The Business Strategy of Japanese SIers

by

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SUBMITTED TO THE MIT SLOAN SCHOOL OF MANAGEMENT
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

MASTER OF BUSINESS ADMINISTRATION

at the
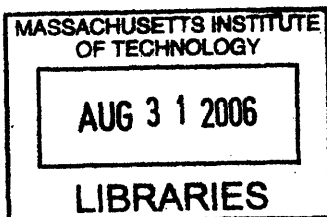
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June 2006

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Submitted to the MIT Sloan School of Management
on May 12, 2006 in partial fulfillment of the requirements for the Degree of
Master of Business Administration

ABSTRACT

The fundamental role of the System Integrators (SIers) is to provide customized IT systems or services that satisfy the unique requirements of each customer by integrating the various products and services that many IT companies produce. Originally, the IT companies in the different business segments such as the consulting business, hardware business, and software product business have complemented each other, and SIers played the roles of coordinators between these various IT companies and the customers. However, the business model of IT companies is rapidly changing. The firewalls separating business segments in the industry are becoming obsolete, and the Japanese SIers are now getting involved in the intense new competition. This thesis identifies key elements that influence the future business of Japanese SIers. It also proposes sound strategies that will enable Japanese SIers to grow solidly from the viewpoint of top management.

From the technological viewpoint, my research finds that the commoditization and openness of technologies have made hardware and software product companies shift their business focuses from products to services. On the other hand, from the market viewpoint, customers are implementing the strategies that select and focus on core businesses. Customers are actively trying to find outsourcing opportunities. The enterprise IT systems are no exception. Customers are trying to maximize business value using IT by distinguishing strategic systems that should be customized and owned by themselves from commodity systems that should reduce costs by adopting outsourcing services. Under these changing environments, SIers will be unable to maintain the sustainability of their business simply by improving their current core competency: system integration. I argue that SIers should create new relationships with complementors. Developing open-application platforms and sharing them with IT service providers widely will allow SIers to create a new software ecosystem that will provide mutually beneficial relationships with their current competitors. The SIers should not focus on cost reduction in offshore development; rather, global sourcing and global business expansion should be the center of the strategies for offshoring. I also show that the development of consulting services and the hybrid services that combine outsourcing and system integration services will be the keys to further growth.

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ACKNOWLEDGMENTS

Chapter 1: Introduction

1.1 Background

The business of corporate System Integration (SI) seems to be at a critical turning point. We can find the significant phenomena that have the potential for fundamentally changing this business. Technical innovation is expanding its influence to more applications and making technology more service-oriented. The innovation creates the new ecosystem of software called "collaborative development." The customers are also changing. Thanks to the technology, the business and service revolutions we have experienced in B2C business after the advent of the Internet technology are steadily making an impact on B2B business, too. As customers focus on core businesses and gain more flexibility, their expectations of IT systems and System Integrators (SIers) are changing. It will be difficult to have solid growth if SIers cling tenaciously to the conventional methods of SI business. From the global viewpoint, the prosperity of global sourcing is starting to influence the Japanese SI market, which originally had relatively high barriers to globalization, from the viewpoint of both the economy and geographic location of the business. If we shift our focus to the competition, many players, which formerly were categorized in different segments, are aiming to expand their businesses and competing with each other in the same market under the name of "IT Service Providers."

What can differentiate SIers from other competitors? What is their core competence? What business should they focus on? These fundamental questions

come from the author's experiences as a senior manager in a system integration company. Now is the right time to review the current situations of SIers and to identify the directions to follow.

1.2 Objectives of the Project

The objectives of this thesis are to identify and analyze key elements that influence the future business of SIers and to create sound strategies that enable SIers to grow solidly from the viewpoint of top management. Various research companies and IT consultants have developed analyses of the future IT market or required business strategies for IT companies. However, most of them do not differentiate SIers from other IT service providers. I focus on the SIers' viewpoint because I believe the characteristics of SIers, which include the various business elements of IT service providers, require unique business strategies.

1.3 Methodology

This thesis relies on research into and analysis of various businesses that SIers cover. I research market trends in the IT industry and analyze strategies of key players in the industry. I also focus on the changes in customer requirements for IT. I do not focus on the environment and strategies for a specific company. Rather, I try to figure out the dynamics that create the tide of new business in the SI market as a whole. Based on this understanding, I identify the keys to success in the SI business from now on and explore the appropriate and universal strategies for Japanese SIers.

I apply the Delta Model as a framework for developing strategies. The reports of premier IT research firms are helpful for gathering market data. I also fully utilize the theory and knowledge that I have learned in the classes to derive fundamental theories from the phenomena in the market. The author's personal experience in a Japanese system integration company is helpful to obtain better understanding and consideration of the current SI market.

1.4 Structure Overview

This thesis is composed of seven chapters beyond this one. In Chapter 2, I define the SIer and the business scope that I focus on. I also illustrate the characteristics of Japanese SIers in contrast to foreign SIers. In Chapter 3, I analyze the trends of the Japanese SI market and customer investment. Chapter 4 analyzes the market conditions and competitiveness of the consulting business and create strategies for SIers. In Chapter 5, I analyze the business environment of project-based business and propose the required strategies. Chapter 6 assesses the business conditions for outsourcing and suggests the appropriate strategies. In Chapter 7, I focus on open technologies that have a significant impact on both the IT market and the business of SIers. I interpret the essential significance of the paradigm shift and examine the appropriateness of my proposed strategies. Chapter 8 summarizes the insights and recommendations that I develop in previous chapters.

Chapter 2: The Nature of SI Business

2.1 The Definition of System Integration (SI) and SIers

The words "System Integration" ("SI") and "System Integrator" ("SIer") are ambiguous. Every IT research company defines these words in a different way, and many IT companies define themselves as "SIers". For example, the phrases "IT services providers" in Gartner's words[1], "IT service vendor"[2] in IDC Japan's words, and "Information service company"[3] in Nikkei Computer's words have almost the same meaning. These three words mean the companies that provide various IT related services such as system design, system development, IT outsourcing, and system maintenance. *Software Magazine* includes more than ten different software business sectors in the category of System Integration Business[4]. Basically, "SI" is the name of IT service and "SIer" is the companies that provide the service. There are roughly three factors that make the definition of SI and SIers ambiguous. One is the diversity of the market that SI business includes. Another one is the wide variation of services that SIers provide. The last thing is the diversity of business players in these market and services. First of all, I would like to define "SI business" and "SIer" to clarify the scope of the paper.

2.1.1 Definition of SI

Defining the word "SI (business)," requires clarifying the target market, customers, and services it includes.

(1) Target Market

If I define the scope of SI market by using two fundamental elements, I can define the target market of SIers as the shaded area shown in Figure 2.1.1-1
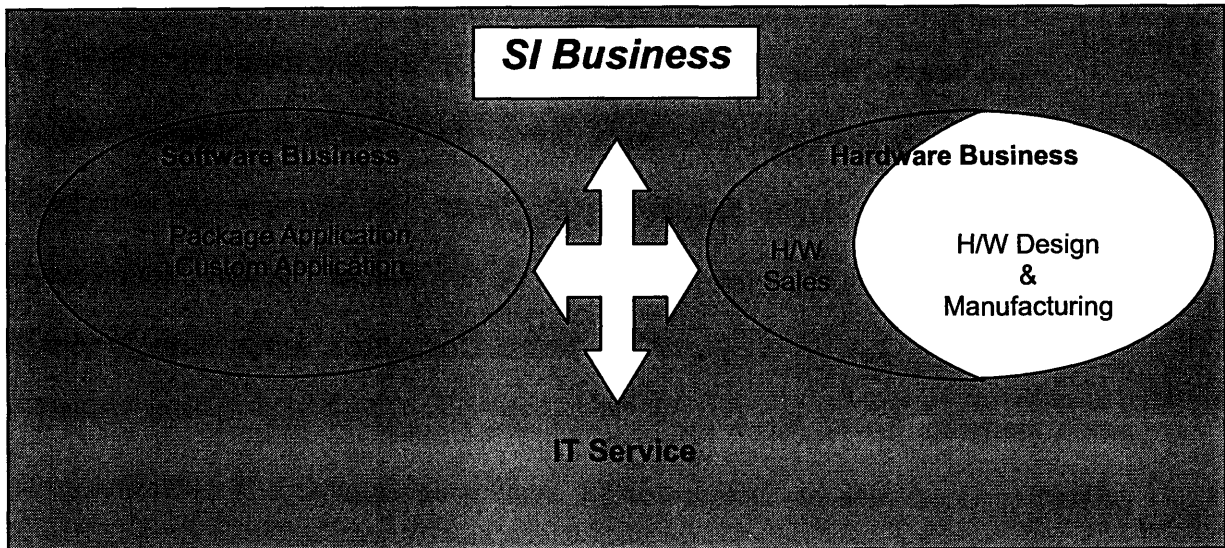
Figure 2.1.1-1 Target Market of SI

(2) Target Customers

In general, the SI business targets corporate and public business. It depends on the size of the SIers, but they basically cover diversified industries by having expertise or a focused organization for each industry. For example, typical Japanese SIers have three different business divisions: a public industry division, a financial industry division, and an enterprise business division. The public industry division covers both government and municipalities, and the financial industry division covers various customers in the industry such as city banks, regional banks, security companies and so on. In general, the enterprise business division consists of industry-focused sub-divisions such as telecommunication, retail market, transportation, and so forth.

(3) Service Variations

The services of SIers are well diversified. They provide various kinds of IT-related services, combine them into integrated services, and support whole lifecycle of customers' IT needs. Table 2.1.1-1 shows diversified service varieties that SIers can provide. Many IT companies have created unique buzzwords for their services, but the Table covers fundamental service. First-tier SIers can provide whole services, but other SIers might focus on some specific services. For example, providing system maintenance services that includes 24H/365D nation-wide support is difficult to have for relatively small SIers. The consulting business is another example that is not so easy to provide for mid- or small-size SIers, because the required resources are different from other IT services.

Table 2.1.1-1 Service Variations of SIers

Macro Category	Mid Category	Detailed Category
Consulting	Business Consulting Service	
	IT Consulting Service	
Project-Based	Systems Integration	System Planning
		System Design
		System Development
		System Installation
	Network Consulting and Integration	
Support & Training	System Engineering Support (Temporary Staffing)	
	IT Education and Training	
	System Maintenance	Hardware Support
		Software Package Support
		Custom Application Support
		System Operation
IT Outsourcing	System Outsourcing	Network and Desktop Outsourcing
		Application Management
		System Infrastructure Outsourcing
	Shared Sourcing	Software As Services (SAS)
		Hosting & Housing
	Business Process Outsourcing (BPO)	
Product Business	Software Package	
	Network & Hardware	

2.1.2 Definition of SIer

(1) Players

Before I move to the definition of SIers, I would like to define the players in IT industries. Table 2.1.2-1 shows the business players related to SI business. I categorized these players based on the differences in their core businesses. Many of these players have various business capabilities, and their business scopes overlap.

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Table 2.1.2-1 Players Related to SI business

Player Categories	Explanation of the Business	Examples in Japanese Market
Package Software Company	The company whose core business is to develop the software package. It can also provide consultation and customization of the package.	Oracle, SAP, Orbic Business Consulting
Program Development Company	The company whose core business is to develop programs based on project-based contracts.	Cresco, Ines
Engineer / Programmer Staffing Company	The company whose core business is to deliver temporary engineers or programmers to support the clients	Various small companies
Application Service Provider (ASP)	The company whose core business is to provide application services using IT. It charges based on the services customers use.	Google, Yahoo
Hardware Company	The company that manufactures hardware products. It also provides various IT-related services.	IBM, Hitachi, Fujitsu, NEC
IT Consulting Company	The company whose core business is business and IT consulting. It also provides various IT-related services.	Accenture, NRI, JRI
System Integrator	The company whose core business is project-based system integration. It also provides various IT related services.	NTT Data, CSK, TIS, NS Solution

(2) Definition

In my definition of SIers, they are the companies that provide project-based System Integration Services as their core business.　The core business is the one that makes the largest revenue or profit, or that is regarded as the corporate mission. In other words, a company that provides System Integration service as its main revenue source could be categorized as an SIer. For example, hardware companies, such as IBM or Fujitsu, also provide System Integration Service, and it is becoming their main revenue source. However, I should differentiate SIers from hardware vendors because of the fundamental difference in the natures of their businesses. Even though hardware vendors, such as IBM, have shifted their business from products to services, they still have the objectives of selling their own products, and they can create synergy with product businesses and other IT services. At the same time, specifically for Japanese hardware vendors, the open architecture and commoditization of hardware have made them give up their own technology and they no longer persist in selling their own hardware. From this viewpoint, the boundary between hardware companies and SIers is blurring.

I also differentiate package software companies, such as Oracle or SAP, from SIers. In these enterprise package software companies, the revenue from service has exceeded the revenue from product licenses. However, their service basically focuses on the installation and customization of their own software products. I regard their services as support and training, not System Integration, in Table 2.1.1-1. The fundamental business objectives of package software companies are to develop competitive software products and expand their market share. Additionally, SIers are

excellent business and implementation partners for them. From this viewpoint, the business strategy of package software companies should differ from that of SIers.

Nevertheless, as package software companies have shifted their business to services more and the revenue from license relatively has gone down, they have become closer to SIers. At some point in the near future, it might be impossible to differentiate them from SIers. Table 2.1.2-2 shows the relationship between players and the services they provide. The table indicates that all the players in the IT industry can provide project-based service to some extent. It also shows that both hardware companies and IT consulting companies compete with system integrators in terms of breadth and depth of services.

Table 2.1.2-2 Relationship Between Players and Service Coverage

	Consulting	Project-Based	Support & Training	Outsourcing	H/W	S/W Package
Package Software Company	△	○ (Support)	○	△		Core
Program Development Company		Core	○			
Engineer / Programmer Staffing Company		○ (Support)	Core			
Application Service Provider	△	△ (Support)	○	Core		△
Hardware Company	○	○	○	○	Core	○
IT Consulting Company	Core	○	○	○	○ (Sales)	○
System Integrator	○	Core	○	○	○ (Sales)	○

(3) The Role of SIers

Figure 2.1.2-1 shows the role of SIers. An SIer can develop a computer system by itself, but according to the complexity or the size of the project, it may subcontract with other IT companies to get technical assistance or system engineers' resources.
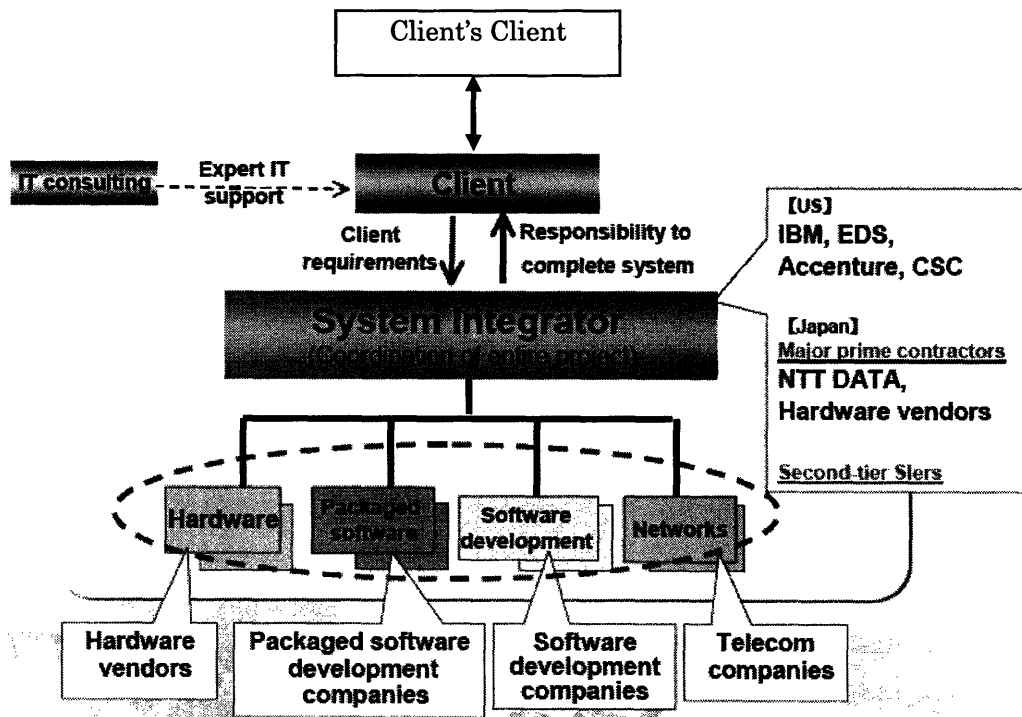
Source: "*Information January, 2006*," NTT Data Corporation[5]

Figure 2.1.2-1 The Role of SIers

(5)   Technology Focus

In general, SIers cover various technologies and platforms. Multi-vendor support has been one of their competencies in the SI business. However, as technology becomes open, the advantage is weakening rapidly. For example, before the open technology became so popular, hardware vendors could not develop multi-vendor systems because they did not have the knowledge of other vendors' products. Only SIers had that kind of knowledge and experiences. Recently, almost all hardware vendors advocate multi-vendor integration, thanks to the open technology.

2.1.3 Summary of Definition

As illustrated above, I define SIers in this paper as having four characteristics: (1) the company originally provides project-based system-integration service; (2) it also provides various IT-related services such as outsourcing or consulting and integrates these services into comprehensive IT services; (3) basically, it produces no hardware products; and (4) the revenue proportion of the software products license is relatively small, with the software license business not a prime objective.

Some hardware vendors are giving up their own technology and developing integration of multi-vendor products. They are shifting their businesses from product businesses to services. In many enterprise software package vendors, the revenue from service has exceeded the revenue from licenses. The products are expanding horizontally or vertically, as in the case of Enterprise Resource Planning (ERP) products companies. The fundamental business differences between SIers and product companies are diluting.

2.2　Business Model of SIers

The business model of SIers is well diversified. It is very useful to understand the business model variations of SIers to analyze and develop the business strategies for SIers.

2.2.1 Products of SIers

Because of the diversified business category of SIers, they have various

products to sell. In terms of tangible products, they sell both hardware and software. In general, SIers do not actually produce any hardware. They re-sell hardware for customers based on the project's requirements. They can earn a margin because of their strong bargaining power against hardware vendors. Many SIers deploy multiple vendors' hardware, and multi-vendor integration is one of their advantages. In some cases, they have OEM hardware, or they sell hardware as wholesalers. They could make a reasonable profit from the hardware business, but as hardware becomes commoditized and down-sized, it is becoming less profitable. The business model and the business situation are almost the same in software products. Often SIers re-sell packaged software to customers. They also have their own software packages. However, the business volume is relatively small, and many of these software packages are supposed to be customized to adapt to customer requirements. SIers position their own software products as a way to help their system integration business.

The SIers also sell intangible products. Those products include expert knowledge. They assign engineers or consultants to help specific customers' work, and they charge based on time. This practice is particularly common in the upper phase of system development, where the project scope and baseline are ambiguous. The temporary programmer agency business is a common business model for program development companies, and SIers use these companies as a programmer resource.

2.2.2 Two Business Formats

We can roughly divide the business models of SIers into two categories. One

is the System Development Service Model; system integration business belongs to this category. The other is the Service Provider Model; outsourcing business and XSP business belong to this category. In the service provider model, SIers retain ownership of the assets for IT systems and provide management and maintenance services for clients. Clients pay fees for their use. They can avoid the burden of substantial commitments of funds. For SIers, there is a fairly large capital investment necessary in the initial stages, but once an order has been received, it represents a stable revenue source for the length of time that the client uses the services. On the other hand, the system development service model delivers systems when a project is completed, and the client pays a lump-sum fee at the end of the project. Table 2.2.2-1 summarizes the characteristics of both business models.

Table 2.2.2-1 Characteristics of Two Business Models of SIers

	System Development Service Model	Service Provider Model
Type of Contract	Stipulated Contract	Individual Contract
Owner of Assets	The Company	Client
Payment Method	Monthly Fees	Lump-Sum Payment

Source: "*NTT Data Annual Report 2005*," NTT Data Corporation[6]

2.3 The Characteristics of Japanese SIers

To analyze the business condition or to create a business strategy for Japanese SIers, it is quite useful to understand the characteristics of Japanese SIers in comparison with other IT companies or foreign SIers. Major traits of Japanese SIers include the oligopolistic nature of the market and the hierarchical structure of Japanese business.

2.3.1 The Oligopoly of IT Market

The Japanese IT market is in an oligopolistic condition. In terms of market share, the sales of the top five companies occupy 67.5% of Japan's IT market. In contrast, the top five US companies occupy only 32.0% of the US IT market. Until the mid-80's, IBM had more than 50% of US market share, but it declined to 20% in the end of 80's, and many new companies arose by turns[7]. In Japan, this oligopolistic market condition has not changed for decades. From a historical viewpoint, the protectionism of the Japanese government in the incubation period of the domestic IT industry created the base of a stable market oligopoly, and conservative business customs have sustained the environment. In a sense, this protectionism could help Japanese computer vendors to survive, as opposed to the European situation. However, we could say the protectionism has also prevented new venture companies that had a specific technology or cutting-edge solutions from arising.
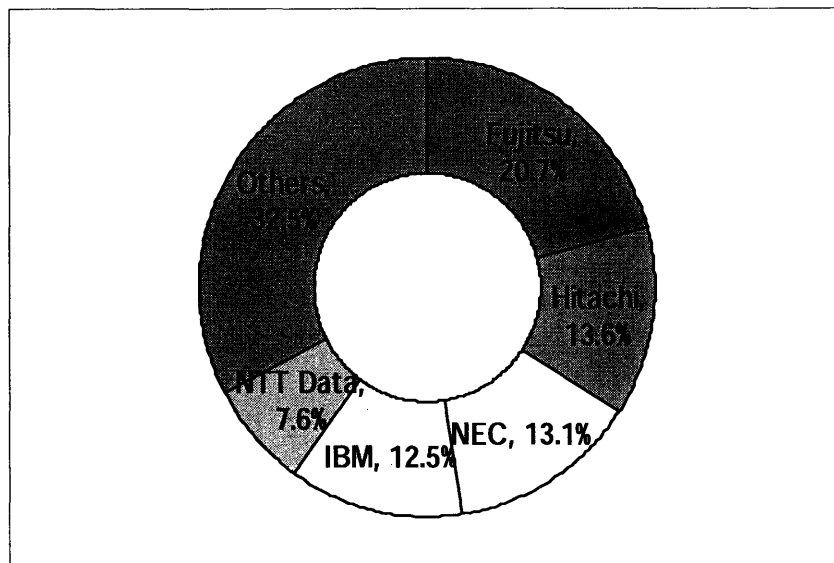
Source: Nikkei Computer Jan. 9, 2006 Issue [8]

Figure 2.3.1-1 Market share of the Japanese IT Market
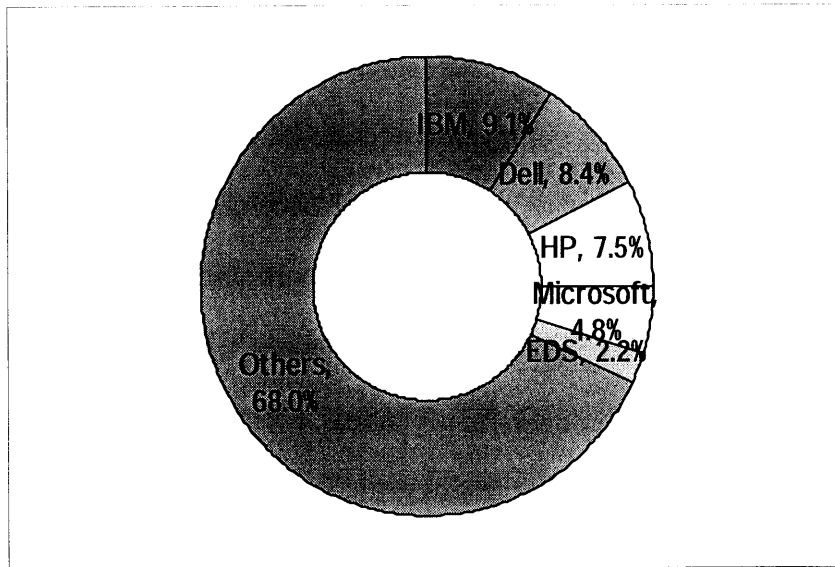
Source: Nikkei Computer Jan. 9, 2006 Issue[9]

Figure 2.3.1-2 Market share of US IT Market

2.3.2 The Hierarchical Business Structure

The oligopolistic structure of the Japanese IT market developed the hierarchical business structure of the Japanese SI business, which is killing profits of software development companies. In a general system development project, the top five companies play the roles of prime contractors, which make contracts directly with customers; they make sub-contracts with their partners, and these partners again make sub-contracts with smaller software development companies. Generally, less than 15% of engineers come from the prime contractor, and others come from sub-contracted partner companies. In every layer of the contracting, owners get a margin, squeezing from subcontractors, and this profit-taking spoils the global cost competencies of the Japanese SI project. There are mainly three reasons why SIers subcontract with others. Firstly, it is to cover diversified business and technological requirements. In particular, the use of Open Technology has made systems more

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complex, and as a result, system integration projects require more engineers who have in-depth knowledge about a specific technological field or products. Secondly, SIers need to have better access to the engineers' resource pool. Especially in a big project, they require a lot of programmers. Thirdly, SIers need to have cheaper engineers and programmers. Because of the company size, the engineers' cost in a large scale SI company is high. Additionally, more than 60% of the project cost comes from the labor cost. As a result, SIers seek low-cost human resources from outside companies, and this situation engenders a cost-reduction requirement against companies in lower ranks of the hierarchy of the contract structure and prevents smaller IT companies from growing.

Hardware Cost	Software Cost	Development Cost	Test Cost

◄——— Labor Cost = 60% ———►
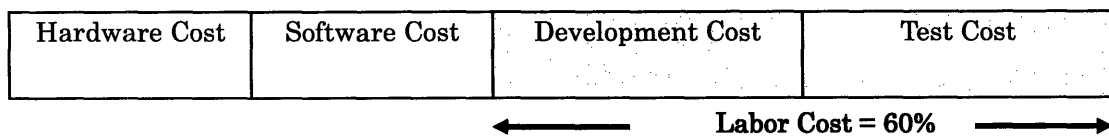
Figure 2.3.2-1　Cost Structure of a system development project

2.3.3　Business Portfolio Analysis

(1)　Business Geography

The business of Japanese SIers is limited in Japan, just as other software business is limited in Japan. More than 90% of their revenue comes from domestic business. Japanese SIers have established foreign software development centers, especially in China, but they are the offshore development centers for the Japanese market. Because Japan is the second largest IT market globally, Japanese SIers have not necessarily expanded their business to overseas. Additionally, the SI business requires close communication with customers. While the language problem is a hindrance to global business for Japanese SIers, this limitation also helped them

not to lose market share in Japan to foreign competitors.

However, this geographical limitation has also limited their business opportunities, and they do not have scale competency with global players. Table 2.3.3-1 shows the small presence of Japanese SIers in the global IT service market.

Table 2.3.3-1 Top Ten Software Companies by Revenue

Rank	Company U.S./World Headquarters	Software / Services Revenue ($Million)	Software / Services Revenue Growth	Corporate Revenue ($Million)	Employees	Software Business Sector
1	**IBM** Armonk, NY	$61,307.00	7.70%	$96,293.00	329,000	Middleware/Application Server/Web Server
2	**Microsoft** Redmond, WA	$33,969.00	15.40%	$36,835.00	57,086	Operating Systems
3	**EDS** Plano, TX	$20,669.00	0.50%	$20,669.00	117,000	IT Sourcing
4	**Computer Sciences Corporation** El Segundo, CA	$15,188.10	9.70%	$15,188.10	76,000	System Integration Services/IT Consulting
5	**Accenture** New York, NY	$15,113.60	12.80%	$15,113.60	100,000	System Integration Services/IT Consulting
6	**Hewlett-Packard Company** Palo Alto, CA	$13,778.00	35.50%	$79,905.00	151,000	System Integration Services/IT Consulting
7	**Oracle Corporation** Redwood City, CA	$10,156.00	7.20%	$10,156.00	41,658	Database
8	**Hitachi, Ltd.** Brisbane, CA	$9,490.70	2.50%	$84,365.00	347,424	Telecommunication Services
9	**SAP** Newtown Square, PA	$9,313.50	5.00%	$9,313.50	32,000	Business Process Management
10	**Capgemini** New York, NY	$8,580.90	18.80%	$8,580.90	59,324	System Integration Services/IT Consulting

Source: "2005 Software 500," Software Magazine[10]

In contrast, more than 80% of the revenue of the top six Indian IT companies comes from outside India. In particular, the US is their biggest market. This situation is quite reasonable because the Indian domestic IT market has not been well developed, and these companies have expanded their business by acquiring outsourcing and off-shoring needs of US customers.

Table 2.3.3-2 Top Six Indian IT Companies Revenue by Geography

	Infosys	Wipro	TCS	Satyam	HCL Tech	Patni	Average
North America	65.0%	62.3%	59.5%	64.4%	60.6%	84.3%	66.0%
Europe	24.9%	33.0%	23.2%	18.5%	21.4%	8.8%	21.6%
Others	10.1%	4.7%	17.3%	17.1%	18.0%	6.9%	12.4%

Source: "*Benchmarking Report,*" Patni Computer Systems Ltd.

