleagues or not. In Japan, it is absolutely essential in view of the customer satisfaction, whereas in Europe it is not always the case. This is related to do with the interpretation of job responsibilities. To the eyes of the Japanese managers, who are used to such a working culture, the European staff taking holidays to the maximum, without any hesitation, may give the impression of being brazen-faced and lacking a sense of responsibility. This is clearly reflected in the result of the survey.

It is quite arguable which of the European or the Japanese working culture will gain more support in the future. Is it a matter of the progress of civilisation or not? If so, is the European way of life sustaining through the challenges from the emerging economies and from the increasing non-European populations within Europe? At least for now, we see that these differences of value recognition are gathering more weight in influencing the cross-border supply chain management and determine the viability of future logistics management paradigm.

6. Conclusion

In this chapter, we have looked at the current perception gap of value recognition in logistics management between Europe and Japan. In Chapter 5, our observation presented a view of the Japanese orientation towards customer satisfaction and the *Genba* (frontline) collaboration on a long-term basis; and the European orientation towards ‘rationality’ of decision-making in various aspects of logistics. Up to now, we have been investigating whether the above observation can be confirmed in the contemporary logistics field where Japanese logisticians are working with the European.

The result of our survey shows a clear frustration between the two management methods. That is concentrating on the implicit part of the elements of logistics management; i.e. a dynamics of the relationship between working cultures (Level 1), which is deeply embedded in the mind of the people involved, and the daily practices of

logistics (Level 4).

Here, we look at the first question set out in Chapter 1.

Q1: Are there any differences in logistics management between Europe and Japan? If so, what are the differences?

Answer to Q1: Yes, from the Japanese perspective, a large gap of paradigm concerning the human resource deployment can be detected in the logistics field. What is not commonly shared is the vision as to what extent customer service should be extended, and in what way the logistics practitioners are expected to make commitment to it.

Following is the re-evaluation of the general observations shown in Chapter 1.

Observation 1: European logistics management stands on the concept of rationality and explicitness.

Observation 2: Japanese logistics management lacks efficiency and the clarity of standard.

Evaluation: Japanese practitioners, with working experience in Europe, view that the European rationality paradigm of logistics management is not exactly supported by the effective cultivation of human resource capability. On the other hand, the results of our survey indirectly indicate that there seems to be a certain standard for Japanese logistics management. Japanese try to find rationality in the priority to customer services, though Europeans may find it irrational.

In this way, argument of rationality is mismatching between the people of the two regions. At this point, the survey does not give further suggestion.

Observation 3: Japanese logistics management is not applicable to non-Japanese supply chains.

Evaluation: According to our survey, it is apparent that the Japanese managers face some difficulty in implementing their logistics management style to the European supply chains because of the different institutional environments. However, applicability to Europe has not been investigated in detail yet.

Observation 4: Japanese logistics management is being converted into the Western

method.

Evaluation: While implementing ICT developed mostly in the Western regions and localise the corporate management in each country, the Japanese practitioners also try to adapt its core management style to the practices in Europe. On the other hand, the Japanese are not agreeable to adapt them fully to the European style of logistics management especially in the sphere of commitment to customer services. The effort to make it more explicit and reasonable for implementation in Europe has limited effect so far.

As the difference of working culture is implicit and not measurable, it is detected *ex post* and confuses the direction of logistics improvement through feedback loops. As logistics evolved into a scope of work that handles multi-tier and cross-border supply chains as a result of the development of international trades, human factors has become a main concern for many people. One of the greatest challenges to global operations now is reconciling differences in social and cultural behaviour (Heizer and Render, 2001). What is acceptable in one country's culture may be considered unacceptable in another country. So are the work ethics and the paradigm of logistics management.

CHAPTER 7

EMPIRICAL STUDY AND ANALYSES (2):
PERSPECTIVES OF OPPOSITE BUSINESS CULTURE BETWEEN THE DUTCH AND THE JAPANESE

1. Introduction

The world is full of confrontations, which spread among people who think, feel and act differently. They are working together, with or without their will, and obliged to find solution in the collaboration in whatsoever field of economic activities. This also applies to logistics more than ever as a result of the globalisation of the flow of goods, in which supply chains are extended across borders. People involved in the same supply chain nowadays consist of different races, nationalities and ethnicities, with different views of values and priorities, ways of communication, negotiation and decision-making, and procedures to solve problems (Hofstede, 1994).

Culture is a word that can be interpreted in various ways. In this dissertation, the word is used in line with Hofstede's interpretation, as '*the way of thinking deeply embedded in the mind of the people*' on the occasion of logistics decision-making and practices. Culture tends to be treated as extremely distant from business decisions, which is supposed to be as rational as possible. It is because the '*software of the mind*' (Hofstede, 1994) is thought to be difficult to codify or put into calculation to work out the best solution in business. However, as illustrated in Chapter 6, culture influences the directions of the management of companies in the long run and the effects can be far greater than initially thought.

In this Chapter, we are investigating how the people who are supposed to have a good knowledge and understanding of each other's culture actually observe the other culture through the daily business experiences, in order to identify the difficulties of cross cultural collaboration.

A survey was made in the form of questionnaires to Dutch and Japanese workers in the Netherlands who constantly have occasions to cooperate with each other. In Section 2, the objective of the survey is made clear. Section 3 gives a methodology. Section 4 shows a result of the survey and analyses. Section 5 is left for conclusion.

2. Objectives of the Survey

In Chapter 6, we identified the existence of the cultural factors in the view of Japanese logistics practitioners, which are affecting the evaluation of the effectiveness of their work. It was made clear that, from the Japanese point of view, there is a non-reconcilable difference of values in terms of commitment to job responsibility in customer service in logistics between the Dutch and the Japanese. However, we have not been able to identify exactly which elements in the working culture are confronting and which ones are in harmony with each other. Therefore, another survey was contemplated to investigate this.

The questionnaire was made on the perception of the differences of working cultures between the Netherlands and Japan on the assumption that the history of friendly relationship between the two countries for more than 400 years must ensure good understanding of each other's culture. The objectives of the survey were set as follows:

- To identify the difference of working cultures between the Netherlands and Japan;
- To find out how own culture is viewed and evaluated by the nationals;
- To find out how the opposite culture is viewed and evaluated by the counterparts; and
- To find out what kind of solutions they have in mind for a better collaboration.

3. Methodology

This survey is targeted to the people who are working in a mixed-cultural environment of the Dutch and the Japanese, either within the organisation or in cooperation across organisations. Therefore, the respondents were expected to have enough knowledge of the opposite culture and were often facing the differences in the working environment. The selection of the respondents was not restricted to those directly engaged in logistics because of the difficulty to secure enough balanced number of people who are in a position to answer the questions. However, it was ensured that the respondents were all engaged in the business involving the two countries or in the promotional public job to enhance business collaboration between the two countries.

The questionnaires were sent by e-mail to 62 members of the Dutch Japan Round Table[12] and the addressees were asked to answer for themselves and give them to their colleagues for answering on the condition that they fulfil the criteria for a respondent. The questionnaire was made in English and Japanese.

The English version is shown in the Appendix 2. It consists of 4 parts as follows.

[12] Dutch Japan Round Table is a voluntary association of Dutch and Japanese businesspersons and public

- Description of respondents

  Respondents' nationality, gender, company origin, nature of business, job function, position, working hours, number of holidays and sick leave taken, and job satisfaction are asked.
- Evaluation of general working culture (Own/Opposite)

  Favourable and unfavourable elements of own and opposite cultures in general terms, difficult elements and the occasions that they were experienced are asked.
- Evaluation of own cross-cultural working environment

  Experiences of difficulty to understand someone from a different culture, reactions to them, evaluation of opposite culture, more favourable culture etc. are asked.
- Possible solutions

  The degree of obtainable information about the opposite culture, benefit of introducing any elements of the opposite culture, and possible effective solutions are asked.

It was meant to analyse what elements of working cultures are different between the two, and what factors exactly are recognised as challenges to the people working in the mixed cultural environment for a smooth communication in business.

The questionnaires were sent out for a reply by 31st August 2003. After the result of the survey was obtained, a meeting was held with the respondents all together to discuss more in detail the background of the answers given in the questionnaires.

4. Result of the Survey

As shown in Figure 7-1, there were 36 responses to the survey, and the respondents were mostly male senior managers. Nationality is evenly spread between the Dutch and the Japanese with a small number of other nationals. It supports the general observation that Japanese workers take fewer holidays than the Dutch. However, the number of sick leave taken is little different between the two nationals, which does not attest the general observation shown in Chapter 4 that the Dutch take more sick leaves. Presumably, it is attributable to the fact that most of the Dutch respondents were higher ranked and in a position to work more or less in contact with the Japanese society, which does not embrace

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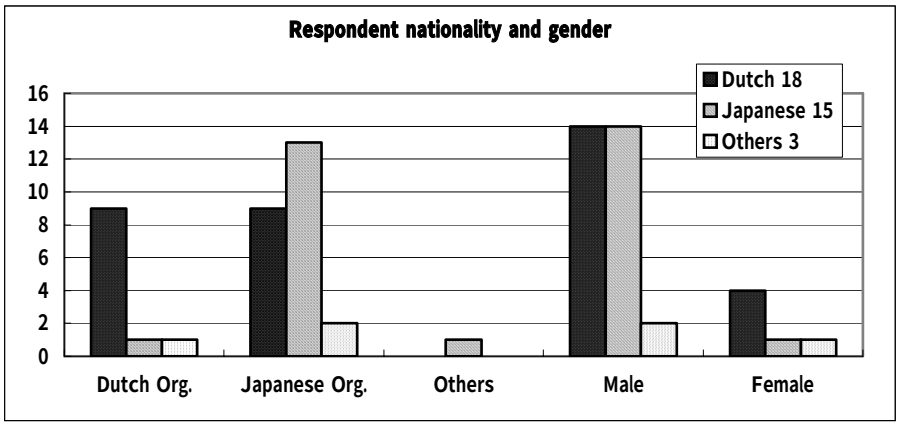
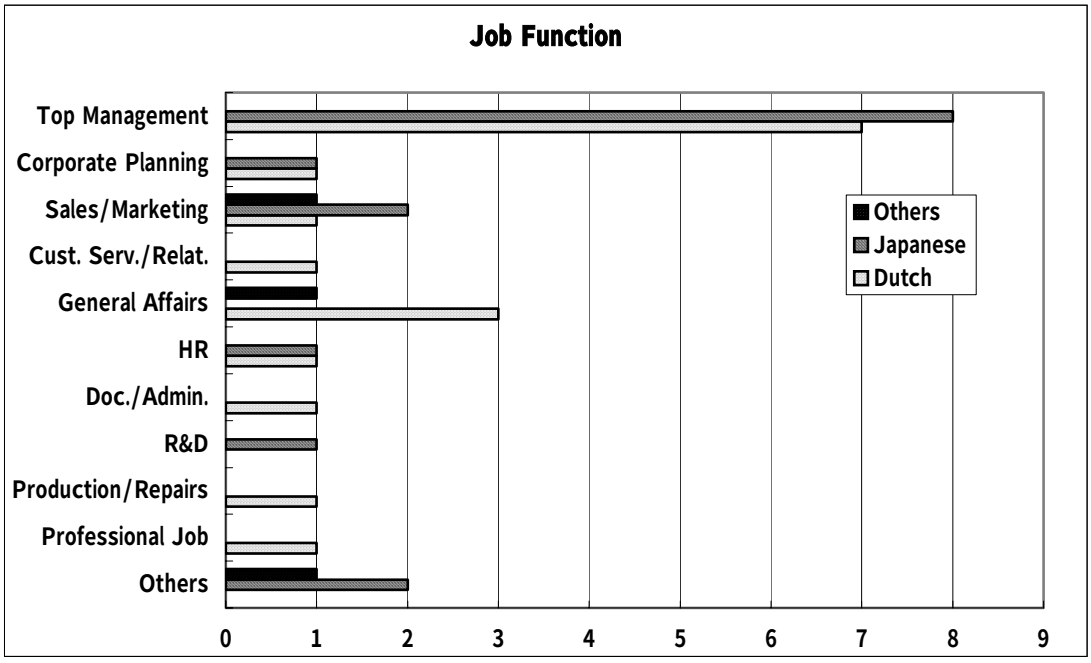
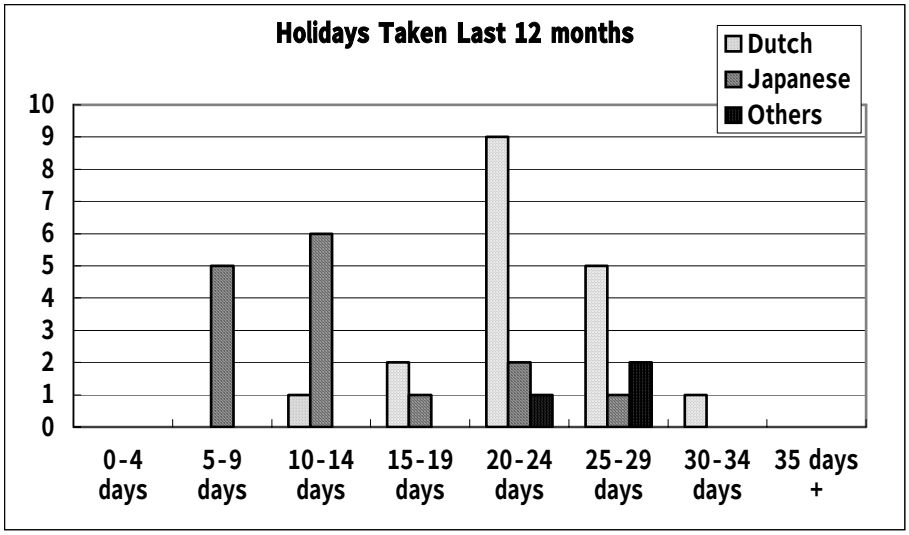
workers residing in the Netherlands to promote business collaborations between the two countries.