2.3.4 Statistical Analysis

From statistical data about the software industry, we can find some characteristics of Japanese SIers. The research about Japanese software companies shows that 47.4% of software companies think that project-based system development is their core business. In other words, about 50% of Japanese software companies can be categorized as "some kind of SIers."
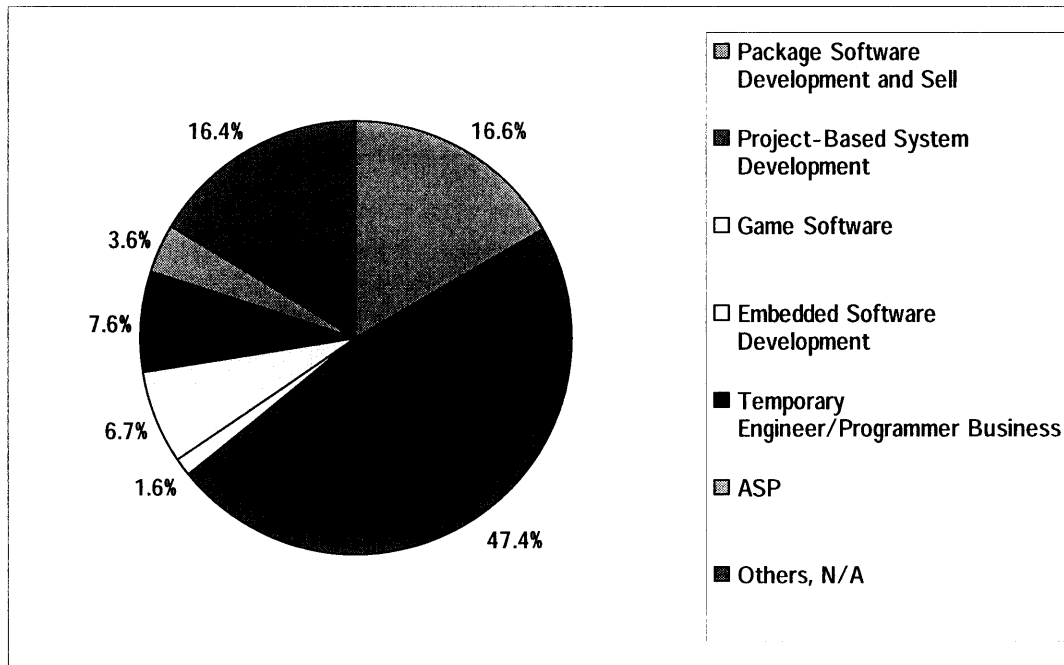
Source: "*Software Business no Kyousouryoku*" (Competencies of Software Business), Software Sangyo Kenkyu-kai[11]

Figure 2.3.4-1 The Core Businesses of Japanese Software Companies

The business distribution of Japanese software companies (Figure 2.3.4-2) shows that almost 80% of software companies, except for game software companies, provide project-based system development service. We can say that project-based system development is the most popular software business in Japan.
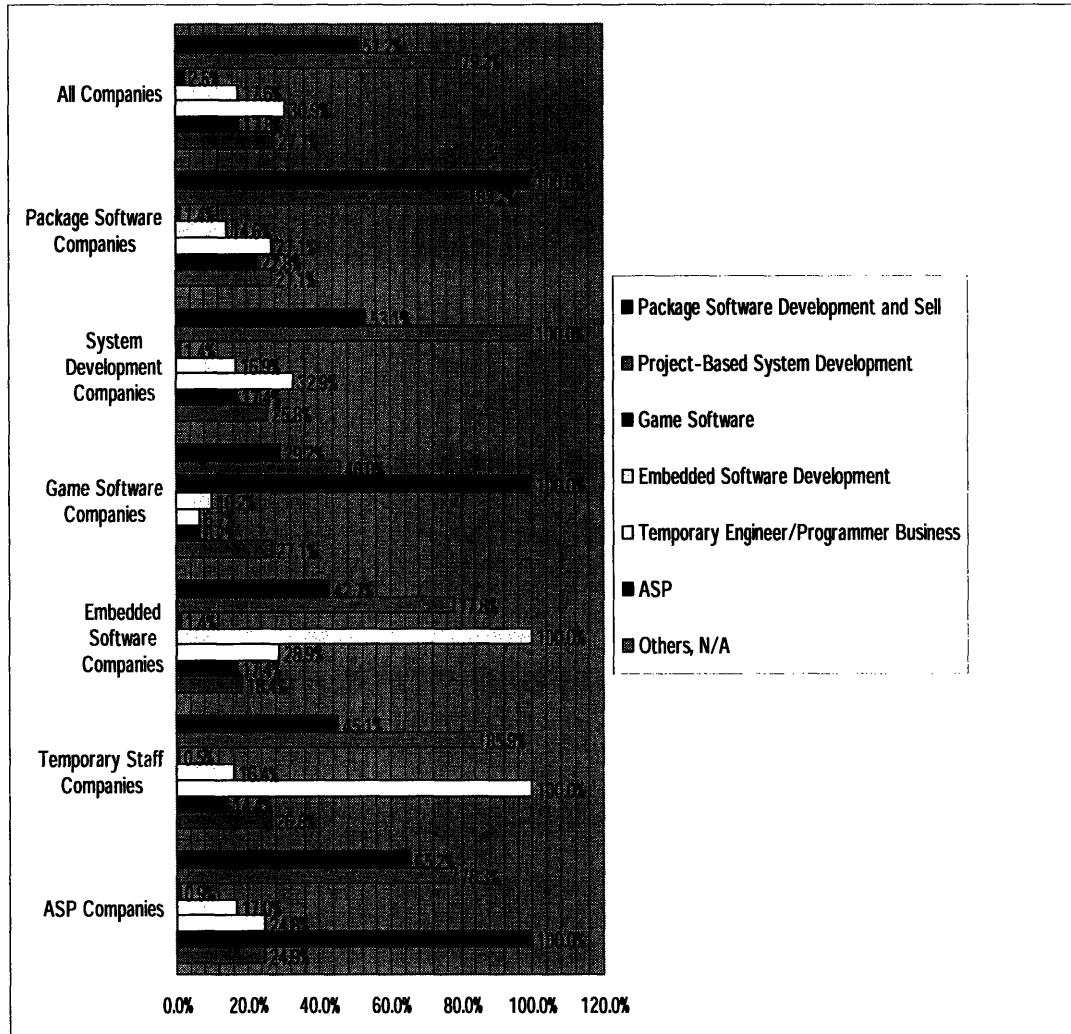
Figure 2.3.4-2 Business Distribution of Japanese Software Companies

From the viewpoint of profitability, 56% of Japanese software companies have less than 10% of the current profit/total capital ratio. A look at the details of the

situation by core business categories shows that about 40% of package software companies make more than 10 % of the current profit/total capital ratio. We could say that package software companies are more efficient than SIers, and this fact coincides with the nature of the software business.
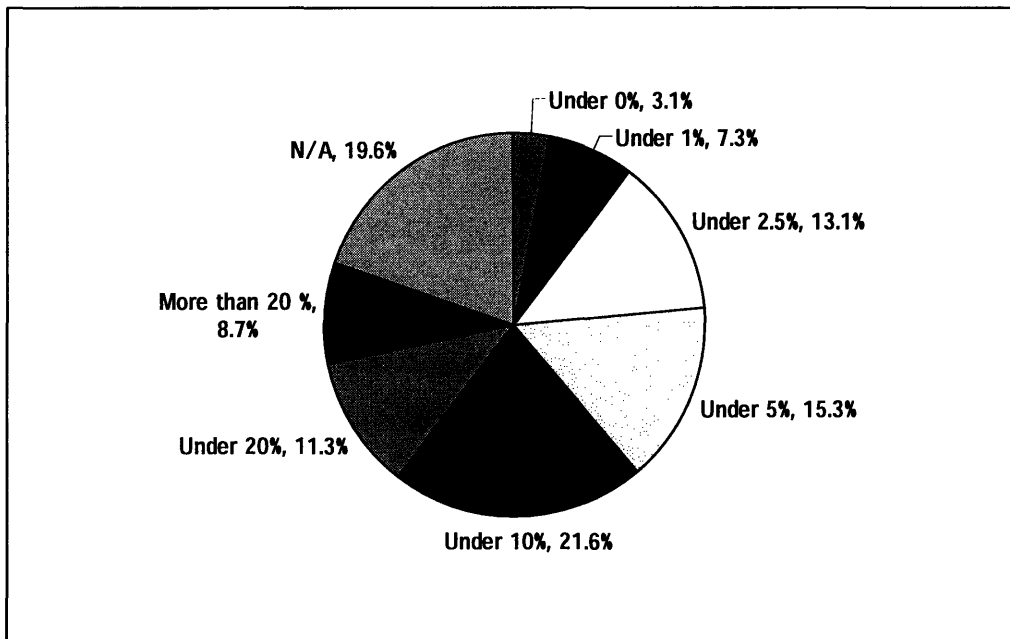
Source: "*Software Business no Kyousouryoku*" (Competencies of Software Business), Software Sangyo Kenkyu-kai[13]

Figure 2.3.4-3 Distribution of Current Profit / Total Capital Ratio of Japanese Software Companies
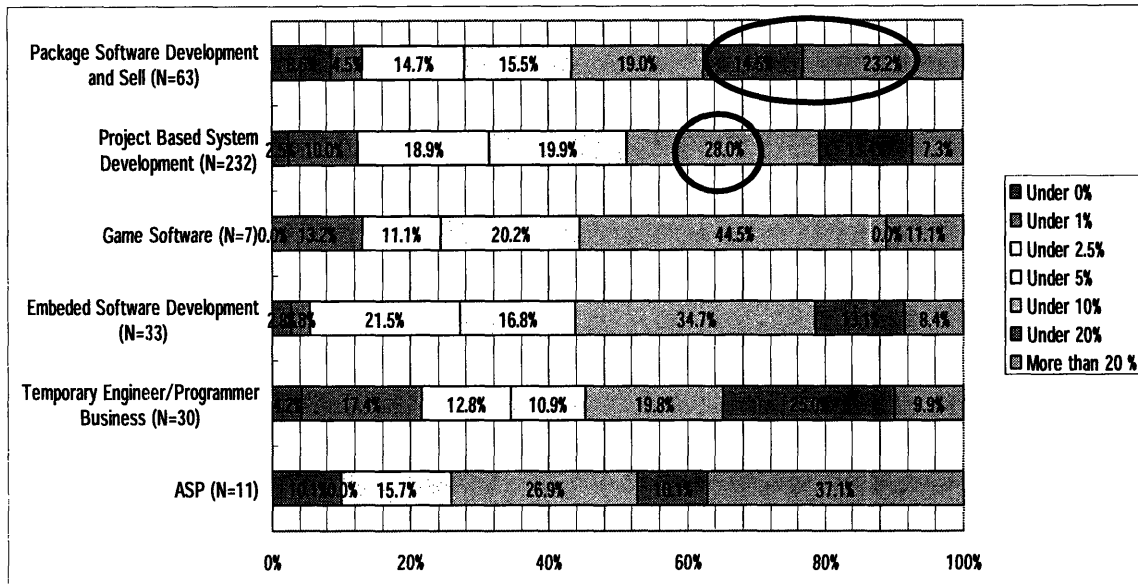
Source: "Software Business no Kyousouryoku" (Competencies of Software Business), Software Sangyo Kenkyu-kai[14]

Figure 2.3.4-4 Distribution of Current Profit / Total Capital Ratio of Japanese Software Companies by Core Business

If we compare the top Japanese SIers' profitability with that of foreign SI companies, we can find several significant characteristics. Table 2.3.4-1 and Table 2.3.4-2 show the profitability of the top Japanese and US system integration business providers. The overall profitability of Japanese SIers is relatively homogeneous compared to the US profitability. This fact indicates that the business portfolios of the Japanese top players are similar to each other. As mentioned before, the core business of Japanese SIers is customized system development (project-based system integration), which is a relatively low-profit business compared to consulting or a package-based business. They use many domestic sub-contractors, and there is not enough room to reduce costs further in this business format because of the labor costs. These are the main causes of this homogeneous profitability. The only SIer in the table based on a consulting firm, NRI has strength in the consulting-based

business, and this strength allows it to achieve higher profitability than other players in Japan.

On the other hand, the profitability of US top players varies so much because of the differences of their core businesses. Obviously, consulting-based business providers such as Accenture and software product providers such as Oracle and SAP can achieve higher profitability, and outsourcing business players such as EDS have experienced stagnant business conditions.

Table 2.3.4-3 shows the higher profitability of Indian SIers. The sum of 73.9% of Indian IT services and software market comes from export business[15]. A total of 56.6% of it comes from IT services & Software business, and 82.5% of this business consists of the custom-application development/maintenance and the outsourcing of applications[16] (See Table 2.3.4-4). The core business model of Indian SIers is the same as that of Japanese SIers, but the huge structural difference between these two countries' SI business appears in the reliance on export. I gather from these data that the reason why Indian SIers' profitability is far above that of the Japanese one is their low domestic labor cost, because controlling labor cost is the key to making a profit in this business category. Indian SIers can enjoy the difference between global market prices and domestic labor costs.

Table 2.3.4-1 Japanese Top Ranked SIers' Profitability in 2004

	Gross Margin as a % of Net Revenue	Operating Income as a % of Net Revenue	Note
Fujitsu	N/A	5.4%	Software Service Only
Hitachi	N/A	4.8%	Information Technology Only
NEC	N/A	N/A	Cannot Calculate SI Business Separately
IBM	N/A	N/A	Not Disclosed Japanese One
NTT Data	24.1%	4.6%	
Toshiba	N/A	N/A	Cannot Calculate SI Business Separately
Nihon Unisys	17.2%	N/A	Non-Consolidated, Service Business Only
CSK	N/A	6.0%	Information Service Business Only
NRI	24.6%	12.2%	
TIS	18.4%	7.5%	
NS Solutions	20.1%	8.0%	
HP	N/A	N/A	Not Disclosed Japanese One
Fujisoft ABC	18.7%	6.6%	
Oki	N/A%	4.1%	Information Business Only (Including Printer Business)
Otsuka	23.3%	4.6%	

Source: Author (2006)

Ranking is based on SI vendor Ranking in 2004, IDC Japan[17]

Gross Margin % and Operating Income % are calculated by author from annual report and 2004 financial statement of each company.

Table 2.3.4-2 US Top Ranked Slers' Profitability in 2004

	Gross Margin as a % of Net Revenue	Operating Income as a % of Net Revenue	Note
IBM	25.0%	N/A	IBM Global Service only
EDS	8.3%	-0.5%	
CSC	19.5%	5.1%	
Accenture	29.8%	12.3%	
HP	N/A	7.40	HP Service only
Oracle	56.3%	34.1%	All Business
Oracle(Service)	14.5%	N/A	Service Business Only
SAP	65.7%	27.4%	All Business
SAP(Service)	22.4%	N/A	Service Business Only
Capgemini	26.8%	0.9%	

Source: Author (2006)
Ranking is based on Software Magazine 500, 2005 (Excluding Microsoft) [18]

Gross Margin % and Operating Income % is calculated from annual report and 10k in 2004 of each company by author.

Table 2.3.4-3   Top-Ranked Indian Slers' Profitability in 2005

	Gross Margin as a % of Net Revenue	Operating Income as a % of Net Revenue
Infosys	42.9%	29.3%
Wipro	34.8%	24.2%
TCS	46.2%	27.0%
Satyam	37.3%	20.7%
HCL Tech	37.7%	17.9%
Patni	35.9%	14.6%

Source: "*Benchmarking Report,*" Patni Computer Systems Ltd.
(Data is for the Quarter ended 31st December, 2005.)

Table 2.3.4-4 Export Demand for Indian IT Services & Software

Growth in Export Demand for IT services - FY			
SERVICE LINE	**INDIA**		
USD Billion	FY'03	FY'04	Growth
Project-Oriented Services	**3.23**	**3.85**	**19.2%**
IT Consulting	0.08	0.12	50.0%
System Integration	0.10	0.14	40.0%
Custom Application development and maintenance	3.02	3.54	17.2%
Network consulting and integration	0.03	0.05	66.7%
IT Outsourcing	**1.94**	**2.45**	**26.6%**
IS Outsourcing	0.01	0.02	100.0%
Application Outsourcing	1.85	2.16	16.8%
Network Infrastructure Management	0.08	0.27	260.0%
Support and Training	**0.37**	**0.61**	**64.9%**
IT Training and Education	-	0.02	-
Hardware Support and Installation	0.02	0.04	100.0%
Packaged Software support and installation	0.35	0.55	57.1%
TOTAL	5.54	6.91	24.8%

Source: NASSCOM, IDC

Source: NASSCOM[19]

2.3.5 Project Management & System Development Methodology

The software business is quite a labor-intensive industry. In fact, hardware and technology have been improved year by year, as Moore's Law states, but the program development process and methodology have not improved so much. Especially in the enterprise system integration business, it is common that a project continues more than two years and requires more than two thousand man-months. In such a huge project, the SIer plays a key role as a prime contractor and takes

responsibilities for project management. The project management knowledge and methodology are critical competencies for SIers, and these traits differentiate SIers from package software companies. Of course, package product companies also manage projects, but these projects are basically internal products-development projects. The characteristics are quite different from SIers' projects, in which interaction with customers influences the management significantly. Specifically, the Japanese system development heavily relies on customized or "from-scratch" development. Additionally, system technology and requirements are becoming more complex. In the early 2000s, many SI projects failed because of delay, cost overrun, or quality problems, and these failures of the projects made a negative impact on SIers' business. After that, SIers have retrained engineers and managers, reinforced project management process, and restructured project management organization. Now, SIers consider a project manager a professional specialist, and they have imposed internal and external qualifications on the position. Figure 2.3.5-1 shows the transition of accumulated numbers of people who are qualified as Project Management Professionals by PMI. Though not all PMP-licensed people are from the software industry, the number explains how the concept of professional project management has become popular in Japan.
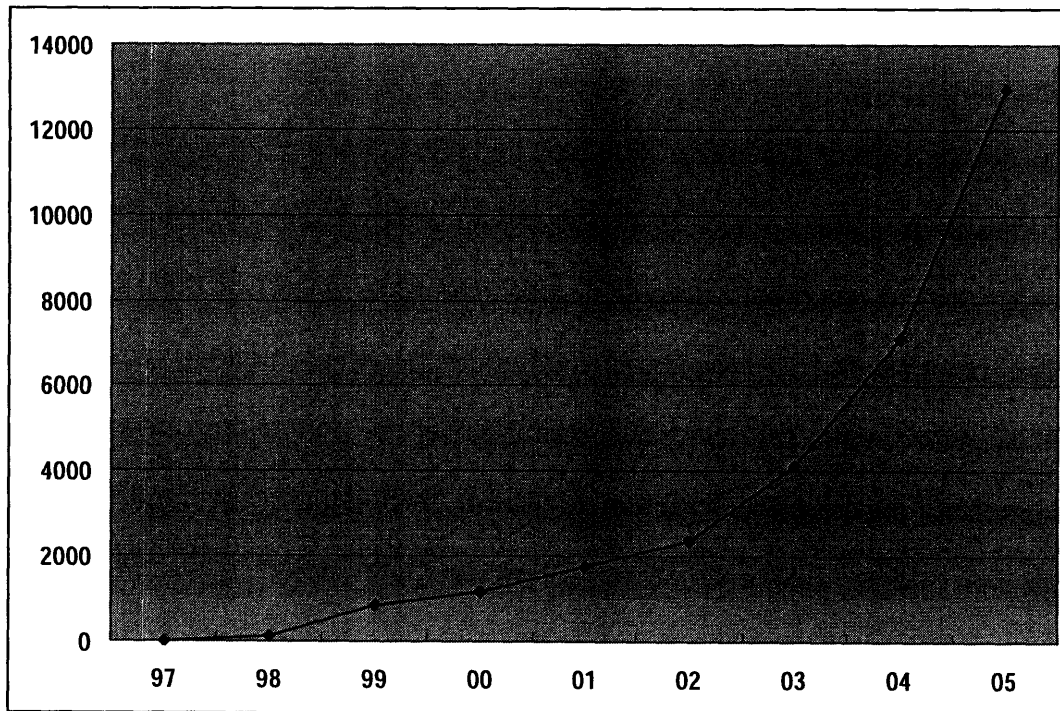
Figure 2.3.5-1 Accumulated number of PMP-eligible people in Japan

System development methodology is another critical issue for SIers. Various kinds of development methodologies have been created, and most SIers have their own development standards that define tasks, development processes, and output based on these methodologies. The waterfall methodology is one of the long-standing methodologies and is popular among Japanese SIers. The research of Professor Cusumano in 2002[21] shows that 53% of projects in Japan adopted this methodology. On the other hand, there are several criticisms of the effectiveness of this methodology. In fact, it lacks flexibility in terms of modification of customer requirements or system design, and the process accumulates risks that come to light only in later phases of the projects. I do not think the waterfall model is a typical methodology for Japanese SIers. They adopt different methodologies that fit each

project's nature and situation. However, we could say that the waterfall methodology fits the business structure and pricing method of Japanese SIers well. In general, in-house engineers of Japanese SIers play key roles until the end of detailed design when the programming phase is outsourced to software development companies. The software development companies also outsource a part of their business to smaller companies. The waterfall methodology, which defines requirements, functions and designs precisely and fixes them at the end of the design phase, is very useful for this business structure. Moreover, this methodology can be combined tightly with project cost estimation. SIers estimate project costs by assessing required workload based on the project requirement, and once the budget is fixed, SIers take responsibility to control project costs. Therefore, fixing requirements and design in the early phase of the project and phase-by-phase confirmation of the output by customers, which are the characteristics of the waterfall methodology, work well for cost estimation and budget control by SIers. The choice of the best methodology to fit the project is important to maximize customer value, but SIers should have different pricing methods or models for different methodologies to avoid project failures.

Endnotes for Chapter 2

[1] Minjoo Chon, Jacqueline Heng, and Yuko Adachi, *"Market Overview: IT Services Providers in Japan, 2003"* (G00126120), Mar. 23, 2005, Gartner Inc: p. 1.

[2] Kashiwagi, Ito, *"Japan IT Services Opportunities and Contenders (Japanese Version): Competitive Analysis"* (#J42503), Oct. 2004, IDC Japan: p. 8.

[3] *"The 10th Customer Satisfaction Research,"* Nikkei Computer, Aug. 8, 2005 Issue: p. 50.

[4] http://www.softwaremag.com/S_FocusAreas.cfm?Doc=The500.

[5] *"Information January, 2006"*: p. B-3, http://www.nttdata.co.jp/en/investor/presentation.html, NTT Data Corporation.

[6] *"NTT Data Annual Report 2005"*: p. 46, NTT Data Corporation

[7] *"Japanese IT"* Jan. 9, 2006 Issue, Nikkei Computer: p. 59.

[8] *"Japanese IT"* Jan. 9, 2006 Issue, Nikkei Computer: p. 59.

[9] *"Japanese IT"* Jan. 9, 2006 Issue, Nikkei Computer: p. 59.

[10] http://www.softwaremag.com/S_FocusAreas.cfm?Doc=The500

[11] *"Software Business no Kyousouryoku"* (Competencies of Software Business), Software Sangyo Kenkyu-kai, Chyuou Keizai-shya, Tokyo, Mar. 30, 2005: p. 153.

[12] *"Software Business no Kyousouryoku"* (Competencies of Software Business), Software Sangyo Kenkyu-kai, Chyuou Keizai-shya, Tokyo, Mar. 30, 2005: p. 152.

[13] *"Software Business no Kyousouryoku"* (Competencies of Software Business), Software Sangyo Kenkyu-kai, Chyuou Keizai-shya, Tokyo, Mar. 30, 2005: p. 155.

[14] *"Software Business no Kyousouryoku"* (Competencies of Software Business), Software Sangyo Kenkyu-kai, Chyuou Keizai-shya, Tokyo, Mar. 30, 2005: p. 156.

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[17] Kashiwagi, "Japan IT Services Opportunities and Contenders (Japanese Version): Competitive Analysis" (#J42504), Jan. 2005, IDC Japan: p. 6.

[18] http://www.softwaremag.com/S_FocusAreas.cfm?Doc=The500

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[20] http://www.pmi-tokyo.org/

[21] Michael A. Cusumano, *"Synchronize and Stabilize,"* CSK Xpress, Oct. - Nov. 2003: p. 37.

Chapter 3: IT Investment Analysis

Information technology has become the fundamental infrastructure for all industries and societies, and IT has expanded its market value continuously. Customers have intensively implemented IT systems to generate the maximum business value using IT. They have begun to evaluate Return On Investment in IT severely. Chapter Two defined diversified services that SIers provide. To create business strategies for each service category, it is essential to understand market conditions and trends precisely. This chapter analyzes customers' IT investment trends first. Secondly, it analyzes what customers expect from IT.

3.1. Trends in Japan's IT Services Market

Japan is the second largest IT market globally, but its growth has been stagnant after 2000, suffering from the restraint of enterprise IT investment after the so-called "IT Bubble Economy." After 2003, the market returned to steady growth. However, each IT investment has become smaller, and customers have become more cost-sensitive to IT investment. SIers, which always suffered from a chronic shortage of engineers and programmers because of the strong demand, have experienced either a slowdown of growth or shrinkage of business. Additionally, the deflation of the Japanese economy also decreased the prices of services. Moreover, open technology and the commoditization of hardware also made the situation worse. As a result, SIers have been involved in price competition without being able to convince customers that their premium price originally comes from their high value.

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In 2004, the market size was about 4.6 trillion Yen, 2.9% growth over the previous year. Figure 3.1-1 shows the market size and growth rate of the Japanese market for SIers.
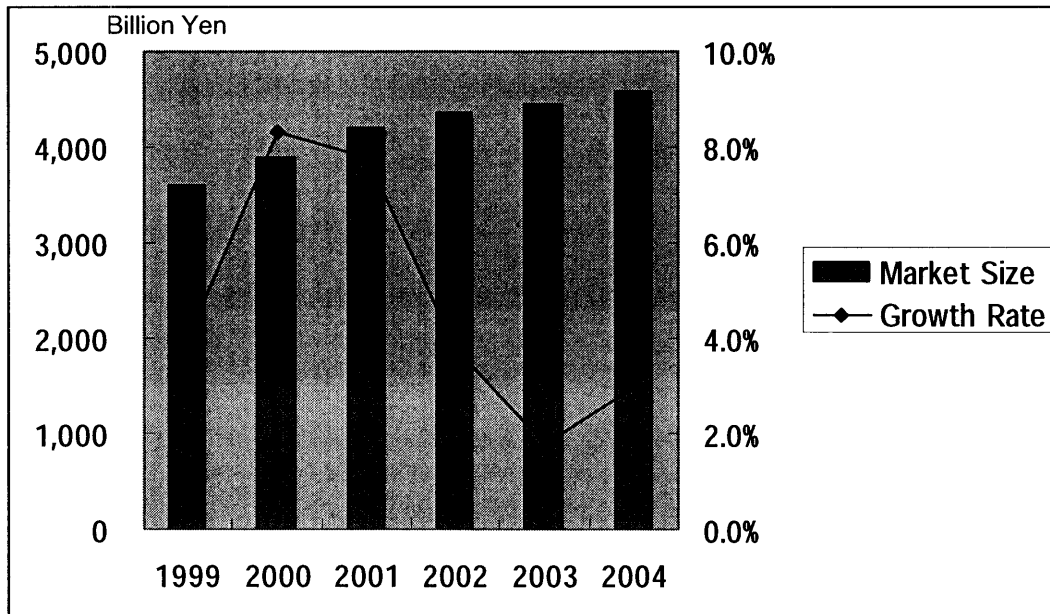
Source: Feb. 2005, IDC Japan [1]

Figure 3.1-1 Market Size and Growth Rate of Japanese Market for SIers

The overall market forecast (Figure 3.1-2) shows us steady growth from 2005, and many organizations have turned positive about IT investment. Additionally, the detailed IT investment distribution indicates steady growth of IT spending for IT service providers (Figure 3.1-3). However, as Figure 3.1-4 indicates, the business size of each system or project is shrinking, and customers are more cost- and ROI-sensitive. Now SIers are facing intensive pressure to reduce costs. They have expanded overseas development partners, especially in China, to access low-cost programmers and to strengthen cost competencies, but less room is left to cut costs just by finding low-cost engineers and programmers.

Billion Yen

3000
2500
2000
1500
1000
500
0

2004 2005 2006 2007 2008 2009

■ IT Outsourcing
■ Project Base
□ Support & Training
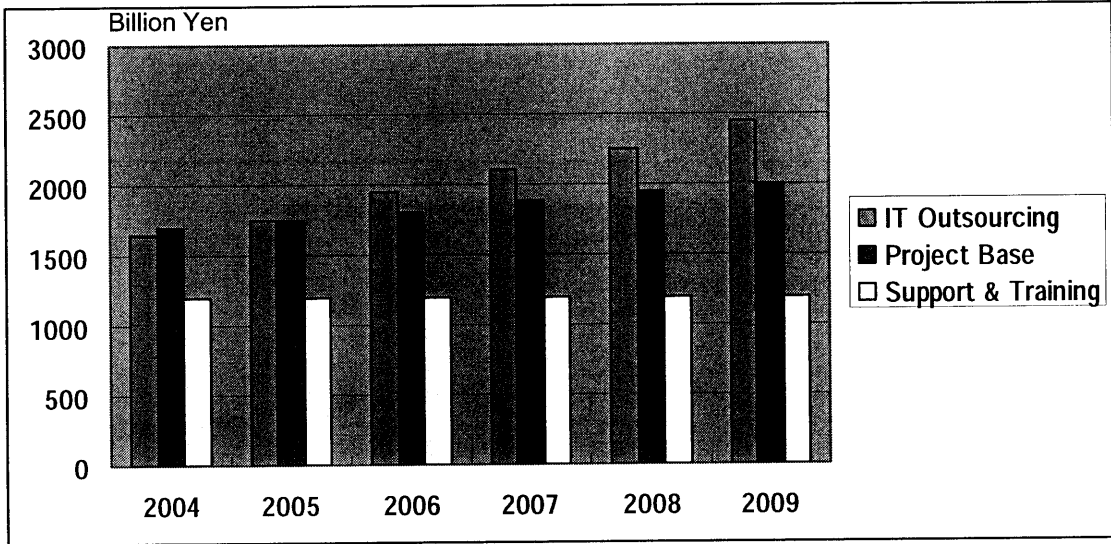
Source: Feb. 2005, IDC Japan [2]

Figure 3.1-2   Japanese IT Market Forecast
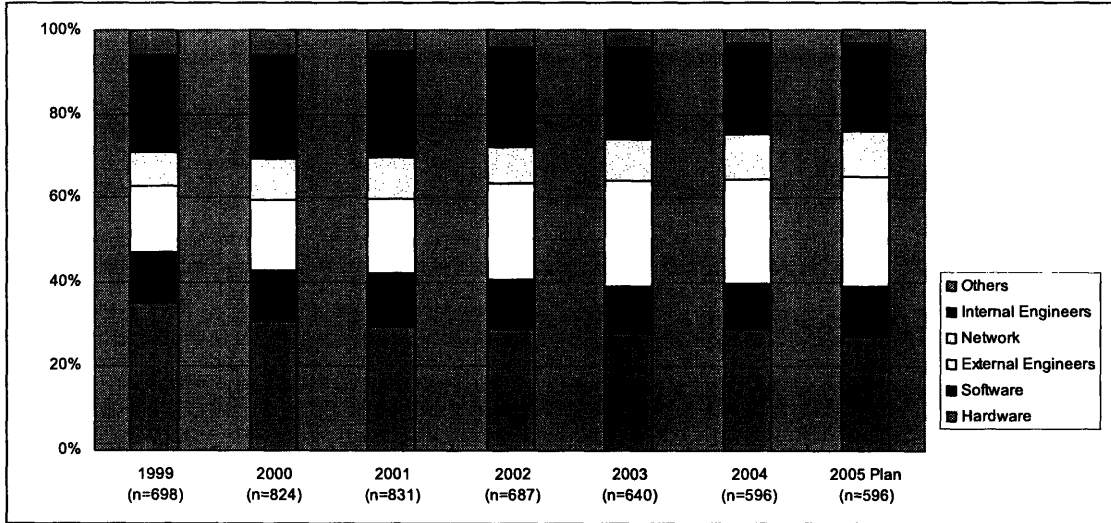
Source: May 2005, Gartner Japan[3]

Figure 3.1-3 Japanese IT Budget Distribution by Service Category
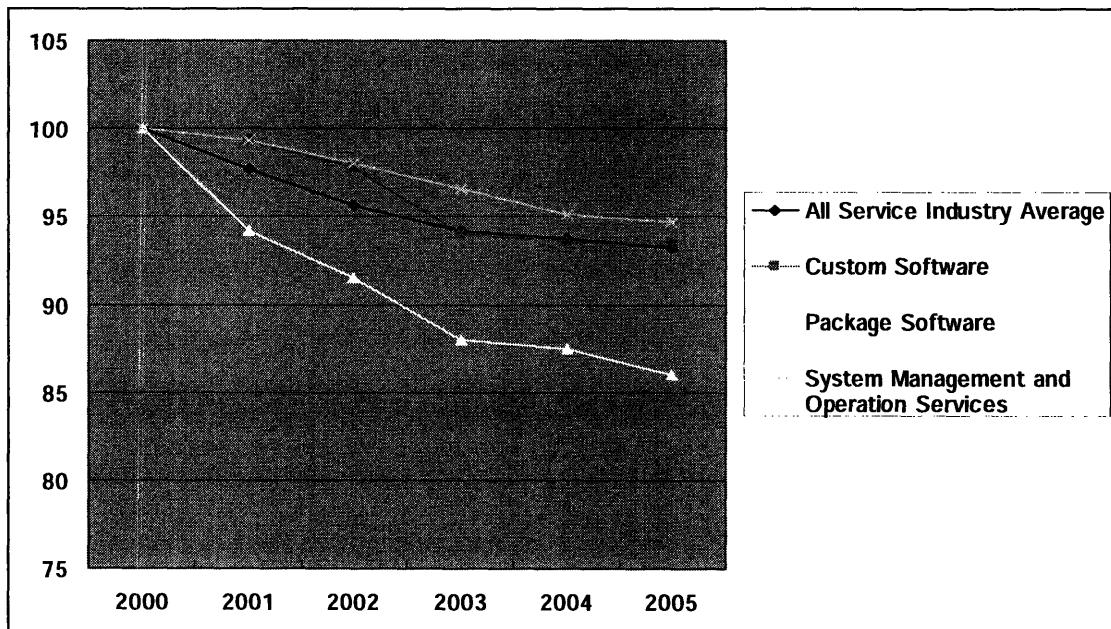
Source: Author (2006). Monthly averages were calculated by author based on Bank Of Japan's Service Price Index[4]

Figure 3.1-4   IT Service for corporate users price index

3.2. Analysis of Customer Trends

Many SIers claimed to reinforce their core business skills such as project management and quality control to survive severe conditions. However, we should analyze the IT value position of customers precisely to evaluate the rationality of SIers' strategies. Understanding customers' expectations from IT and the underlying problems of IT investment is necessary to create the right strategies. The IT investment objectives are, of course, different for each customer, but it is important to look at what they as a whole expect to better understand the right direction for the strategy. Figure 3.2-1 shows the objectives of IT investment of Japanese customers. This kind of statistical research has been executed every year by various research companies, and the results have been almost the same every year. The top two (improvement of business process efficiency and cost reduction) are the basic advantages that customers can obtain by using IT, and regardless of the size of the organization, they are the most prioritized objectives.

24	Others			
23	Improvement of Shareholders' Value			
22	Improvement of CSR			
21	Electric Application to Control Authority			
20	Globalization			
19	Lead-time Reduction to Introduce New Products			
18	Product / Service Revolution			
17	Effective Responses to Legislative Change			
16	Support to Create New Business			
15	Reinforcement of Compliance			
14	Improvement of Flexibility			
13	Reinforcement of Inter-enterprise Relationship			
12	Support for Customer Analysis			
11	Sales Support			
10	Improvement of Profitability			
9	Knowledge Management			
8	Promotion for Paperless/ness			
7	Intra-communication Support			
6	Supply Chain Management			
5	Improvement of Customer Services			
4	Support for Management Data Analysis			
3	Support for Decision Making			
2	Cost Reduction			
1	Improvement of Business Process Efficiency			

0.0%   20.0%   40.0%   60.0%   80.0%

Source: IT Service Japan – User Wants and Needs, Dec. 28, 2005, Gartner Japan[5]

Figure 3.2-1   Objectives of IT Investment in Japan

When we look at the comparative analysis of the degree of customer satisfaction from IT investment in the US and Japan, we can find the current problems of Japanese IT services. Figure 3.2-2 explains how much organizations recognize the effectiveness of IT investment. The effectiveness of IT investment is indexed based on the degree to which organizations are satisfied with IT investment. The result demonstrates that Japanese organizations are less satisfied with their IT investment than US organizations.
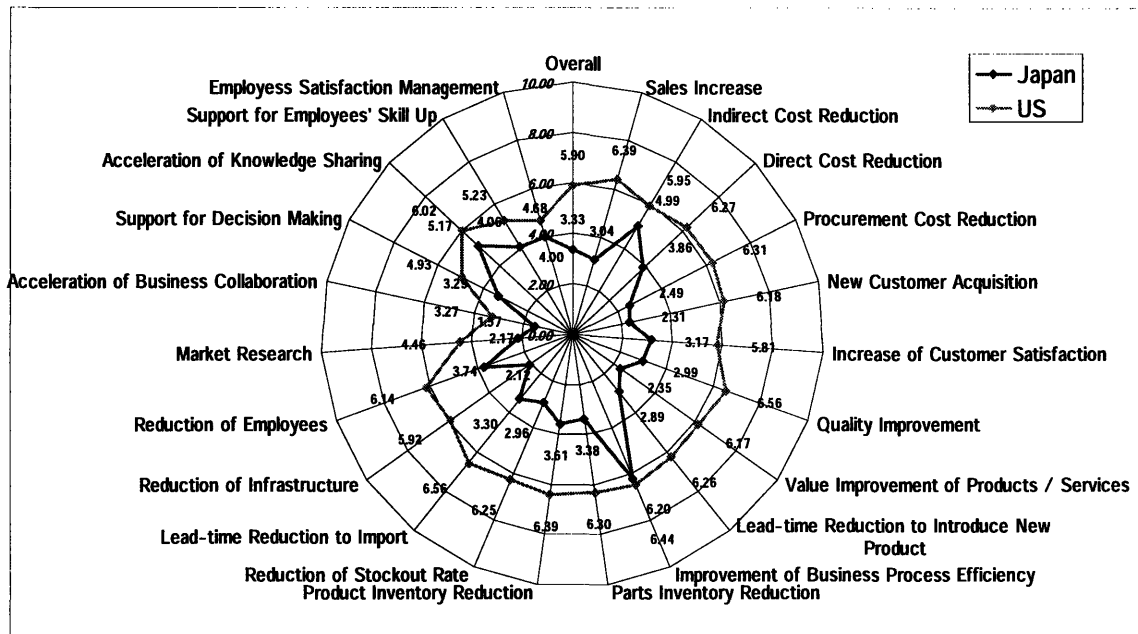
45

Source: "Research Report of IT Utilization for Corporate Management 2003," Ministry of Internal Affairs and Telecommunication [6]

Figure 3.2-2   Customer Satisfaction from IT Investment

We can assume that satisfaction from IT can be calculated as follows.

Effectiveness of IT Investment =

Degree (or Appropriateness) of IT Introduction * Capability to use IT

If we look at detailed data, we find that the degree of IT introduction is not always reflected in the effectiveness of IT investment. The Japanese organizations that do not recognize the effectiveness of IT, in spite of their advanced IT introduction, are more likely to exist than those of the United States (Figure 3.2-3,

Figure 3.2-4). In other words, even though organizations heavily invest in IT, they cannot gain enough return to correspond to their investment.
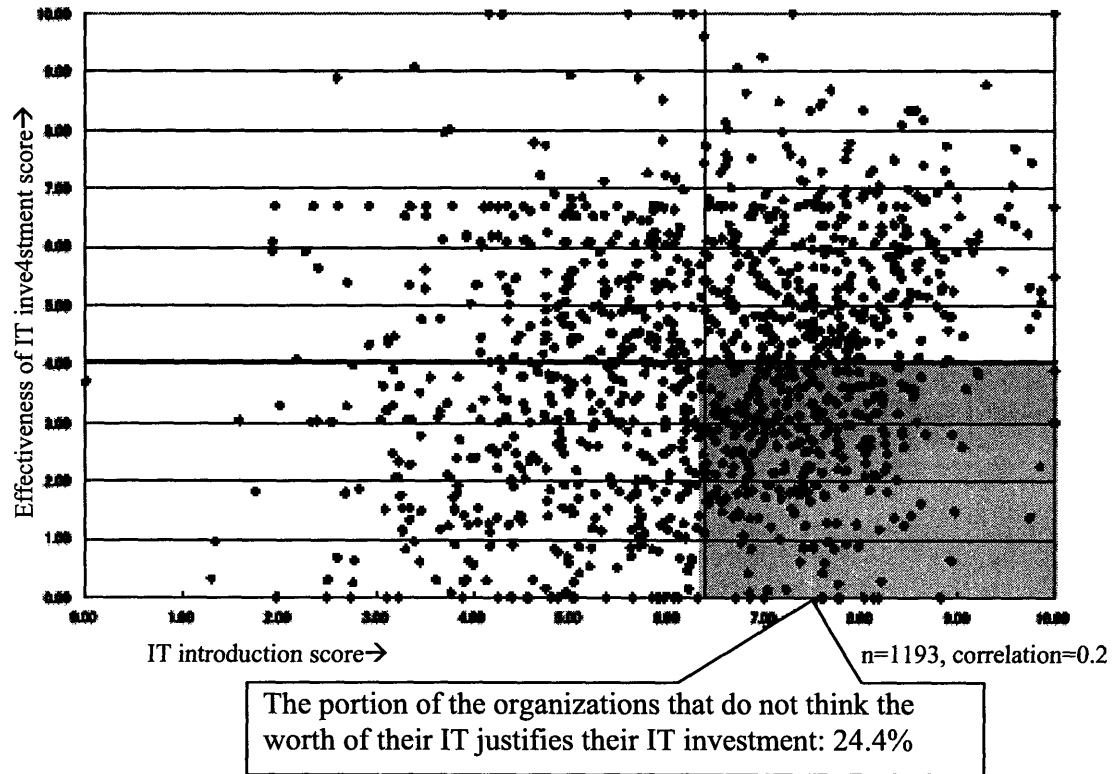
The portion of the organizations that do not think the worth of their IT justifies their IT investment: 24.4%

Source: "Research Report of IT Utilization for Corporate Management 2003," Ministry of Internal Affairs and Telecommunication[7]

Figure 3.2-3 Correlation between IT investment and Effectiveness of IT (JP)
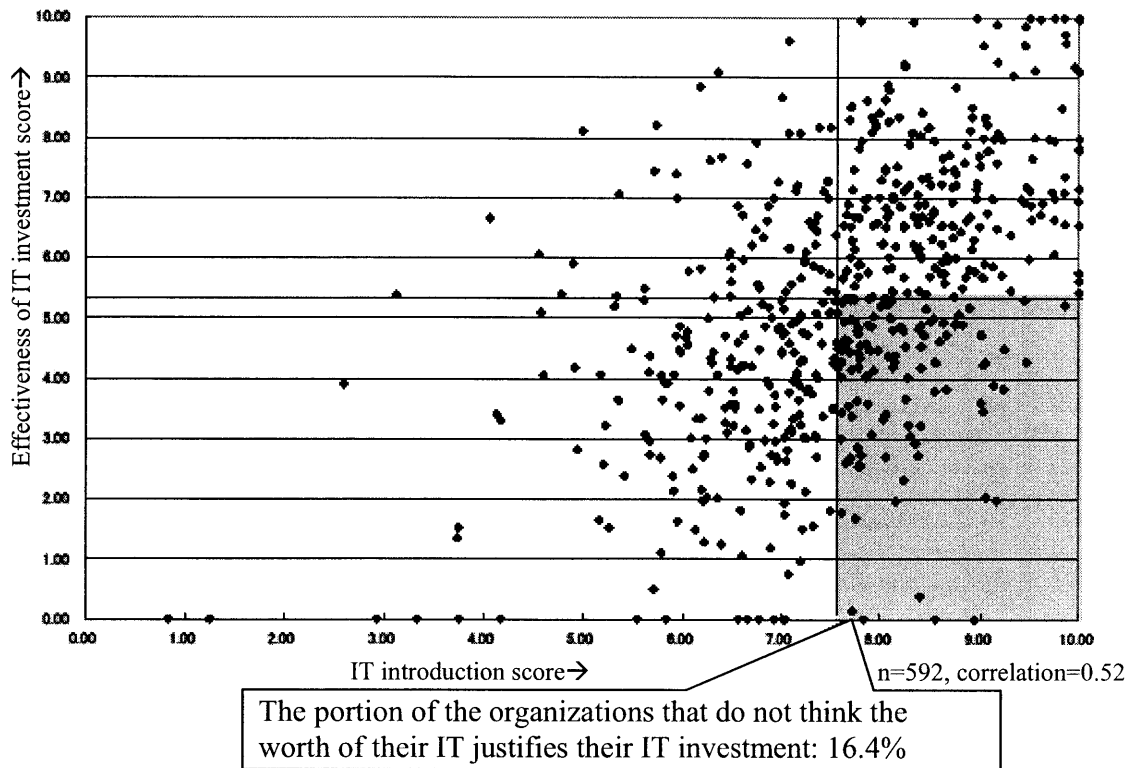
Figure 3.2-4 Correlation between IT investment and Effectiveness of IT (US)

The figure contains the following labels:

- Effectiveness of IT investment score→ (vertical axis)
- IT introduction score→ (horizontal axis)
- n=592, correlation=0.52
- The portion of the organizations that do not think the worth of their IT justifies their IT investment: 16.4%

Source: "Research Report of IT Utilization for Corporate Management 2003", Ministry of Internal Affairs and Telecommunication[8]

We could say that Japanese average organizations lack IT capability and appropriate IT investment. If we break down these two variables and see the detailed data in the same research report, we find three factors that show significant differences between US organizations and Japanese ones. I think these three factors influence IT capability and degree of appropriateness of IT investment.

- **Periodical evaluation of the efficiency of IT investment by using a quantitative measure (US: 62.4%, Japan: 13.5%)**[9]

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Fewer Japanese organizations have their own quantitative measurement methodology for IT investment than US ones. In particular, they have not made serious efforts to tackle ex post evaluation. The lack of the methodology makes it difficult for the Japanese organizations to assess the appropriateness of their IT investment. Additionally, they cannot have the feedback from their past IT investment experiences because they neglect the evaluation of ROI after the development of the systems.

- **Reinvestment in new or strategic business by using the funds the organization gets from cost reduction using IT (US: 73.2%, Japan: 48.4%)[10]**

Even if a Japanese organization can successfully reduce its business operation cost by using IT, it cannot effectively reinvest this reduced cost in businesses that have the potential for future profit. I think one of the reasons is the burden of IT maintenance. While IT helps organizations to reduce business costs, it also requires a maintenance cost. Specifically, Japanese organizations prefer to customize applications, and they have not evaluated their IT assets. As a result, they have been obliged to spend much more money on IT maintenance than US organizations.

- **The alignment between business process and IT (US: 64.9%, Japan: 41.8%)[11]**

Though both US and Japanese top management get equally involved in IT strategy-planning, the alignment process between business and IT differs in these two countries. Japanese customers tend to prefer to adopt IT to an existing organization or current business process. As a consequence, they need to customize applications, and the opportunity to maximize business value from IT could be limited.

Given these observations, I find several critical issues for Japanese organizations. They need to strengthen IT governance and to develop a framework with which to evaluate IT assets. They also need to restructure the implementation process of IT for value optimization from the viewpoint of enterprise. These activities will also help them to shift from huge spending on maintenance to more strategic IT investment.

For SIers, using only cost reduction for project-based business is not enough to solve the current problems that customers are suffering from. It is essential for SIers to enhance consulting services that support customers' IT capability. For example, to generate more business value from IT, customers should learn the concept of Enterprise Architecture, which is the organizing logic for business process and IT infrastructure reflecting the integration and standardization requirements of the firm's operating model[12], and adopt the IT architecture maturity model (Table 3.2-1) on their IT assets. Both IT consulting and business consulting services are necessary for customers to change their current IT systems to the architecture-based ones. The conventional project–based system integration services will not helpful for customers from this viewpoint.

Table 3.2-1 IT Architecture Maturity Model

Stage Name	Business Silos	Standardized Technology	Optimized Core	Business Modularity	Dynamic Venturing
Business Objectives	ROI of local business initiatives	Reduced IT costs	Cost and quality of business operations	Speed to market: Strategic agility	ROI of new business ventures
IT Capability	Local IT applications	Shared technical platforms	Enterprise-wide hardwired processes or databases	Plug & play business process modules	Seamless merging with partners' systems
Key Management Capability	Technology-enabled change management	Design & update of standards; funding shared services	Core enterprise process definition and measurement	Management of reusable business process	Create self-contained business components
Who Defines Applications	Local business leaders	IT & business unit leaders	Senior management and process leaders	IT, business and industry leaders	IT, business & industry leaders & partners
Key IT Governance Issues	Measure and communicate value	Establish local/regional/ global responsibilities	Align project priorities with architecture objectives	Define, source & fund business modules	Joint venture, partnership governance
Strategic Implications	**Local Optimization**	**IT Efficiency**	**Operational Efficiency**	**Strategic Agility**	**Rapid Reconfiguration**

Source: "Architecture as Strategy: Creating a Foundation for Business Execution," J. Ross, P.

Weill, and D. Robertson, HBS Press, 2006.

3.3. Conclusion

The overall IT investment growth in Japan is steadily recovering after 2003, but it will remain at a moderate rate. If we look at the growth forecast for each business segment, it indicates that the market size of outsourcing is catching up with project- based business and will exceed it gradually. Therefore SIers must align their business portfolio with this long-term shift of the investment.

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In terms of the customer trends in IT, the customer research data explains that Japanese organizations are less satisfied with the result of their IT investments than US customers. We can find several indicators that explain that Japanese customers are necessary to improve IT capabilities. The consulting services that help customers to align a business strategy with an IT strategy will be useful to solve the problems, and Japanese SIers will be able to find various business opportunities around this area.

Endnotes for Chapter 3

[1] Kashiwagi, "Japan IT Services Opportunities and Contenders (Japanese Version): Market Analysis" (#J5080101), Feb. 2005, IDC Japan: p. 6.

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[6] "Kigyou Keiei Ni Okeru IT Katsuyou Chyousa" (Research Report of IT Utilization for Corporate Management 2003), Ministry of Internal Affairs and Telecommunication: p. 30.

[7] "Kigyou Keiei Ni Okeru IT Katsuyou Chyousa" (Research Report of IT Utilization for Corporate Management 2003), Ministry of Internal Affairs and Telecommunication: p. 32.

[8] "Kigyou Keiei Ni Okeru IT Katsuyou Chyousa" (Research Report of IT Utilization for Corporate Management 2003), Ministry of Internal Affairs and Telecommunication: p. 33.

[9] Kigyou Keiei Ni Okeru IT Katsuyou Chyousa" (Research Report of IT Utilization for Corporate Management 2003), Ministry of Internal Affairs and Telecommunication: p. 48.

[10] Kigyou Keiei Ni Okeru IT Katsuyou Chyousa" (Research Report of IT Utilization for Corporate Management 2003), Ministry of Internal Affairs and Telecommunication: p. 48.

[11] Kigyou Keiei Ni Okeru IT Katsuyou Chyousa" (Research Report of IT Utilization for Corporate Management 2003), Ministry of Internal Affairs and Telecommunication: p. 48.

[12] J. Ross, P. Weill, and D. Robertson, "Architecture as Strategy: Creating a Foundation for Business Execution," HBS Press, 2006

Chapter 4:   The Consulting Business

In Chapter 3, we perceived that consulting is one of the key services that customers require to boost the value they receive from IT. As IT and systems become more diverse, complex, and strategic, SIers may discover various kinds of consulting needs. As a result, IT will require more a direct business contribution, such as correspondence to Japan's Sarbanes-Oxley Act (J-SOX). To strengthen consulting services, it is essential for SIers to cultivate tight relationships with customers by providing integrated IT services and to survive intensive competition. The consulting capabilities will also help SIers to eliminate   price competition. However, the consulting business requires different management and resources from those in the SI business, and gaining competitiveness seems difficult in the relatively short term. This chapter analyzes the consulting business market, identifies key factors for success, and offers the appropriate strategies for SIers to follow.

Before moving to further analysis, I would like to define the scope of consulting business as follows:

- Corporate Strategy Consulting: The consulting service targets mainly

  management executives, and it helps clients to develop corporate strategies.

- Business Consulting: The consulting service targets each business unit or group,

  and it helps clients to develop specific business strategies or knowledge. It can

  include system planning for the business.

- IT Consulting: The consulting service targets the Chief Technology Officer or IT group. It provides IT-related consulting such as IT investment planning, IT governance, security assessment, and IT asset assessment.

4.1. An Overview of the Consulting Business

During the 1990's, the consulting business in US experienced more than 20% annual growth[1]. It was said that customers continuously spent money on IT and consulting. However, the business landscape has completely changed in the 2000's. The convergence of business consulting and IT has become essential for consulting firms. In the aftermath of this vortex of evolution in the US, Japanese consulting business is also changing rapidly. Even though the market size of IT consulting in 2002 was just 3.3% of the IT service market[2], large IT vendors are one after another aggressively trying to strengthen their consulting abilities, as Figure 4.1-1 shows.
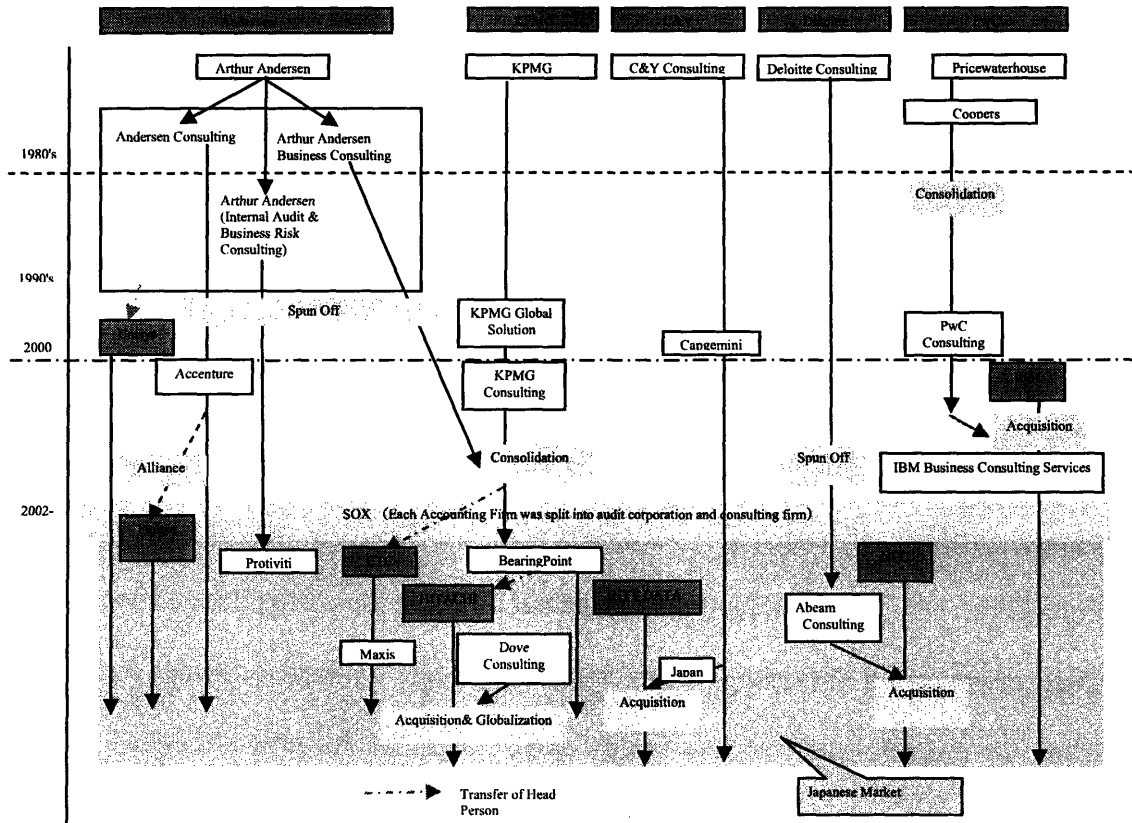
Source: Author (2006) based on the Research Paper, Feb.20, 2006, Gartner Inc[3]

Figure 4.1-1 Transitions of Consulting Firms

As is the case for SI business, consulting firms are categorized into several different positions. Figure 4.1-2 explains the categories of consulting companies from the viewpoint of business objectives and core services.
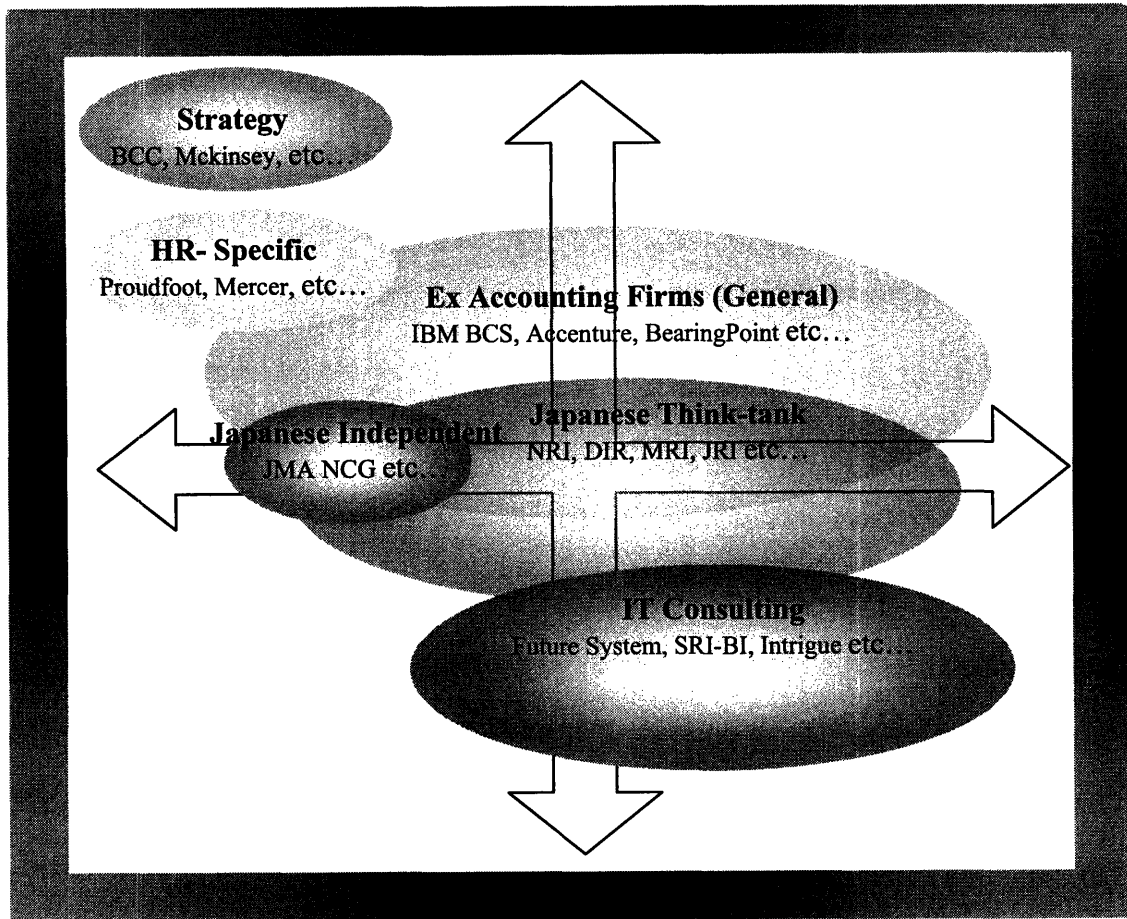
Source: Nikkei Computer Sep. 19, 2005 Issue[4]

Figure 4.1-2 Positioning of Consulting Companies

Originally, consulting firms and SIers had different business territories, and they could have mutually beneficial relationships. Consulting firms provided business and IT-strategy planning services, and SIers developed computer systems based on the output of the consulting firms. After the spin-off of consulting business from accounting firms, some consulting companies expanded their service ranges to become more IT-sided in order to seek more business opportunities. At the same time, SIers recognized that consulting skills were necessary to cultivate their

business. They gradually began to compete with each other. The companies on the top left side of Figure 4.1-2 focus on corporate-strategy business and can collaborate with SIers.

4.2. Five-Forces Analysis

To assess the market competitiveness of consulting businesses, I adopt the Five-Forces[5] Model. Figure 4.2-1 shows the competitiveness of the market for consulting. The presence of SIers in consulting is relatively weak, and their business strengths are distributed to various consulting companies based on subjects. Specifically, IBM BCS and NRI are distinguished in terms of the conversion of IT and consulting. The barrier to entering this market is high, because customers regard corporate or personal brands highly. In particular, attracting skillful experts is the key to enter this market for SIers.

The ranking of IT consulting services, which is based on customer experience and expectation, tells us that SIers have been unable to show a strong presence in this business (Table 4.2-1). Additionally, the top four companies provide integrated IT services with their sophisticated consulting services. Japanese non-consulting-oriented SIers need to plan countermeasures against consulting firms.

Table 4.2-1 Ranking of IT Consulting in Japan
(Research on Customer Experience and Expectations)

Ranking	Company	Engagement with SI Business
1	IBM Business Consulting Service (IBM BCS)	○(IBM)
2	Nomura Research Institute (NRI)	○
3	Accenture	○
4	The Japan Research Institute	○
5	ABeam Consulting	○(NEC)
6	BearingPoint	Not so strong
7	Tohmatsu Consulting	Not so strong
8	Fujitsu Research Institute	○(Fujitsu)
9	NTT Data Institute of Management Consulting	○(NTT Data)
10	The Boston Consulting Group	Not so strong

Source: Author, based on Nikkei Computer Sep. 19, 2005 Issue[6]

Barriers to Entry (High)

- Deep expertise is required
- Shortfall of skilled personnel
- Difficult to create brand

	New Entrant	

Power of Suppliers (Low)

- IT companies like SIers ask them to form alliances

Power of Buyers (Moderate)

- No explicit criteria to evaluate value of the service
- High dependency on individual skills

Availability of Substitutes (Mid-to-High)

- High-flying M&A or spin-off
- Various services

Intensity of Rivalry (High)

- Two competitive players in IT consulting (IBM BCS, NRI)
- Categorized by specialty
- Global distribution is desired

Figure 4.2-1 Five-Forces Analysis of Consulting Business

4.3. Customer Segmentation

The Delta Model[7] of consulting market is shown in Figure 4.3-1. I define four customer segments: Differentiation, Redefine, Horizontal Breadth, and Dominant Exchange. In the Differentiation segment, customers expect to have specifically focused consulting. In the Redefine segment, customers want to have integrated services that connect consulting with system integration seamlessly. The segment for Horizontal Breadth refers to the customers who require broad consulting services such as IT governance consulting or business transformation consulting as one-stop IT services. Specifically, the customers who are planning to apply Business Process Outsourcing require broad consulting services in order to define their business scope to outsource, to standardize business process, and to determine service-level criteria. In the Dominant Exchange segment, a consulting firm can provide corporate strategy consulting that can influence the customer's whole direction. In this segment, the customer credibility is quite high, but at the same time, it is difficult to link this service to system integration because of the issue of service transparency.

Dominant Exchange
- Business Strategy
  Consultation

Horizontal Breadth
- Broad consulting
  services
- BPO consulting

Redefine Customer Experience
- Seamless integration
  between consulting
  service and System
  development

Differentiation
- Requirement for
  Specific Business or
  Industry skills
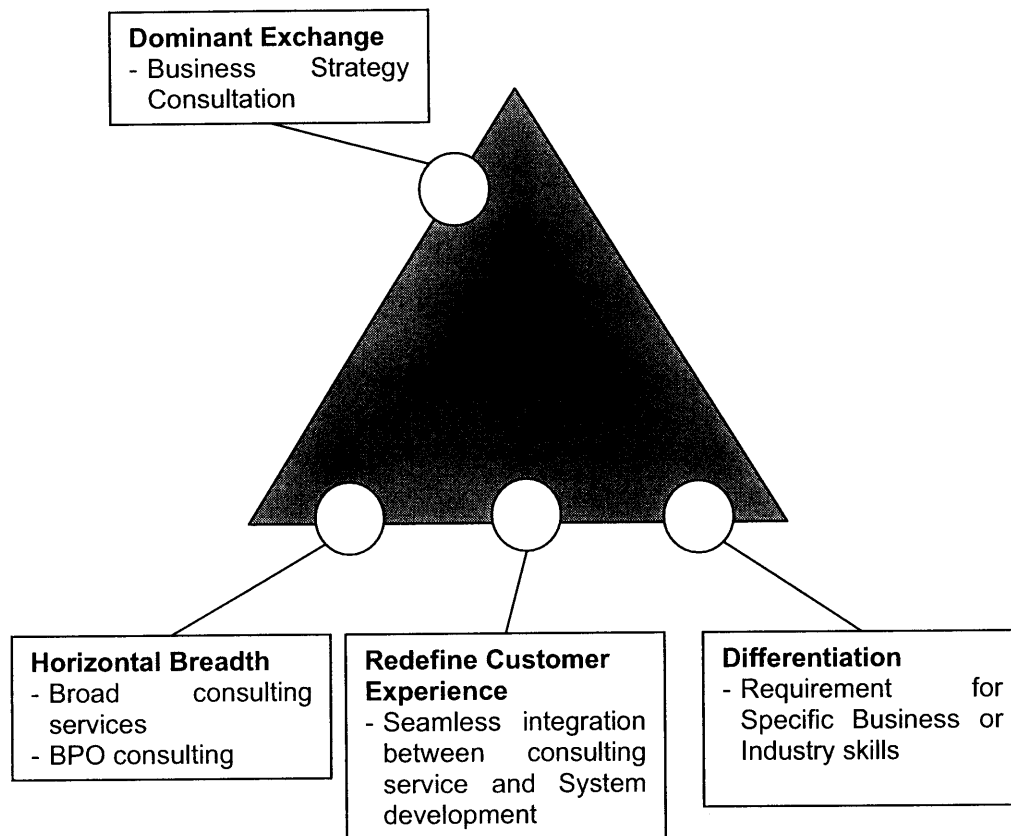
Figure 4.3-1 The Delta – Consulting Business

4.4. Bundle of Competencies

(1) Strengths

Generally, SIers excel in IT consulting because they have sufficient expertise. Specifically, IT consulting that is related to IT governance or security will differentiate SIers from other consulting companies to acquire customers in the Differentiation segment. They also have an advantage in seamless transitions from consulting to system development. However, as consulting firms gain IT-related expertise, these strengths cannot distinguish SIers from general consulting firms that can provide SI services.

(2) Weaknesses

Many SIers have created an internal consulting group, trained or hired expertise, and developed consulting methodologies. However, the current business competition of consulting services is stiff for SIers. The companies that developed internal consulting groups by themselves have faced an uphill struggle. Developing deep business skills alone is quite difficult for an IT-originated organization. From the viewpoints of management and organization, these companies adopted an existing wage structure and organizational structure for their consultants. These companies could not incentivize their consultants. As a result, their service differs little from existing engineering services. Only Think-tank and research companies that have strengthened their IT skills could provide sufficient value to make profits from consulting services.

4.5. Environmental Scan

(1) Market Factors

The demand for business consulting is moderate because enterprise business is drastically changing in the global context, and enterprise itself is also evolving, repeating the select-and focus procedures. Specifically, customers do not approve business consulting services that lack an IT strategy, and vice versa, because IT has become a crucial tool for the implementation of any business strategy.

(2) Economic Factors

Because of the stagnant economic conditions, price-cutting pressures from customers are high. The average consultant fee in Japan is two million to four million yen per month, more than twice that of system engineers. The fee requires a shift from man-month based pricing to a value-based one.

(3) Human Resource Factors

Obviously, the key to the consulting business is the quality of consultants. The biggest challenge for SIers is hiring experienced consultants.

4.6. The Scope of Strategies

(1) Service Scope

Japanese SIers have already developed IT consulting services. These services are essentially in the same service category as system engineering services. They have been able to apply existing internal knowledge. However, they need to expand their services to include business consulting. Business consulting can provide deeper insight into customers and create new business opportunities.

(2) Customer Scope

Based on the Delta model, I identify four customer segments in this business. The first targets for SIers are the "Differentiation segment" customers

and the "Redefined segment" customers. They require specific consulting skills and prefer to have seamless integration between consulting and system development. These customers are relatively easy to approach because SIers can focus their scope of consulting services on IT or a specific application area where they can have the comparative advantage.

(3) Channel Scope

The most desirable channel through which to acquire consulting business is the relationship with current customers. Business consulting services can deliver different values to existing customers. They also can help SIers to have direct relationships with end-users in the business group, not the customers in the IT department.

(4) Scope of Complementors

Strategic consulting firms could be promising complementors for SIers. Strategic consulting firms basically do not provide IT related services, and SIers cannot cover corporate strategic consulting services. Therefore, these two players can leverage their services by having alliances and integrating their services.

4.7. Entering Model

(1) The four basic patterns for acquiring skills

We find several patterns of ways that SIers tried to acquire consulting skills. The first one is to establish a consulting subsidiary. The NTT Data Corporation offers

one example of this pattern. If a company tries to grow a consulting business as an independent profit center, this strategy is reasonable because the transparency of service is high. On the other hand, business collaboration with parent SI companies is relatively awkward, and having customer confidence or appropriate skills is not easy because of the lack of brand or familiarity of the business. Consulting companies such as Accenture also used this strategy to strengthen SI competencies. The second pattern is to establish a new internal organization that is dedicated to providing consulting services. Japanese hardware vendors used this strategy. In some cases, they invited top management from consulting firms to accelerate their start-ups. This format is effective for establishing an organization quickly because the organization can assign staff from current employees. In terms of profitability, this format is relatively limited because in many cases, their services are regarded as just sales support for SI business. The third pattern is the use of merger and acquisition (M&A). The IBM and PwC case is the typical example for this approach. This strategy is quite useful for acquiring established customers and skills, but as with the usual M&A, it is not so easy to create organizational and business collaboration quickly because of the cultural differences. One point worth attention is that this strategy is also useful for consulting firms when they expand their SI business. For example, NRI, which merged with Nomura Computer, successfully strengthened its SI competencies. The fourth pattern is using alliances. Besides alliances that accompany capital investment, this format is chosen according to business subjects or projects. The alliance between BearingPoint and NTT Data for advanced banking solution is one of the examples. This strategy is flexible and

efficient in specific objectives, but it does not essentially strengthen SIers' own consulting skills.

(2) The Familiarity Matrix

To assess the best strategy for SIers to expand business capabilities for consulting service, I found The Familiarity Matrix (Table 4.7-1) a useful framework. Although the framework is basically formatted to determine optimum entry strategies for technology companies, we can find a universal theory in this model. For SIers, the goal of having a consulting business is not just building capabilities to gain profit from this business. The business should create collaboration with their existing services to find better business opportunities. From this viewpoint, the target market should be a "Base Market" or a "New Familiar Market." In other words, corporate strategy consulting will not be the first priority. In terms of service factors, good consulting service requires having different capabilities from SI services. The service is located in a "New Unfamiliar Service." Therefore the appropriate model for entering the market should be Joint Venture or Educational Acquisition. Japanese SIers have struggled to develop consulting capabilities by building internal organizations, but these approaches were irrelevant to strengthen consulting capabilities. The recent momentum in SI and consulting business, such as Hitachi with BearingPoint, NEC with Abeam, and NTT Data with Cap Gemini, shows their changed entering strategies.