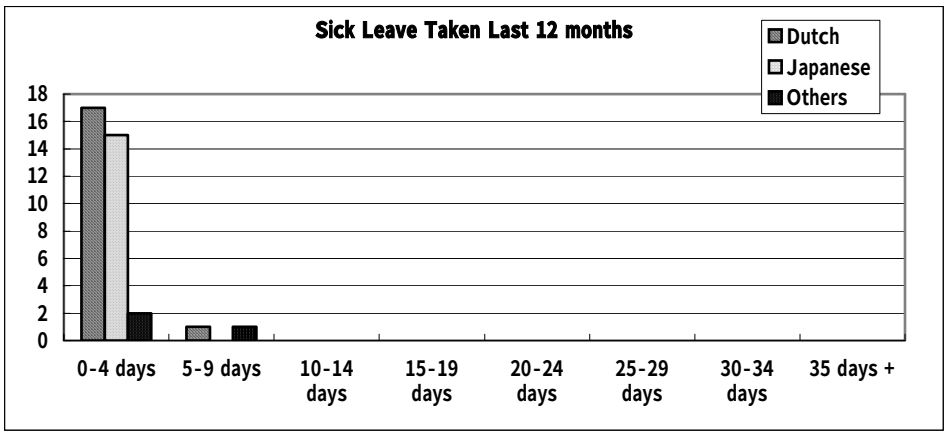
the sick leave system of Europe. Satisfaction with the present life was asked to check the overall attitude of the respondents towards the cross-cultural working environment. The result shows that the Dutch are more satisfied with the present life than the Japanese. This implies that the Japanese as expatriates tend to be frustrated with the difficulty to adapt their way of thinking to the Dutch culture.

Figure 7- 1 Respondent Profile









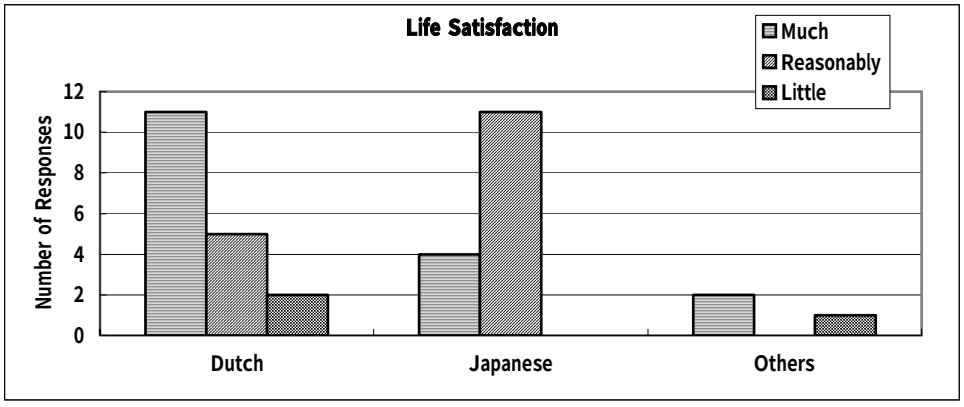


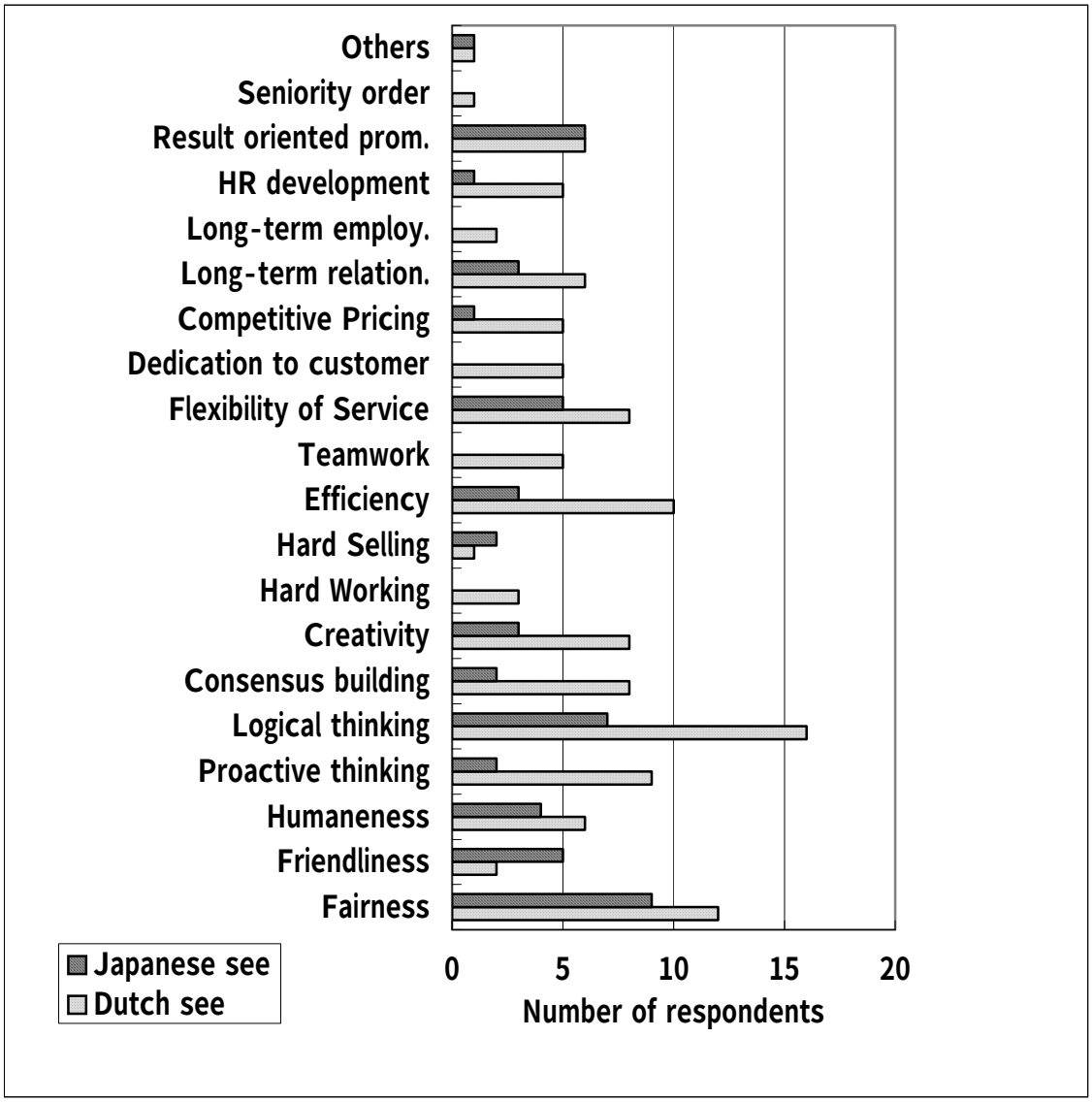
Figure 7-2 shows the favourable points in the perception of Dutch working culture by each national. The Dutch regard themselves logical, fair and efficient. Some people also find themselves proactive, flexible, creative and consensus-building as good points; whereas, the Japanese in the Netherlands are not so favourable of the Dutch working

culture. Fairness and the result-oriented promotion system are seen to be the strong points of the Dutch evenly by the Dutch and the Japanese.

However, Dutch logicality and efficiency are recognised by Japanese only less than a half of the Dutch. This is where a mismatching of perception takes place between the two nationals. The concept of logicality and efficiency seems to be different. In the interviews held with the respondents of the questionnaires, it was mentioned that the Japanese see the Dutch seeking solutions too quickly on the job. It means that, while the Dutch believes a logical solution can be worked out by one or a few key persons, the Japanese think the procedure for a decision involving many people is important to ensure it logical. Very few of the two nationals think that the Dutch are selling hard or working hard.

This will be compared with the perception of the Japanese working culture.

Figure 7- 2 Perception of Dutch Working Culture

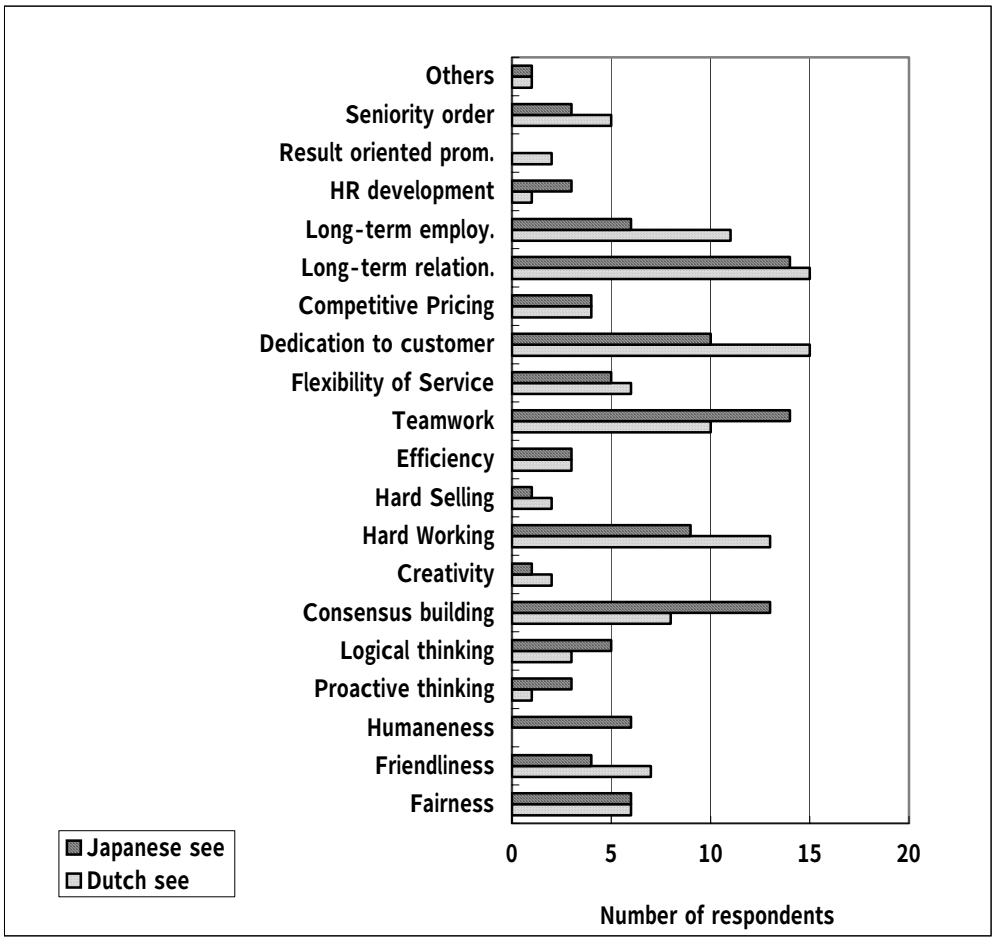


Let us have a look at the favourable perception of Japanese working culture by each national. (See Figure 7-3.) The Japanese regard themselves strong in long-term relationship building, teamwork, consensus-building, dedication to customers and hard working; whereas, the Dutch find value in the Japanese long-term relationship, dedication to customers, hard working and long-term employment system.

It is interesting to see that the Dutch admiration of Japanese dedication to customers, hard working and long-term employment system supersedes the Japanese self-evaluation, whereas, Japanese teamwork, consensus-building, logicality and humaneness are not much recognised by the Dutch. Here, we find the evidence of difficulty to communicate between the two nationals.

There are very few of the two nationals who think that the Japanese are good at human resource development, selling hard, efficient, creative or proactive.

Figure 7- 3 Perception of Japanese Working Culture



Now, we have identified the points of difficulty faced by each national in understanding

the opposite working culture. Figure 7-4 shows the elements of cultures that are seen to be difficult to understand by the counterparts. The Dutch find Japanese ambiguousness, mysteriousness and hierarchism most difficult to understand; whereas, the Japanese cannot understand the Dutch sense of job responsibility and easy-going attitude.

The Dutch are frustrated with the Japanese lack of explanation about the decisions and the directions of management strategies. On the other hand, the Japanese are bewildered to see the Dutch prioritise quality of life to customer services.

Figure 7- 4 What are difficult to understand?

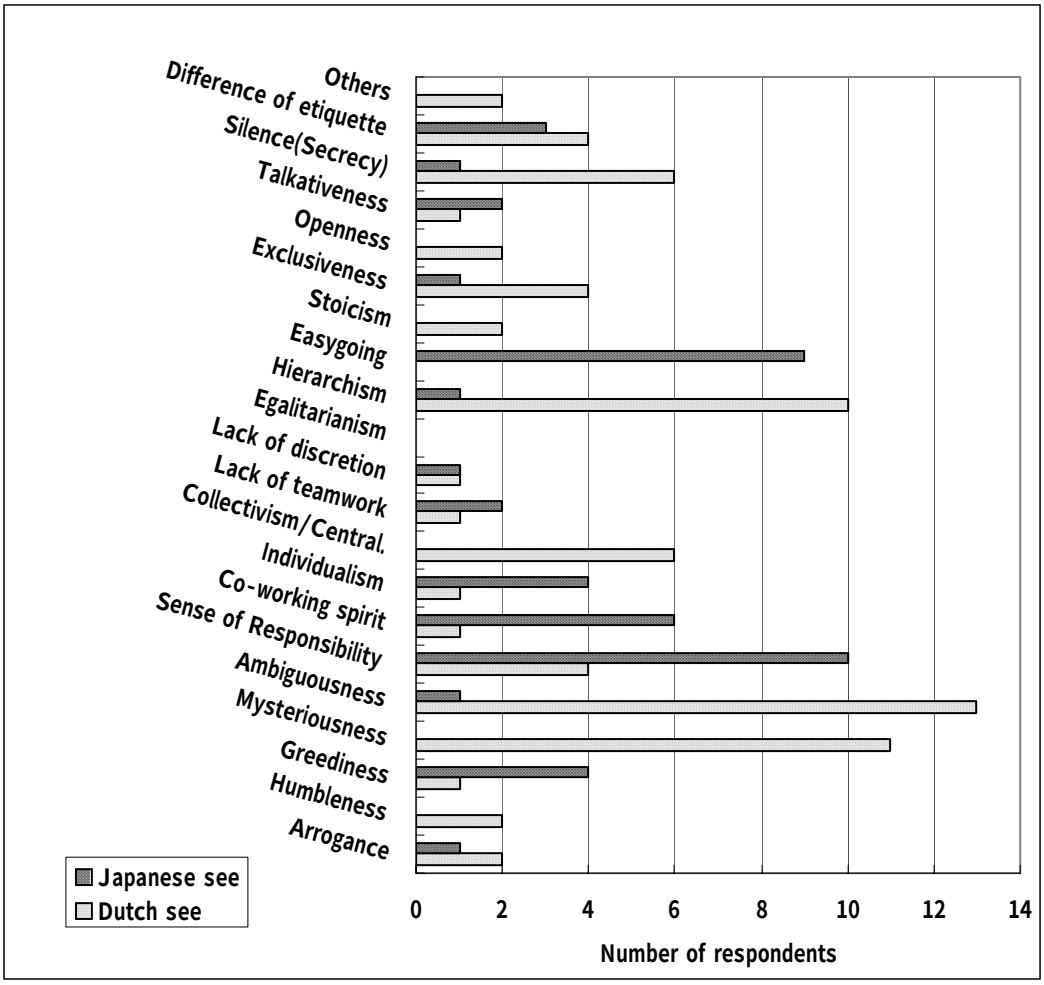
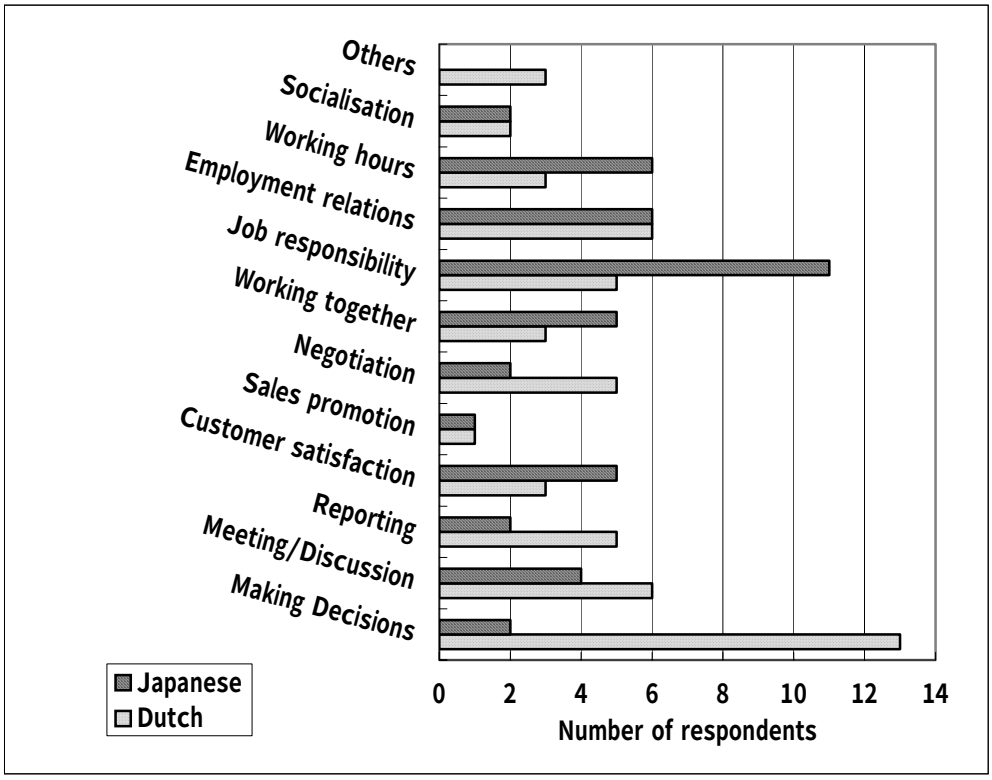


Figure 7-5 shows the occasions where people feel difficulties in understanding the opposite working culture. The Dutch find it most difficult when they face a decision-making occasion with the Japanese; whereas, the Japanese feel most difficult when facing disagreement with the Dutch on job responsibility. Working hours and customer satisfaction are more of a concern for the Japanese, and negotiation and

reporting are the points of more discomfort by the Dutch.

Figure 7- 5 In what occasion is a difficulty felt?



Many Dutch mentioned in the interviews that the Japanese decision-making procedure was not clear or rational. Their communication with the Japanese parent company is always in a black box and not explained to the non-Japanese staff, even if the Dutch person is at the top management. “A decision all of a sudden comes from above the sky”, says a Dutch manager.

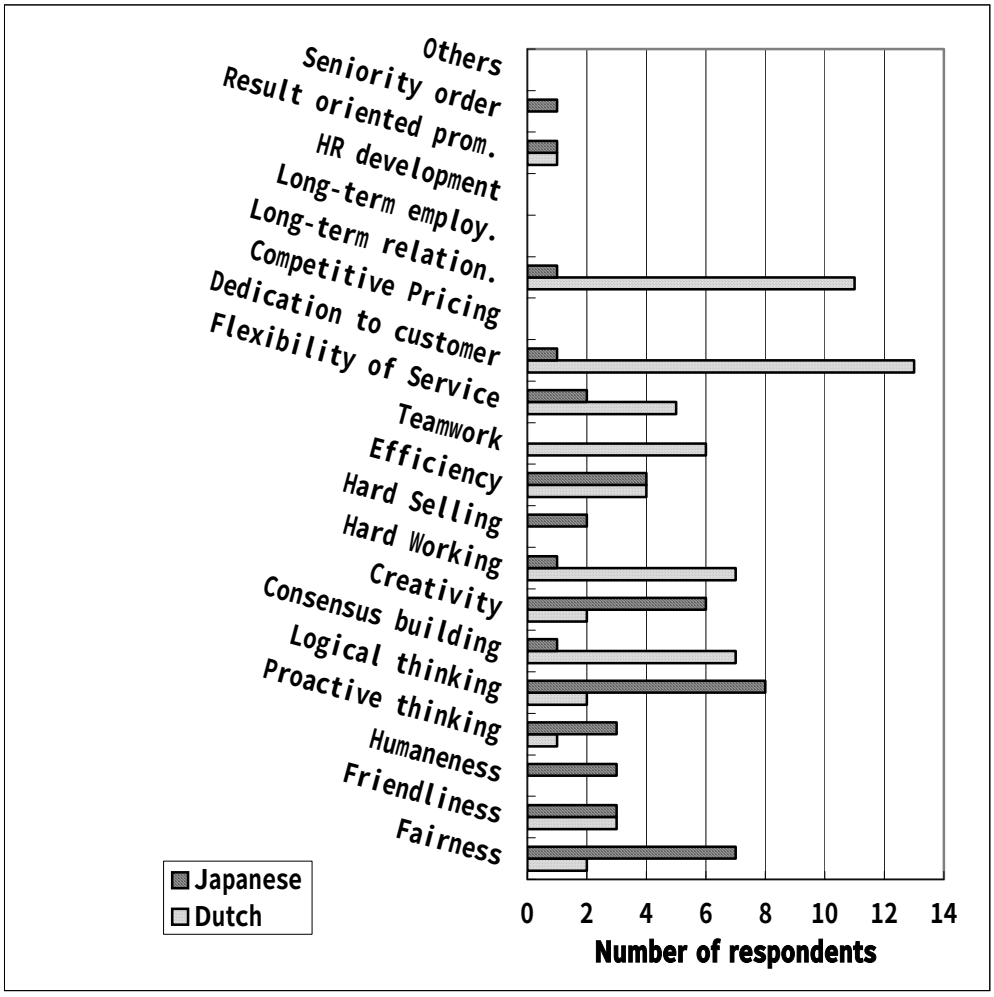
For Japanese managers working outside Japan, one of the biggest difficulties they face is the difference of views on the interpretation of job responsibility. In the Japanese working culture, a job responsibility is vaguely set for a person so that it may be flexibly adjusted to the changes of circumstances and the potential capacity development of the person. The more capable the person is, the more responsibility he is given even if he remains at a same rank and position for the time being. The reward for this heavier responsibility is deemed to be given in the form of promotion long after in his career.

The Dutch employment system is solidly based on the employment contract. Therefore, a job description is agreed upon by the employer and employee and, based on this, the employee provide his service to the company and receives remuneration for that. There is little room to enlarge the job scope unless it directly leads to a higher pay and promotion.

This can be described as 'fairness' in the Dutch system. The same is applicable to the customer service. According to the contract made between the companies, the employee's service is rendered to the customer on an equal footing relationship. Therefore, the customer does not have the right to take away the entitled privilege of the employee of the service provider by ordering overtime work. In Japanese terms, this can be described as a 'lack of the sense of responsibility' or a 'lack of the commitment to customer satisfaction'. Are these gaps of working cultures non-reconcilable?

There is not always a frustration in the mixed-culture working environments. People are always proactively trying to improve their management method by learning from the others. A question was asked to the respondents as to what elements of the opposite working culture the respondents wish to introduce to their own. (See Figure 7-6.)

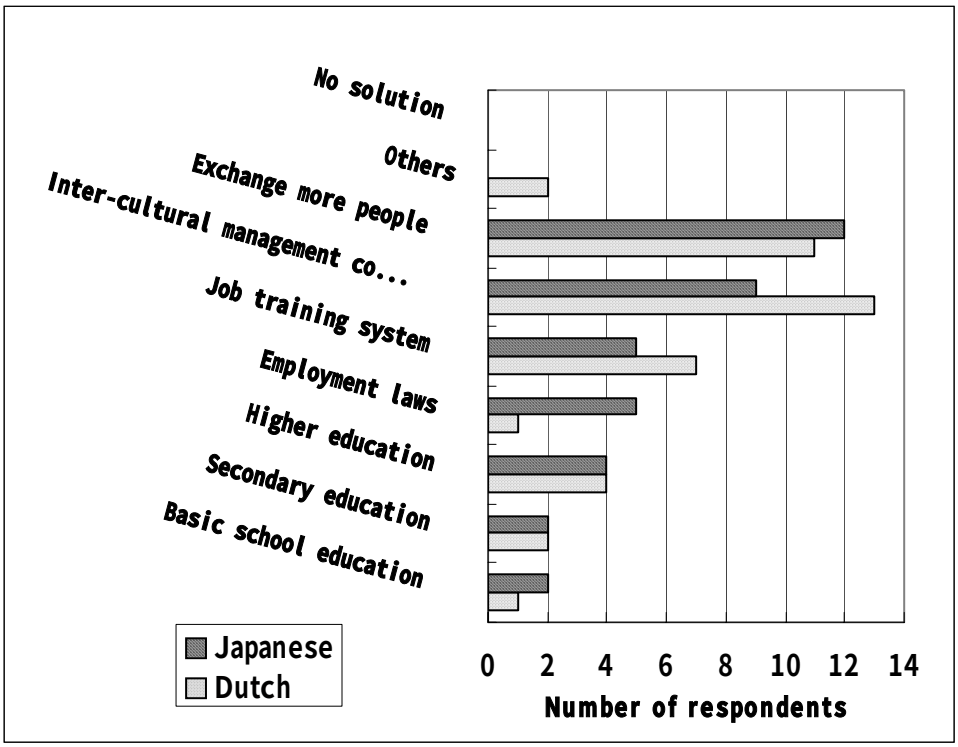
Figure 7- 6 Attractiveness of opposite culture



Japanese desire coincided with the favourable element of Dutch culture they pointed out in Figure 7-2. They wish to adopt logical thinking and fairness in their working culture. On the other hand, Dutch creativity, which was not well recognised by the Japanese in Figure 7-2, is also raised as a good improving factor. While the Dutch result-oriented promotion system, admired in Figure 7-2, is not wanted for application to the Japanese employment system. In fact, however, the result-oriented promotion and payment system is already being introduced to many companies in Japan. The result of this survey illustrates the anxiety of the Japanese in the new employment system while trying to become adapted to it.

The final question was to ask which solutions would be workable effectively for the people to cooperate with a better understanding of the opposite working culture. To offer inter-cultural management courses and to exchange more people between the countries were the two most prospective solutions the respondents thought, in which the Dutch preferred the courses to the personnel exchanges, while the Japanese vice versa. This result also supports the cultures that the Dutch management skill development is generally undertaken in the off-the-job training courses, while the Japanese put more importance on the on-the-job training through the Genba (shop floor and the frontline of operational offices) collaboration, by exchanging and mingling the people from different cultures. (See Figure 7-7.)

Figure 7- 7 Prospective solutions



5. Conclusion

In this chapter, we tried to find out the details of differences between Dutch and Japanese working cultures.

The result of this survey gives answers partly to **Question 2** set out in Chapter 1

Q2: To what extent do these differences exist? Are they attributable to the stages of logistics development, or based on the specificity of institutional environment and culture?

From the Japanese viewpoint, the Dutch sense of 'commitment to the job responsibility' and the 'customer satisfaction' is different from the Japanese standard. The Dutch find Japanese people difficult to understand because of the difference of the way of communication. These differences affect behaviours of the people in day-to-day practices of logistics such as decision-making, service provision, working hours, customer satisfaction, cost recovery etc. as illustrated in Chapter 5.

The answer to **Question 3** is also provided here.

Q3: Are the differences widening or narrowing? What are the factors for it?

After nearly twenty years of mixed-cultural management in logistics by Japanese firms as a result of their continuous massive direct investments into Europe, the differences of logistics management still exist and they are rooted deeply in the sense of values and the view of life rather than in the institutional environments.

In the meantime, it has also become clear that, if proactively thought, the Japanese have the will to introduce logical thinking and fairness in their business transactions, and the Dutch think it a good idea to improve their dedication to customers on the basis of long-term relationships.

Although people are prepared to change their behaviours to improve management by introducing the perceived superior part of the opposite culture, it is not clear if it is truly progressing or they are just confirming it impossible.

The uneasiness due to the failure of sharing views seems to be expressed more openly. It was not recognised when people were involved only in the domestic logistics of their own. Only for the last two decades they have became obliged to have closer contacts with each other in daily logistics practices in a mixed-cultural environment, and the differences have been directly sensed by the people and started creating disputes. The discovery of the

differences may still be going on and the gaps becoming more visible, if not widening. It is because, as Williamson (1998) suggests, the period of time in which the different logistics managements have been mingled with each other is far short as compared with the cycle of change in cultures.

Now we are again examining the general observations shown in Chapter 1 as follows.

Observation 1: European logistics management stands on the concept of rationality and explicitness.
Observation 2: Japanese logistics management lacks efficiency and the clarity of standard.
Observation 3: Japanese logistics management is not applicable to non-Japanese supply chains.
Observation 4: Japanese logistics management is being converted into the Western method.

Our survey suggests that Observations 1 and 2 is held in the view widely shared among the Dutch people. However, the apparently unreasonable Japanese style of management seems to have a solid logical foundation; i.e. customer services. For the Japanese, customer services are closely linked to long-term relationships, which are the foundation of longstanding mutual prosperity and personal career development.