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Table 4.7-1 The Familiarity Matrix

Market Factors

	Base	New / Familiar	New / Unfamiliar
New Unfamiliar			
New Familiar		Internal Ventures Or Acquisition	Educational Acquisitions
Base		Internal Implementation or Acquisition	Joint Venture
Service Factors→	**Base**	**New / Familiar**	**New / Unfamiliar**

Source: "*Entering New Businesses: Selecting Strategies for Success*," E. Roberts, C. Berry[8]

(3) Case study from IBM and AT Kearney

Two contrasting examples exist for acquisition of a consulting firm by an IT company: IBM and EDS. After IBM consolidated PwC, they successfully integrated business consulting with IT services. In the case of IBM, the reinforcement of consulting was necessary to implement their shifting the focus of their business from products to services, and in fact, such reinforcement worked especially well to expand their outsourcing business.

On the other hand, in January 2006, EDS announced the completion of its sale of its consulting subsidiary, A.T. Kearney[9]. PricewaterhouseCoopers and A.T. Kearney had different experiences. It is true that some customers prefer not to have business consulting and IT services from the same company because they desire the transparency of services. Additionally, some customers think the best management format of a consulting firm is a partnership. Given these points, A.T. Kearney continuously tried to be independent from EDS as much as it could after its 1995 consolidation, and again it returned to being a partnership company. These two companies did not pay much attention to collaborating with each other. As a result, EDS failed to leverage its business value by using its consulting subsidiary. This case indicates that the correct alignment of two different cultures and business strategies between a consulting firm and an SI company is the key factor for success. One of the partners of IBM BCS that I interviewed[10] told me that it took almost four years to complete internal consolidation between the two cultures, and they still have different wage rates.

4.8. Conclusion

Although the topic of the market size of a consulting business may seem not so fascinating, it is a necessary consideration in order for SIers to have competitive consulting capabilities to leverage their competencies in the business as a whole. After the enforcement of SOX, various consulting firms have expanded their business scope to include IT-related services. As a result, consulting firms and SIers have begun to compete with each other in the same market. However, from the SIers' viewpoint, entering the consulting business is not so easy because the quality of services relies heavily on individuals' expertise and because corporate branding easily affects customers' perceptions. Apparently, hiring skillful consultants is a big challenge for SIers. The existing customers in the SI business are the target customers that SIers should protect from the attacks of consulting firms.

Based on the familiarity of the business and the market, the appropriate strategy for entering this business is to seek competitive resources from outside the organization. Forming a joint venture with a consulting firm or acquiring a consulting firm is a possible solution for starting up the business in the short term. The management of consulting firms seems volatile so enough that SIers will have enough opportunities for the joint ventures or the acquisitions. The primary objective of enhancing consulting capability is to generate synergistic effects among SIers' existing businesses, such as system integration or outsourcing. Therefore, designing strategic alignment between the consulting business and other businesses and

creating a collaborative relationship between consulting units and other business units are essential.

Endnotes for Chapter 4

[1] Yoshiaki Saitou, *"Henbou Suru Beikoku Consulting Gyoukai"* (Rapidly Changing US Consulting Market), Chitetki Shisan Souzou, Feb. 2003 Issue: p. 76.

[2] Satoshi Matsumoto, *"Japan IT Services Opportunities and Contenders (Japanese Version): Market Analysis"* (#J5080105), Sep. 2005, IDC Japan: p. 31.

[3] M. Ishibashi, Y. Adachi, S. Yamanoi, *"Research Paper,"* Feb. 20, 2006, Gartner Inc: p. 2.

[4] *"Consulting Market Update Status,"* Nikkei Computer, Sep. 19, 2005 Issue: p. 43.

[5] Michael E. Porter, *"Competitive Advantage,"* The Free Press, NY, 1985

[6] *"IT Related Consulting Services Customer Satisfaction Research,"* Nikkei Computer, Sep. 19, 2005 Issue: p. 50.

[7] Arnoldo C. Hax, Dean L. Wilde II, *"The Delta Project,"* Palgrave, NY, 2001.

[8] E. Roberts, C. Berry, *"Entering New Businesses: Selecting Strategies for Success,"* Sloan Management Review, Spring 1985 Issue: p. 13.

[9] *"EDS Concludes Sale of A.T. Kearney,"* http://www.eds.com/news/releases/2808/, Jan. 23, 2006.

[10] Extract from an Interview with a Partner of IBM Business Consulting Services (2006).

Chapter 5:   Project-Based (System Integration) Business

In Chapter 4, I analyzed the market condition of the consulting business and developed sound strategies with which SIers can expand this business. This chapter focuses on the project-based business. In general, the project-based business for SIers means the system integration business, so I use the word "System Integration" instead of "Project-Based." I analyze the market conditions of this business and demonstrate the required strategies for SIers to make their position sustainable in this market.

5.1. Project-Based (System Integration) Business Overview

Project-based system integration service is the core business for typical SIers. In fact, the proportion of this business in sales of Japanese SIers is almost 50% (see Figure 5.1-1).

Figure with pie chart showing:
- Support & Training 27%
- Project Based 48%
- Outsourcing 25%
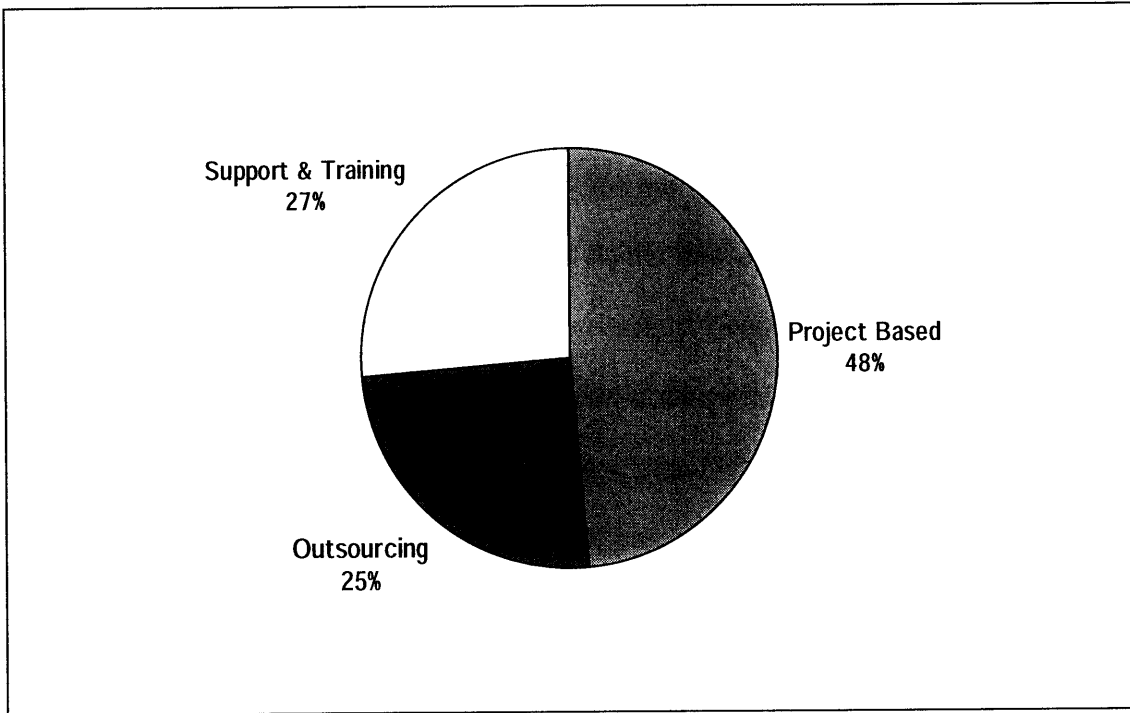
Source: Author (2006) Based on "*Japanese IT service Vendor Ranking 2004*," IDC Japan[1]

Figure 5.1-1 Average Revenue Proportion of Japanese SIers

However, the market growth is becoming slower. Additionally, as I explained in Chapter Three, the business size of each system or project is shrinking and customers are more cost- and ROI-sensitive. Now SIers must shift from chasing revenue to focusing on profitability, creating strategies that can provide operational efficiency and high value for customers.
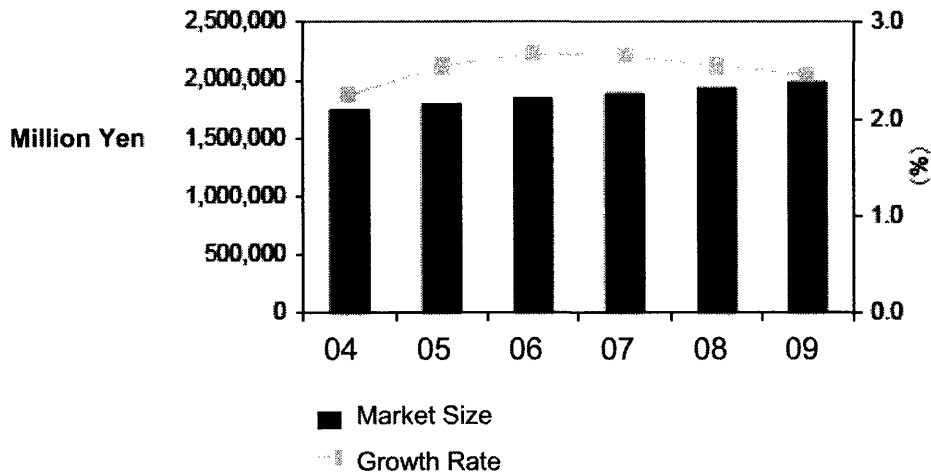
Source: IDC Japan, 2005[2]

Figure 5.1-2 Sales Forecast of Japanese Project-based System Integration Market

Underneath the stagnant growth of this market, I find the most fundamental and critical challenge that SIers are facing: the evolution of customers. No matter how large a company is, no longer does it expect to control whole industry value chains by the individual company. Instead, they try to specialize in areas where they have strong advantages in markets, collaborate with outside organizations, and maximize stakeholders' value in a most effective and flexible way. This evolution of customers has completely changed the enterprise IT systems should be and the services that SIers should provide.

In line with the advance of communication technology, business design in terms of relationship with external resources has evolved from an internally integrated business model to an industry-networked business model. Figure 5.1-3 shows how technology and business changed from an internally enclosed model to an open and collaborative one.

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**Phase 1
Internally integrated**
- Proprietary standards for manual and electronic communication within the enterprise (e.g., mainframe)
- Ownership of adjacent areas of the value chain
- Emphasis on quality inputs and distribution

**Phase 2
Strategically partnered**
- Emerging standards for intra-enterprise technology and communication (e.g., TCP/IP, Client Server)
- Initial specialization within the value chain
- Use of external partners to provide non-core activities
- Divestiture of non-core functional groups

**Phase 3
Industry networked**
- Open standards based on common technology and communications protocols (e.g., XML, Linux®, JBOSS)
- Concentration on core activities and orchestration of networked value chain
- Emergence of ecosystems around major players
- Niche players

1970   1980   1990   2000   2010

Main Frame   Server / Internet   Open Source / XML

Source: IBM Institute for Business Value[3]

Figure 5.1-3 Three Phases of External Specialization

The progress of business externality is reflected in the evolution of internal specialization. As Figure 5.1-4 shows, organization expanded its optimization level from a business unit to the whole enterprise. We can also find interaction between the advances of technology and this evolution.

Stage 3: Enterprise optimized
• Centralization of back-office functions (e.g., procurement, finance, IT and HR)
• Customer-facing organizations (e.g., channel unification, data mining, cross-selling and product bundling)
• Provide bundled solutions in addition to discrete products and services

Stage 2: Process optimized
• Business Process Reengineering
• New technology capabilities drive organizational change
• Complex business systems such as SCM, ERP, CRM
• Six Sigma, Total Quality Management (TQM)
• Lean Manufacturing, ISO 9000

Stage 1: Business unit optimized
• Strategic Business Unit, Portfolio Management
• Business matrix
• Product portfolio analysis
• Best-in-class, end-to-end strategies

Distributed System

Source: IBM Institute for Business Value[4]

Figure 5.1-4 Three Stages of Internal Specialization

Through these two evolutions, the enterprise business model is now trying to gain more flexibility and efficiency. The enterprise decomposes into modular business components. Each component has a mutually exclusive set of activities, and the loose coupling link of components achieves business purposes in a flexible and adaptable way. With this structure, a company can distinguish its core competence from its non-core business, decide which business should stay and which one should be outsourced, and leverage its value at the center of the industrial ecosystem.

This corporate strategy requires more open and flexible IT systems. At this point, corporate IT systems should reflect this component-based flexibility in their architecture. The concept of Service Oriented Architecture (SOA) facilitates this

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evolution of corporate strategy. The SOA enables open, flexible and agile system development by implementing re-usable service that includes business processes as a component. By combining these components, the organization can develop IT systems that reflect their component business model. The SOA allows organizations to connect their system components with external systems to develop required services. The corporations do not necessarily develop or own whole systems to perform their business. On the contrary, a project-based system integration business, by nature, can create its business value by developing and installing IT systems for each customer. This business model can maximize its value by developing larger, more customized and monolithic systems. From this viewpoint, the system integration business inevitably becomes smaller because its business model contradicts the modular business strategy. The SIers should understand this fundamental change in the business environment.
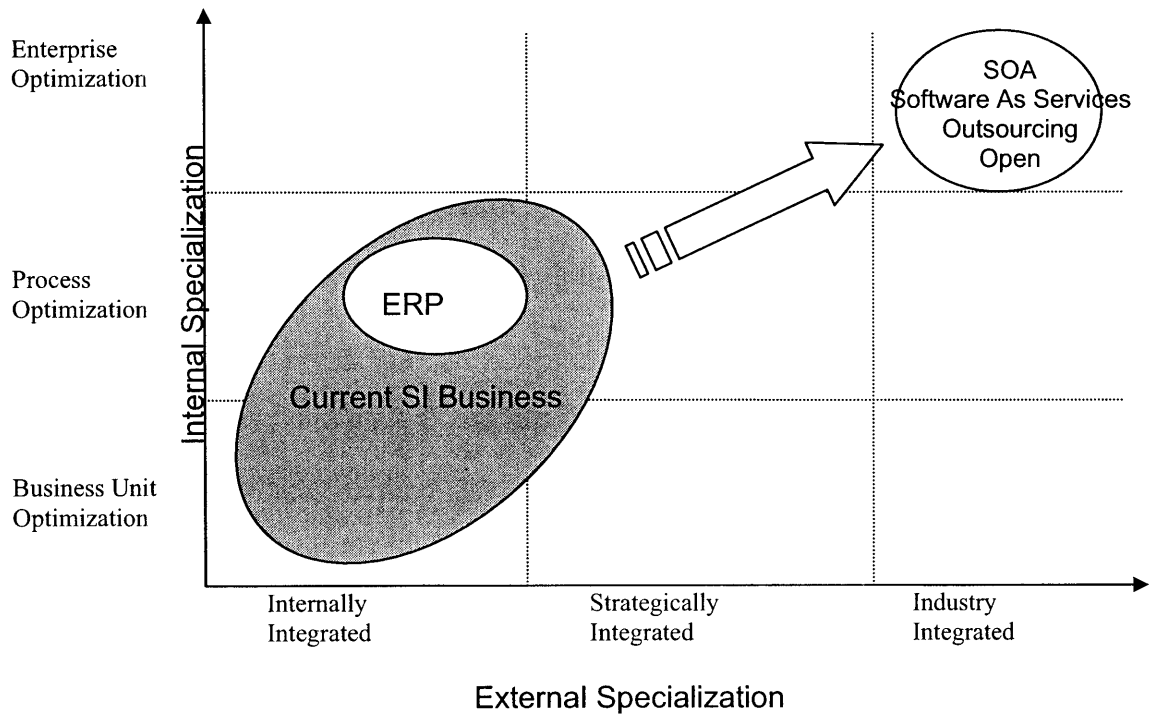
Figure 5.1-5 Fundamental Shift of Enterprise System

5.2. Five-Forces Analysis

Using a Five-Forces analysis, we find the severe competition in this market. As technology advances and openness increases, the initial barrier to entering the market becomes lower, but a high entry barrier still exists against foreign SIers because of the language problem.

In terms of the relationship with suppliers, the situation is moderately difficult. Basically, SIers have strong bargaining power against suppliers because of their economies of scale. In particular, recent "open" technology has reduced the proprietary advantages of product vendors. Product vendors are seeking to build tighter partnerships with SIers. However, at the same time, the product price is decreasing, and the profit margin of SIers is also going down.

As buyers, customers have high bargaining power because they can switch SIers or develop systems with their own group companies. Additionally, customers have gradually changed their system development from bulk block projects to small projects to catch up with the speed of business. The advantage of choosing large SIers could be a disadvantage because of their lack of flexibility. The customer's bargaining power has also caused an increase in project risks. The intensified customer bargaining power has made system-development projects involve potential risks such as schedule, cost, and quality risks. The SIers have been forced to propose or accept far-fetched plans to win contracts. From the viewpoint of IT governance, we can say that building coherent IT architecture or adopting IT standardization inside the organization is necessary to improve IT flexibility and to

achieve further cost reduction. Worth remember is the fact that this continuous effort of customers has made them try to reduce the number of IT suppliers they do business with. When End User Computing (EUC) and distributed computing architecture became popular, business units independently started to develop IT systems with vendors whom they chose for their sub-optimization, and these developments accelerated the complexity of computer systems. Customers, especially large organization customers, now need to have close IT partners that can provide comprehensive enterprise architecture.
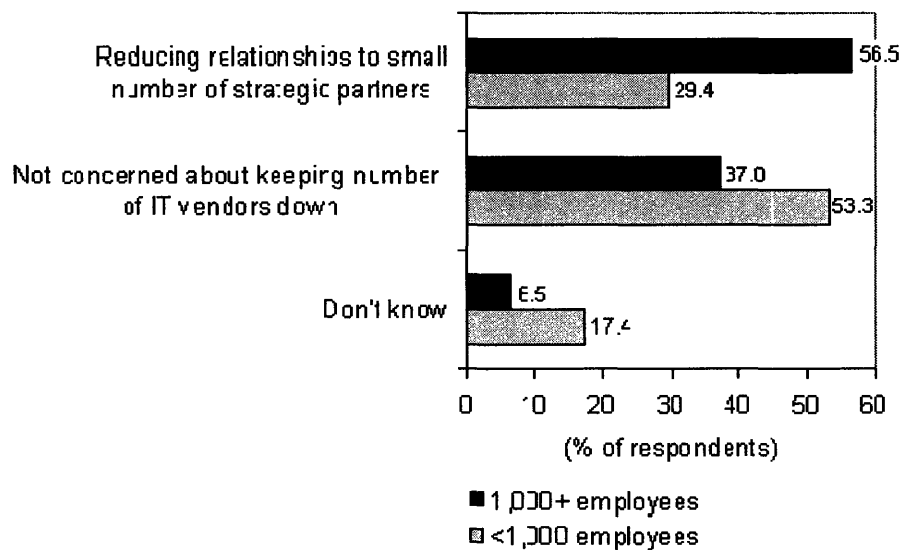
Source: "Three "Killer Platforms" Will Reshape Enterprise IT," Mar. 2005 Doc #33201, IDC

Figure 5.2-1 Attitude toward Managing IT Vendor Relationships by Company Size

There are various kinds of players around SIers, such as consulting firms, software development companies, and ERP vendors. These alternative players are trying to grab the market share from SIers. The intensity of rivalry is very high, because not only does competition among SIers exist, but also competition with

hardware vendors exists. In particular, price competition is severe because of the low-cost programmers overseas.

Barriers to Entry (Low)
- Downsizing of H/W
- Open Architecture
- Various business formats
- High entering barrier for foreign SIers because of the language

```
                    ┌──────────────┐
                    │ New Entrant  │
                    └──────┬───────┘
                           │
                           ▼
  ┌───────────┐      ┌──────────────┐      ┌──────────┐
  │ Suppliers │─────▶│   Industry   │◀─────│  Buyers  │
  └───────────┘      │ Competitors  │      └──────────┘
                     │              │
                     │ Intensity of │
                     │   Rivalry    │
                     └──────▲───────┘
                           │
                    ┌──────────────┐
                    │ Substitutes  │
                    └──────────────┘
```

Power of Suppliers (Low)
- Hardware vendors and software vendors use SIers as sales channels
- SIers have strong buying power
- Possibilities to make alliances

Power of Buyers (High)
- Customers have many choices to work with
- IT Cost-sensitive
- Customers could be competitors

Intensity of Rivalry (High)
- Several dominant companies
- Many micro-segmented competitors that have cutting edge solutions
- Low-cost outsourcers in overseas

Availability of Substitutes (High)
- Hardware vendors, software vendors and consulting firms are shifting from products business to SI business
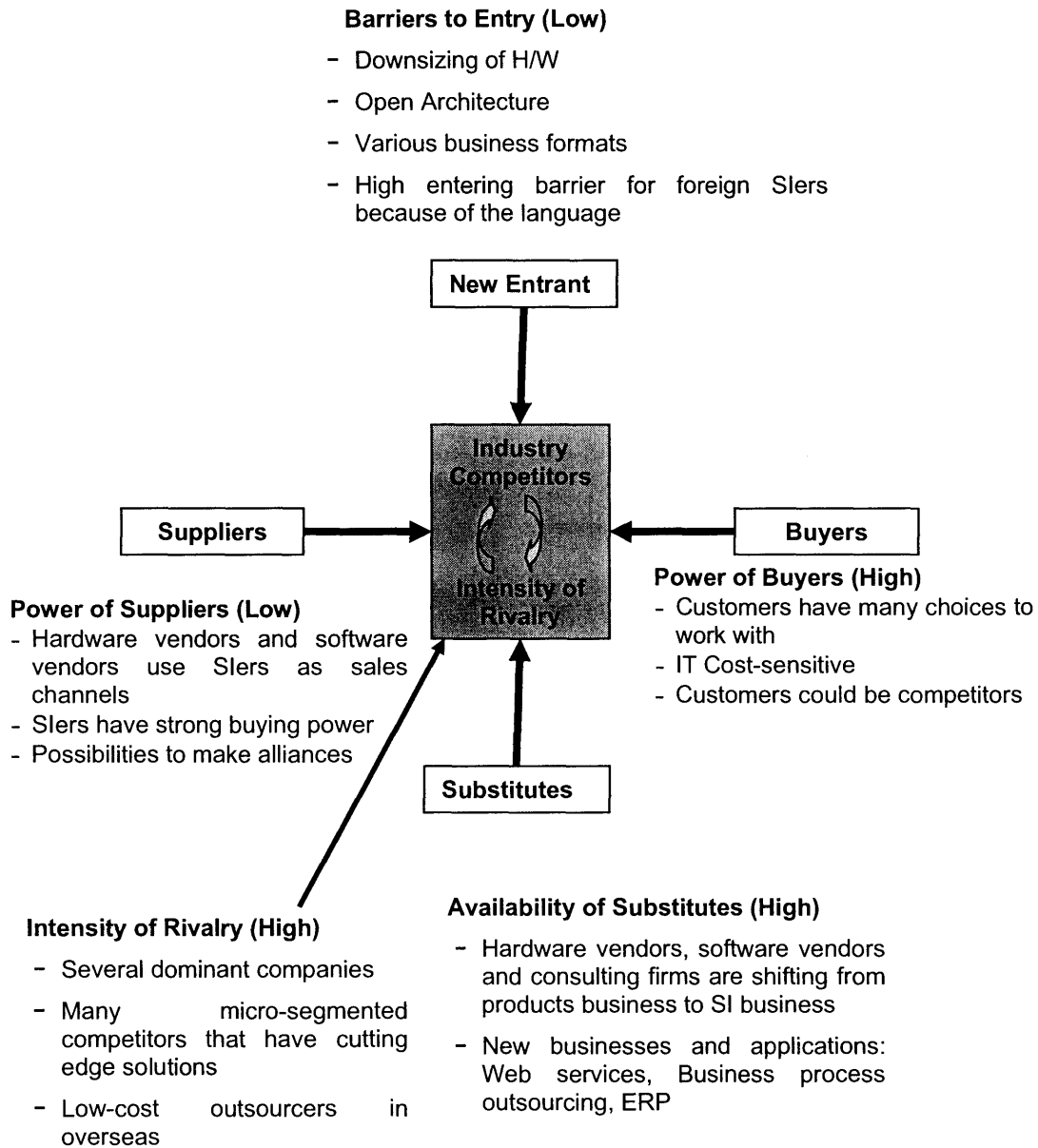- New businesses and applications: Web services, Business process outsourcing, ERP

Figure 5.2-2 Five-Forces – SI Business

5.3. Customer Segmentation

Figure 5.3-1 shows the Delta model of SI business. I have defined four customer segments. The "Low Cost" segment customers are quite cost-sensitive. The traditional theory of software development was that the cost of programmers and quality of programs exist in direct proportion to each other. However, offshoring changed the level of price competition dramatically. The "Differentiation" segment customers seek specific technology or solutions. These specific requirements are becoming more micro-segmented as technology becomes more open or business becomes more complex. In the "Redefine" segment, customers want to have integrated services from planning to maintenance. The "Horizontal Breadth" segment contains the customers who require broad system integrations. The diversity of technology and business knowledge is required.
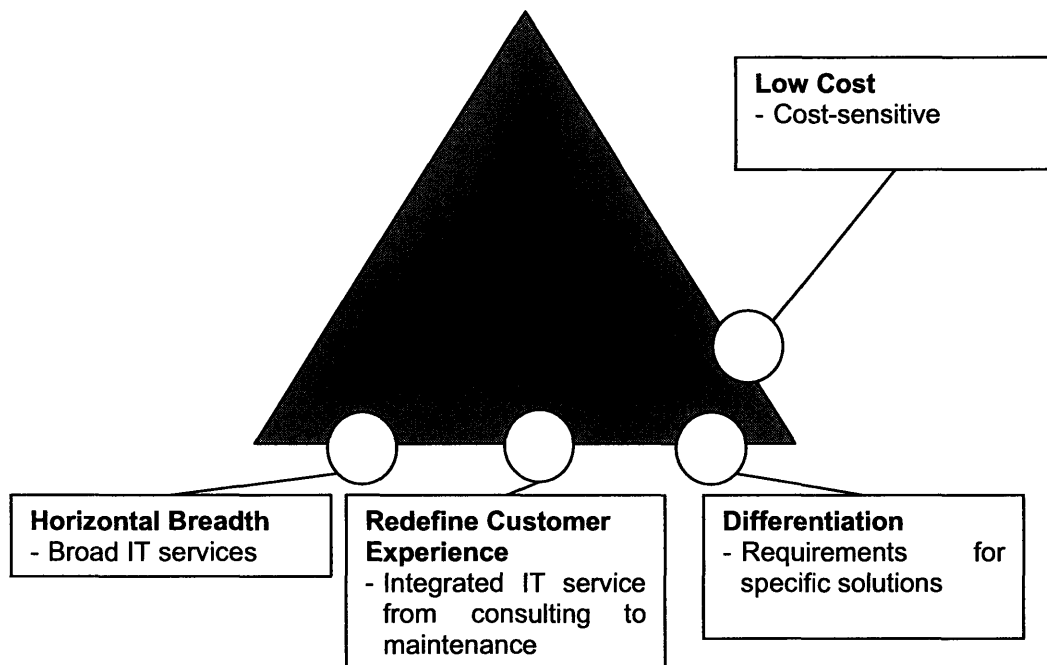

Figure 5.3-1 The Delta – SI Business

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5.4. Bundle of Competencies

(1) Strengths

System integration includes various IT services, from IT planning to implementation, or from network design to hardware configuration. As a project's size grows, it is more difficult for customers to control by themselves. One of the advantages SIers have is their integrated service capability that could provide a one-stop solution for customers. Once SIers receive orders from customers, they take responsibility to accomplish the projects.

Another competence that SIers have is the capability to manage the project. System integration is a quite labor-intensive business, and project management is the key to success. Many Japanese SIers did not perceive the project manager as a professional and did not provide systemic training for project management. They have started to define project management capabilities, developed specific training programs for project management, and revised HR systems to clarify the authority and responsibilities of a project manager.

The SI business also provides desired by-products for SIers. Once they deliver a system to a customer, the possibility of having maintenance contracts for the system becomes quite high. Additionally, function-addition business or replacement projects in the future are more likely to come because the SIers can accumulate knowledge about customers' business and systems. The SI business is project-based, but if SIers can effectively foster customer relationships through projects, the customer bonding will be very strong.

(2) Weaknesses

Though system integration is composed of various software and hardware products and technology, SIers basically do not produce products. This neutrality is, in a sense, a great advantage of SIers, but it also could be a technological disadvantage. In fact, if I look at the proportion of R&D spending to total revenue in 2004, the average of Japan's top seven SIers, excluding hardware vendors, was only 1%[5]. They heavily relied on on-the-job training to improve technological skills. Another problem is the lack of a tangible solution. The SIers have not focused on their own product development, but at the same time, they have not been able to develop reusable programs or middleware solutions. The experience and accumulated knowledge belong to each individual engineer, and sharing the knowledge is difficult. Another issue is that SIers usually outsource more than 80% of engineers or programmers in a project to other IT companies in order to reduce costs or to cover a shortage of skills and resources. The external factors can easily influence their project.

5.5. Environmental Scan

(1) Economic Factors

In terms of economic factors, Japan has experienced deflation. However, the huge labor cost differences between the domestic market and emerging markets have accelerated offshore development. The current main purpose of off-shoring is cost reduction. Figure 5.5-1 shows the huge difference in programmers' costs between Japan and India or China. In particular, China is the biggest offshore market for Japanese software companies (Figure 5.5-2) because of its location and

its familiarity with the Japanese language. This offshore shift seems to expand continuously.
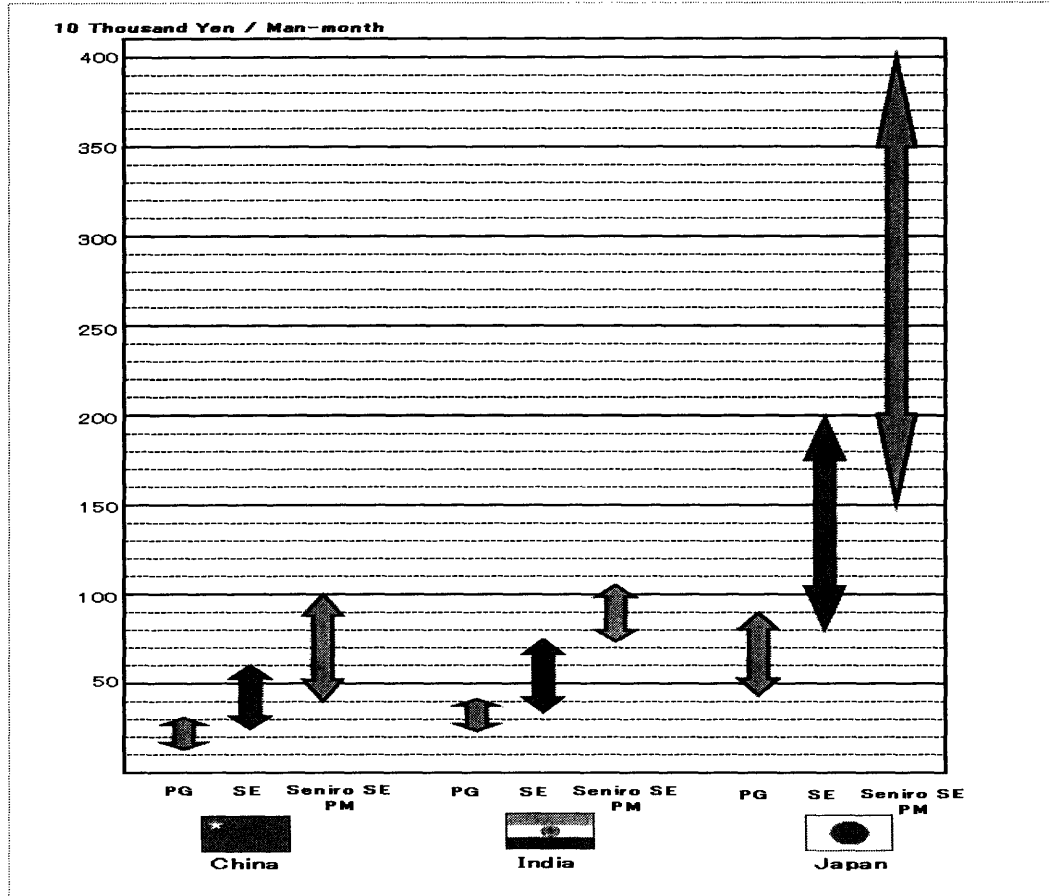
Source: Nikkei Computer, May 2, 2005 Issue[6]

Figure 5.5-1 Average Labor Cost Comparison of System Development

35,000 Million Yen

30,000

25,000

20,000

15,000

10,000

5,000

0

☒ 2002
■ 2003
☐ 2004

China U.S.A. India Australia England Philippine Korea France Canada Vietnam Others
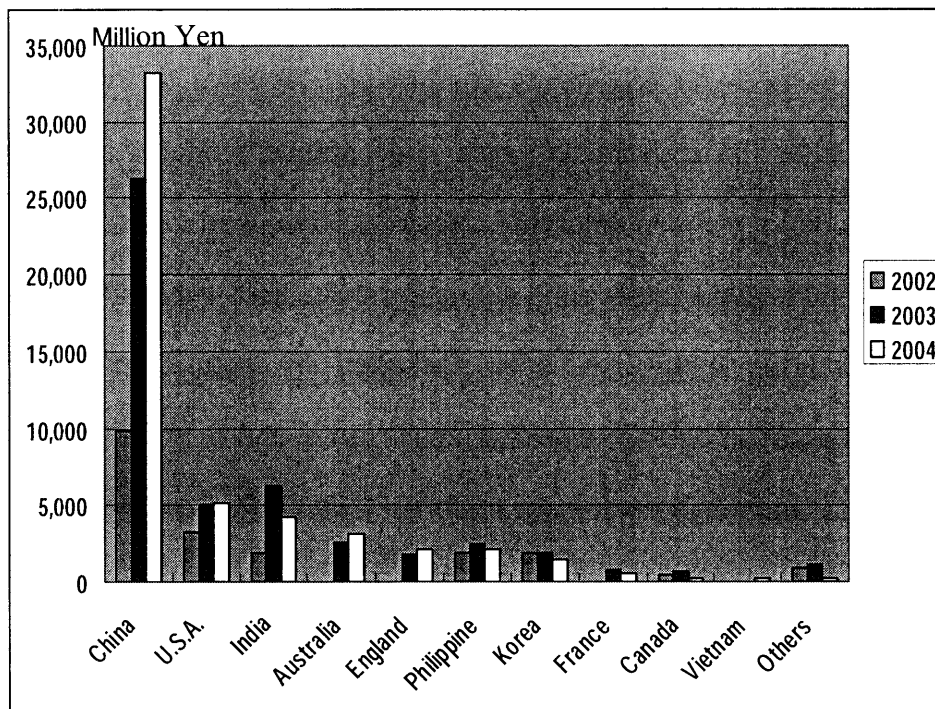
The number of customers to be surveyed: 58(2002), 58(2003), 77(2004)

Source: "Cooperative Research of JISA, JEITA and JPSA on Software Overseas Transactions," 2005[7]

Figure 5.5-2 Offshore Development of Software

5.6. The Scope of Strategies

(1) Product Scope

The current product strategy of SIers is a best-of-breed strategy. They select their best products and integrate them to maximize value for customers. This strategy is basically a sound one for SIers, but with the open standard technology, the conditions are changing slightly. In the past proprietary technology era, SIers could gain enough skills and information about products from their training and relationships with vendors. Additionally, vendors could support SIers through

engineers or a support desk. However, this format does not work well for some open source products because sometimes open-source products do not have specific distributors. Under the situation in which open source products are beginning to occupy an important place in enterprise systems, SIers need to have recommended product-sets and to accumulate open-source products skills internally.