This institutional structure is built with interrelated sub-components such as corporate governances, employment and evaluation systems, laws and regulations, demographic and geographical environments, and cultures. Those subcomponents are different between Europe and Japan. Therefore, it does not seem to be possible for the European to apply the Japanese logistics management to their supply chains without changing the elements of the institutional framework. Then why can Japanese change their management style towards the European? This paradox cannot be explained without going into the reference to the cultural studies. We are dealing with this question in the next chapter.

CHAPTER 8

TOWARDS A NEW LOGISTICS MANAGEMENT PARADIGM: SYNTHESES AND PROSPECTS

1. Introduction

Our research started with a motive to investigate the relationship between logistics management and its background. In order to ascertain it, the following central question was set up.

"What is in the background of contemporary logistics management and how is its paradigm evolving?"

As globalisation of economy proceeds, the needs for increasing efficiency in goods flow encourage cross border extensions of supply chains to become longer and more complicated. It is a synchronism detection of the increases in efficiency and complexity. The constituent members of the chains are becoming increasingly aware that different ways of managing logistics take place in different places. This difference cultivates a feeling of uneasiness in the collaboration that people are supposed to enhance. Therefore, they are bewildered not to be able to gain confidence in what is supposed to be their paradigm of management in the event of decision-makings and actions. Whether logistics management paradigms in the world can be unified into a single common paradigm is, thus, a simple and natural question that anyone may have. Our aim was to investigate the possibility in finding an answer to this question by comparing the two apparently different styles of logistics management of the European and the Japanese.

Therefore, our proposition was set out as follows.

Proposition: The key to the establishment of universally shared paradigm of logistics management lies in the improvement of cross-cultural collaboration of the people in the supply chain.

The reason why the comparison of logistics management paradigms was taken up for research was that there was some discontent with the existing logistics theories. Literature on logistics, so far published, mostly concerns rationalisation of logistics operations, which is closely linked to a better use of *information and communication technology*

(ICT). Discussions have been focused on how to build a system to reduce stocks and shorten the lead-time by using the technology. On the other hand, when we saw how Japanese were handling logistics, we found that their central concern was not exactly in conformity with that. Let alone their general lags in the implementation of ICT in logistics, which may sound odd for a country with the world's second largest economy, we felt that there must be a different 'paradigm' on which their daily decision-makings and operational practices are based. It would be the area where ICT is of limited assistance and the level of human interactions would be more of a concern for them.

Generally, we noticed that the following stereotyped observations on logistics management are disseminated among people.

Observation 1:

European logistics management stands on the concept of rationality and explicitness.

Observation 2:

Japanese logistics management lacks efficiency and the clarity of standard.

Observation 3:

Japanese logistics management is not applicable to non-Japanese supply chains.

Observation 4:

Japanese logistics management is being converted into the Western paradigm.

These observations seem to be based on the perception that Europe stood at the helm of the innovation of technologies and systems in the logistics history. It was commonly held both in Europe and Japan according to the result of our survey by interviews.

When we talk about logistics excellence, does it refer to 'efficiency' to achieve a numerically clear goal or 'flexibility' to cope with contingencies? Naturally, efficiency is contemplated first in the corporate strategy assuming normal circumstances of resource availability and environmental conditions, but, as the operation goes on, irregularity in the circumstances always breaks out, hence flexibility to cope with it becomes an imminent matter to pursue. In order to improve efficiency of supply chains, a vast amount of investment is made in the ICT and management systems, the stocks are integrated to a smaller number of distribution centres, and the size of personnel is reduced. As a result of those rationalisations, handling of massive information and materials is achieved. Consequently, the flexibility in supply chains tends to be diminished and irregularities are

being left unattended.

For consumers, it does not matter where the stock is placed, how the goods are transported, or in what form the supply chain is structured, but their main interest is that the right goods arrive soon at a lowest cost without defects. Also, if something goes wrong with the delivery, proper measures must be taken by the vendor to rectify the problem in a most flexible manner. As such, efficiency and flexibility is inseparable, but it is the point where people find it difficult to take balance between the two requirements in logistics management.

In the front line of logistics, logisticians are trying to cope with this dichotomy everyday. In this context, we have found an interesting general contrast that Europeans are more enthusiastic about the efficiency and the Japanese are concerned more about flexible responses. We anticipated that there would be a clue to solve the dichotomy by analysing the two different management styles in logistics.

Our task was to make an inquiry into the background of those observations and examine their accuracy. In the order of investigation, research questions were set out as follows.

Q1: Are there any differences in logistics management between Europe and Japan? If so, what are the differences?

Q2: To what extent do those differences exist? Are they attributable to the stages of logistics development, or based on the specificity of institutional environment and culture?

Q3: Are the differences widening or narrowing? What are the factors for it?

Q4: Is there a possibility that the different management styles can converge into a single universal paradigm? If so, what will it be?

According to the order of these questions, we pursued various lines of exploration of the differences in logistics management between Europe and Japan in Chapter 3 through 5, and they were supported by surveys, result of which were shown in Chapters 6 and 7. In this chapter, we synthesise the result of our theoretical and empirical researches, and discuss future prospects.

In Section 2, syntheses of the result of this research are given. Section 3 gives answers to the research questions and an evaluation of the initial proposition we made in Chapter 1. In Section 4, prospects are presented for a possible direction of paradigm realignment in the future. We look into the dynamics of paradigms through the interactions of European and Japanese logistics management styles, and assess the change factors in the logistics management paradigms. Section 7 gives a conclusion.

2. Syntheses

The setting of methodology of the research was difficult due to the following reasons. First, the areas of the issue were widely ranged, and an inter-disciplinary approach was necessary. It would spread from logistics to general business management, human resource management, economics, sociology, history, religions etc. Second, it was very difficult to find quantitative data to analyse. The observed perspective of the state-of-the-art logistics would be nursed in the mind of people and statistically not provable. The reliability of the possible result of questionnaires would be quite limited because the respondents would be too busy to take the questions seriously and might give unreliable answers without much thought, which tend to happen in surveys by questionnaire. Third, we might not be able to work out clear answers to the questions because of the tacit and interactive nature of the matter. Solutions might be multi-faceted and subjective.

With the manifold nature of the issue and the constraint of the empirical studies as above, the research proceeded as follows.

1) Theoretical Analyses

At the start of this research we made a literature review to investigate the results of preceding studies in logistics and related disciplines. First, the sphere of study fields was surveyed. Through this work, it became clear that, in discussing logistics, it would not be appropriate to stay within the framework of logistics theories and even within a wider scope of general management theories. The current state of logistics, which tries to streamline the flows of materials and products in various stages from the in-house to the global supply chain level, is a reflection of the state-of-the-art technologies, general economy, politics, social and natural environment, culture and history. Therefore, in order to make projections of a future state of logistics management, we need to take a well-balanced view of the factors that are influencing the logistics. From this viewpoint, we looked through the fruits of the studies in those related areas.

In logistics management, we detected the development of management from the early stage of compartmental handling of managerial matters in transportation and storage as the back-up of business transactions to the proactive contribution to the total corporate management by way of streamlining supply chains. Evolution of logistics theories from physical distribution to business logistics, then to supply chain management shows a steady change in the focus of management towards integration and wider control. This movement reflects the globalisation of economy and the diversity of consumer

requirements, where lead time management is becoming more of a concern on the part of vendors in order to survive in the competitive markets. ICT is deemed to play the most important element to enhance competitiveness by way of handling enormous information. Squeezing stock to the minimum is an ultimate goal for logistics managers (Smykay, Bowersox and Mossman, 1961; van Buijtenen et al. 1976; Christopher 1976a; 1976b; Bowersox at al., 1986;).

In theory, customers are always in the centre and vendors are supposed to keep their management objective on the customer satisfaction, which should properly match the profit maximisation by lean management as above. It would be possible if the assumption were more or less the same as the real economy that each chain of supply does not create any contingency. However, actual supply chains are full of technical troubles, human errors, miscommunication etc., and they often ruin the achievement of original plan by increasing the costs and causing customers' frustration. Existing logistics management theories do not provide answers to this dilemma, except for suggesting the improvement of systems and management control (Christopher, 1992; Hines et al., 2000; Schary and Skoett-Larsen 2001; Coyle et al., 2003).

We focused our research on this point and tried to find fundamental factors that are directly and indirectly constraining the effective flow of goods. It would be a cross-disciplinary approach. It was presumed that human factors were the keys and they would play a more important role in logistics than the existing theories assume.

New institutional economics gave us various useful tools with which we explain the complexity of goods flow and its management. Especially, the bounded rationality theory was found adequately explaining the non-equilibrium of the choice among tremendous combinations of chains. However the transaction cost theory, which is meant to explain the choice of in-house operation or outsourcing logistics, is valid only in static conditions. The circumstances and the environment changes every moment, thus there is no assurance that a seemingly right choice at one time remains to be right the next moment. Therefore, we have come to the conclusion that the new institutional economics theories also play a limited role as the tool to analyse the issue of our research that assumes moving equilibrium (Coase, 1937; Williamson, 1984; 1998).

This leads us to referring to the theories of evolutionary economics, in which emphasis is placed on individuals in interaction with the environment and their learning processes. With the concept that innovation is endogenous, knowledge creation is done by the individuals through their coordination of actions in the markets. The elements of analyses have been dealt with in sociology, social anthropology, psychology, human resource management study, laws, engineering and so on. Evolutionary economics attempts to mobilise all those theories to explain economy in a pluralistic approach (Nonaka and

Takeuchi, 1995; Groenewegen and Vromen, 1999, Hodgeson, 2002).

The application of this approach to logistics has not been undertaken much yet, except for some reference made on collaboration (Christopher, 1992), networking (Hines, 1996) and trust (Vokurka and Lummus, 2000; Schary and Skyoett-Larsen, 2001). Our intention was to make further, but still initial, steps in this field of study. Comparison of European and Japanese logistics management paradigm would serve as catalyst to sort out diversity of decision-makings and practices in supply chains.

Human resource management theory explains the difference between European and Japanese styles of managing human resources. Europe has diverse historical backgrounds by country from UK's enterprise level of freedom and autonomy, which is supported by liberalism on the basis of market mechanism functionality, to French collectivism, which is firmly based on bureaucracy and hierarchy. However, generally, the contemporary European model of human resource management is represented by an equal partnership between employers and employees in the form of institutional worker participation in the management of firm (Brewster and Bournois, 1991; Mabey and Iles, 1996; Jenkins and van Wijk, 1996; Scholz, 1996; Heijltjes et al., 1996; Pinnington and Edwards, 2000).

Japanese human resource management is characterised by the 'managerial familialism'(Hazama, 1997) and 'group-centred pattern of value orientations'(Odaka, 1984). Toyota's 'Jidoka', or self-working-system, is the extension of this traditional pattern of management to place human resources in the centre. Kanban is one of the typical form of low-tech but effective method of lean logistics (Wakamatsu and Kondo, 2001). In this method, workers' knowledge creation and adaptability to uncertainty assure the quality of production on a bottom-up basis (Koike, 1997).

These theories give full contribution to explaining logistics management, viewing that manufacturing, which human resource management theories mainly deal with, is adjacent to the flow and stock of goods, or even they are all included in the wider sense of supply chains. This would be later examined in the empirical studies.

The cultural aspect of analysing logistics management relies much on Hofstede's (1994) study of national cultures using the measuring tools of five dimensions; 'power distance', 'collectivism vs. individualism', 'femininity vs. masculinity', 'uncertainty avoidance' and 'long-term vs. short-term orientation'. His survey result shows distinct European individualistic character and short-term orientation, while Japanese massive inclination towards uncertainty avoidance and the long-term oriented attitude. This stereotyping analysis is also subject to examination in our survey. Gabel and Pilnick's (2002) attempt to transform culture for a better logistics management is, therefore, too hasty and lacks fundamental investigation into the real substance of the concept logistics attributes.

2) A Question of Measuring Logistics Excellence

Right and wrong of logistics management has been distinguished by efficiency. Lean logistics management to minimise stock has been deemed right and been the central matter of concern for practitioners. Structuring of supply chain to realise the most economical flow of goods, while shortening the lead time, has been the task of logistics decision makers. In accordance with the pluralistic approach, we called this into question.

In order to identify the issue, we first reviewed Christopher's (1992) model of relationship between revenue and service level. He suggests that there is an equilibrium point where additional service does not any more generate marginal revenue enough to cover the marginal cost. However, this static approach does not provide an accurate explanation of the actual state of economy if time factor is taken into account. The effect of providing additional service may not result in an immediate sales but may induce favourable transactions in the future, thus the expected revenue increase is unknown when the service is provided. It means that the decision to provide additional service must be made without assured information about the revenue. This asymmetry of information (Stiglitz, 1997) seems to be the source of differing logistics managements.

Next, we attempted to collect statistics that would be useful to compare efficiency of logistics management between Europe and Japan. Measuring efficiency of logistics suffers from methodological problems. By nature, it is not reasonable to compare the productivity of logistics service industry between countries. First, the definition of logistics service is not uniform. Some of the services given by logistics service providers may fall into the category of manufacturing or consulting. A part of the business done by a logistics service provider may fall into the area other than logistics, and the general administrative cost incurred to it including computer systems may not be separated in the firm's account book. Second, the logistics service providers rarely make those statistics open for surveys due to a concern over management confidentiality.

There was a general notion that Japanese logistics costs are higher than the European because of heavier human involvement and inefficiency in the distribution channel. It induced people to believe that Japanese way of logistics management was inefficient and lags behind the European. In order to verify this, we attempted some comparisons in general logistics costs, transportation rates, warehouse rents, and port costs. The ratio of logistics costs as the percentage of total turnover of all industries showed the costs in Japan were not much different from those in the US or Europe. Truck rates were mostly lower in Japan than in Europe except for heavier trucks for a longer distance of 500km. Parcel delivery services in Japan were the least expensive next to Germany among the

countries surveyed. Railway freight rates in Japan, though it is difficult to compare from the geographical aspect, were higher than in Germany and the Netherlands; and lower than in UK and France. Port costs in Japan were higher than in Europe, but lower than Los Angeles and Hong Kong. Warehouse rents in Japan were overwhelmingly higher than those in the Los Angeles, Rotterdam and Hamburg areas. However, warehousing costs in the proper sense of the word such as for storage, handling and value adding operations were not available due to the complexity of fee structures set out individually in each transaction. As such, existing statistics on logistics cost and service rate comparison does not accurately contribute to evaluating the efficiency of logistics management, nor support the notion of high Japanese costs.

Logistics costing is precarious. For example, by the intention of management, some of the logistics cost is entered into the account of sales promotion cost, while some of them into production cost. Personnel cost by logistical activity is hard to find in the account books. The number of workers per activity is usually not recorded either.

Therefore, we have come to a conclusion that the comparisons of logistics costs and of service rates do not provide meaningful overview of the comparison between European and Japanese logistics. Then, how can we compare the logistics excellence between two regions across borders? Our next investigation concerned the sense of value and the beliefs of people in various aspects of logistical services, in terms of both being provided in connection with marketing of goods and being provided by logistics service providers.

3) Culture and Logistics

The word '*culture*' is used in various ways. We used this word as defined by Hofstede (1994): '*the software of the mind*'. Logistics management studies generally take culture for granted and try to find ways to cope with the different culture in supply chains, which we view as allopathic. Our approach is to take it that culture is the main regulator of paradigm, on the basis of which logistics management evolves. Therefore, by investigating the culture at societal level, the direction of logistics management evolution will be profiled more clearly.

We took education and religion as major components of culture in logistics in the context that they provide a firm foundation of thought for actions and decision-makings. A review of history in science and education ascertains that European rationalism and empiricism find their roots in Plato's *Academia,* and logicality has been the core of European way of thinking since then. It was refined and given break by the Scientific Revolution of the 16th and 17th century, of which Renaissance triggered the movement, and, further, the two methodologies were united to form a European scientific thinking during

the Age of Enlightenment (Mason, 1955; Kearney, 1971; Imamichi, 2001; Plato, 2002). On this basis, in the modern times, European Union's policy to integrate education of member countries played a role to bring together paradigms of logistics management and formed its commonality in the region.

In the mean time, Japanese value system was cultivated mainly by the Confucian education, which started in the 7th century and enriched and disseminated in the 18th century. The teaching was centred on the interactions of people, and the quest for truth was spiritualised as the quest for virtue. Kokugaku also helped cultivating relativism in a tribal society (Yui, 1977; Ishida, 1989; Yu, 1991). However, since the end of the Pacific War, modern education in Japan has been transformed into the American system and increasingly disconnected with the traditional values, and thus logistics management studies have been mostly following the western paradigm.

Religion plays a role of even more fundamental regulator. Christianity in Europe, especially the Protestantism of Northern Europe, has been the backbone of European work ethic in the development of economy, in which monotheism regulates people to be loyal to the truth (Weber, 1991; Otsuka, 1966); whereas, in Japan, polytheistic way of thinking in Shinto and the idea of evanescence in Buddhism tend to make people take it for granted that there are many answers to a question (Ujitani, 1988; Ishida, 1989; Uematsu, 1998; Bito, 2000; Kanno, 2001).

Although it is difficult to show evidence that education and religion influence the formation of paradigm in logistics management, our observation is that they are the longstanding fundamental constraint of logistics management paradigms and work as main factors for the possible difference in the management styles.

4) European and Japanese Logistics Management Comparison

In order to find out whether European and Japanese logistics management are different, and, if so, how they are different, we interviewed fifty-five firms and organisations in both regions to analyse the commons and differences one by one. The discussions covered various areas of the matters and yielded a plenty of insights into the reality of logistics world. Because of the nature of the questions, it was not possible to quantify the results of the interviews, but they were analysed in a qualitative manner and reflected in the research result. The core objective of the survey was to investigate how people were involved in the logistics practices; what was the paradigm of logistics; in what work they devote their time and energy mostly; what challenges they were facing in the context of cross-cultural communication on the job; whether there was any mismatching in the concept of logistics management between Europe and Japan; etc.

Pointed out as being common were 1) lean management, 2) ICT, 3) value adding, 4) integration of supply chains and 5) outsourcing. The points of management that have a commonality in both regions refer to the modern logistics theories and concepts, which are held in their mind as paradigm. Therefore, people apparently act in accordance with the same paradigm towards more efficient logistics, either in Europe or in Japan. The core concept is to reduce stock to the minimum, while, at the same time, maintaining the availability of the goods to a satisfaction of customers.

Distinct differences in the appearance of logistics are caused by the demographic and geographic factors. Because of the small land available for economic use, storage facilities in Japan are characterised by small size with multiple stories, whereas in Europe the facilities are large and single-storied. The geographical constraint and the resulting high land price in Japan make people tackle with the difficulty in integrating inventories to serve patches of markets. High density of population in Japan also causes fierce competition in all sorts of markets. It forces logistics service providers to squeeze their profit and hesitate to invest in the new facilities and ICT.

Secondly, we observed differences in logistical service quality assurance and trust building. While European logistics takes service quality as competitive edge on the basis of arms-length transactions, Japanese logistics regards service as attached to any transaction for free and its level is maintained through the nexus of inter-firm people interactions at multiple levels of the organisations. Though many agree that some of the Japanese services are excessive and unreasonable, to demonstrate the dedication to customer satisfaction is compulsory at any time in order to keep longstanding relationships.

Thirdly, there is a difference in the way service cost is recovered. Whereas, in Europe, service is sold to the customer in exchange of remuneration and the income from the service provision should cover the costs within a foreseeable period, it is not until many years after that the Japanese firms recover the costs. They provide many sorts of services for free merely in anticipation that the reward will come in the end. This is possible only in the situation that people working in a specific supply chain stay in the same partnering relationship for a long time and the firm-to-firm relationship lasts long. Also, it will be the situation that the evaluation method for individual managers is built in the way that short-term results are not too much emphasised.

Fourth, the roles of management are different. In Europe, strategic planning and the supervision of operation are more clearly distinguished than in Japan. It is rare in Europe that the same manager undertakes both strategic planning and the supervision of operation at the same time. In Japan, managers, senior or junior, are more involved in day-to-day operations. The Genba, or a shop floor, is given utmost importance and the managers who

pay due attention to and respect for the Genba is deemed excellent. By nature, operational matters supersede strategic planning in terms of urgency. Troubles and mistakes must be rectified immediately when they have occurred. The causes and measures to be taken must be explained to the customer. Therefore, we observed that Japanese senior managers are more dedicated to operations than strategies in general, and they even expect the Genba to come up with strategic ideas as well, rather than claiming managers' exclusivity of the function.

Fifth, inter-firm relationships are different. The basis of European business is arms-length relationship among firms. This allows firms to retain independence and liberty, which is highly respected and necessitated for the growth of business and innovation. On the other hand, Japanese firms tend to create a close vertical network of collaboration in the form of Keiretsu, or affiliated firms. It assumes a longstanding co-working spirit between the staffs of the two firms at various ranks. This works efficiently in maintaining and improving the quality of goods and services. However, because of having been engaged in the longstanding inter-firm superior-subordinate relationship, individual staff tends to be totally taken into that relationship even personally. This peculiar relationship can cause the employees of the most powerful, usually the core, manufacturer, to behave arrogantly and expect suppliers and logistics service providers to flatter and show extra-ordinary devotion and self-sacrificing attitude to obtain continued favour.

Sixth, the degree of cross-border development of logistics is different. The international character of European logistics management is outstanding. It is originated in the strong cross-border activities of forwarders in the Middle Ages and, at present, the integration of markets in the intra-Europe transportation and logistics services. Japanese logistics management, on the other hand, struggles with the difficulty to make it international. The national seclusion for more than two centuries until 1853 and the geographical character of island nation still influences the introvert culture, thus the Japanese paradigm of logistics management is not shared much with the non-Japanese.

Seventh, the way of knowledge sharing is different. In Europe, in the course of the internationalisation of logistics management, knowledge has been codified and made explicit so that it may be shared among the people with different cultural background and languages. Higher education, researches and consultancy contributed to a greater sophistication of the knowledge. The Japanese have not promoted the knowledge sharing with the non-Japanese in a similar way in this field. Their management methods are mostly based on experiences and intuitions. The unique and highly contributing *just-in-time* and *Kanban* methods have disseminated mostly in house or within the *keiretsu* group of firms in Japan. The reason why those concepts were accepted on a worldwide

basis is attributable to the codification carried out in the Western world. Without their assistance, it would not be possible for Japanese to share the knowledge beyond *Keiretsu* and the border.

5) Empirical Study (1)

Our survey started with the Japanese perspectives of Dutch working culture in logistics. The Netherlands was taken up because the country is well recognised as the European logistics centre. First, Dutch predominance as European logistics centre was confirmed by statistics. Firms presumably made decisions on the location of logistics centre by geographical, technical, financial, social-environmental and political factors. The survey was meant to reveal the observation of Japanese managers before and some years after their firms' penetration to the Netherlands, either production or pan-European distribution.

The result of the survey as to how the decision to locate the logistics centre in the Netherlands was made shows two outstanding reasons. They have a 'good access to the major markets in neighbouring countries' and a 'good command of English language by the Dutch workers'. 'The existence of sea and air transportation hubs' and 'government support' followed the top two. In answering why the decision was not made on other countries in Europe, a great percentage of respondents pointed out 'the lack of English proficiency' and 'high costs' followed by 'bad geographical access' and 'less supportive government attitude'.

The next questions concerned the challenges the Japanese managers were facing some time after they had set up an establishment in the Netherlands. 67 per cent of the respondents pointed out 'high sick leave rate' of the Dutch workers and 'the shortage of staff', followed by 'the protective labour laws' at 35 per cent; 'lack in the sense of responsibility' 23 per cent; and 'long holidays' 19 per cent.

Our survey revealed a feeling of frustration in the Japanese managers working in the Netherlands. The causes of the frustration are related to human factors, which were not anticipated when the decision for the location was made. The Japanese express uneasiness in the non-reconcilable differences of institutional environments concerning worker protection and the value of life. It is a *tacit* part of logistics management knowledge and difficult to calculate. Firms apparently made a *procedurally rational* decision, but it was not truly rational in the context of *information asymmetry*. We divine that, in the background of the frustration, there were experiences of the Japanese managers that they had placed customer satisfaction in the centre of paradigm and often sacrificed their private lives for the achievement of the task. When they were assigned to the Dutch work place, they realised that the structure of management paradigm is somewhat different from

what they had been used to. There is apparently a difference in perceptions of customer service and diligence between the Dutch and the Japanese, especially in the speed of response, the degree of dedication and the value of service.

Human related factors for the sake of decision-makings are not quantifiable in advance, but they emerge after some time they start working together. Those factors are activated as the interactions among people increase, which are indirectly regulated by cultures, values, norms and beliefs, which have been cultivated in the history.

6) Empirical Study (2)

Our next survey concerned the perspectives of opposite business culture between the Dutch and the Japanese who were working in the Netherlands. Questions were made as to how the Dutch and the Japanese compare each other's working culture to identify the differences and see the possibility to adopt any of the elements of the opposite culture to improve their own management effects.

First, by asking the number of holidays and sick leaves they had taken for the last 12 months, it came to light that the Dutch took twice as many holidays as the Japanese, but, unexpectedly, they only took as few sick leaves as the Japanese. This coincides with the fact that more Dutch than the Japanese felt satisfaction in their life.

Main part of the questions started with the perception of the favourable part of each other's working culture. The Dutch were confident in their 'logical thinking', 'fairness', 'efficiency' and 'proactive thinking'; whereas the Japanese appreciated Dutch 'fairness' and 'logical thinking', but on less degrees. The Dutch efficiency was not much appreciated by the Japanese. As for the perception of Japanese working culture, the Dutch raised 'long-term relationship building', 'dedication to customers', 'hard working', and 'long-term employment system'; whereas the Japanese found value in their 'long-term relationship building', 'teamwork', and 'consensus building'. Japanese consensus building attitude was apparently not shared enough with the Dutch.

The next question was the difficulties they felt in understanding the opposite culture. The Dutch mentioned Japanese 'mysteriousness', 'ambiguousness', and 'hierarchism', which are obvious in the events of decision makings; whereas the Japanese pointed out the Dutch 'lack in the sense of responsibility' and 'easygoing attitude', which are revealed mainly in discussing job responsibilities.

The final question was as to what points of opposite culture they wanted to bring into their own working culture. The Dutch mentioned Japanese 'dedication to customers' and 'long-term relationship building'; while the Japanese wanted to introduce Dutch 'logical

thinking' and 'fairness'. Both of them thought it would be achieved by 'exchanging more people' between the countries and offer more opportunities to take 'inter-cultural management courses'.

To sum up the results of the two surveys, the differences of working cultures between the Netherlands and Japan are outstanding and they are the roots of the challenges that the Japanese managers in the Netherlands are facing daily. The most obvious is how people are trying to commit themselves to logistics excellence. European paradigm of logistics management is pursuing logicality to establish more rational solutions on the basis of an arms-length relationship, which needs clear accountability for every decision and action. This accounts for the situation that the European logistics management style is superior to the Japanese in codifying knowledge in order to share it with others, thus ideas can easily penetrate across borders. On the other hand, the Japanese paradigm is based on the establishment of long-term mutual reliance, the achievement of which results in a tacit and close knowledge sharing among the participants of the transaction. It also became evident that the Japanese management is highly evaluated for its dedication to customer service and, thus, their challenge is how to develop its own method to disambiguate its traditional paradigm and make it sharable to the non-Japanese. In this light, there is a consensus that European logistics management requires reassessment of its paradigm in the aspect of dedication to customer service and satisfaction, while Japanese logistics needs fair and equal partnership between the logistics service providers and the customers.

3. Answers to Research Questions and Further Analyses

Now, we are going to generalise our answers to our research questions as follows.

Central Question:
"What is in the background of contemporary logistics management and how is its paradigm evolving?"

Q1: Are there any differences of logistics management between in Europe and in Japan? If so, what are the differences?

Q2: To what extent do those differences exist? Are they attributable to the stages of logistics development, or based on the specificity of institutional environment and culture?

Q3: Are the differences widening or narrowing? What are the factors for it?

Q4: Is there a possibility that the different management styles can converge into a single universal paradigm? If so, what will it be?

1) Differences and their Backgrounds

We first paid attention to the common elements of paradigm that regulated logistics management in the two regions such as stock minimisation, use of ICT, value adding, supply chain integration and outsourcing. These phenomena are the result of convergence of the Western style of strategic management system and Japanese automobile industry's lean management concept (Christopher, 1992; Warner, 2003). Manifestation of these paradigmatic elements may give impression that logistics management is likely to evolve in the same direction. However, the differences of logistics management are detected in the roots of decision-makings and actions in daily practices. Geographical constraint and high population density of Japan are trivial factors for the costly logistics in the country in terms of transportation modes, location of stocks, and the use of land, which tend to induce a general notion of efficient European and inefficient Japanese logistics management.