Another issue is the application packages. In Japan's enterprise software market, the application packages have a small market share. In 2003, the share was less than 18%. Japanese customers prefer to own customized programs for their businesses, and this preference prevented the application packages from penetrating very far. However, customers are gradually getting accustomed to "good enough" applications through the Internet experience. Moreover, SOA is changing the application packages to more open, flexible, easy-to-use ones. Should SIers develop their application packages? I think the package business and SI business have, by nature, different business characteristics in both their business processes and their architectures. In general SI business, SIers try to reflect customer-specific requirements as much as they can. Multi-purpose or common applications could deteriorate productivity and usability. Many SIers failed to expand their application package business because they tried to reformat programs once they developed them for custom application projects. Each package application requires a specific architecture and design that are different from a custom application. In the SI business, especially in large projects, having their own application package is not necessary because after all, customers prefer customized applications. Moreover, the Software-As-Services business will gradually erode the installed application

package business. Exercising much effort toward the development of an application package will be unfruitful.

(2) Customer Scope

It is difficult for SIers to expand their customer scope from the viewpoint of business size of customers because of the constraint of SIers' business structure. In a small system-integration project, using an SIer is not justified in terms of cost effectiveness. Inevitably, SIers' business over-concentrates on relatively large-scale customers, and it increases the competition. On the other hand, hardware vendors have another business model. That model is the business via partners. They can sell products or support services to business partners that focus on mid-to-small business. (Figure 5.6-1)

Even though SIers can expand their small-size customers' SI business via subsidiaries, different services for these customers are required for further growth. Chapter 6 will illustrate the strategies for the different services.
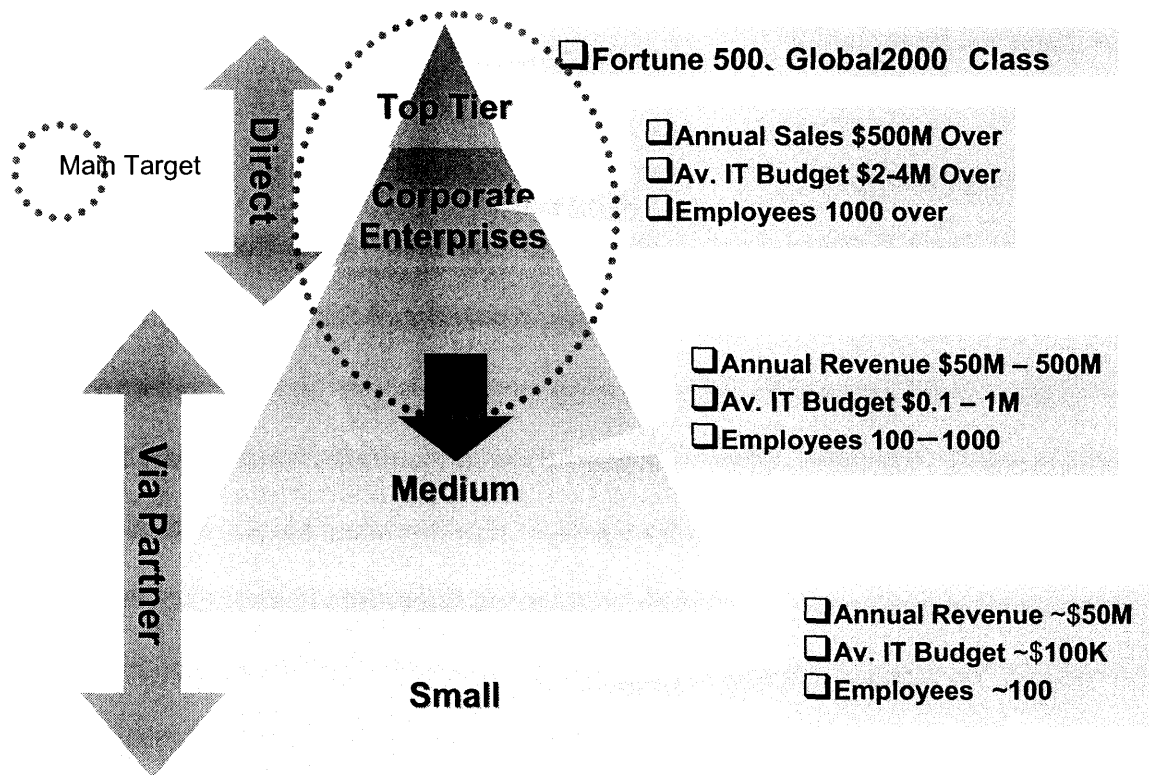
Source: Gartner 2006[8]

Figure 5.6-1 Business Target of IBM

(6) Unique Competencies

As I described before, technological neutrality has been one of the advantages for SIers, but its attractiveness is fading away because of the open technology. Especially, hardware vendors do not necessarily insist of their appropriate technology or products. From this viewpoint, SIers should create another unique competency. As I articulated in "5.4 Bundle of Competencies," SIers should have tangible assets that can create mutually beneficial relationship with SIers and other IT companies such as hardware vendors, program-development companies, and middleware companies. If we look at the diffusion of open technology from a

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different perspective, we find the potentiality where SIers can acquire unique competencies. That potentiality is the application framework.

(5) Scope of Complementors

In general, an SIer works as a prime contractor. The SIers make contract with customers, and SIers also make sub-contracts with product vendors or program development companies. This business scheme shows very limited business opportunities for SIers. If they cannot win a competition for a prime contractor, it means they lose the whole business. It also means that they are often forced to sacrifice profitability to win the competition. On the contrary, hardware vendors take a more flexible strategy. Of course they prefer to work as prime contractors, but they also work as sub-contractors of SIers. Hardware vendors are still able to do business by providing products or supporting specific technologies. We can find the same situation in other complementors. For example, software package vendors can work as partners for SIers because they can sell products and services to SIers, but at the same time, these vendors are also shifting their businesses to services and gradually competing with SIers. In other words, the complementors for SIers sometimes become competitors, and these complementors rarely contribute to SIers' business. The reason SIers have not been able to create mutually beneficial relationships with them is that their current highest value is project management. In other words, if an SIer does not work as a prime contractor, it cannot exhibit significant competencies. However, if SIers successfully develop their unique

solutions, the business landscape will be altered. They can create new business opportunities by using their complementors as new revenue sources.

5.7. Strategic Thrusts

(1) Framework solution

Improving the efficiency and quality of application development has been one of the great concerns of SIers for many years. They struggled to adopt CASE tools, to develop various methodologies, and to expedite reuse of software modules. However, we still have not had significant improvement in these fields. Moreover, the system platform on which application was developed has been the black-box, and it has changed time after time with technological improvement. As a result, SIers still develop applications from scratch. They also realized that designing reusable business applications is quite difficult because the business of customers changes rapidly. Trying to develop reusable business applications is not so useful for the present. A more architectural approach is required to improve the efficiency of software development.

After the advent of open technology and SOA, the situation is changing gradually. Open Source Software (OSS) gives SIers more opportunities to control the application platform, and SOA has helped them to introduce universal design architecture. Many vendors and SIers are now tackling the development of application frameworks; in fact, there are various definitions and solutions of application frameworks in the market. It is still not so clear whether these efforts could be an effective solution for software development, but SIers should make

strategic investments in these areas to obtain unique competencies. Technologically, the application framework is located between business applications and software platforms such as middleware and Operating Systems. It cooperates with product vendors' solution or OSS products, and it can improve the efficiency of program development. Adopting a standardized application framework for SI projects will also help software development companies to gain development efficiency.

Creating a framework solution is not only beneficial in terms of improving internal capabilities of software development, but also critical to strengthen relationships with complementors. SIers have developed various alliances with hardware vendors, software product vendors, and program development companies, but I think the relationship has not been mutually beneficial. SIers are "superior sales channels" for them, but because of the lack of particular solutions, these complementors can make alliances with almost every SIer. Additionally, once they have a direct channel to customers, they do not necessarily conduct business with SIers. Of course there is a balancing factor in this relationship. From the SIers' viewpoint, SIers also have many options because their strategy is "best of breed." Many product vendors are willing to provide product information or enhanced supports to SIers, expecting further sales from them. However, I believe SIers should create further mutually beneficial relationships with complementors by developing application frameworks. If an SIer provides a unique application framework to alliance partners, the SIer can share the same application platform within alliance partners.

From a strategic viewpoint, having a broad share in the market is quite important for being and staying successful in the software product business. I think the application platform itself has a different nature from other commercial products. The ultimate goal should not be sales from the product. Having more adopters and creating collaborative relationships within the software development ecosystem are necessary for maximizing the benefit from it.

According to Cusumano and Gawer (2002)[9], there are four levers of platform leadership: Scope, Product technology, Relationship with external complementors, and internal organization. As I explained before, the application framework is located between the application and middleware. The scope of the function should be defined so as not to compete with other middleware products or business applications. Additionally, it is essential to avoid having industry- or-customer-specific features.

Product technology should be open and have compatibility with standard architecture and OSS to accelerate its adoption rate in the market. If it meets these standards, other proprietary products can also be compatible with it. In terms of external relationships, I believe Slers should not only disclose interfaces but also license application frameworks to stakeholders. Five major stakeholders have different interests. First, hardware vendors have two different aspects. As product vendors, they prefer to work with Slers, so supporting the Slers' framework is beneficial for them. However, regarding the system integration business, they could be competitors. They also want to have their own framework solutions. It may be inevitable for Slers to have leadership competition with them. The key to

persuade hardware vendors to adopt the SIers' framework is the improvement and enhancement of application solutions that work on the framework. The cross-industrial domain framework (common application) or business application package can fascinate hardware vendors. Second, middleware vendors basically must have no conflicts with the SIers' framework. They will have new business opportunities if they support it. Third, software development companies will also appreciate the supply of the solution to the extent that it helps to improve productivity and quality. From this viewpoint, the development tools and standardized development methodology for the framework are essential to increase the supporters in software development companies. Fourth, customers will actively adopt the framework if it has many complementors and the commitment of SIers. The most difficult stakeholder is application-package vendors, especially Enterprise Resource Planning (ERP) vendors. They are trying to shift from application-package vendors to platform vendors and planning to develop their own application platforms. However, their platform strategies must support their product business. The business opportunities will be relatively smaller than SIers'. Moreover, it might be possible for these vendors to coexist with the SIers' platform.

In terms of internal organization, the organization that takes responsibility for the application framework business needs appropriate independence. Of course internal collaboration between the framework and the SI business is essential, but at the same time, the framework must be neutral to be broad-platform. The performance measurement criteria will differ from other business units. In some

cases, there might be internal business conflicts between the framework group and other business units. Therefore, adequate organizational independence is required.

We can find a similar approach that some IT companies have already started to use to create collaborative workplaces with partners. For example, EDS started Agility Alliance with leading IT companies such as Microsoft, Dell, and Cisco Systems[10]. They are developing network-based utility architecture called EDS Agile Enterprise[11]. IBM also has the same concept, called IBM Workplace, which allows partners to share a platform and solutions[12]. More directly, both SAP[13] and Oracle[14] are planning to develop integrated common middleware that enables other product and application developers to use a standardized platform. These approaches are still uncertain, but they clearly demonstrate where the software ecosystem can go.
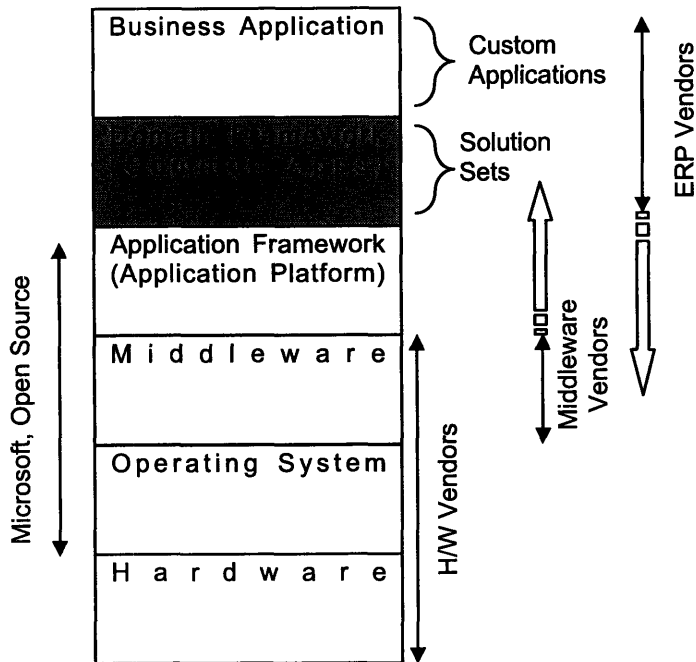
Figure 5.7-1 Reference Model of System Integration

(2) Offshoring

Offshore development of software has become very popular, especially in the United States. In Japan, it is also becoming more popular even though we have a language problem. Various kinds of research reports and examples about offshoring have been published. In this paper, I will not refer to the topics that were covered previously such as offshoring KSF, user research, and offshore country assessment. I will focus on SIers' strategy for offshoring. Figure 5.7-2 shows the maturity model of globalization. Offshoring can follow the same maturity model.
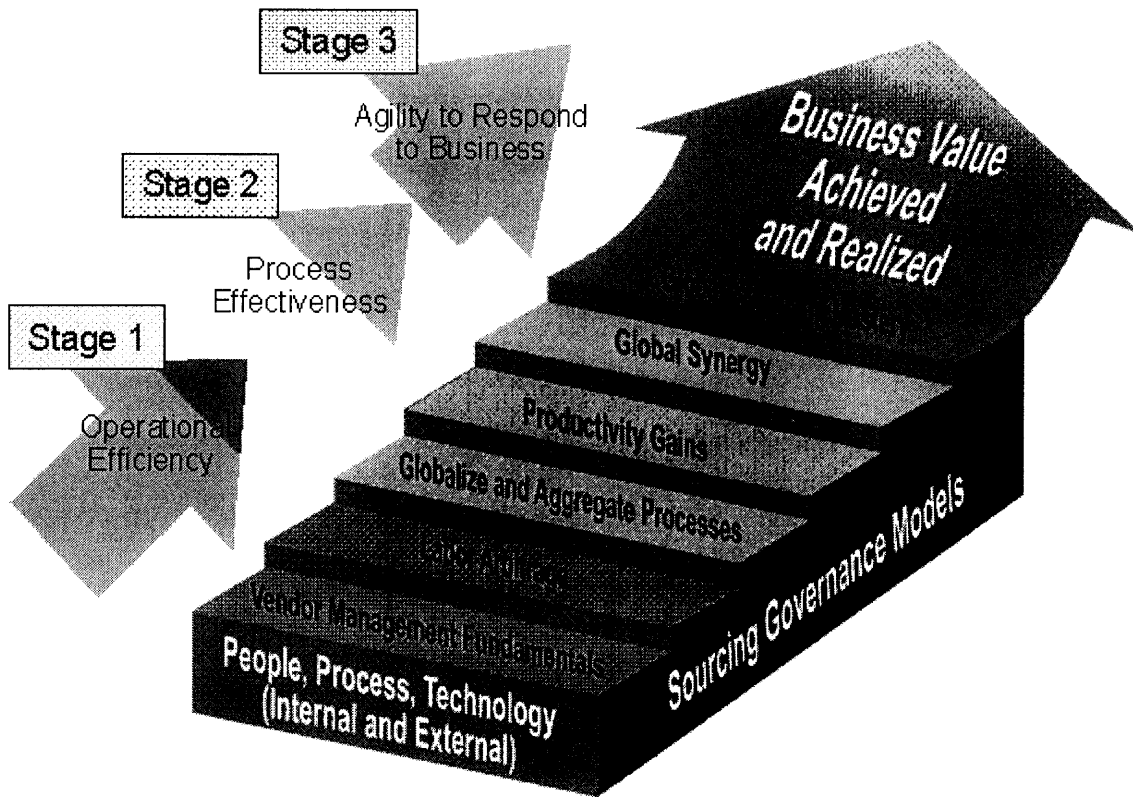
Source: Gartner Inc, Sep. 2005[15]

Figure 5.7-2 Gartner's Global Sourcing Framework: The Journey of Globalization

The current motivation of SIers to offshore is obviously in Stage 1: they seek cost efficiencies. In general, SIers pursue more than 20% of direct labor cost reduction in offshore projects compared to the domestic development. If the cost reduction effect of the offshoring is below 20%, it means that the offshoring does not have any cost advantage over domestic development. From the cost-reduction viewpoint, "offshoring" means off-site development, because on-site development reduces its cost effectiveness. In the system-integration business, the phases that are eligible for offshoring are limited. The basic idea for selecting phases to offshore is almost the same as that of sub- contracting with domestic program development companies.

Table 5.7-1 explains the characteristics of each phase in a system-integration project. In the design phase, engineers basically work in close communication with stakeholders. This closeness explains the difficulty of offshoring. However, in the waterfall project, the system requirement is fixed at the end of design phase. Additionally, Program Development and Unit Test phases have relatively large labor-to-cost ratios and low skill or knowledge requirements. Therefore, SIers generally offshore these phases. Table 5.7-2 shows the current problems of offshore development that Japanese organizations recognize, and Table 5.7-3 explains the problems that the offshored companies suggest. These researches clearly indicate the reasons why SIers prefer to offshore the Program Development and Unit Test phases, and to use waterfall methodology for offshore projects. In the Integrated Test phase, the system environment matters become critical, and usually engineers need to work at the computer centers. The current offshore model enjoys the labor cost difference between domestic program-development companies and foreign companies, and there are fewer unique competencies or values from offshoring. This model will, sooner or later, lose its attractiveness.

Table 5.7-1 Offshoring Eligibility of Each Phase in a System-Integration Project

Phase --->	External Design	Internal Design	Program Development	Unit Test	Integration Test	System Test	Deployment	Maintenance
Average Time Delivery --->	10%	20%	25%	10%	15%	10%	10%	N/A
Technology Requirement -Product Skills -Technical Knowledge	◎	◎	○	△	◎	◎	○	△
Business Requirement -Market Knowledge -Business Knowledge -Corporate Knowledge	◎	◎	△	△	△	△	○	△
Project Management Skills	◎	◎	◎	◎	◎	◎	◎	○
Communication Requirement With SIers	◎	◎	△	△	◎	◎	◎	○
With Customers	◎	◎	△	△	○	◎	◎	○
Environment Requirement					On Site	On Site	On Site	

Fix of System Specs in Waterfall Project

Av. 30 – 50% of Total Labor Cost of a Project
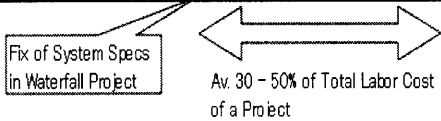
Table 5.7-2 Problems that Japanese Organizations Recognize in Offshore Projects

Orders	Recognized Problems	%
1	Communication Gap	18%
2	Understanding of System Specs and Modifications	13%
2	Overhead of Overseas Procedures	13%
4	Quality	10%
5	Difference of Development Process	9%
6	Technical Capabilities	7%
6	Cumbersome Contract Procedures	7%
8	Cultural Gap	6%
9	Unstable Management of the Offshored Companies	4%
9	High Engineer Turn Over Rate of the Offshored Companies	4%
11	Poor Infrastructures of the Offshored Companies	3%
12	Security Management	1%
12	Regulatory Administration of The Government	1%
	Others	4%

Source: "Offshoring Kanzen Guide," S-Open Offshore Kaihatsu Kenkyu-kai, 2004[16]

Table 5.7-3 Problems that Offshored Organizations Suggest

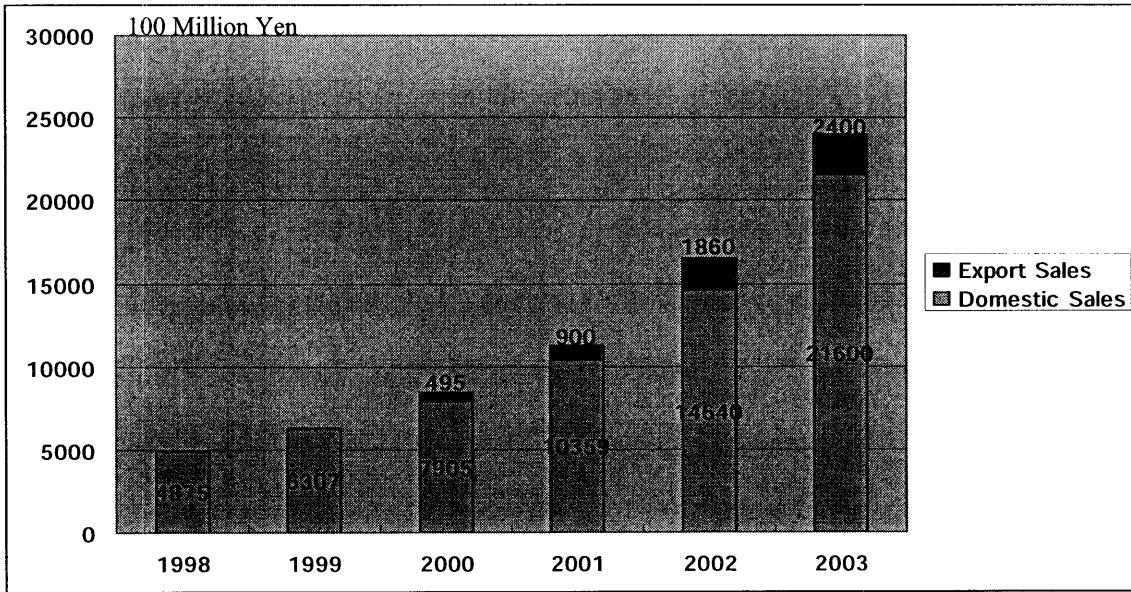| Orders	Suggested Problems	%
1	Understanding of System Specs and Modifications	29%
2	Communication Gap	17%
3	Peculiar Requirements of Japanese Organizations	11%
3	Technical Capabilities	11%
5	Disagreement of Project Plans	8%
6	Schedule	6%
6	Project Management of Japanese Organizations	6%
8	Cultural Gap	4%
8	Quality	4%
8	Lack of Cooperation in Trouble Shooting	4%

Source: "*Offshoring Kanzen Guide,*" S-Open Offshore Kaihatsu Kenkyu-kai, 2004[17]

What is the second-stage objective of offshoring for SIers? They must shift from just cost reduction to productivity and quality issues. The SIers will seek to expand their production capability to increase business opportunities. In fact, the number of the organizations that are assessed as CMM shows continuous process-improvement activities in offshored countries such as India and China. However, we must evaluate productivity and quality from the viewpoint of the whole life of the system. The standardization of development process, document, and programs is necessary to improve system quality and maintainability. The SIers must continuously provide learning opportunities for their unique development methodology and framework solutions to offshored companies. Having long-term relationships is important for this activity.

There is a significant gap between the second and third stages. In a third stage, SIers will be able to adopt offshore companies' other unique competencies. First,
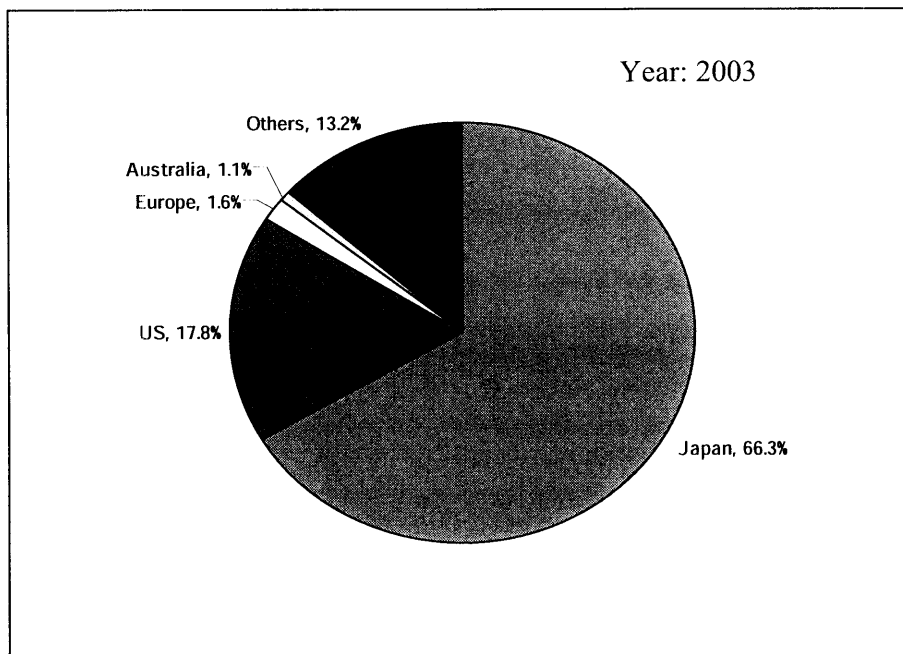
SIers will be able to learn advanced business knowledge and technological skills from offshore companies. Offshore companies have many business opportunities from various US and European companies. They not only develop programs but also provide outsourcing and system integration services. Additionally, they have profound engineer resources, especially in India. Through these businesses and resources, they can learn US and European advanced solutions. The scope of offshore business should change at this point. This global sourcing of knowledge might be on-site support, not offshoring.

Secondly, SIers will have the chance to expand business globally. The global business partners will help Japanese SIers to expand business globally. For example, China, which is the current largest software outsourcing destination of Japanese SIers, has very lucrative domestic market conditions. The Chinese software industry is a domestic growth-driven market. It greatly exceeds the growth of software exports (Figure 5.7-3). Japan is its largest software export partner (Figure 5.7-4). In other words, Japanese SIers have potential opportunities for future business deals in China. Some capital ties, such as joint venture or subsidiaries, will be required for this business format. Therefore, not just developing business alliance partnerships, but also making capital investments is required.

100 Million Yen

Year	Domestic Sales	Export Sales
1998	4875	
1999	9307	
2000	7905	495
2001	10359	900
2002	14640	1860
2003	21600	2400

Figure 5.7-3 Chinese Software Sales Proportion

Year: 2003

Others, 13.2%
Australia, 1.1%
Europe, 1.6%
US, 17.8%
Japan, 66.3%

Figure 5.7-4 Software Export Destination of Chinese Offshore Industry
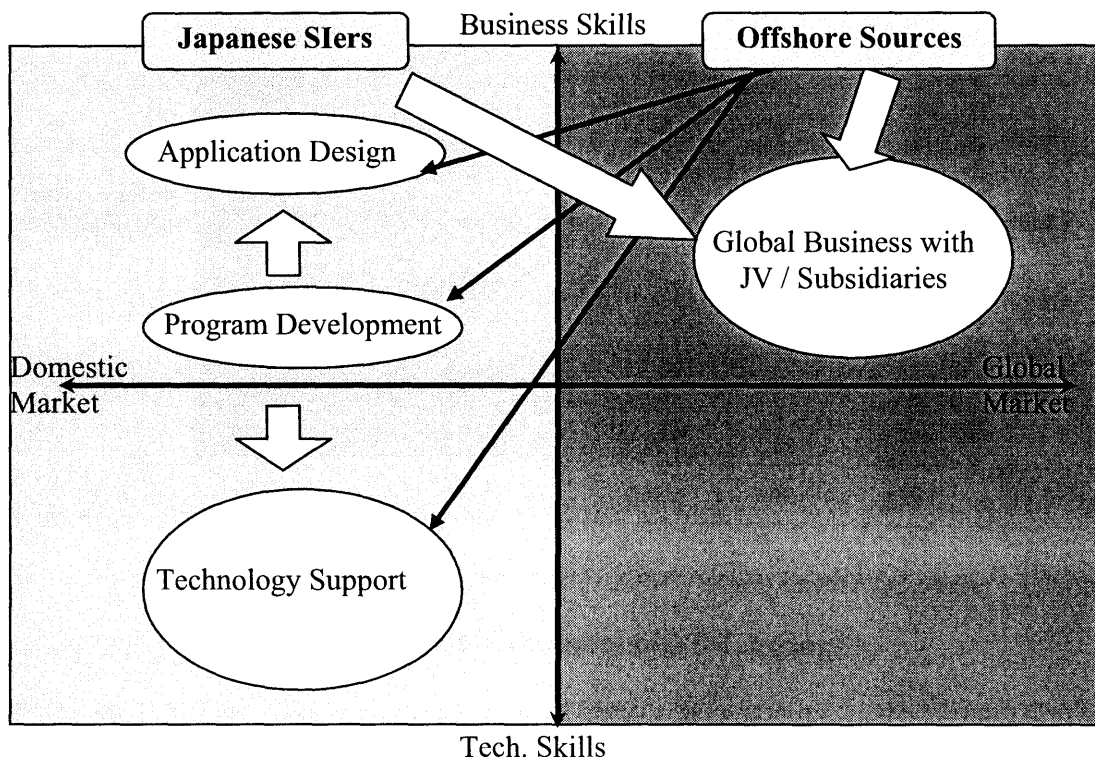
Figure 5.7-5 Transition of Offshoring Business

5.8. Conclusion

Japanese SIers make almost 50% of their sales from the project-based system-integration business. Obviously, it is their core business. However, the market growth has become stagnant because customers have become highly ROI-sensitive in their IT investment. Moreover, SIers should anticipate the shift of the IT investment to outsourcing services. The competition in the market is highly intense because various players in different business segments, such as software product companies and consulting companies, are trying to expand their SI business.

The competitive advantages of SIers are their technological neutrality and integrated broad IT services. This combination means that the large organizations that require huge and complicated IT systems are their main customers. However, these customers are limited, and their needs are well-diversified and vulnerable. With the severe competition, the size of each project has become smaller and less profitable. Expanding their business scope to small business customers is necessary to explore further growth. It is also critical in order to improve development efficiency and reduce costs.

Creating an application framework as a standard platform among partners will be a valuable solution. It will help SIers to acquire competencies in the open technology world, to improve development efficiency, and to create mutually beneficial relationships with complementors. This solution will also help them to expand business among small business customers as solution-providers through their partners.

Offshoring is another critical strategy. SIers should implement global development capabilities in accordance with the global sourcing framework. Though the short-term goal of offshoring is to have low-cost laborers, the ultimate objectives should be the utilization of advanced experiences and competitive resources overseas and the expansion of local business globally.

Endnotes for Chapter 5

[1] Kashiwagi, Itoh, "*Japan IT Services Opportunities and Contenders (Japanese Version): Competitive Analysis*" (#J42503), Oct. 2004, IDC Japan.

[2] Matsumoto, "*Japan IT Services Opportunities and Contenders (Japanese Version): Market Analysis*" (#J5080105), Sep. 2005, IDC Japan: p. 29.

[3] George Pohle, Peter Korsten, Shanker Ramamurthy, "*Component Business Model,*" IBM Business Consulting Services, 2005: p. 2.

[4] George Pohle, Peter Korsten, Shanker Ramamurthy, "*Component Business Model,*" IBM Business Consulting Services, 2005: p. 3.

[5] Ranking is based on Kashiwagi, "*Japan IT Services Opportunities and Contenders* (Japanese Version): Competitive Analysis" (#J42504), Jan. 2005, IDC Japan. R&D Spending as a % of Net Revenue is calculated based on the financial report of each company by Author.

[6] "*Minagiru Chinese and Indian IT Power*" (Flooding Chinese and Indian IT Power), Nikkei Computer, May 2, 2005 Issue: p. 54.

[7] http://www.jisa.or.jp/pressrelease/2005-1019.html

[8] "*The Abstract of the Strategies for Service Business in IBM,*" Gartner Inc, 2006.

[9] Michael A. Cusumano and Annabelle Gawer, "*The Elements of Platforms Leadership,*" MIT Sloan Management Review, Spring 2002: p. 53.

[10] http://www.eds.com/services/alliances/agility/

[11] http://www.eds.com/services/agileenterprise/

[12] http://www-128.ibm.com/developerworks/workplace/

[13] http://www.sap.com/usa/solutions/netweaver/index.epx

[14] http://www.oracle.com/applications/oracle-fusion-strategy-roadmap.html

[15] Frances Karamouzis, Allie Young, "*The Offshore Outsourcing Journey Goes Beyond Labor Arbitrage*" (G00131094), Sep. 29, 2005 Gartner Inc.: p. 3.

[16] "*Offshoring Kanzen Guide,*" S-open Offshore Kaihatsu Kenkyu-kai, Nikkei BP Shya, Tokyo, Oct. 25, 2004: p. 73.

[17] *"Offshoring Kanzen Guide,"* S-open Offshore Kaihatsu Kenkyu-kai, Nikkei BP Shya, Tokyo, Oct. 25, 2004: p. 75

[18] *"Offshoring Kanzen Guide,"* S-open Offshore Kaihatsu Kenkyu-kai, Nikkei BP Shya, Tokyo, Oct. 25, 2004: p. 44.

Chapter 6: Outsourcing Business

In Chapter 5, I analyzed the market condition of project-based System-Integration business and demonstrated the required strategies for SIers. As described in the previous chapter, the System-Integration business is the current core business for SIers, but the core business will gradually become outsourcing, though Japanese SIers have relied less on this business than US SIers have. The outsourcing business is becoming indispensable for SIers, but implementing the sound strategies seems harder because of the diversified business range. In this chapter, I analyze the market conditions of the outsourcing business and demonstrate the required strategies for SIers.

6.1. Definition of the Outsourcing Business

Outsourcing includes various kinds of concepts regarding both the range of targets to be outsourced and the variety of services to be delivered. In fact, it is a common business strategy for almost all industries, and not all the outsourcing deals are necessarily related to IT. SIers have provided various IT outsourcing services for long time, and as technology evolves, they have created various derivative services, expanding their business volume. For example, in the System-Integration business, SIers develop application programs for customers. In a sense, this development of programs is the same idea with production outsourcing in manufacturing companies, and from this application development service's viewpoint, SIers inevitably provide outsourcing services. However, we generally do not include this category of service

in the outsourcing business. Before we start to develop outsourcing strategies for SIers, it is important to clarify what the outsourcing business entails for SIers.

(1) Categorization from targets

We can categorize the outsourcing service by considering the target resources to be outsourced. Each outsourcing business has a different market condition, and the required strategy is different from each other.

Infrastructure Outsource: Infrastructure outsourcing includes the outsourcing of data centers, networks and desktop services. These are the most fundamental services in IT outsourcing. To distinguish this service from the traditional computer system operating service, which delivers operation engineers and provides only system operation, I define the category more strictly to include the IT assets transition from customer to outsourcers. Back in the beginning of the main-frame era, computer systems were owned by IT companies, and customers used these infrastructures and paid for as much time as they used. As computers became cheaper, customers shifted to owning them by themselves. In particular, downsizing the hardware accelerated the increase of IT asset distribution in the organization. As a result, the proportion of IT infrastructure among various IT investments in organizations has become the largest (See Figure 6.1-1). The off-balancing of IT infrastructure assets can contribute to make substantial financial conditions.

100%

21%

Cost for Internal Engineers

30%

1%

26%

NW

Cost for External Engineers

17%

SW

HW

0%

Japan (n=596)   US (n=1700)

Average Annual Turnover: Japan 78 Billion Yen, US 1.04 Billion Dollars
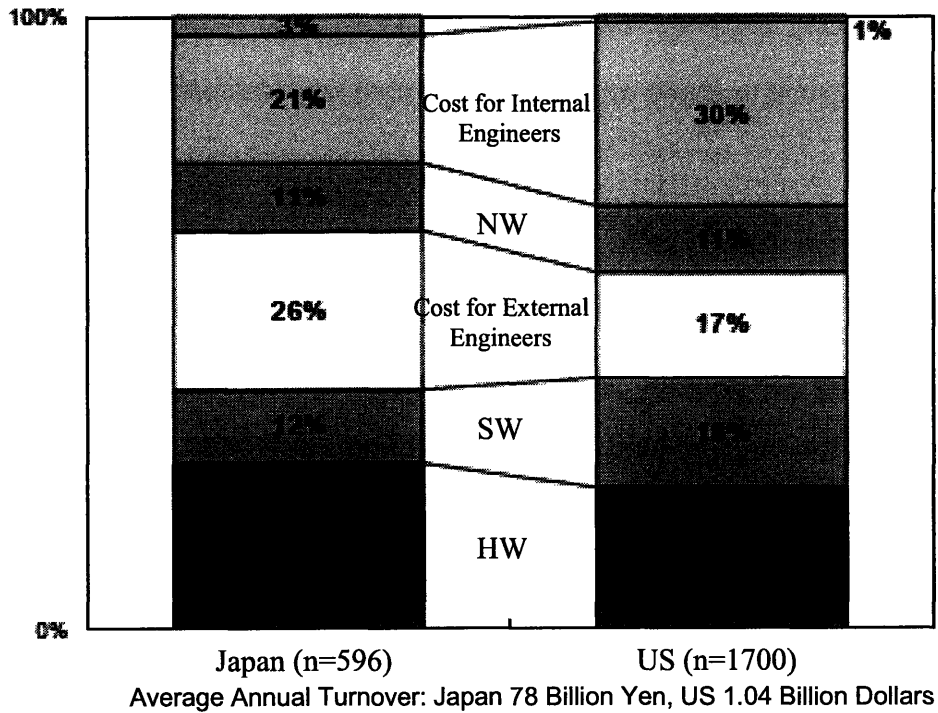
Source: Research Paper, Gartner, 2006[1]

Figure 6.1-1 Average IT Budged Distribution (Planned Base)

Applications Outsourcing: The Software-As-Services (SAS) is another outsourcing service. Customers have developed software as their own properties, and they have invested heavily to increase their software assets. At the same time, some of their application functions could be alternated by external application services. Specifically, after the advent of the Web technology, using external application services became drastically easier. Application Service Providers (ASPs) are the outsourcers that provide application services. Not only ASP but also another type of application outsourcing exists. Application outsourcing contracts can comprise a broad portfolio of services, such as application development, integration,

deployment and support services, as well as consulting/advisory services. They supply people, processes, tools and methodologies for managing, enhancing, and supporting custom and packaged software applications. The contract should be multi-year for ongoing application services. The typical project-based application development and application maintenance services after the deployment should not be considered as application outsourcing because the scope of the service is limited for specific system development and the ownership of the project and application asset does not change from the customer to the SIer.

Business Process Outsourcing (BPO): BPO is a business process management service that enables customers to focus on core strengths and to pursue new business opportunities. The business process will be optimized regarding both business value and cost efficiency by using IT and expertise. BPO also includes consulting services that help customers to adapt outsourcing services. In BPO, the ownership of business processes belongs to outsourcers, so traditional in-house business processing services such as temporary staffing services are not regarded as a kind of BPO. The concept of BPO itself is not quite new. For example, transaction-based business processing, such as printing, card settlement, and payroll calculation have been outsourced since mainframe era. The recent trend of BPO is its expansion of service area. It is beginning to cover more complex business processes and the whole process lifecycle of business units. IBM calls its services Business Transformation Outsourcing (BTO), differentiating them from BPO in terms of additional value creation. However, the basic concept is the hybrid service of BPO

and Business Process Reengineering (BPR). I regard these kinds of services as BPO.

(2) Categorization from contract types

In general, after a company has outsourced some resources, the infrastructure or services will be provided for the company only by the outsourcer. This model is the one-to-one type outsource. There is another contract model that pursues more economy of scale. That model is shared service. The shared service model features one-to-many contracts, and the resource and services of outsourcers are shared among customers. ASP belongs to this category. Whereas the shared services have economic advantages, they sometimes lose flexibility or optimization for individual customers.
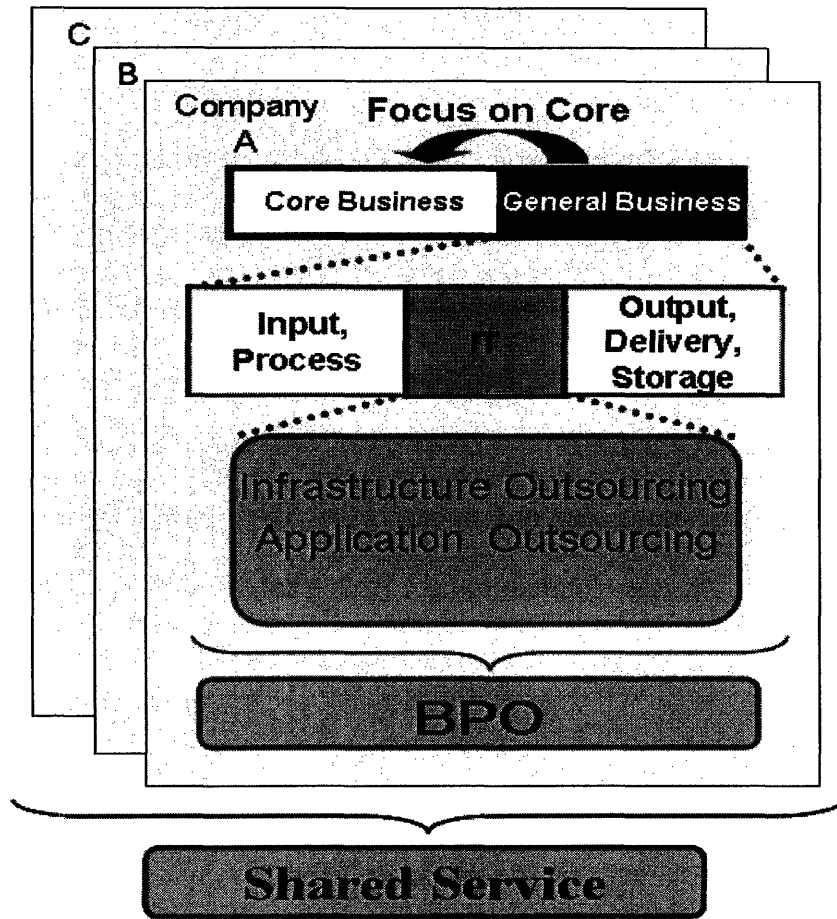
Figure 6.1-2 Outsourcing Models

(3) Geographical Types

In many cases, especially in US, outsourcing involves offshoring for further cost reductions. Offshore outsourcing is the geographical variation of outsourcing services that I defined above. In Japan, offshore outsourcing is more difficult compared to US because of the language problem. This problem prevents customers from offshoring IT services with their own bootstraps. In other words, SIers have many business opportunities in offshore outsourcing if they successfully create shared outsourcing centers in overseas.

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(4) Scale and Relationship

Strategic Outsourcing is the version of outsourcing in which outsourcers have an exclusive partnership with customers with vast outsourcing services, such as whole IT outsourcing or gross business process outsourcing. It is difficult to specify the business size, but a strategic BPO is generally a "mega-deal" that exceeds one billion dollars in contracted fees. On the other hand, Selective Outsourcing allocates specific services to the most relevant outsourcers. This type of outsourcing can mitigate the risks of Strategic Outsourcing. This categorization is based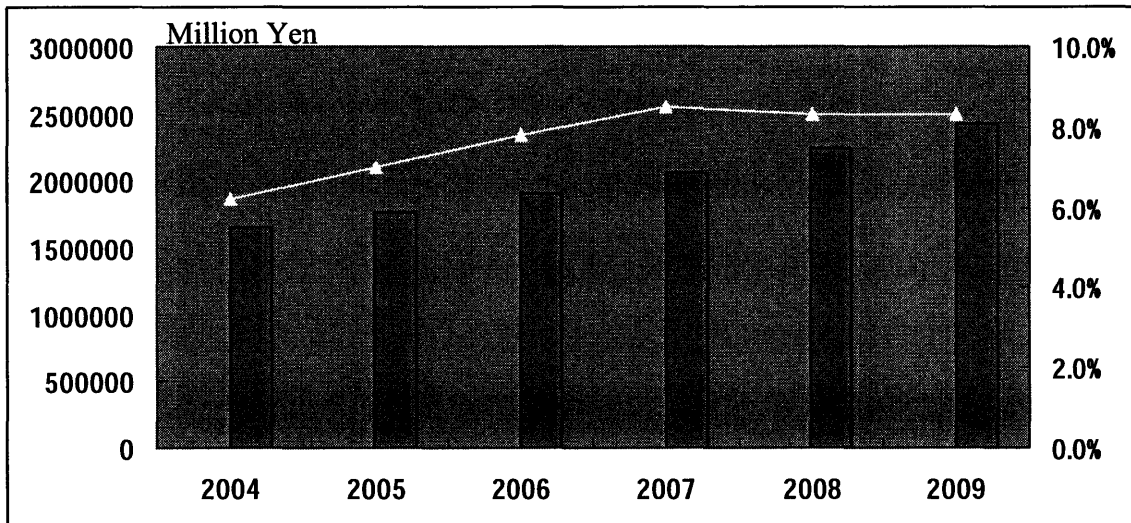 on the relative scale of the business or the relationship between a customer and an outsourcer, but we should distinguish between the two because each category uses a different strategy.

(5) Utility Computing

Utility computing is often used as a new IT business model, but in my definition, it is a kind of service charge method that can be adapted to the outsourcing business. The basic concept of Utility Computing is the pay-as-you-go model, so it is not limited only to outsourcing. Utility Computing provides a potential advantage in cost reduction for hardware and middleware. Customers do not need to have extra hardware or software for "just-in-case" scenarios. From the supplier's side, this technology enables outsourcers to develop shared services with fair and square service charges.

6.2. Market Overview

The market forecast shows that Japanese outsourcing business is growing at a 7-8% annual rate. This rate coincides with the growth forecast for the global outsourcing market. Before 2004, the growth of global outsourcing market seemed to grow faster than the Japanese market did, but the market caught up. The forecast market proportion of outsourcing versus project based system integration business is gradually shifting to the outsourcing side. This forecast illustrates the shift of the enterprise business model that potentially can accelerate outsourcing, as described in Chapter 5.

Source: IDC Japan, 2005[2]

Figure 6.2-1 Japanese Outsourcing Market Forecast

Market Share

Japan

US

100.0%

80.0%

60.0%

40.0%

42.4%

20.0%

0.0%

49.5%

50.5%

Project Based

Outsourcing

2001   2002   2003   2004   2005   2006   2007

Source: Presentation Paper, NTT Data Corporation, 2005[3]
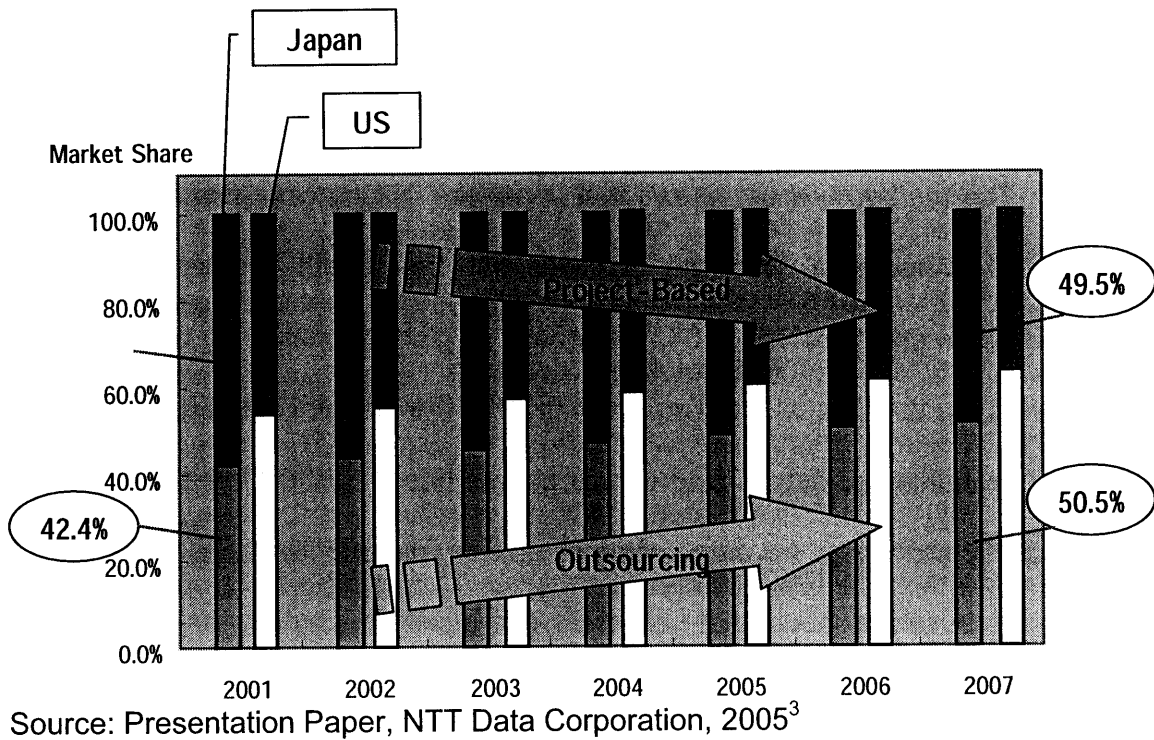
Figure 6.2-2 Market Share Forecast

If we look at the ratio of the proportion of outsourcing revenue to total revenue, the average of the top 8 Japanese SIers is 24.8%[4]. In the case of the top ranked US SIers, the number is more than 50% (Table 6.2-1). SIers have sought outsourcing business aggressively in the US, developing various solutions in line with active customers' demand for outsourcing. In the US, long term "mega-deals" were once announced one after another, but after several negative experiences, even traditional mega-deal providers, such as IBM, publicly announced that their deal sizes were getting smaller. This trend of diminishing size will continue because customers are trying to split their outsourcing deals into smaller pieces to introduce the principle of competition.

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Table 6.2-1 Top Ranked US SIer's Revenue Ratio of Outsourcing to Total Revenue of Services

	Revenue Ratio of Outsourcing to Total Revenue	Note
IBM	42%	IBM Global Service only
EDS	100%	
CSC	50%	
HP	N/A	Cannot calculate separately
Accenture	39%	

Source: Author. Ranking is based on Global Ranking of Software (SI business only), Software

Magazine Top 500[5]. The Author replaced SAP with Accenture because SAP is basically a product

company.

Table 6.2-2 Publicly Announced Outsourcing Mega-deals (Through Nov. 05)

Date	Vendor	Customer	Total Value ($ in billions)	Number of Years	Industry
February	Lockheed Martin	U.S. Federal Aviation Administration	1.9	5	Government
March	EDS	U.K. Ministry of Defence	4.4	10	Government
April	IBM	NiSource	2.0	10	Utilities
May	CSC	General Dynamics	1.6	7	Manufacturing
June	IBM and ACS	Disney	1.3	7	Services
July	IBM	Fiat	2.0	9	Manufacturing
August	CSC	DuPont	1.9	7	Manufacturing
September	EDS	U.K. Department for Work and Pensions	4.7	5	Government
October	IBM, Infosys and TCS	ABN AMRO	2.2	5	Financial Services
November	Convergys	DuPont	1.1	13	Manufacturing

Source: Gartner (December 2005)

Source: "*Gartner on Outsourcing, 2005,*" Dec. 14, 2005, Gartner Inc[6]

If we look at Japanese outsourcing market, we can find several characteristics.

First of all, the Japanese IT market basically has favorable conditions for the

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outsourcing business. Figure 6.2-3 shows the average proportion of IT investment in new business of each country. We can say that Japanese organizations spend a relatively small proportion on IT that supports new businesses. This is because more than 50% of their IT investment is used on maintenance and system operation. In other words, Japanese organizations cannot assign enough IT investment to new businesses because of the heavy load of maintenance and operation. These areas are, in general, the first prospect for outsourcing. The potential needs for cost reduction by outsourcing seem high.
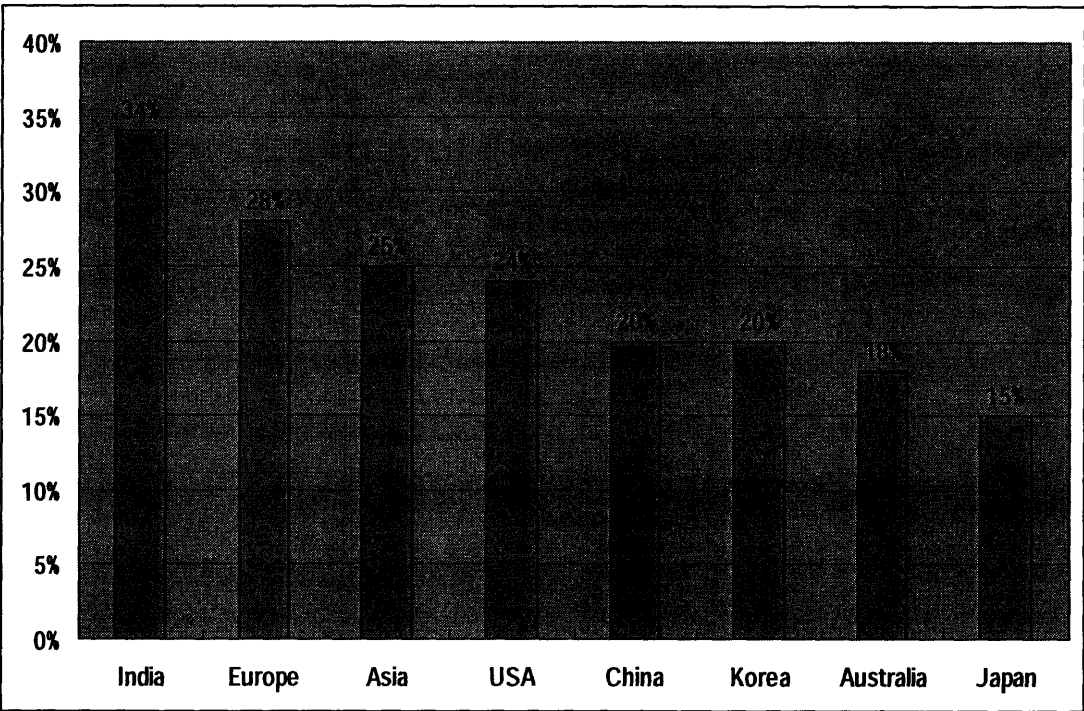
Source: Nikkei Computer, Jan 9, 2006 Issue[7]

Figure 6.2-3 Customer IT Budget Spending in New Business

Another characteristic of Japanese outsourcing is that the outsource destination

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is almost limited to Japan. This limit clearly occurs because of the language problem. The market view of each category of outsourcing business is described below.

(1) Infrastructure Outsourcing

Profits and growth are becoming great concerns for infrastructure outsourcing providers because the service is becoming the commodity. The major providers in this category will continuously develop utility computing, system virtualization, and automation technology to lower their operation costs. The shift to utility-based charges will make a significant impact on this business. Utility computing and virtualization will accelerate shared infrastructure services, and this change will provide another opportunity for further growth and cost reduction.

(2) Application Outsourcing

We can expect two different dynamics in this business. One is large-scale exclusive outsourcing deals that cover whole application lifecycle. Typically, this type of outsourcing is eligible for legacy applications. However, after some mega-deals have experienced difficulties with service-level agreements and the lack of flexibility, this kind of outsourcing has increasing strategic implications.

The other major trend is SOA-based selective outsourcing. Web application services are well-suited for business component strategies, and organizations will be able to align their application sourcing decisions to business objectives.

Many application package vendors are trying to shift the focus of their IT delivery from products to services. After 2006, major application package vendors

will expand the SAS model, as we have already seen in the case of Salesforce.com. The SOA-based SAS will gradually erode the business from custom application SI business.

(3) BPO

Many IT vendors in overseas have made significant efforts to expand BPO, because customers have been looking for better opportunities to reduce cost, and the business size of BPO was much larger than that of IT outsourcing. The major services in this category globally are as follows.

• Human resources (HR)

• Customer care

•Finance and accounting (F&A)

• Procurement, Logistics, and Supply chain management

Globally, logistics outsourcing accounts for huge proportion of outsourcing business, but in Japan, HR and Customer care outsourcing are leading this market. Smaller companies adopt outsourcing because of its minimal need for resources, but larger companies prefer to spin off their organizations as outsource service providers. This situation reflects the fact that large Japanese organizations resist to cuts in staffing. Moreover, many Japanese organizations still have not been able to distinguish their core business from their current business portfolio.

100 Million Yen
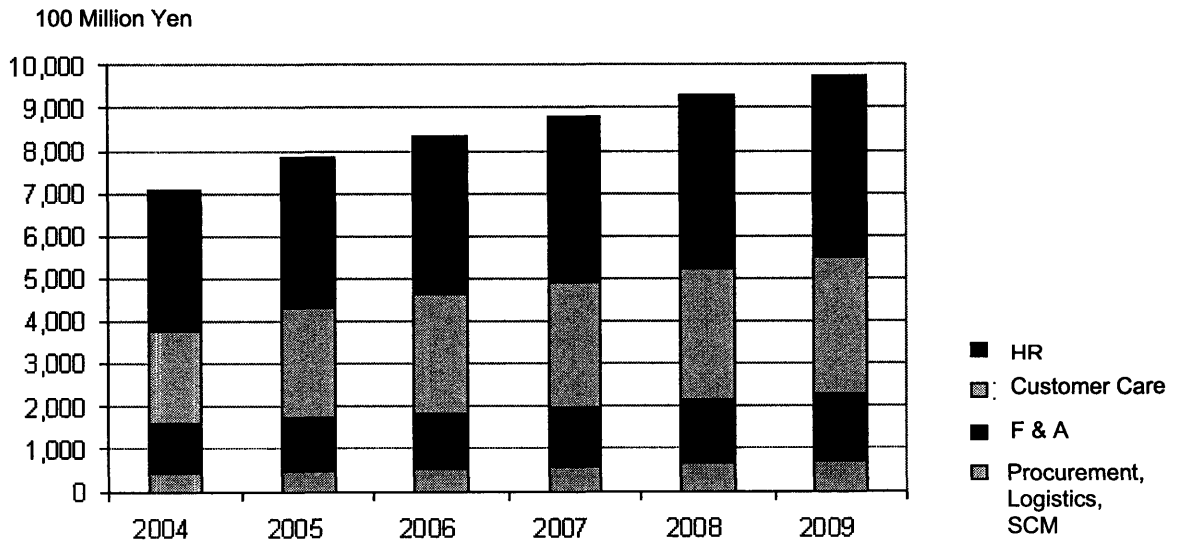
Source: IDC Japan Jan. 2006[8]

Figure 6.2-4 BPO Market Distribution in Japan

Even though the BPO market is steadily growing in Japan, most of it comes from simple office-work support business that is far from IT service. Moreover, the business size of each deal is, thus, small. As Table 6.2-3 shows, the number of BPO deals that were made by Japanese IT companies is very small. The reasons for this slow approach of IT vendors are their lack of business skills and of cost competence. Unlike overseas BPO, Japanese BPO encounters difficulty using low-cost offshore labor.

Table 6.2-3 Main BPO Deals of Japanese IT companies 2004-05

Date	Vendor	Customer	Subjects
07.05.05	Accenture	NKSOL	Securities back office BPO Partnership with Japanese large securities company
12.05.05	IBM	Omron	Management of accounts receivable
09.21.05	IBM	JARC	Mortar vehicle recycling fee refund operation
03.07.05	IBM	Pioneer	Customer contact center
02.23.04	IBM	Mitsui life	Back office of life insurance Customer contact center
10.01.05	NTT Data		Computer Based Testing management
05.02.05	NTT Data		HR shared service
11.08.05	NEC	Fukuoka City	Call Center

Source: Author, based on News Release from Each Corporation

6.3. Five-Forces

Five-Forces analysis identifies the severe competition in this market. Japan's large enterprise IT business has been oligopolistic. From this viewpoint, the initial barrier to the outsourcing business is high. Specifically, an exclusive mega-deal is limited to only SIers or hardware vendors. However, the SAS model for outsourcing has quite a low entry barrier because customers can easily adopt SAS, and SAS providers can start their business from narrow service scope.

In terms of the relationship with suppliers, the entry situation is moderately easy, the same as for the SI business, because the main suppliers are basically the same as for the SI business. Hardware vendors could be potential partners for SIers if these vendors' focuses remain in the outsourcing infrastructure business.

As buyers, customers have high bargaining power. Specifically, in the case of selective outsourcing like SAS, cost is huge factor. In terms of exclusive outsourcing,

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the initial bargaining power of customers is high, but in general, the customers'

switching cost is also high. Regarding substitutes, various kinds of players are

providing niche services. For example, ASP providers are emerging as substitutes

for application outsourcing. Current low-cost BPO players are potential partners for

SIers because they have human resources for business processing, but in general,

they do not have enough IT expertise. The intensity of rivalry is very high. Hardware

vendors are strong players in this business because they can provide whole

outsourcing services.

Barriers to Entry (Moderate)

- Oligopolistic SI market
- Existing long term relationship with customers
- Easy to start SAS

New Entrant

Suppliers

Industry Competitors

Intensity of Rivalry

Buyers

Substitutes

Power of Suppliers (Low)
- Hardware vendors and software vendors use SIers as sales channels
- SIers have strong buying power
- Possibilities to make alliances

Power of Buyers (Moderate)
- Initial bargaining power is high
- Switching cost is high

Intensity of Rivalry (High)

- Global players have global experiences and global outsourcing centers
- Intensive price competition in infrastructure outsourcing services
- Consulting service is necessary to acquire new outsourcing

Availability of Substitutes (High)

- Hardware vendors have enough capabilities
- Software product companies are shifting to SAS business
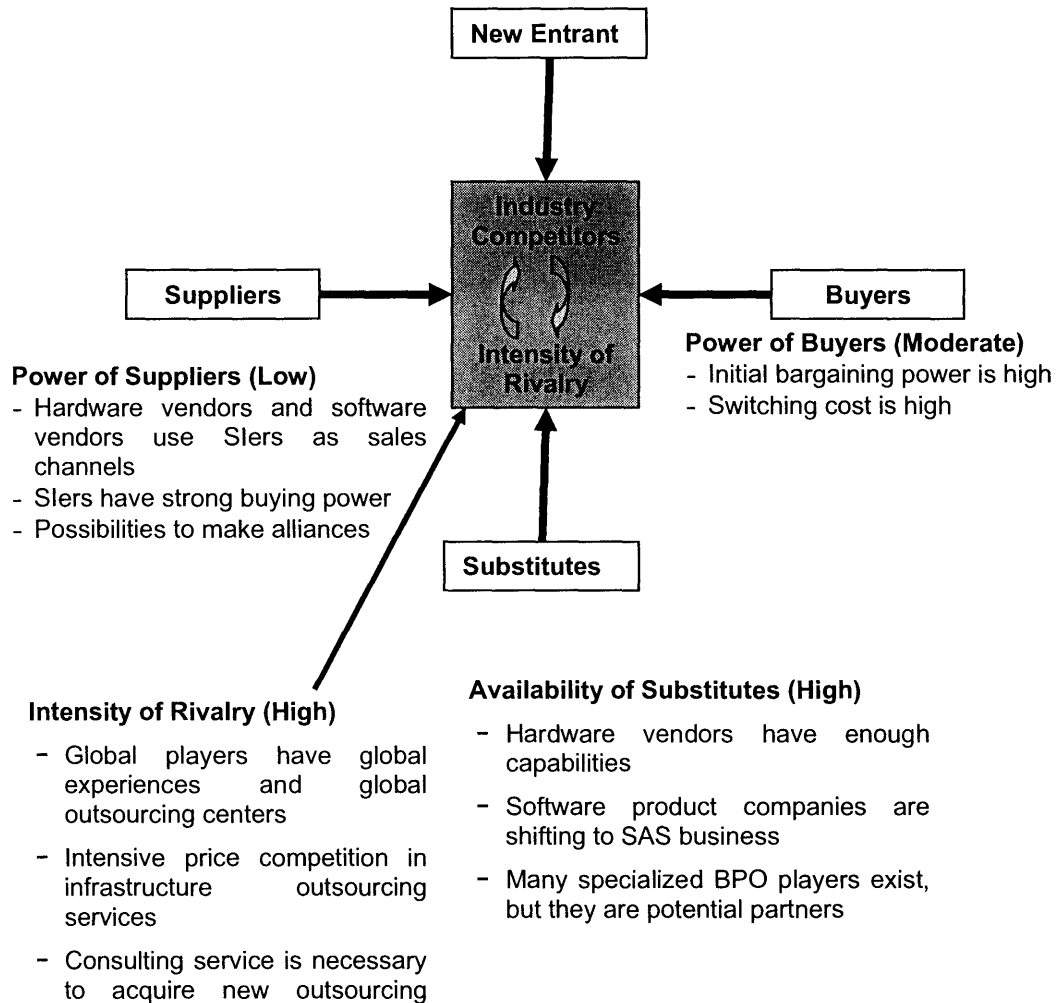- Many specialized BPO players exist, but they are potential partners

Figure 6.3-1 Five-Forces - Outsourcing Business

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6.4. Customer Segmentation

The Delta model shows five different customer segments based on the kind of customer bonding. In the Low-Cost segment, the main motivation for outsourcing is to find low-cost opportunities. Infrastructure outsourcing is the main service for this segment. In the Differentiation segment, customers expect to use specific SAS. Cost reduction alone is not enough for this segment. Advanced application services, open connectivity, and ease-of-use are important. In the Customer Integration segment, customers outsource mission-critical systems, which are provided by shared systems. A shared banking center is one of the examples. Though the service format offers shared services, the customers' switching cost is very high, and long relationships between customer and outsourcers are required. Another format in this segment is BPO. Although the outsourced business will be a non-core business for the customer, the customer relationship should be much stronger than with general IT outsourcing. Moreover, the customer itself must to some extent have a component business model in order to adopt BPO. In the Restricted Access segment, customers use industrial standard systems that outsourcers provide. ATM network systems or online settlement service networks provide examples. In this segment, customers in the industry have no choices but to use the services the outsourcers provide. In the Dominant Exchange segment, customers have exclusive outsource contracts with outsourcers. The outsourcer and the customer are strategic IT partners. From the outsourcer's viewpoint, the contract is in the System Lock-in position.
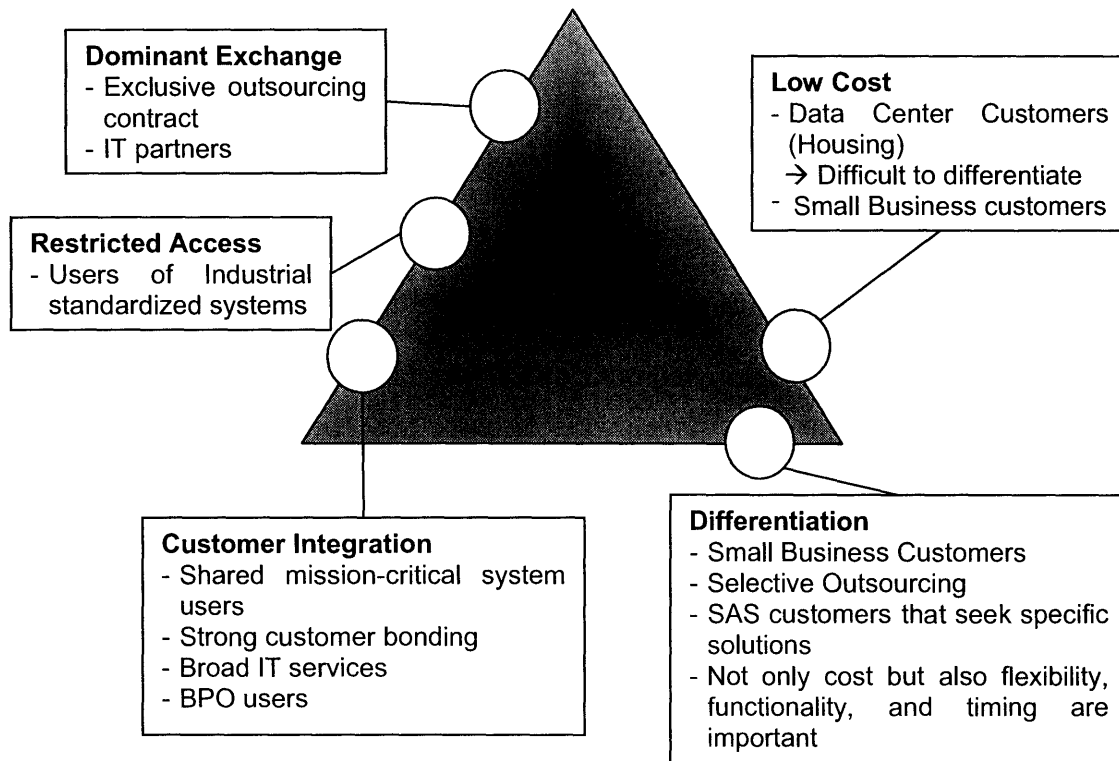
Dominant Exchange
- Exclusive outsourcing contract
- IT partners

Restricted Access
- Users of Industrial standardized systems

Low Cost
- Data Center Customers (Housing)
→ Difficult to differentiate
- Small Business customers

Customer Integration
- Shared mission-critical system users
- Strong customer bonding
- Broad IT services
- BPO users

Differentiation
- Small Business Customers
- Selective Outsourcing
- SAS customers that seek specific solutions
- Not only cost but also flexibility, functionality, and timing are important

Figure 6.4-1 The Delta–Outsourcing Business

6.5. Bundle of Competencies

(1) Strengths

The strengths of SIers in outsourcing business are their broad IT services and technological neutrality. These characteristics are strong advantages in exclusive outsourcing or shared services. Additionally, the existing customer relationships through SI business also constitute an advantage for them.