However, our finding was that this efficiency argument does not give enough insight into the true difference of the two logistics management styles. The fundamental difference takes place in the paradigm that people rely on as an important cornerstone to make decisions and show reactions in the market. According to the result of our surveys, European paradigm is oriented towards logicality and fairness. Therefore, rationality is the key factor for logistics excellence. On the other hand, Japanese are more sensitive to the reactions of customers, thus more commitment is made to service provision to meet their requirements, whether it is deemed rational or not. Therefore, the key factors for Japanese logistics excellence are flexible service and customer satisfaction. This prompts managers to give more attention to the Genba, or front line, than strategies.

Compensation for customer services is also differently dealt with between the two; i.e. European accountability and Japanese ambiguity. This is attributable to the difference of time span in which people are evaluated in the corporate governance. The employment relationship seems to play a key role to determine the term of accountability in the correlation between revenue and service cost. Japanese system makes it possible to maintain longstanding relationship between firms as far as the business is growing. However, it does not work effectively in the environment where long-term employment system and longstanding relationship between firms are not common.

The difference of Japanese and European logistics management paradigms is attributable to the specificity in "embeddedness" (Williamson, 1998), which has long been cultivated by the people in the history. The '*Three Sacred Treasures*' (Abegglen, 1958) of

Japanese management, i.e. lifetime employment, seniority order and company unions, do not anymore explain the differences. The core elements are much more fundamental such as value systems incorporated in education and religion. In Europe, *philosophia* and Christianity have been playing a key role in maintaining the value system, which stand on a foundation of logicality and the loyalty to the only one truth. In Japan, Confucianism played a main role for the purpose of social and corporate governance, while Buddhism and Shinto played an important role in promoting social harmony and *fourth-dimensional* relativism, or evanescence, which assumes that the equilibrium at one moment is not valid the next moment. In this thought, a rational solution is treated as being temporary and does not stand well for a long time. Therefore, long-term relationships have been established to cope with the changes in circumstances together with the customers.

Although the recent phenomena of estrangement from religions and moral education, as detected both in the European and Japanese society, may diminish these influences, our analyses conclude that the underlying foundation of the working cultures has not changed much and continue to influence the way of logistical decision-makings and supplier-customer relationships substantially.

2) Paradigm and Practices

As our research did not undertake chronological survey, we do not have data to assess if the difference is widening or narrowing. However, this research suggests that longstanding cultural foundations hardly cease to be the '*operating system*' (Hofstede, 1994) of the mind in logistics management. Moreover, the *bounded rationality* (Simon, 1985) of people's judgement in the practices causes their separation from the paradigms and makes the difference look even wider.

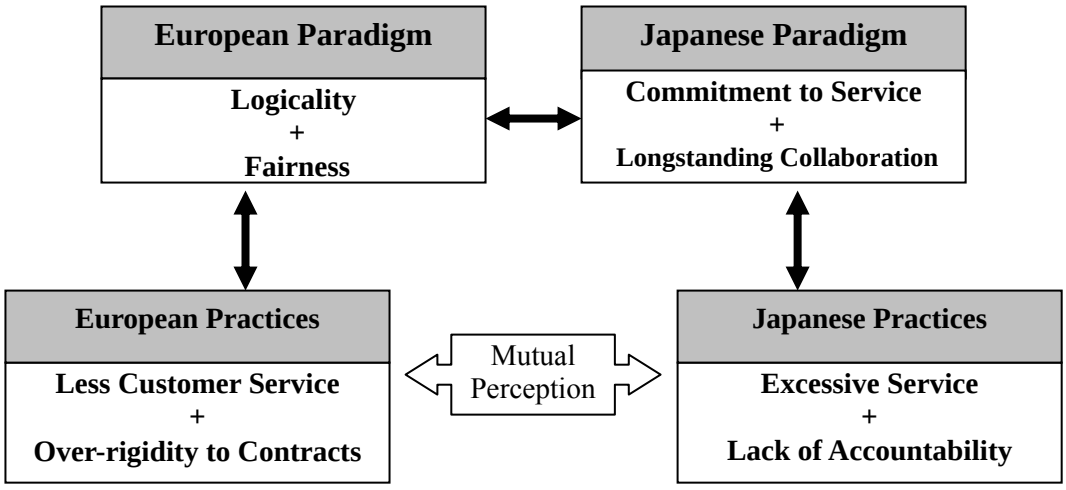
The recent globalisation of supply chains is also making the existence of the difference more obvious, if not widening. More people are now exposed than before to the cross-cultural challenges in logistics. As the globalisation progresses further, the magnitude of the challenges will increase, involving multiple cultures.

The common perception of European logicality and fairness and Japanese commitment to service and longstanding collaboration should ideally merge with each other into a single paradigm and be pursued in any supply chains. However, at the moment, world logistics management environment is not building enough momentum to evolve in that direction.

Educations and religions are the foundation on which business relationships are built. This institutional culture regulates the way a paradigm is structured. It is a longstanding procedure of evolution and a trail through the various environmental changes. However,

practices tend to dissociate from the vector that the paradigm prescribes. European reality tends to result in the lack of commitment to customer service and short-term result orientation, because of their rigid application of contractual logicality in terms of rights and obligations. Japanese reality tends to result in an excessive service provision and a lack of financial accountability due to the over-exercise of the spirit, "Customers are God", and the confusion between personal and business obligations. For example, in the European practices, frequent cases of out-of-stocks, slow and unkind responses to customer requests, a compartmentalisation of job responsibility etc.; whereas, in the Japanese practices, arrogant and unreasonable customer demand, inhumane dedication to customer service, loss of profitability for service providers etc. (See Figure 8-1.)

Figure 8- 1 Paradigm and the Diversion



Why do these derogation of behaviours from the paradigm occur? Bounded rationality in logistics decision-makings has the key. Many of the new ideas pop up with ear-catching slogans everyday, and people gather around those fashions. Practitioners are obliged to follow those new fashions such as management systems, concepts and handling materials. At the same time, fierce competitions often make people dazzled by the expected profit or the maintenance of long-term relationship with customers and derailed from the central concept of effective logistics management. Decision-makers tend to be prepossessed by short-sighted perspectives; Europeans are by short-term achievements, and Japanese are by short-term reactions to operational irregularities. Therefore, mutual perception of the opposite paradigm tends to be magnified by the deviant behaviours.

Because of these diversions of practices from the paradigms, the differences of European and Japanese logistics management paradigms tend to appear much greater than

it intrinsically is, if not widening.

In this dimension, institutional and evolutionary economics provides a useful tool for the explanation of complexity in the logistics management decisions. However, among its theories provided, Williamson's (1996; 1998) *transaction cost theory* is not exactly applicable to both paradigms, in the context that the result of a static comparison does not always determine actions to follow. In the complex system of material flows and their management, there are diverse decisions; some of which are in line with the paradigm specific to the cultural background of the group of actors, and the other of which somewhat derailed from the paradigm without intention. These phenomena of diversity are explained by *path dependency*, which is contained in the system of evolution.

3) Future Logistics Management Paradigm: Conversion or Convergence

At the start of this dissertation the following proposition was set out:

> *The key to the establishment of universally shared paradigm of logistics management lies in the enhancement of cross-cultural understanding of the people in the supply chain.*

Paradigms of management have undergone various vicissitudes through natural and social environmental changes, in which the core has survived without being altered much for centuries. It is not certain yet if the current social changes in both regions and the globalisation at large are strong enough to effectuate a drastic transformation of the logistics paradigms and drive them to form a single unified paradigm or not.

It is obvious that a solid bridge is necessary for European and Japanese logistics management paradigms to converge in order to improve its performance. However, calling for a development of skills to achieve a better understanding of the working cultures of collaborators in the supply chain is not enough and has limited effect. We noted in Chapter 4 that the institutional environment and culture have a significant influence on the behaviours of people in the supply chains. Therefore, it is deemed necessary to endeavour to understand the background of the ways of thinking that people attribute to in order to improve the effectiveness of logistics management. However, the efficacy of the effort for a better inter-cultural understanding, as '*governance'* or management policy, is limited because of the longstanding nature of the cultural element in the framework of logistical institutions and the difficulty to unite the mindsets of people to take action for that purpose.

The literature review in Chapter 2 revealed that the evolution of the paradigm of

logistics management has been proceeding at various speeds in the history. It was slow in the past, but the current development of globalised supply chains is raising the speed of the evolution. We recognise it as the beginning of the rapid and massive self-organisation of world logistics in the complexity system of economy. The cultural integrations in the supply chain will be forcibly incorporated in this move rather than by the spontaneous effort of the people to understand each other more.

So far, the non-Europeans have apparently been following the path that the Europeans have trodden, i.e. logicality and fairness for more efficiency. As the European management system is highly suited to codification, this Europeanisation of non-European logistics management is like to continue, and the Japanese will take into account more of the European paradigm. However, the cross-cultural diversity in supply chains may be creating more challenges than those being solved by the European methods. Those challenges are mainly attributable to human factors. The people in the supply chains are struggling for solution to the problems caused by the diversity of cultures.

The changes in the management paradigms follow the process of self-organisation in the complexity system. In its process, the dynamics of evolution will be influenced by the globalisation of world economy and the redistribution of population. The recent expansion of Asian economy and the increased mobility of vast Asian population have a great potentiality for a world paradigm shift, especially in logistics management. The substance of Asian cultures will be one of the major 'change factors' for the future logistics management paradigm.

'*Logicality and fairness*', which European logistics management has held high, and '*commitment to customer service*' and '*longstanding collaboration*', which the Japanese have esteemed, will be digested in the course of evolution in the logistics management.

The existence of contradictions between the paradigms and the practices, as shown previously can be a prompt for the change of paradigms in the two regions. When the movement to correct this diversion to revert to each of the original paradigms takes place, there may be a chance of convergence to a more unified paradigm of logistics management by eliminating perception gaps through deviances.

4. Prospects

1) Rationality in Logistics and Further

As Veblen (1899) points out, people's motives for economic actions are not exactly based on the rational calculation. They may do it because it is a trend to do so. In logistics, the

same phenomena take place. It is not possible to take a rational comparison of the costs between the present state and the alternative one, because the comparison always deals with the actual costs for the present state and the estimated costs for the alternative. In the estimated costs, many assumptions are incorporated, and the decision maker compares the figures based on a bounded rationality to calculate the underlining risk. Examples are uncountable in the history; such as the availability of water, coals, oils, electricity, ships, security etc., which at times turned out to be scarce, making the cost calculation of the past invalid. Comparisons always take place between horizontal and vertical options, and possible short-term and long-term effect. The complex system of the world is swinging constantly between integration and diffusion. When 'integration' is a trend, the integration of stocks is justified and regarded rational. When 'diffusion' is a trend, people will spread the stock to be as close as possible to the customers. It is difficult for a decision maker to withstand the trend of time.

Making decisions on rationalisation may be nothing but a speculation on the luck that everything will go well by chance. A conceptually perfect plan may eventually result in a tragic state of confusion. Keeping relief staff, an overlapping of job description, frequent meetings for knowledge sharing etc., which are not well justified nowadays, may look gilt-edged in the future. These seemingly futile and costly measures may save the company in case of contingency.

What should be taken into account when we define a future paradigm of logistics management? At least, the present paradigms held by the Europeans and the Japanese will be valid only in a limited sphere of institutional environment. It is necessary that logistics management will place due reliance on the development of a wider scope of sociological, political and economic studies. In the course of its evolution, an alternative solution may well be developed to the principles "the bigger, the better", "the leaner, the better", and "the faster, the better". More environmentally friendly logistics with minimum transportation and undue service will be systemically and automatically formulated among suppliers, manufacturers, distributors, logistics service providers and consumers. It means that we must be the nurturers and supporters of the human resources that can coordinate such dialogues in the supply chains.

2) Europeanisation and Japanisation of Logistics Management

As we have seen the phenomena in logistics practices, we have come to a conclusion that the Europeanisation of Japanese logistics management is obviously underway, while Japanisation of European logistics management is seen only at limited areas such as JIT delivery and Kaizen process and many others still a possibility in the future. However, this

convergence is likely to proceed as a consequence of the mixture of ethnicity with different cultures in work places and supply chains. People's will to take reasonable balance of elements in the paradigm is evident from the result of our survey as shown in Chapter 7 that the Japanese find value in the European logicality and fairness and the Europeans appreciate Japanese commitment to customer service and longstanding collaboration.

Japan has constantly been adopting foreign cultures. This phenomenon first started when Chinese rice farming culture penetrated into the country in the 4th Century BC. Next to rice followed Confucianism, Buddhism, bureaucracy, the fine arts and crafts. From the 16th Century, Japan's interest was centred on the European culture and sciences, which started with the Portuguese followed by the Dutch, and then the English and others.

This still continues. Japanese logistics practitioners, consultants and researchers alike are following the contemporary methods of the European logistics management. Asians are in general treading the same path. European logistics management paradigm of *logicality* and *fairness* is justifiable and acceptable to the people. It is widely observed in the processes of the rationalisation of distribution networks and the investment in ICT.

Japanese traditional learning culture and their adaptation skills will continue to regulate the general pattern of relationship between Europe and Japan in logistics management. A pursuit of logicality and fairness will benefit Japanese substantially in the sense that excess service provision based on unequal partnership in supply chains will diminish and financial accountability will improve. However, it is still unlikely that the Japanese *idée reçue* of logistics management is fundamentally converting to the European form.

On the other hand, the globalisation of supply chains and the increased mobility of people are likely to influence the speed and the direction of paradigm changes in the European logistics management. Historically, Europeans have been leading the development of Asian economies in the modern era. The adoption of Japanese *quality control* system and JIT supplies was one of the first occasions that Europeans (and Americans) adopted Asian industrial methods. However, the movement was limited to the employment of methodology. The Japanese traditional fundamental idea of *harmony* and *evanescence* has not been taken widely into the paradigm of the Europeans. However, our research revealed that, thanks to the recent increase in the exchanges of people and economic transactions between the two regions, people have started recognising the benefit of adopting useful part of each other's paradigm that regulate decision-makings in daily business practices. Among others, Japanese dedication to pursuing customer satisfaction on the basis of long-term relationship in the Japanese paradigm is likely to be taken as a weapon to sharpen competitive edges by the European. If the Japanese are successful in ingraining their paradigm in the part of supply chains in Asia, which shows a

remarkable growth in the economy and increase in the mobility of people, their contribution to the partial Japanisation of European logistics management paradigm will obtain support in a wider range. Hofstede's (1994) fifth demension, i.e. *long-term thinking*, will be a revived value for many supply chains.