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(2) Weaknesses

Before customers adopt outsourcing services, they have to decompose existing IT assets and businesses and decide what operations should be outsourced. Business and IT consulting services are essential for this process, and consulting firms have strong advantages in these services. Additionally, global players can provide advanced examples of outsourcing performance overseas. These data could be helpful to determine the appropriate level of service, which is a most difficult and critical point in a large-scale outsourcing business.

6.6. Environmental Scan

(1) Market Factors

In exclusive outsourcing businesses, the contract time is long, and during the contract period, there could be significant changes in both the market conditions and the customer's business conditions. For example, many Japanese banks have experienced M&A, and outsourcers that had contracts with acquired banks suffered significantly through these transactions.

6.7. The Scope of Strategies

(1) Product Scope

Online, on-demand delivery of applications will advance significantly. Specifically, this service is helpful for SIers to cultivate small business customers' market. SAS allows small companies to get a good-enough enterprise application

with reducing IT cost. While SAS is suitable for small companies, it also attracts significant numbers of large enterprises.

Although most organizations use selective outsourcing approaches for application outsourcing, they need to manage and control many outsourcers. Additionally, adopting many different architecture systems from different providers may disrupt their application service operations and the performance of business. Therefore, providing a wide range of SAS components in coherent architecture is important for SIers. This strategy will help SIers to strengthen customer bonding.

(2) Service Scope

The service scope of Business Process Outsourcing is a critical decision point for SIers. BPO necessarily needs to have unfamiliar market skills and resources for SIers. Therefore, SIers should adopt selective approaches for the BPO businesses. SIers can gain the operational excellences and accumulate deep expertise of the businesses by focusing on particular vertical markets.

(3) Scope of the Customers

As the Delta model shows, SIers can obtain various ranges of customers by adopting appropriate outsourcing services to each customer segment. Specifically, the current customers of system integration business are the potential customers. Outsourcing business can help SIers to develop small business customers. It also can help them to strengthen customer bonding if they successfully achieve the position of exclusive outsourcing partners.

6.8. Strategic Trusts

(1) Google vs. Microsoft

To understand the fundamental momentum of outsourcing in software business, the business model of Google in contrast with Microsoft is very useful. Google provides various services through the Internet. Even though its business consists of advertising, the basic business concept is that of a service business via a network, not a business based on installing products- . Google is starting to shift data and processing from a user-side desktop to a network-side service engine. Even if we store information on private desktops, it has been seamlessly connected with the web world by Google. On the contrary, the business of Microsoft is based on product installation. It has shifted information and process from a central mainframe to desktops, enjoying the benefit of the commoditization of PCs. Of course Google will not be able to replace whole desktop functions, at least in the short term, but it will be able to replace some of them with network-side services, adding extra value. These evolutions happen mainly in the consumer business world, but we will also be able to find the same momentum in the enterprise business world. The important thing is that we have realized that SAS has the potential to reduce costs and to provide more value than installed applications. SIers should understand the nature of application outsourcing from this viewpoint.

(2) Outsourcing Adoption Framework

From the customer's viewpoint, not all the outsourcing models are applicable. SIers should propose the best outsourcing solution with a deep understanding of the customer's business strategy, management and business process structure, resources, and organization. The customer operating model framework is useful to estimate the most appropriate outsourcing services from the viewpoint of the desired level of business process integration and business process standardization (Table 6.8-1). The diversification model customers operate their business mainly under the initiatives of the business units. For the customers in this category, the independent optimization is more desired than standardization or total optimization. Therefore, selective outsourcing is better than the exclusive kind, and the SAS model will work for them.

The customers in the Coordination category require high integrity in business processes, but business units lead their business. Developing enterprise architecture will be necessary to achieve balance between business integrity and autonomous business management. IT governance consulting will open customers to outsourcing, and SOA-based application outsourcing will be a good solution.

The customers in the Replication category operate standardized businesses in preference to independent business units. The centralized process of design control is essential for efficiency, and IT should be managed centrally to enjoy economies of scale. Therefore, exclusive infrastructure outsourcing will be applicable for these customers.

The customers that belong to the Unification category manage business with high levels of process integrity and standardization. The standardization of IT is necessary, and shared service is useful to maximize operational efficiency. Therefore BPO will be one of the best solutions for them.

Table 6.8-1 Four Operating Models

High	*Coordination* • Shared customers or suppliers • Independent transactions with a need to know customer interactions • Operationally unique business units • Autonomous Business Management • Business unit control over business process design • Shared customer/supplier data • Consensus process for designing IT Infrastructure services; IT application decisions are made in business units	*Unification* • Customers and suppliers may be local or global • Globally integrated business process, often with support of enterprise systems • Business units with similar or overlapping operations • Centralized management, often applying functional/process/business unit matrices • High-level process owners design standardized process • Centrally mandated databases • IT decisions made centrally
Low	*Diversification* • Few, if any, shared customers or suppliers • Independent transactions • Operationally unique business units • Autonomous business management • Business unit control over business process • Few data standards across business units • Most IT decisions made within business units	*Replication* • Few, if any, shared customers • Independent transactions aggregated at a high level • Operationally similar business units • Autonomous business unit leaders with limited discretion over process • Centralized (or federal) control over business process • Standardized data definition but data locally owned with some aggregation at corporate • Centrally mandated IT services
	Low	**High**

Busines Process Integrity (vertical axis label)

Source: J.Ross, P.Weill, and D.Robertson, *Enterprise Architecture as Strategy: Building a Foundation for Business Execution*, HBS Press, forthcoming June 2006

(3) Shared Services

The basic idea of Shared Services is to reduce the initial and running costs of systems by sharing system resources. I categorize Shared Services into three different groups based on the characteristics of the systems: the Industrial Standardized Shared System, Traditional SAS, and SOA-based SAS. The Industrial Standardized Shared System is the one that is developed to provide standardized

applications or processing services for a specific industry, connecting various participants in the industry. The ATM network, which connects all banks, and Credit Card Authorization Networks, which connects financial institutions, credit card companies, and member stores, are examples of this category. Thanks to their neutral position, SIers have had advantages in developing industrial standard shared systems or shared systems for multiple users. In terms of transaction-processing shared systems, which connect various systems of participants and relay messages, although SIers still have some advantages in multi-vendor technology, these advantages are diminishing because of the penetration of open technology. The systems in this category are relatively large-scale, and huge investment is necessary. Therefore, the business is limited to only large-scale SIers. Once a SIer acquires the business, it can have a long and stable revenue source. Although the process to select a contractor has political aspects, SIers should energetically seek the opportunities to acquire new businesses in this category because of the possible stability and long-term prospects.

Regarding Traditional SAS, SIers have developed these services as the extension of individual SI businesses. In many cases, Tradition SAS covers a large breadth of applications in a system. For example, a shared banking center for regional banks represents this business of SIers, but the service scope is quite different from the general definition of SAS. In a shared banking center business, customers have a significant influence on the design of service specifications, and the platform and application are proprietary. Inevitably, target customers must be micro–segmented, and the number of possible customers is limited from the

beginning. The flexibility of the system might relatively low, but it can provide high credibility and security with low cost compared to individual custom systems. This type of system is suitable for a commodity but mission-critical business. As customers evolve to the component business model, they will be able to outsource mission-critical but non-core businesses more. This business category still looks lucrative.

Application Service Providers (APS), or package providers, have developed more open and flexible SOA-based SAS. Each service is micro-segmented and modularized, and it focuses on a specific category in contrast to a traditional SAS. SOA-based ASP advocators have disclosed application interfaces, middle-ware, and development environment so that customers or even other software products companies can flexibly develop and connect their applications. This strategy aims to create the community around their own services, such as open source development communities. Salesforce.com provides an application marketplace, allowing small software developers to have better customer access. This service could possibly have a "Long Tail" (Chris Anderson)[9] effect. The marketplace has the potential to be a disruptive sales channel of application for small product developers. It also provides a good opportunity for small business users to introduce application services at lower cost. It is too early to evaluate whether the software marketplace strategy works well or not, but the shift from custom-application SI business to SAS will be steady and ongoing. SIers must develop horizontal variations of SOA-based SAS to catch up with the shift from SI business to SAS. Additionally, the efforts to develop SAS platforms, such as security services, settlement services, billing

services, and application frameworks, are essential. As with the application framework strategy in an SI business, SIers should aggressively try to find the opportunities to make their own SAS platform the common standard among their partners. Sharing an SAS platform will expand application service assets and interoperability among service providers.

SOA-based SAS looks much more flexible, easy to use, and cost-effective than the traditional SAS or custom application. However, SIers should carefully consider what is appropriate for SOA-based SAS. If the customer business has not been well modularized yet, providing interdependent application service does not work well. It is also important to provide an appropriate scope of the service. A too-small component is not enough, and vice versa. Deep insight into customer business and foresight is necessary to develop the right service.
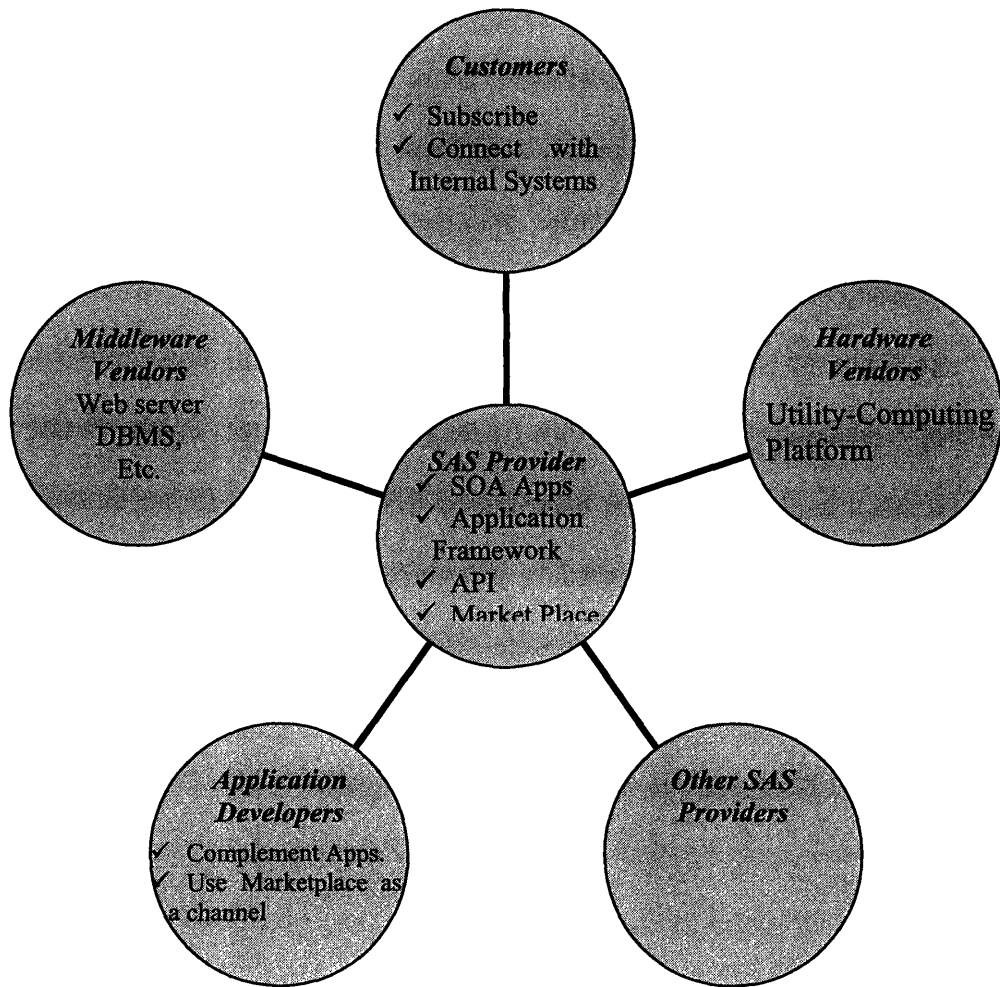
Figure 6.8-1 Software Eco System of SAS

(4) Utility Computing

Whether the Utility Computing business model it can make significant impact on exiting business or not remains unclear. If we evaluate this technology only from the viewpoint of the pricing method, we cannot figure out its influence on IT business. The technology should be further improved in some areas, such as Virtualization,

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Autonomic, and Openness, because we still do not have any standardizations in these technologies. One of the huge differences between the public utility and the current utility computing model is exclusivity. However, de facto technological standards might eventually rise, and this improvement might lead to the emergence of dominant players in this service. Additionally, application products vendors are trying to expand their application services on their open-technology-based application platform, attracting other application developers. If these possible future platform leaders integrate these services, the shift from an owned system to utility-based outsourcing will have a significant impact on current Slers' business. The utility-computing technology heavily relies on hardware vendors' technology, and they will continuously improve it. The key to control this technology is having the assets of application services. Even though hardware vendors can provide utility-based infrastructure services, they need services that are implemented on the infrastructure. Developing broad SAS solutions that include application frameworks will allow Slers to align their business with Utility Computing.

(5) BPO

BPO consists of IT, business skills, and human resources. The nature of this combination makes this business difficult for Slers. Slers must take the risk of hiring additional laborers. If we apply the familiarity matrix, BPO is new/unfamiliar or, at best, new/familiar in both the market and the service. Using a joint venture or acquisition is the best way to start this business. In fact, when we look at the IT companies overseas that have aggressively dealt with BPO, we find that they made

significant efforts to acquire business knowledge from the outside (Table 6.8-2).

They also developed low-cost operation centers in offshore countries.

Table 6.8-2 Main BPO-Related Acquisition or Alliances Overseas

Date	Company	Acquired Company Partner	Services
02/06	IBM	Viacore	Supply chain
04/05		Healthlink	Healthcare consulting and services
02/05		Equitant	Management and optimization of the Order-to-Cash cycle for large companies
12/04		Maersk Data and DMdata	Global transportation and logistics industry knowledge
11/04		Liberty Insurance Services Corp	U.S. business-process services and solutions operations of RBC Insurance
06/04		Daksh eServices	BPO company in India
03/05	ACS	Mellon Financial Corporation's HR consulting and outsourcing businesses	HR outsourcing
		Transport Revenue division of Ascom AG	International transportation services industry that will expand ACS's portfolio in the transit and parking payment markets
01/05		Superior Consultant Holdings Corporation	Healthcare Business
07/04		Heritage Information Systems	Clinical management and cost containment service offerings in the commercial and state healthcare industries
02/04		Truckload Management Services, Inc.	BPO for transportation Industry
02/06	CSC	Raytheon Technical Services Company (alliance)	U.S. Army War Fighter Training Support Program
03/03		DynCorp	IT Services - U.S. Federal Govt.
01/03		InfoSer	IT Services – Italy
12/00		Mynd Corporation	IT Services - Financial Services
11/00		ScandiHealth	IT Services – Denmark
04/01		Softlab Limited - UK	Software/Services - IT Services
05/00		BHP Information Technology, Proprietary Ltd.	IT Services
03/06	Accenture	Savista	Back-office business-process outsourcing (BPO) capabilities
06/05		Capgemini's North American Health practice	Health & Life science capabilities
03/05	EDS	Towers Perrin (JV)	HR outsourcing
08/04		Alliance with Siebel	Industry specific BPO
		Fiserv Health	Health care payer BPO

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Date	Company	Acquired Company, Partner	Services
04/10	Hewitt Associates	Exult	HR outsourcing
01/04	Mercer Human Resource Consulting	Synhrgy HR Technologies	HR outsourcing

Source: Author, Based on the News Releases of Each Company, 2006

As I mentioned in "6.2 Market Overview," it might take a while before large Japanese organizations adopt BPO beyond just data entry or simple back-office processing. However, as organizations transform to the component business model, BPO will be one of the solutions for their advantages. SIers should strengthen business-consulting services that help customers discriminate core business is necessary.

The BPO strategy can be decided by the matrix of customer objectives and business complexity. Figure 6.8-2 shows the scope-matrix of BPO. SIers need to decide which business to commit to and how far they commit to it. The economy of scale is an important factor when SIers choose their business scope. More providers will try to replicate BPO offerings from one industry to another, adopting existing tools, methodologies, and knowledge, to maximize economies of scale. In addition to this horizontal focus, vertical-industry-specific BPO, such as mortgage processing in banks, patient records management in healthcare and claims processing in insurance, will expand. Moreover, as business modularization goes further, industry-specific business, which was once considered a core business, will begin to be outsourced.

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In terms of global BPO, the cost-competent model is not sustainable for as long. Specifically, Japanese organizations cannot reduce cost easily by adopting offshore BPO because of the language problem. Any extra value such as global centralization of back-office or non-stop services using a time difference is required for SIers, besides overcoming the language problem.
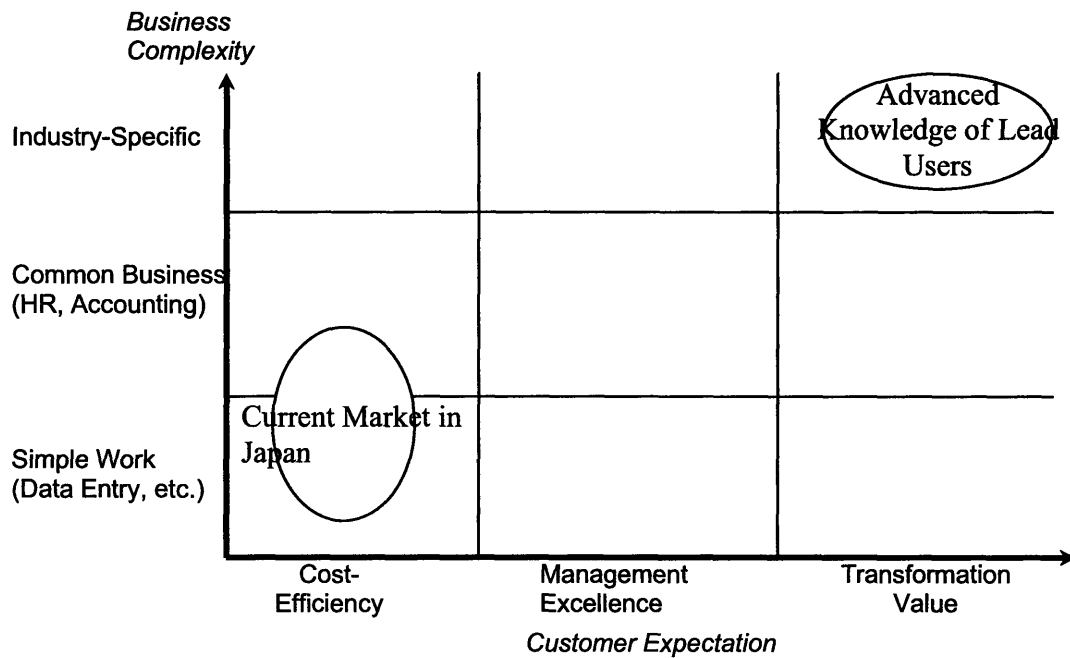
Business
Complexity

Industry-Specific

Common Business
(HR, Accounting)

Simple Work
(Data Entry, etc.)

Advanced
Knowledge of Lead
Users

Current Market in
Japan

Cost-   Management   Transformation
Efficiency   Excellence   Value

Customer Expectation

Figure 6.8-2 Scope of BPO

6.9. Conclusion

The outsourcing business is expected to show solid growth, eroding project-based business. This trend coincides with the global trend of outsourcing, but each business deal in Japan is still smaller than any US one, and the proportion of

outsourcing business to overall revenue of Japanese SIers is much smaller than for US SIers'. These business circumstances arise from two significant characteristics of Japanese organizations, mentioned below.

- Japanese organizations prefer to have a customized application rather than to use ready-made applications.

- In particular, large organizations prefer to use internal sourcing that includes subsidiaries.

However, customers have grown accustomed to the "good-enough" application software after the advent of the Internet. Additionally, customers have started to adopt the component business model, which encourages them to adopt outsourcing services for non-core business. Moreover, they have become highly cost-sensitive in IT investment. Therefore, SAS and shared BPO seem lucrative from now on.

The Five-Forces analysis indicates the existence of potential business partners such as hardware vendors and specific BPO providers, although the market is highly competitive. The DELTA model analysis shows both new and existing potential customers. Shared services are the useful tools for mid-to-large sized SIers to expand their business among small business customers that these SIers have experienced difficulties having relationships with. Current customers of SI business are good targets which SIers may upgrade to being exclusive outsourcers.

In terms of strategic thrusts, I demonstrated four different strategies. Firstly, SIers should take the appropriate outsourcing approach by assessing the operating model of each target customer. The Four Operating Models framework is helpful for

this assessment. Secondly, SIers should aggressively pursue business opportunities in shared services. The Industrial Standardized Shared System provides a steady revenue stream and various related businesses. SAS solutions will help SIers to supplement the decrease of project-based system integration business and to attract small business customers. In SAS business, creating collaborative relationships with complementors is necessary. Developing an SAS platform that includes open infrastructure, standard service functions, and an application framework and sharing it with partners will allow SIers to be the center of the new software eco-system. Thirdly, SIers should develop utility-based computing solutions as one of the required platform technologies for the SAS platform. An alliance with hardware companies is one of the possible strategies to create the solutions. Fourthly, SIers should understand the risk of BPO. Assessing the familiarity of the market and the service will be helpful to determine the appropriate entering format in this business. Moreover, focusing on the scope of service from the viewpoint of both industrial breadth and value proposition to customers is essential in order to reduce risks and to maximize profits. The business consulting services are useful to help Japanese organizations, which generally have interdependent internal organizations and prefer to use internal resources, to adopt BPO. Unlike SIers in overseas, Japanese SIers will not be able to enjoy cost reduction from offshore BPO because of the language problem. Developing shared service centers in Japan for horizontal markets will provide better performance than propelling offshore BPO.

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Endnotes for Chapter 6

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Chapter 7: Open Technology

The phrase "Open Technology" contains two different concepts. One is the accessibility to the technology. This concept means that we can adopt and improve technologies as much as we like. Historically, Intellectual Property Rights (IP) have protected technology, and creating IP implied having better opportunities in business settings. However, sharing IP sometimes can provide better opportunities for expanding market share and improving products. Open Source Software is this kind of concept. The other concept is the open architecture of software. Like Microsoft, the integrated proprietary standard can provide significant advantages for its owner if it successfully acquires market share, but sometimes it is more important for the market as a whole to create a standard technology that enables modularization of technology and establishes interoperability in the industry. In particular, the standardization of communication interfaces between computers, applications, and business processes is quite useful for expanding the business landscape for both IT providers and IT users. This standardization is one of the important elements of open architecture.

The maturity of technology accelerates the modularization of software because the commoditization of technology allows new entrants to introduce decomposed modules into the market. At this moment, the proprietary integrated software providers must revise their software products to enable the adoption of the modular software of others. The modularization of software is another essential aspect of open architecture. The shift to modularization possesses the opposite momentum of

OSS because stable interface, function, and service are important and because the source code is hidden behind the interface.

Since the advent of the Internet, the concept of open technology has become extremely popular in the IT industry. In fact, from the technological viewpoint, the open technology has become the essential element of the SI business. However, from the business perspective, open technology often erodes the established business model of IT companies. It has the potential to accelerate paradigm shifts among existing IT businesses.

In this chapter, I focus on two significant elements in open technology: Open Source and open architecture. I analyze the impact of these open technologies on SI business and propose sound strategies that facilitate the expansion of SIers' business.

7.1. Open Source

7.1.1. The Analysis of Open-Source Penetration

In software business, we can categorize software as two different types. One is proprietary software and the other is Open Source Software. Originally the concept of free software was popular in the software industry. There are several controversies over the definition of free software and OSS, but to put it simply, we can say that OSS is a kind of free software that is obliged to disclose its source code. The disclosure of source code created a collaborative community-based voluntary network of developers.

As OSS has become popular, some software product companies are necessarily trying to protect their own proprietary standards. The competition between Linux and Microsoft or My SQL and Oracle are the typical examples of this protective effort. However, the reason that users chose OSS, which was inferior to proprietary products in quality or function, deserves attention. Moreover, why do developers such as IBM invest in OSS, which kills their own product business? In this section, I analyze the strategic intention of some IT companies and the motivation of users that adopt OSS.

(1) Developer Viewpoint

● Competitive Strategy

Metcalfe's law states that the value of a network equals approximately the square of the number of users of the system. In the networked business environment, one technology could have a dominant position in the market. Of course the company that has the dominant market share tries to make its position sustainable, but others try to prevent it from monopolizing the market. This dynamic competition encourages technology companies to have alliances with partners and to share technologies in order to compete with the dominant player. Sun Micro Systems' Java followed this type of strategy.

● Selective Adoption

Some kinds of infrastructural software are better suited for the collaborative development that is one of the great advantages of OSS. For example, some kinds

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of infrastructural software are essential for various systems, and they clearly have the greatest market potential as measured by adoption rates. However, this type of software usually has few opportunities for differentiation regarding function and features. Additionally, these kinds of software also have little potential to make profits even though the software itself is quite important. Therefore, OSS-based community development is useful to develop and maintain this type of software. Samba exemplifies this kind of development.

- Marketing Strategy

Some IT companies donate their own proprietary software to the open-source community because they expect open-sourced software to leverage their product businesses. It amounts to the same strategy as providing entry software freely. Both strategies can help the company to develop its market and acquire new customers. Undeniably, the criticism arises that this type of free software is nothing more than "Abandon-ware" or "Orphan-ware." Oracle, for example, is taking this approach for its database middleware business.

- Software Improvement Strategy

Disclosing the source code of software often contributes to improve the functionality and quality of the software product and to expanding its market share. For example, Computer Associates open-sourced its Ingres DB in 2004[1], following this strategy. However, this strategy necessarily makes the products companies give up their IP. Additionally, the revenue from the product selling generally decreases

after the product is open-sourced. Therefore, the software product companies that take this strategy must create the alternative business models that can provide new revenue resources.

● New Business Opportunities

Some companies support OSS because they find new business opportunities around OSS. This strategy is straight-forward, and has many business variations. The Linux distributor is one of the examples of this strategy. SIers also support OSS because they can find integration businesses around OSS products because many of OSS products do not have the established support services of the developers.

(2) User Viewpoint

In the general business of enterprise IT, customers are not interested in whether the software is open-source or not. The major criteria to adopt software are its performance and reliability, easiness and flexibility, and total cost of ownership. First of all, the software should meet the customer's requirements in functionality and quality. From this viewpoint, proprietary software products have a significant advantage, but at the same time, in some simple infrastructural software, OSS has already had competitive advantages. Second, customers expect to have enough support for software from its developers or from SIers. The existence of strong support vendors and a large market share of the software are essential. Some OSS meets this requirement. Third, customers prefer lower-cost software. Basically OSS

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is cheaper than competing proprietary software. If these three essential criteria are satisfied, customers are willing to adopt OSS.

The fundamental characteristic of OSS can fascinate some specific customers, such as the government and public organizations. These organizations try to avoid having their systems be black-boxed for security issues. They think OSS is more transparent and secure than proprietary ones. These customers prefer to have access to the source code to keep the products under control, and even proprietary companies are sometimes obliged to disclose source codes to them.

7.1.2. The Quadrant Framework Analysis

Not all software is suited for OSS. Or rather, open source software (OSS) looks as if it goes against the mainstream of object architecture or modularization. To create better products and business strategies in the open-source world, we should understand the difference among software categories. Figure 7.1.2-1 shows four different categories of software. Quadrant I is the software that depends on a particular technology platform; its function is infrastructural and far from user applicability. The concept of OSS fits very well for Quadrant I software. In this category, two main reasons make source code important. First, the software in this category works very close to the way that hardware works. It must continuously catch up with the rapid technological revolutions in hardware. The frequent revisions of source code are necessary. Additionally, the software in this category works as a core module. Development and maintenance by a source code is better than these same processes when they occur by decomposition and modularization. Secondly,

the functions of software are universal and fundamental so that a collaborative workplace can be appropriate for the development of the software in this category. The Linux kernel is a typical example of this collaboration.

Quadrant II includes the software that is relatively independent of any particular technology platform and has an infrastructural function. The software in this category also provides universal and fundamental functions so that collaborative development again works well. However, not only does Quadrant II software works as a core module, but it also works as a part of the whole integrated services. From this viewpoint, having stable and explicit interfaces with modular architecture is important. The disclosure of the source code is not always necessary. The OSS and proprietary software will be mixed in this category.

Quadrant III is the software that depends on a particular technology platform, and its function is relatively application-sided and user-applicable. Application framework provides one of the examples for this category. The software works on the platform software in Quadrants I and II. The software provides application–like functions so that it sometimes reflects the favored needs of specific users or industrial requirements. Therefore, open source-based collaborative work does not always work well for this category. However, it provides required functions for software in Quadrant IV. The openness in terms of external interface is necessary. As mentioned in a previous chapter, SIers have the business opportunities to develop unique framework solutions in this Quadrant.

Quadrant IV is the software based on open technology, and its function is application-sided and applicable to users, even more so than Quadrant III software.

Business applications belong to this category. The most important feature for the software in this category is the flexibility that can go along with rapid changes in a given business. Therefore, modular architecture, which allows users to combine functions into necessary services, is more important than the source code. Because of this priority, I think open source-business applications will not become so popular. The Enterprise Resource Planning (ERP) products once expanded application coverage with interdependent and proprietary architecture called "Software Suites." However, this approach lacked flexibility, and the implementation workload was quite high. Such ERP vendors as SAP have changed their strategies. They started to modularize their products and to implement open interfaces that enabled other products to integrate with ERP modules. This strategic movement indicates that the momentum in Quadrant IV lies in the shift from monolithic solutions to modular architecture and SOA. The community or marketplace that provides easy access to asset pools of modular applications is useful for accelerating the accumulation of solution assets. Web services such as Google and Amazon, and developers' community such as Salesforce.com offer examples for this community.