The desire of the European to introduce the above elements into their business culture, as shown in Chapter 7, should have a great impetus in the context that any paradigm should be treated within a framework of bounded rationality.

The above-mentioned evolution of paradigms will prove to be a progress of paradigmatic convergence. However, for now, it is hard to predict whether the convergence will result in a formation of a single logistics management paradigm or not, because the power of culture embedded in the mind of each people is still too strong for a quick assimilation of the two. Rather, the two paradigms, will subject themselves to the law of evolution. It will be a part of the global self-organisation in the complexity system of economy. The speed, extent and direction of the evolution will depend on the future interactions of small factors, which we cannot anticipate now due to the bounded rationality in our calculation. If it is not likely that a perfect convergence of logistics management paradigms will take place in the foreseeable future, our concern will remain with the question as to which of the Darwinian *natural selection* or Imanishi's (2002) *habitat segregation* prevails in the supply chains for the decades to come.

5. Conclusion

We have looked through the result of our research and come to the conclusion that the current paradigms of logistics management followed by the Europeans and the Japanese are different. However, the Europeanisation of Japanese logistics management paradigm and the Japanisation of European logistics management paradigm are taking place gradually at the same time. However, the evolution of the logistics management paradigm will not stop there. It will continue until our descendants become successful in optimising the development of logistics for the sustaining environment of the globe with their wisdom, or until they realise that they cannot stop the destruction of global environment making human being inhabitable.

As '*Shogyo Mujo*', the fundamental idea in Buddhism, designates everything that exists constantly transforms itself. The institutional environment that is taken for granted today may not be assumed as given tomorrow. The European and the Japanese paradigms of logistics management as we see now are also becoming the state of the past every moment. The globalisation of supply chains necessitates rapid changes in the logistics management paradigm in the complexity system of human activities. The world has just begun to face this challenge.

CHAPTER 9

CONCLUDING REMARKS

1. Summation

In this dissertation, we investigated the paradigms of logistics management. Our approach was different from that of preceding logistics management studies, which have mostly concentrated on the methodologies to rationalise supply chains to improve productivity. We paid attention to the fact that Japanese logistics management often shows somewhat different practices from those of the European, in the context that the decision-makings were based on a different value system. Questions arose in our minds as to whether the two management systems were truly different, if so, how and why they are different, and to what direction they are evolving in the future. These initial questions were grounded on our fundamental proposition, "*What will be the future logistics management paradigm?*"

Japan restarted its economic development from the ashes after the end of the Pacific War and has grown to be the second largest economy in the world. Abundant studies were done on this interesting topic worldwide so far. Some of the management methods, mainly in manufacturing, originated in Japan have widely been adopted by the firms in other countries. However, in fact, logistics management in Japan is still short of sophistication. Is it merely in a transitional process of Europeanisation (or Westernisation), or can it present any special ideas to contribute to the improvement of the performance of world supply chains? By digging into the background of the two logistics management paradigms, we made an attempt to find out an answer to the above proposition.

First, we investigated preceding studies to find out how the issue of different paradigms were explained. However, few suggestions were available in this field as far as we could investigate. Some other related areas such as general management theories, economics, history, philosophy, sociology, organisational culture and religions were also visited by us to search for any hint for a better explanation. As a result, we realised that the cross-disciplinary approaches would be effective to solve the mysteries of the issue. Those related disciplines gave us a lot of analysing tools and suggestions. Among others, new institutional economics presented a basic framework of four stages, '*resource allocation*', '*governance*', '*institutional environment*' and '*embeddedness*' (Williamson, 1998). By using this framework, we renewed our understanding that the '*embeddedness*' has stronger

influences on the formation of logistics management paradigm than formerly expected. The value system constructed in the minds of people through school education and religions lays the foundation of logistics management paradigms. They may be the product of the past and not be taught much any more, but the effect seems to be continuing firmly across generations.

Empirical studies were conducted especially to survey the different mindsets of Europeans and Japanese in cross-cultural working environments. We put great emphasis on interviews with logisticians, both European and Japanese, each of which took mostly two hours or more in an open atmosphere in order to discover the true feelings of the interviewees. Our finding is that, in general, European logistics management put more stress on personal competence, which is based on the clear distinction of job functions, while Japanese logistics management on collective competence, which requires interactions of people. This explains the reason for the fact that European logistics management relies more on ICT than the Japanese to cover the shortfall of individual capability. People feel bewilderment and frustration over the fact that the people based on different cultures handle matters and find solutions differently in logistics. However, the degree of understanding varies among individuals, and thus the effort to better understand the other culture seems to have only a limited effect.

Surveys by questionnaires were also carried out in two stages in order to partially support the result of our investigation by interviews. The first one was to survey how Japanese firms made decisions to implant their production and distribution centres in Europe, mostly in the Netherlands, and how they evaluated the Dutch working culture after some years of operation there. The second survey was intended to clarify how people with Dutch and Japanese business cultures saw each other in connection with the aim to improve mutual collaborations.

The result of the first survey showed a typical '*bounded rationality*' of the decisions made by the Japanese before they transferred production and logistics centres from Japan to Europe. The fact that the Japanese started to feel confused after some years of penetration demonstrates that people make decisions based on a limited volume of information. Business culture is difficult to quantify, thus not fully understandable until people have worked together for a substantial length of time. Therefore, it supports the conclusion that the movement of supply chain realignment always bear the risk of contingency.

The second survey result revealed differences in the general management paradigms between the two regions; i.e. European 'logicality and fairness' versus Japanese 'commitment to customer service and long-term collaboration'. The educational and religious background serves as the fundamental regulator of the state of logistics. As a

result of the study, we conclude that the European paradigm was structured on the basis of the Greek *Philosophia*, with refinement in the Scientific Revolution and the Enlightement, and the Christianity that was prevailing in the Northern Europe, which esteem rationality, scientific thinking and quest for an indisputable truth. On the other hand, Japanese logistics paradigm is built on the foundation of Confucianism, Kokugaku and the two religions; Buddhism and Shinto, which contribute to building the paradigm based on the ideas of trust, appreciation, evanescence and relativity, leading to pluralistic solutions. These foundations constitute an important part of the *embeddedness* of the institutions respectively in each region. Our further finding was the fact that the people of the two regions recognise their own fault in the paradigm and wish to adopt the strong asset of the opposite one. This indicates a possibility of an assimilation of the two logistics management paradigms.

The logistics of both regions often demonstrate unintended deviation from the paradigm into haphazard reactions in its daily practices; i.e. less customer service and over-rigidity to contracts for the Europeans, and excessive service and lack of accountability for the Japanese. This can be attributable to the mismatching of the short-term factors in the market and the longstanding paradigms. In fact, these deviations are prone to make the daily logistics practices of the two regions look unnecessarily distant from each other. Therefore, it is natural that the Europeans need improved customer service and long-term relationship building, while the Japanese need more logicality and equal partnerships among the participants in a supply chain.

Approximation of the two logistics management paradigms is imminent, for first, the liberalisation of socialist countries in the end of the 1980's triggered globalisation of economy and complex interchanges of workforce with different cultural backgrounds are being accelerated; second, the emerging economies of Asia with vast population have begun to be incorporated in the world supply chains and to have need of a more versatile logistics paradigm; third, a worldwide tendency to extend higher education for the younger generations is enhancing more interfusion of cultures. It will be a simultaneous occurrence of Europeanisation of Japanese logistics management paradigm and Japanisation of that of the European. The testing ground will be in the emerging economies of Asia, where the two logistics management methods are still in the stage of competing with each other in pursuit of supply chain supremacy.

However, we must admit that it is not sure yet whether these transformations will lead to a complete convergence into a single logistics management paradigm soon or not, because the embedded institutional culture in the respective paradigm is too strong to assimilate into each other in a short period. Evolutionary theories suggest a possibility that the self-organising function will trigger the formation of a new unified paradigm by a small

happening in a supply chain by the *natural selection*, and it will spread worldwide at a burst. Or, otherwise, the other possibility will be a state of *habitat segregation*, where different logistics management paradigms will stay in diversity, retaining locality and thus paradigmatic awkwardness among the participants in the supply chain.

To divine the likelihood, we will need a further development of interdisciplinary studies on the evolution of intercultural supply chains. For now, we should confine our statement to say that a paradigm, once assimilated and shared by the people widely, will soon start diversifying again by the laws of evolution in the complexity system.

2. Limitation of the Research

Our attempt to explain the difference of logistics management paradigms of between Europe and Japan has always faced difficulties to overcome the subjective nature of the analyses of human behaviours and the underlying values. We did not have an intention to prove the non-provable. Rather, we have tried to propose a view of possible approaches to the study of logistics from the cultural aspects, which greatly influence the effectiveness of supply chain functionality.

Therefore, statistics used in this dissertation will need more wide-ranged and in-depth re-examination by further surveys in various fields, avoiding, at the same time, the risk of swallowing the results obtained under the bounded conditions.

An interdisciplinary nature of this study also faced limitations in the range of research. Logistics studies in the human resource aspect must cover many disciplines. Each discipline has a massive accumulation of studies. Therefore, it was not possible for us to cover all the fruits of those preceding work given the limit of our capacity. We hope that the core of them was not missed out for accurate analyses of the matter.

Further limitation concerns the asymmetries of information held by the European and the Japanese researchers and practitioners alike in logistics. Historically, non-Western people have been following the Western logistics theories and practices, and not vice versa; thus generally there are more information about European logistics available than that of the Japanese. Therefore, we had to elaborate Japanese logistics and the cultural background of its management much more than the European. This general imbalance of knowledge held by the people caused us to struggle to maintain neutrality in our explanations. Different perceptions lead to different dimensions of rationality. We hope our analyses have maintained reasonable impartiality.

3. Suggestion for the Future Study

We have made a small contribution to the new area of studies in comparative logistics management and its paradigmatic aspect. We hope that this research has given some implications for further studies in logistics and other related disciplines.

In the future, more empirical studies should take place as regards the cultural influences on logistics in various regions of the world. Among others, Asia will provide plenty of opportunities for future studies because of its dynamism of economic development, demographic power and cultural diversity.

Such interdisciplinary approaches to the evolving complex system of logistics will be of material benefit to the development of more effective supply chain management theories in the future.

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Appendix 1

The list of firms and organisations interviewed

Logistics Service Providers
(European)
Danzas Logistics Management BV
Hapag-Lloyd Nederland BV
Hillebrand Group AG
Maersk Intermodal Europe BV
TNT Logistics Netherlands BV
Versteijnen Logistics
(Japanese)
Japan Express
Kintetsu World Express (Benelux) BV
Mitsubishi Logistics Europe BV
Mitsui OSK Lines
MOL Logistics (Netherlands) BV
MOL Europe BV
Nichirei Holding Europe BV
Nippon Express (Nederland) BV
Nissin
Nissin Transport GmbH
Ricoh Logistics System European Branch
Seino Logix Rotterdam Office Seiwa Kaiun
Manufacturers, Retailers, Consultants, Public Organisations etc.
(European)
CDI Japan Institute
Holland International Distribution Council
Port of Antwerp
Port of Rotterdam
(Japanese)
AW Europe
Aizen
Dejimaya
Frameworx
Fuji Photo Film BV
Hirose Electric Europe Branch
IBO Osaka
IRIS Ohyama Europe BV
JT International Germany GmbH
Maranz Europe BV
Meidi-Ya Rotterdam Office
Mitsuibishi Motor R&D Europe BV
Mitsubishi Nederland BV

Netherlands Car BV
NPK Europe
Sato Corporation
Sony Europe BV
Suntory
Sumitomo Corporation
Tiger Kasei
Takashimaya
T.M. Management Services
Toyota Motor Manufacturing France
Nittsu Research Center
Higashi Osaka Chamber of Commerce and Industry
Hosoo
Yakult Europe BV
Yamaha Motor Europe BV
Bauer Nike Hockey
CTX Netherlands BV
IBM Nederland NV
International Transport Workers Federation

Appendix 2

(Translation from the Japanese questionnaire)

Survey on the Dutch Logistics Centre

1. Your name:

2. Name of your company:

3. Country of origin of your company:

4. Location of your company in the Netherlands

For the questions below please choose applicable items by checking in the squares. Multiple choices are allowed for questions 5, 6 and 7.

5. Why is your company located in the place where it is located now? Because:

   - ☐ it is in the geographical centre of Europe.
   - ☐ there is Europe's largest port, Rotterdam.
   - ☐ there is a large airport, Schiphol.
   - ☐ there is an excellent road network in all directions.
   - ☐ there is a good access to other European countries.
   - ☐ there are good transport services.
   - ☐ there are reliable workers.
   - ☐ people have a good command of English.
   - ☐ economy is stable.
   - ☐ corporate tax rate is low (35%).
   - ☐ there is good natural environment for business (green, water, air, etc.)
   - ☐ there is a good support of the local government.
   - ☐ English or Japanese schools are located in the vicinity.
   - ☐ others. Please describe below:

     _____

6. Why did your company not choose other countries for your factory or distribution center? Because of:

   - ☐ the lack of English communication skills of workers.
   - ☐ high costs.
   - ☐ inconvenience in transportation to/from other countries.
   - ☐ high tax rate.
   - ☐ insufficient support from the local government.
   - ☐ difficulty to obtain reliable workers.
   - ☐ being not in the geographical centre of Europe.
   - ☐ unavailability of a Japanese or English school in the vicinity.
   - ☐ unstable political situation.
   - ☐ undesirable natural environment

7. Are there any disadvantages of the business location in the Netherlands?

   - ☐ Seasonal fluctuation of worker availability.

- ☐ Long holidays.
- ☐ High rate of sick leave.
- ☐ Lack of the sense of responsibility.
- ☐ The employment system is unfavourable to business.
- ☐ General labour shortage.
- ☐ High costs.
- ☐ Frequent cases of burglaries.
- ☐ Others. Please describe below.

8. Do you think the Netherlands will keep its position as a logistics hub in the future?

- ☐ Yes
- ☐ No

Appendix 3

Survey on the Challenge in the Dutch-Japanese Intercultural Business

****

This survey is intended to find out the challenges experienced by the Dutch and the Japanese who work in the Netherlands, which may be caused by the cultural differences between the two countries.
There are 30 questions. It takes about 15 minutes to complete answering all of them.

(Instructions)

a. Please answer the following questions by typing "**X**" after the appropriate answer.
b. If the question is not applicable to you, please do not answer it and leave it blank.
c. "**Opposite culture**" means the Dutch culture for Japanese persons, and the Japanese culture for the Dutch persons. If you are not Dutch or Japanese, please state the culture you feel more distant here _____ as the opposite culture.

****

ABOUT YOURSELF

1.Your Nationality (Cultural Background)
Dutch
Japanese
Other

2. Your Gender
Male
Female

3. Origin of your Organisation
Dutch
Japanese
Other

4. Nature of Business
Manufacturing
Logistics/Transportation
Finance/Insurance
Consulting/Accounting/Law Firm
Public Organisation

5. Your Job Function

Top Management
Corporate Planning
Sales/Marketing
Customer Service/Relations
Accounting/Finance
General Affairs
Reception
Human Resources
IT Systems
Documentation/Administration
Research & Development
Production/Repairs
Warehousing
Transportation
Forwarding
Procurement
Professional Job
Others

6. Your Position

Head of Company	Floor Supervisor
Executive	Floor Worker
Middle Management	Professional
Secretary/Executive Assistant	Driver
Sales Person	Others
Office Clerk	

7. How many hours do you work per day in average (including working at home)?

7 – 9 hours ___ 10 – 12 hours ___ 13 – 15 hours ___ More than 15 hours

8. How many holidays did you take for the last one year?

0 – 4 days _ 5 – 9 days _ 10 – 14 days _ 15 – 19 days
20 – 24 days _ 25 – 29 days _ 30 – 34 days _ more than 35 days

9. How many sick leaves did you take for the last one year?

0 – 4 days _ 5 – 9 days _ 10 – 14 days _ 15 – 19 days
20 – 24 days _ 25 – 29 days _ 30 – 34 days _ more than 35 days

10. Are you satisfied with the present life?

Much _ Reasonably _ Little

ABOUT GENERAL BUSINESS CULTURE

11. What are the good characteristics of the business culture of your own country? (Check all applicable.)

Fairness	Teamwork
Friendliness	Flexibility of service
Humaneness	Dedication to customer
Proactive thinking	Competitive pricing
Logical thinking	Long-term relationship
Consensus building	Long-term employment
Creativity	Human resource development
Hard working	Result-oriented promotion/pay
Hard selling	Seniority order system
Efficiency	Others

12. What are the good characteristics of the opposite business culture? (Check all applicable.)

Fairness
Friendliness
Humaneness
Proactive thinking
Logical thinking
Consensus building
Creativity
Hard working
Hard selling
Efficiency
Teamwork
Flexibility of service
Dedication to customer
Competitive pricing
Long-term relationship
Long-term employment
Human resource development
Result-oriented promotion/pay
Seniority order system
Others

13. Have you experienced any difficulty in understanding your opposite business culture?

Much _ Some _ Little

14. What characteristics of the opposite business culture do you find difficult to deal with? (Check all applicable.)

Arrogance
Humbleness
Greediness (Demanding)
Mysteriousness (Little Expression)
Ambiguousness (Unclearness)
Lack of the sense of responsibility
Lack of co-working spirit
Individualism
Collectivism/Centralism
Lack of teamwork
Lack of discretion
Egaritarianism
Hierarchism
Easygoingness
Stoicism
Exclusiveness
Openness
Talkativeness
Silence (Secrecy)
Difference of etiquette
Other

15. How much do you think you know the opposite business culture?

Much _ Some _ Little

16. Are you making effort to understand the opposite business culture better?

Much _ Some _ I did, but not any more. _ No

17. Which business culture do you think is suitable for a global standard?

Dutch _ Japanese

ABOUT YOUR BUSINESS ENVIRONMENT

18. Have you experienced a difficulty with anyone due to the difference of business cultures?

Often _ Sometimes _ Little

19. What kind of occasions were they? (Check all applicable.)

Making decisions
Meeting/Discussion
Reporting
Customer satisfaction
Sales promotions
Negotiation
Working together
Range of job responsibility
Employment relations
Working hours
Socialisation
Others (Describe here.)

20. What would you do if you have encountered any difficulty with a person? (Choose two.)

Wait until he/she realises.
Explain the rule/policy but not to argue much.
Discuss with him/her intensively.
Destroy relationship with him/her.

21. Are you satisfied, as a customer, with the level of services generally in your own country?

Much _ Some _ Little

22. Are you satisfied, as a customer, with the level of services generally in the opposite country?

Much _ Some _ Little

23. Do you think you are working more effectively than the equivalent person of the opposite culture?

Yes _ Equally _ No, I work less effectively.

24. Which working environment is more efficient to do business in general?

Dutch _ Japanese

25. Which working environment would you prefer to work in, if you can choose?

Dutch _ Japanese

POSSIBLE SOLUTIONS

26. Do you find enough information about the opposite business culture?

Much _ Some _ Little

27. Do you find any benefit to introduce elements of the opposite business culture into your own business culture?

Much _ Some _ Little

28. What element of the opposite business culture do you want to introduce to your own culture?

Fairness
Friendliness
Humaneness
Proactive thinking
Logical thinking
Consensus building
Creativity
Hard working
Hard selling
Efficiency
Teamwork
Flexibility of service
Dedication to customer
Competitive pricing
Long-term relationship
Long-term employment
Human resource development
Result-oriented promotion/pay
Seniority order system
Others

29. What will be an effective solution for people to be able to work together with a better understanding of the opposite business culture? (Check all applicable.)

Change basic school education
Change secondary education
Change higher education
Change employment laws
Change job training system
Develop inter-cultural management courses
Exchange more people between the countries
Others
There is no solution

30. Please write here anything you would like to state on this topic.

****

Samenvatting

In dit proefschrift onderzoeken wij de paradigma's van logistiek management. Bestaande studies in logistiek management richten zich gewoonlijk op methoden om logistieke ketens efficienter te maken en productiviteit te verbeteren. In onze aanpak besteden we meer aandacht aan de verschillen in Japanse en Europese praktijken in logistiek management en de verschillen in waardesystemen die aan de werkwijzen ten grondslag liggen. Een van de basisvragen was: in welke mate verschillen de respectieve logistieke management systemen, wat zijn de achterliggende oorzaken daarvan, en in welke richting zullen de systemen zich in de toekomst ontwikkelen?

Japan herrees uit de as van de oorlog en ontwikkelde zich tot de tweede economische macht van de wereld. Dit proces van economische en industriële ontwikkeling is uitgebreid bestudeerd en heeft er toe geleid dat tal van Japanse management praktijken, voornamelijk ontwikkeld in de industrie, nu wereldwijd door ondernemingen worden gebruikt. Japans logistiek management daarentegen is daarbij achtergebleven en toont zelfs de neiging te Europeïseren of verwestersen. Echter, zou het in zijn eigenheid ook een bijdrage kunnen leveren aan de verbetering van wereldwijde logistieke ketens?

De bestaande studies ter verklaring van verschillen in logistieke paradigma's leveren niet de benodigde inzichten op. Derhalve hebben wij ons analyse kader verbreed naar algemene management theorieën, economische geschiedenis, filosofie, sociologie, cultuur en religie, om zo te kunnen komen tot een bevredigende verklaring van de verschillen. Met name de 'new institutional economics' benadering met zijn vier analyse niveaus, te weten *resource allocation, governance, institutional environment* en *embeddedness* (Williamson, 1998) verschafte ons het raamwerk voor ons onderzoek en versterkte het besef van het belang van *embeddedness*, het normen en waardenpatroon, bij de vorming en ontwikkeling van logistiek management systemen. Onderwijs en religie zijn belangrijke elementen voor de consolidatie en voorzetting van onze waardesystemen en vormen, ondanks de hedendaagse verwatering, nog steeds een stevige verbinding tussen de generaties.

Ons empirisch onderzoek richtte zich in eerste instantie op het vastleggen van de verschillen in opvatting van Japanse en Europese logistiek managers, werkend in een cross-culturele omgeving. Wij gebruikten hiervoor interviews. Terwijl Europees logistiek management zich sterk neigt te concentreren op persoonlijke bekwaamheden, hetgeen o.a.

tot uitdrukking komt in duidelijke funktieomschrijvingen, benadrukken Japanse logistieke managers juist collectieve competentie, hetgeen meer menselijke interactie vergt. Zo vertrouwt, bijvoorbeeld, Europees logistiek management meer op ICT als oplossing voor individueel menselijke tekortkomingen dan de Japanse manager. Aldus leiden verschillen in aanpak en oplossing voor logistieke problemen, welke toegeschreven kunnen worden aan verschillen in de cultuur waarin men is opgegroeid, tot frustratie en verwarring op de werkvloer. Hoewel begrip voor deze verschillen varieert per individu, blijken pogingen om andere culturen beter te begrijpen tot nu toe slechts een beperkt effect te hebben gehad.

Ter verdere verdieping en verbreding van de resultaten van de interviews zijn twee surveys uitgevoerd. De eerste had betrekking op besluitvorming rond de opzet en inrichting van Japanse productiefaciliteiten en distributiecentra in Europa en met name Nederland, én een evaluatie van de Nederlandse bedrijfscultuur nadat men enige tijd werkzaam was geweest in Nederland. De tweede survey betrof het onderzoek naar de wederzijdse perceptie van Japanse en Nederlandse werknemers en de verbetering van hun onderlinge samenwerking.

De eerste survey toonde de 'bounded rationality' van de Japanse besluitvormers bij de beslissing tot vestiging van productiefaciliteiten en distributiecentra in Europa. Het feit dat zij zich na een aantal jaren wat perplex zijn gaan voelen, duidt er op, dat klaarblijkelijk de besluiten zijn genomen op basis van beperkte informatie. Bedrijfscultuur is moeilijk vooraf te quantificeren en wordt pas goed inzichtelijk wanneer men een aanzienlijke periode heeft samengewerkt. Daarom ook onze conclusie dat de huidige beweging tot herschikking in de transportketens substantiele risico's met zich meebrengt.

De tweede survey onthulde verschillen in management paradigma's tussen beide regio's, teweten een Europees denkraam gebaseerd op logica en redelijkheid en het Japanse gebaseerd op toewijding en dienstbaarheid aan de klant en lange termijn samenwerking. Hier manifesteren zich verschillen in onderwijs, opvoeding en religie en klaarblijkelijk hebben zij ook een fundamenteel regulerend effect op de aard en inhoud van de logistieke systemen. Wij komen tot de conclusie dat het Europese paradigma met zijn rationaliteit, wetenschappelijk denken en het zoeken naar een onweerlegbare waarheid, zijn basis heeft in de griekse *Philosophia,* later verfijnd tijdens de Verlichting en de Wetenschappelijke Revolutie, alsook het Christendom dat in Noord Europa zo'n dominante invloed had. Het Japanse logistieke paradigma daarentegen is gebouwd op het Confucianisme, de *Kokugaku* en de religies Buddhisme en Shinto en manifesteert zich in de vorm van

wederzijds vertrouwen, appreciatie, onthechting en betrekkelijkheid, leidend tot veelvormige oplossingen. Deze grondelementen vormen een belangrijk onderdeel van de 'embeddedness' van de respectieve instituties van elk van de regio's.

Een andere uitkomst van ons onderzoek was dat in beide regio's logistieke managers zich bewust zijn van de onvolkomenheden van het eigen paradigma en bereid zijn de sterke elementen van de ander te incorporeren. Dit voorziet in de mogelijkheid tot assimilatie van beide logistieke management paradigma's.

In de praktijk tonen de logistieke systemen van beide regio's vaak onbedoelde afwijkingen van het standaard model, dat wil zeggen, aan Europese zijde te weinig klantenservice en overmatige benadrukking van 'contract' en aan Japanse zijde excessieve klantenzorg en gebrek aan 'rekenschap'. Overigens doen deze 'afwijkingen' het voorkomen alsof de dagelijkse logistieke praktijken van beide regio's, Japan en Europa, ver uiteen liggen zonder dat dat het geval hoeft te zijn. Eerder zou men kunnen spreken van een 'mismatch' tussen de korte termijn, markt-gerelateerde factoren en het standaard model. Desalniettemin behoeven Europeanen een verbetering van hun service en langetermijn klantrelaties terwijl Japanners juist meer logica en gelijkwaardigheid zouden moeten betrachten in hun logistiek management benadering.

Beide logistieke systemen groeien ontegenzeggelijk naar elkaar toe. Dit proces wordt versneld door de globalisering van de economie en de intensieve uitwisseling van personeel met verschillende culturele achtergrond. Bovendien zijn recent ook de opkomende economieën van Azië opgenomen in de wereld logistieke ketens en zij vragen naar meer veelzijdige logistieke systemen. Tenslotte leidt de wereldwijde tendens tot meer hoger onderwijs onder de jongere generaties tot een gemakkelijker fusie van verschillende culturen. Dientengevolge zullen we ook een Europeïsering van Japanse logistieke modellen en een Japanisering van Europese modellen zien. De opkomende markten in Azië zullen de toetsteen vormen voor beide logistieke systemen die hun suprematie in deze regio zullen moeten bewijzen.

Of deze transformaties spoedig zullen leiden tot een algehele convergentie naar één uniform logistiek management model, is nog onzeker. Immers de respectieve systemen zijn ingebed in hun eigen cultuur en instituties die meestal te sterk zijn om zich in korte tijd aan te passen. Evolutionaire theorieën houden ons echter ook voor dat de z.g. 'self-organizing' functie van systemen, gestimuleerd door *natuurlijke selectie* of een kleine gebeurtenis in de logistieke keten, een nieuw, uniform model kan genereren dat zich

wereldwijd zou kunnen verspreiden. Een andere mogelijkheid zou kunnen zijn: *habitat segregatie*, de situatie dat verschillende logistieke management paradigma's hun diversiteit behouden, plaats gebonden blijven en dus de deelnemende partijen in de logistieke keten veel hoofdbrekens zullen bezorgen.

Om verdere uitspraken te kunnen doen is de ontwikkeling van interdisciplinaire studies van de evolutie van 'interculturele' logistieke ketens van groot belang. Op dit moment kunnen we slechts zeggen, dat, op grond van de wetmatigheden in de evolutie van complexe systemen, een model of paradigma, eenmaal aangepast en wijd omarmd, spoedig zijn volgende cyclus van verandering en diversificatie zal aanvangen.