From this quadrant framework, we can find the software with which OSS works well. Some kinds of proprietary software will be alternated by OSS, but some software products will remain as the proprietary software. SIers should take the sound strategies for software products based on this quadrant framework analysis.
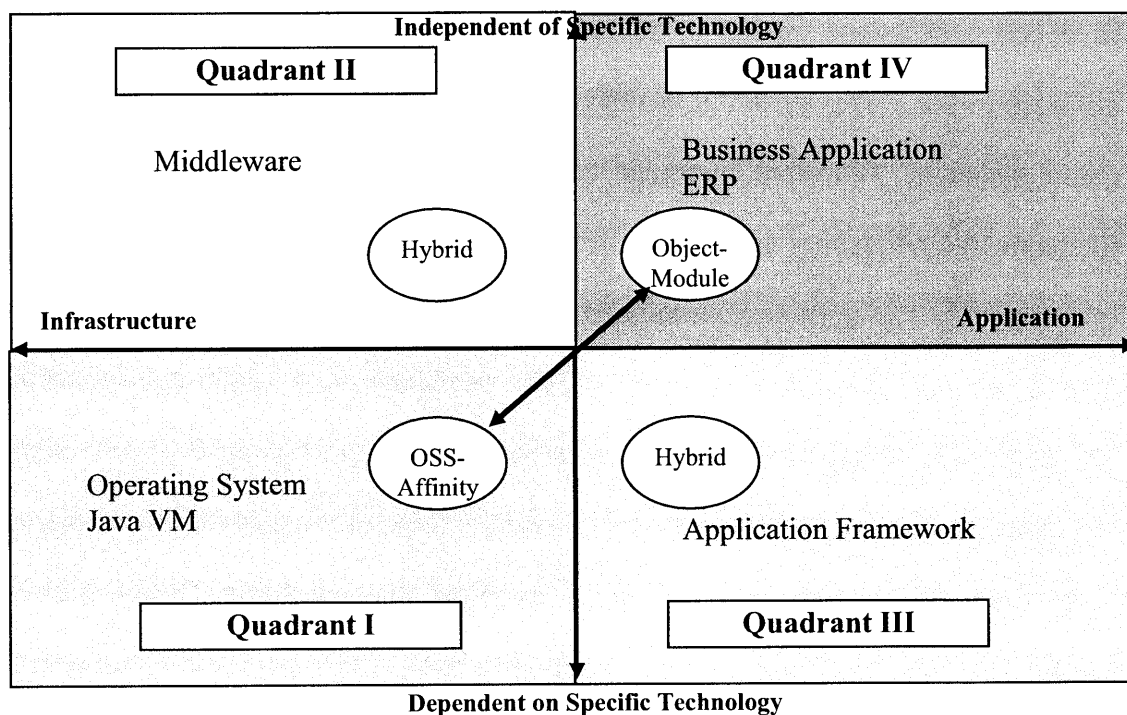
Figure 7.1.2-1 Software Quadrant Framework

7.1.3. Evaluation of the current potential of OSS

Professor Christensen distinguishes between low-end disruption and new-market disruption[2]. Low-end disruption, which targets customers who do not need the full performance of the high end of the market, occurs when the rate at which products improve exceeds the rate at which customers can learn and adopt the new performance. When we look back over the history of OSS, we can say that OSS is a kind of low-end disruption. When the mainframe computer was dominant, almost all the software was made by proprietary technology and all of it was interdependent. However, since UNIX became popular, the situation has changed. Several

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standardizations of software and interface were developed, and modular architecture has been introduced. Gradually, independent software vendors increased their presence in the enterprise software business, and at the same time, IT service providers and customers found the room to adopt OSS in the enterprise software business. Generally speaking, OSS has been most suited for specific users such as the academy, cost-sensitive users, and well-advanced IT power-users. Their requirements for software are different from other general users. However, as community-based developers contribute more, the quality and performance are beginning to catch up with the proprietary ones. Some OSS products have become "good enough" for general users. On the other hand, the proprietary software has in a sense overshot the needs of certain customer segments. At this point, some OSS products have begun to alternate with proprietary software in general enterprise business.

Of course not all OSS products have begun to reach a high enough level for general customers, and not all proprietary software products have overshot customer needs. For example, a banking mission-critical system is still difficult to develop with a UNIX server and RDB products because of its extremely high quality and reliability requirements. The mainframe and proprietary interdependent architecture are still required. These constraints cause the lack of flexibility and high development and maintenance costs. Many vendors and SIers are competing to develop "good-enough" open architecture solutions for these extreme mission-critical systems because these solutions will be lucrative. This situation is exactly the same as Christensen's definition of prosperous companies that play on the left side of the

disruptive technology line. Slers should make strong efforts to develop mission-critical open or OSS solutions at least while these technologies are on the left side. Figure 7.1.3-1 shows the current positioning, from my perspective, of software products that belong to three different software architectures.
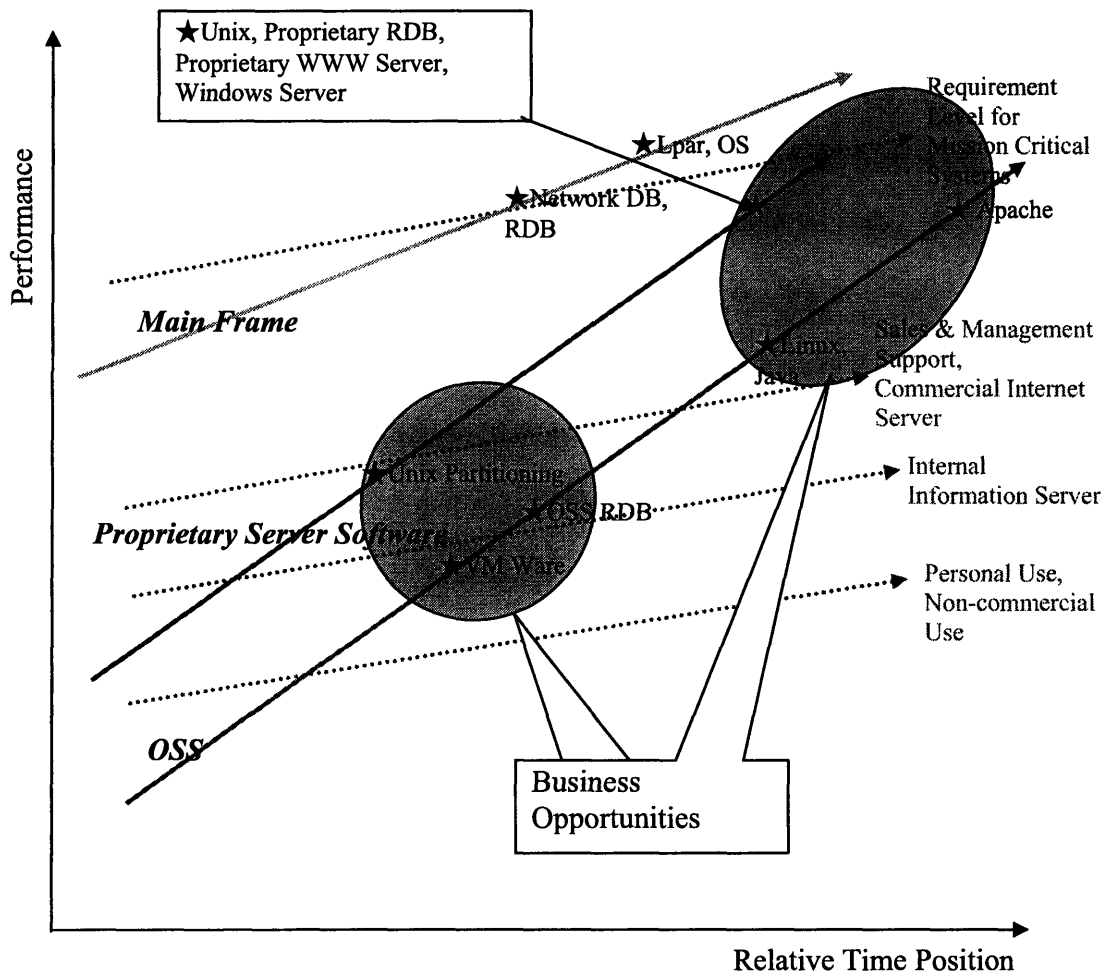

Figure 7.1.3-1 Current Performance Evaluation of Software

7.1.4. The Impact on SI Business

The OSS has made a significant impact on hardware and software product vendors. In the proprietary product market, the highest value of IT comes from products, and products have significant effects over the whole price of the systems. In this situation, service tends to be considered "free." On the contrary, in the OSS product market, the value shifts from product to service. Many companies have shifted their core businesses from products to services. They have also adopted modular architecture into their products to accommodate OSS, even investing in OSS communities. From the SIers' viewpoint, the impact of OSS on existing business model is not so serious compared to these companies. In fact, the portion of product business for SIers is originally low, and the product strategy of SIers is "best of breed." Moreover, applicable business models for OSS are the same as in the case of other products: distribution, production, or service. To put it another way, OSS provides new business opportunities for SIers because OSS potentially poses several problems for users. The OSS tends to have complicated version releases, and as a result, it becomes difficult for users to control software versions appropriately. The OSS often lacks usability and is difficult to manage for users because it is less focused on the commercial perspective. Moreover, some distance exists between general users and OSS. These disadvantages of OSS mean that SIers have potential business opportunities. I often observed cases in which OSS made system integration more complex because of the combination issue. Although the shift of product vendors to service businesses makes the business environment more competitive, SIers will be able to expand their SI business around OSS if they

successfully accumulate enough knowledge of OSS and develop unique solutions for OSS.

Another important impact of OSS on SI business is that it signals the potential of community-based collaborative software development. The SIers should understand that disclosure of an Intellectual Property strategy sometimes exceeds the enclosure and occupation strategy in terms of business performance. As mentioned in Chapter 5 and 6, creating collaborative relationship with complementors by providing the application framework or SAS platform is the strategy that best adopts the OSS development model.

7.2. Open Architecture

Open Architecture is another important aspect of open technology. My definition of open architecture in this context includes both technical standardization and modularization of software. Both define the interface of software explicitly and allow us to integrate software modules into services.

7.2.1. The Business Impact of Standardization

The Internet, web technology, XML, and Java are examples of software standardization. Some of the standard technologies are established though the authorized standardization processes of committees, but others are de-facto standards. We should note two important aspects of standardization in the software industry. First, the technology standard has lowered the entering barrier to the software industry and introduced various software solutions. From the SIers'

viewpoint, the improvement of connectivity between systems is very important because it significantly expand the flexibility of both system design and the business model. Before the advent of interface standards such as TCP/IP or XML, strict restrictions of system design existed because of the difficulties in communication between systems. However, the standard interface and the Internet have granted more flexibility. The enterprise systems are changing from having centralized or internal composition to having distributed and network-connected systems. Organization does not have to develop whole required IT systems within themselves to satisfy business requirements. The standardization of technology allows the organization to connect internal and external systems with less effort and to provide required services. Network externality will be the key to system integration hereafter. In other words, the hybrid integration service of conventional customized system development and SAS is necessary for SIers. This strategy is consistent with my market forecast (Chapter 3) that predicts the shift from SI business to outsourcing.

7.2.2. Electric Commerce (EC) Market Analysis

From the customers' viewpoint, the standardization of technologies has made a significant impact on business processes across the value chain. It reduced transaction costs between companies, lowered the entry barriers to the value chain, and accelerated the shift from analogue business processes to digital networked ones. It expanded the scope of the value chain, connected stakeholders through networks, and created open-network marketplaces in various industries. Figure 7.2.2-1 shows the stable growth of the Internet-based, open EC market in Japan.

The open EC is gradually replacing conventional close-network based systems. If we look at the by-market detailed data, we can find that this growth and transition are ongoing in every industry. This trend clearly indicates that customers are changing their business processes and systems to adopt new and open technologies. Moreover, the adoption rate of open EC (Figure 7.2.2-2) shows enough opportunities for further growth. The SIers have business opportunities to develop EC systems for each customer and EC infrastructure services for each industry and for cross-industries. We can repeat that the hybrid services will be the keys to this business opportunity.
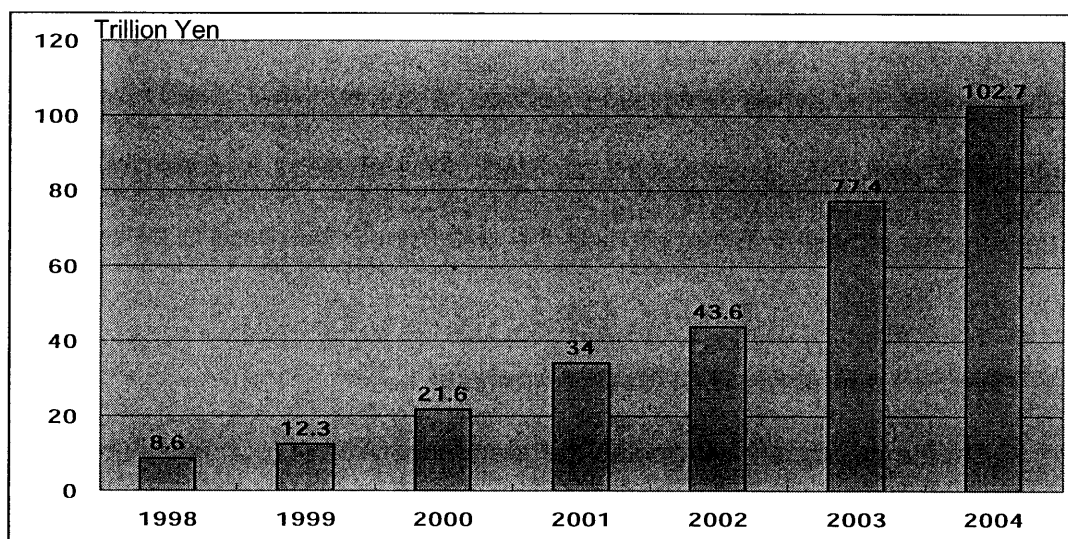
* Market size shows only Internet-based EC (Open EC). It does not include conventional close-network EC.

Source: EC Market Research 2005, METI[3]

Figure 7.2.2-1 B-to-B Open-EC Market Size in Japan
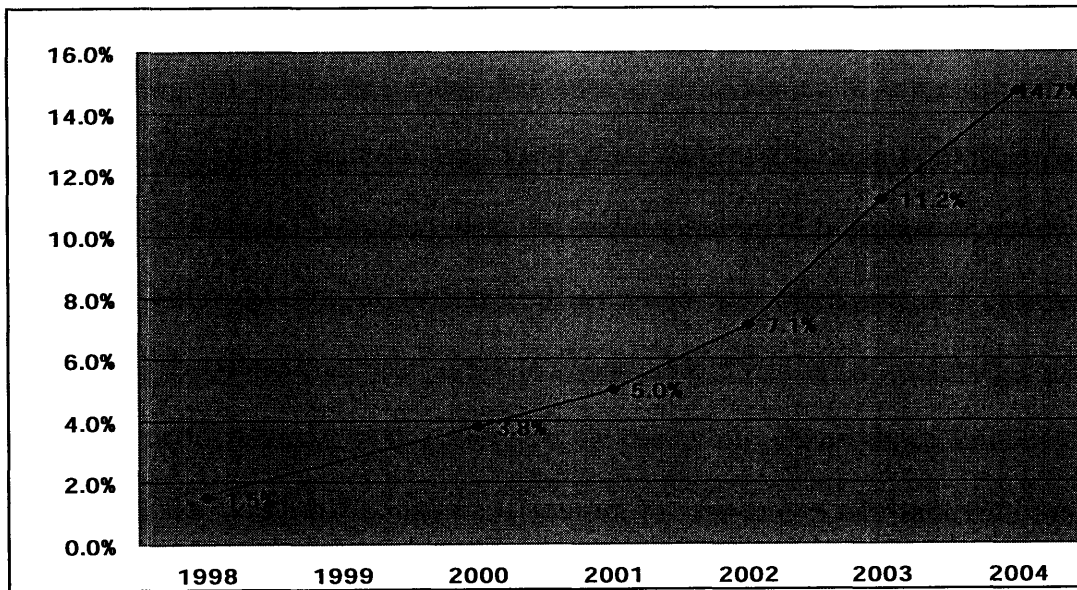
Source: EC Market Research 2005, METI[4]

Figure 7.2.2-2 Open-EC Adoption Rate in Japan

7.2.3. Strategy for Software Modularization

Historically, the modular architecture has weakened integrated companies and accelerated the shift of the industry from vertical integration to horizontal integration. We can find the same phenomenon in the software industry. The integrated IT product companies like IBM are giving up providing integrated proprietary software products alone. Through the modularization process in various industries, we can observe the shift of the valuable place where the profit can be created within the value chain. The proprietary and interdependent architectural software product that has the best possible performance is being replaced with good-enough open architectural software. The product focus is shifting from functions to services. Besides the system development capability, the business consulting service that helps customers to shift modular business and the IT service-

coordinating capabilities are becoming more important. The strategic evolution of IBM from product to consulting and service is quite reasonable from this viewpoint. How about the future of the SIers' business? I do not think business application will be wholly modularized in the near future because customer business is quite volatile. However, it is inevitable that some of the applications are provided as SAS. As described before, some parts of business of the custom application development will shift to SAS. Additionally, the standard technology and modularization will to some extent decrease the complexity of system integration. The open technology-based SAS is the potential disruptive service for SI business (Figure 7.2.3-1). If the business of customers is well defined and standardized, it can be outsourced by using SAS. At this point, the enterprise system should be modularized and standardized to some extent. From this viewpoint, the required quality of system integration will change, and the core value of SI will shift from system design and development to business consulting and services. The quality of system integration will be assessed by the capability of hybrid coordination between custom development and SAS. Additionally, as explained in Chapter 6, not only the developing SAS solutions but also the developing and providing SAS platforms will be need to be the center of software ecosystems. The next value of products will shift to the utility-based application platform, and SIers must compete with hardware vendors and software product vendors for the supremacy of this new platform.
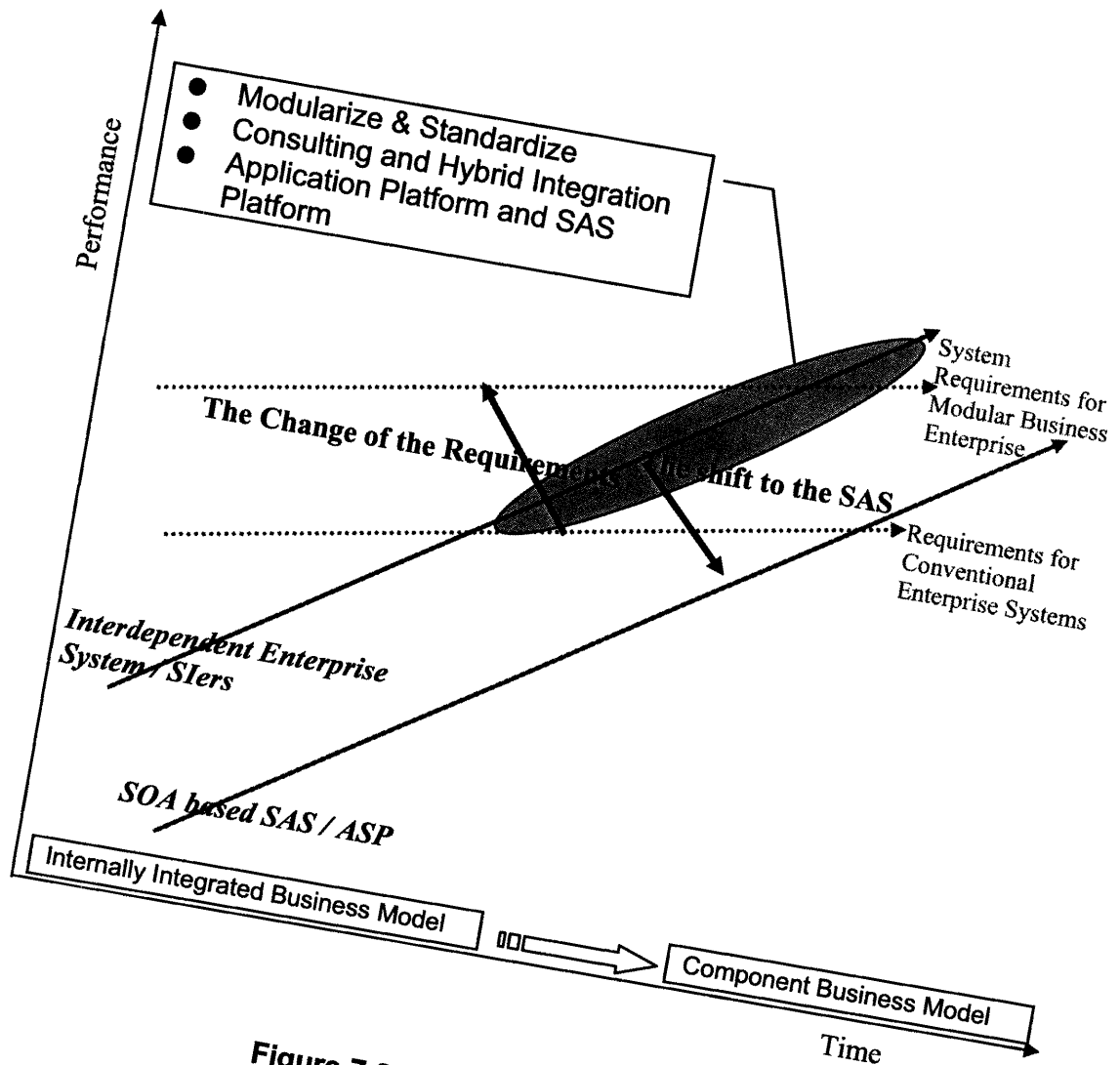
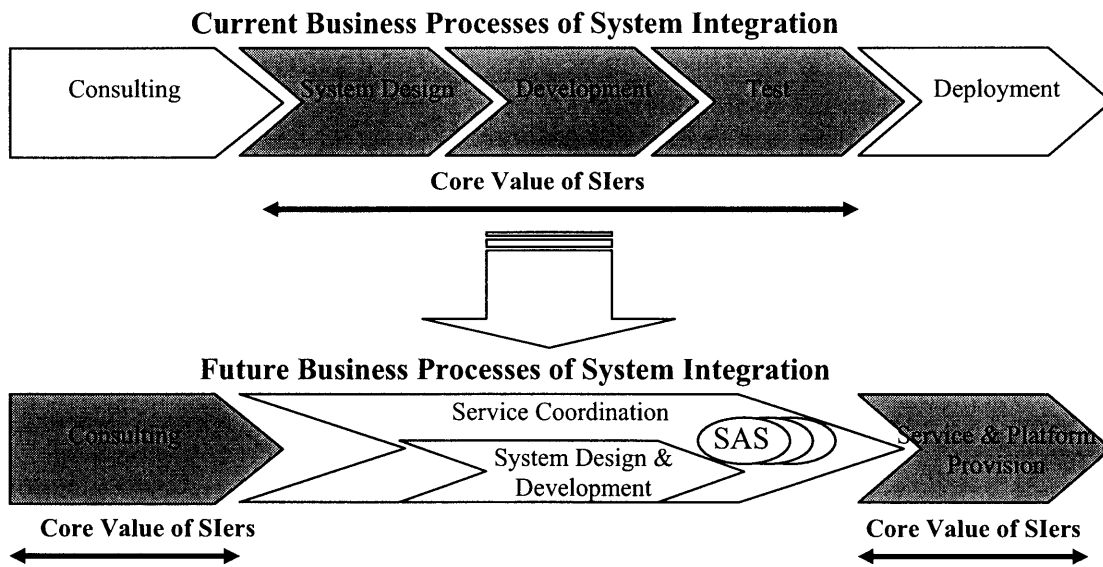Figure 7.2.3-1 Disruption of SAS

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Current Business Processes of System Integration

| Consulting | System Design | Development | Test | Deployment |

Core Value of SIers

Future Business Processes of System Integration

Service Coordination

Consulting

System Design & Development

SAS

Service & Platform Provision

Core Value of SIers

Core Value of SIers

Figure 7.2.3-2 The Changes for System Integration Businesses

7.3. Conclusion

The OSS is expanding its market share with two different drivers The IT service providers are trying to expand OSS business with several different business models such as distributor business, OSS integration business, and derivative products business. Some companies are investing with the strategic viewpoint, attempting to weaken the influential power of rivals in the market. The investments of these various IT service providers have improved the quality of OSS. From the customers' viewpoint, they adapt OSS to reduce the cost or to increase the openness of the systems.

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Although OSS could be a disruptive technology for some proprietary software products, its concept does not always work well in all kinds of software products. For example, the OSS business application will not be so popular because the nature of the software, which requires the flexibility and the uniqueness, does not coincide with the OSS development style. From the SIers' viewpoint, OSS gives them new business opportunities such as OSS integration business and OSS solution business. Specifically, the development of OSS solutions that are adaptable to the mission critical systems will be the most lucrative business.

The open architecture, which includes the standardization of technologies and the modularization of software, has provided the external connectivity of both IT systems and business processes. Additionally, the overshooting technological improvements of the proprietary and interdependent architectural software products have accelerated the penetration of the open architecture. Thanks to these technological movements, the new types of outsourcing services such as SAS and the new growing business formats such as EC have emerged. The SIers should find business opportunities in this fundamental shift of their business from the internal system integration to the network-based external hybrid integration of systems and services. The conventional system integration will no longer be able to create new value for customers.

Endnotes for Chapter 7

[1] *"CA'S INGRES DATABASE TO BE RELEASED INTO OPEN SOURCE,"* May 24, 2004, Computer Associates International Inc, http://www3.ca.com/Press/PressRelease.aspx?CID=59764.

[2] Clayton M. Christensen and Michael E. Raynor, *"The Innovator's Solution,"* Harvard Business School Publishing, MA, 2003.

[3] *"The Research of Current Status and Market Size of Electronic Commerce,"* 2005, Ministry of Economy, Trade and Industry: p. 42.

[4] *"The Research of Current Status and Market Size of Electronic Commerce,"* 2005, Ministry of Economy, Trade and Industry: p. 42.

Chapter 8:   Conclusion

Even though the generated value from IT in business settings is becoming larger and larger, the double-digit IT market growth will be nonrecurring. Instead, we will have the continuing moderate growth that pressures SIers. This thesis identifies the three different aspects of required business strategies that can bring long-term and sustainable growth for Japanese SIers: reinforcement of the consulting service capabilities, development of outsourcing solutions, and enhancement of SI competencies.

The average company spends 5.3% of expenses on IT, and IT takes more than 50% of total capital expenditure for many companies[1]. These numbers indicate that IT and IT investment have a significant influence on corporate management. However, at the same time, we can find substantial differences in corporate performance among the firms in the same industries even though they spend almost the same portion of their expenditure on IT. The alignment of IT to business strategy that enables the organization to maximize business value from IT will be the key success factor for enterprise IT systems. Customer organizations strongly desire IT governance, which manages the IT portfolio, strengthens IT capability within the organization and controls the maturity of IT architecture. Therefore, consulting services that can provide strategic alignment between business and IT are becoming inevitable functions for SIers in order for them to acquire SI business and outsourcing business from both existing and new customers. The SIers will be unable to achieve further growth without consulting capabilities. The consulting

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services require different types of expertise and HR management system from those in the SI business. Both starting joint ventures with business consulting firms and the acquiring consulting firms are the sound strategies for entering this business.

Customers have different business objectives based on the growth stages of their businesses. As a business grows, the business objectives shift from internally integrated and local optimization to industry-integrated enterprise optimization. The IT investment objectives also shift from local cost-reduction and operational efficiencies to "plug & play" business process modularization and seamless integration between the internal and external resources. In this context, the corporate IT systems will be gradually alternated with various outsourcing services. Fundamentally, the project-based SI business will gradually shift, to some extent, to an outsourcing business because customers can expect quick implementation of systems or services, low-cost operations based on economy of scale, flexible sourcing, and well-advanced external expertise. Standardized technologies and open technologies can accelerate this transition because these technologies help customers to gain connectivity with external resources. In the outsourcing business, SIers must develop shared service solutions to maximize operational efficiencies and to attract customers. Specifically, Service Oriented Architecture-based "Software As Services" is useful for both established large organizations, which adopt the component business model, and small business organizations, which lack enough IT expertise and budget. To differentiate SIers from other SAS providers, creating an SAS platform, which includes basic application services, an application framework, shared infrastructures, and an application service market-place, is

essential. The strategy of developing common application services such as settlement or cash management for horizontal market and industry-specific services, for instance telecom or banking for vertical market on the same SAS platform, gives the competitive advantages to SIers. Sharing this platform with complementors will create a beneficial network effect on the SAS business.

BPO services have the possibilities of providing large revenue for SIers, but the risk is also large because BPO requires having extensive human resources and expertise about unfamiliar markets. Focusing the market and developing shared services are important to mitigate these risks with increasing efficiencies. Creating alliances with specific BPO providers or lead users is another possible strategy.

The use of exclusive outsourcing is the strongest system lock-in tool. The exclusive outsource provider could be a strategic IT partner for the customer. The outsourcer could have many business opportunities, such as joint IT business with the customer or development of shared services for other customers, other than the business from the customer. The SIers should understand that they can reach this position only by creating customer bonding through the delivery of highly qualified SI and consulting services.

In terms of project-based SI business, it is almost impossible to differentiate SIers from other IT service providers because the service is becoming commoditized, and customers do not find any extra value in quality or project management of SIers' conventional SI services. Therefore, SIers and other IT service providers inevitably have become involved in severe price competition. They have expanded the software development centers overseas, especially in China, seeking low-cost

programmers. They have also tried to improve their project management capabilities. However, these efforts will not provide sustainable competencies because the current development process relies completely on the labor-intensive work of programmers and engineers. In the offshore cost reduction business model, as offshore business matures, the cost advantage gradually weakens. The Slers can regain the advantage only by developing offshoring in new countries, but the language problem hinders this strategy. Rather, Slers should try to create mutually beneficial relationships with domestic complementors such as hardware vendors, software product vendors, and program development companies to get out of the intensive price competition. In addition, Slers should begin to accumulate their unique application assets, such as the application framework and domain framework. The former should be the solution for horizontal market, and the latter should be designed for each vertical market. These framework solutions will allow Slers to improve their own productivity. Moreover, by providing these solutions to complementors, these partners also can improve their business efficiencies; as a result, Slers can create collaborative business relationships with the complementors.

The current core competency of Slers is the capability to design and develop complex and massive systems. However, as technologies become standardized and open and as business and systems become modularized, this capability becomes a commodity. Therefore, Slers must provide more valuable services to convince customers of the worth of their high costs. The seamless integration service of SAS with customized system development will be the major new competency for Slers. Additionally, they will find new business opportunities in the solution business for

mission-critical systems where proprietary software products have dominated. SIers are expected to develop the OSS solutions that have the adaptable reliability to the massive transaction or high reliable systems.

In terms of offshore strategies, they should be based on the SIers' long-term strategies. Although the first stage of offshore development focuses on serving Japanese local customers with low costs, but simultaneously, SIers should aggressively find business opportunities to cultivating the overseas market. The implementation of offshoring should be the first step to enter the global business for the Japanese SIers. Additionally, as the offshore development matures, the overseas partners will gradually change their business strategies from low-cost development to the specialized expertise of vertical markets. The SIers will be able to adapt the advanced technologies and experiences of overseas partners. These SIers must create the new system development methodologies that allow SIers to adapt global sourcing. To utilize the long-term strategy, the current "partnership" strategy will not work well. Extensive capital investment is essential in order for SIers to have overseas development centers.

Table 8-1 Summary of the Strategic Thrusts

No.	Business Area	Strategic Thrusts
1	Consulting Business	✓ Strengthen consulting services that can provide customers strategic alignment between business and IT. ✓ Seek opportunities to start joint ventures with business consulting firms or acquire consulting firms.
2	Outsourcing Business	✓ Create shared service solutions to respond to the fundamental shift from an SI business to an outsourcing business. Specifically, Service Oriented Architecture-based "Software As Services" is useful for both large established organizations and small business organizations.
3		✓ Create SAS platforms to differentiate SIers from competitors in outsourcing business. ✓ Share the platforms with complementors to create beneficial network effects on the SAS business.
4		✓ Develop common application services for the horizontal market and industry-specific services for the vertical market on the SAS platforms for the competitive advantages in the SAS business.
5		✓ Focus on the markets for the BPO business and develop shared services in the markets to mitigate business risks with increasing efficiencies. ✓ Create alliances with specific BPO providers or lead users to lower the barrier to entry.
6		✓ Set gaining an exclusive outsourcing relationship as the ultimate goal of conducting outsourcing business with a customer. ✓ Foster excellent customer relationships through the delivery of highly qualified SI and consulting services to reach this business goal.
7	SI Business	✓ Create the application framework and domain framework solutions to improve productivity. ✓ Provide these solutions to complementors to create collaborative business relationships and to get out of the intense price competition.
8		✓ Evolve the core business competencies from system design and development to the seamless integration of SAS with customized system development.
9		✓ Create OSS solutions that have reliable adaptability to the massive transaction or highly reliable systems and seek new businesses for open technology-based, mission-critical systems.
10		✓ Implement long-term strategies for offshoring, aiming for the expansion of global business. ✓ Make extensive capital investment in overseas development centers to cultivate the global markets and to achieve global sourcing.

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Endnote for Chapter 8

[1] Peter Weill, "Key IT Decision and IT Governance," Lecture Notes from 15.571, Generating Business Value from Information Technology, Spring 2006: p. 3.