Chapter 3 India-based Globalization of the IT Services Industry

1. Growth Source of Indian IT Services Firms

By differentiating their business systems from Japanese, US and European companies – leaders in the IT services industry – Indian IT services firms have managed to secure prized customers from a number of global locations and achieve organic growth. Additionally, these companies have now built-up the know-how to rival the leading firms of the industry by placing high value-added services and diversification at the center of their strategies.

(1) Competitive Advantage Generated by Business Systems

Basic conditions supporting the development of the Indian IT services industry

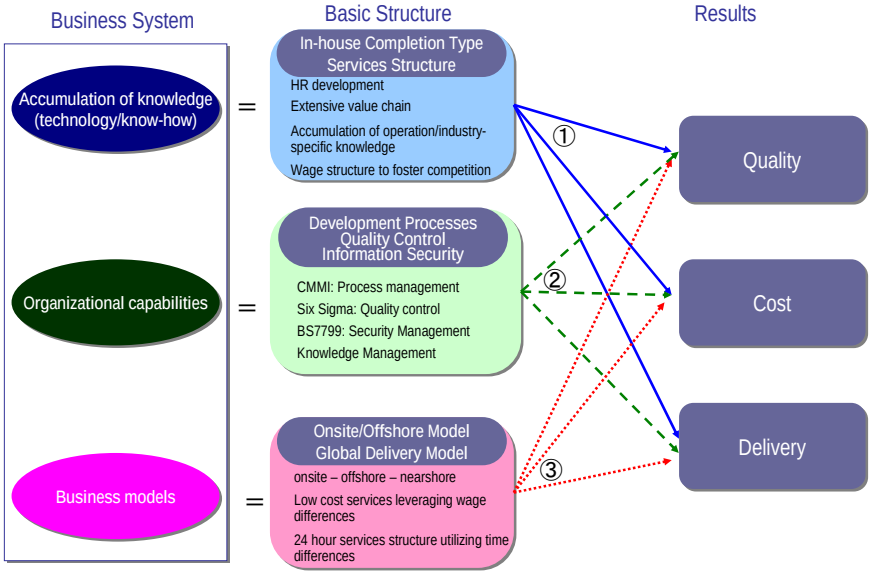
The development of the Indian IT services industry can be attributed to circumstances such as the mathematical education that Indians receive, low wages, the sudden increase in the demand for programmers in connection with the Y2K bug, an improvement in the environment for transferring data between outlying regions due to developments in information and telecommunication technology and the presence of non-resident Indians returning to the sub-continent after being discharged by their US companies after the collapse of the IT bubble. As these basic conditions have many common characteristics with other developing nations, the source of the competitiveness of the Indian IT services industry actually lies elsewhere and most importantly with the three business systems shown below (Fig. 3-1).

The source of the competitive edge of Indian IT services firms

The first factor is the accumulation of knowledge that each engineer has acquired, such as technology and know-how. The second factor is the organizational capability of SEs and programmers of IT services divisions to undertake development projects and the ability of BPO division agents to carry out everyday operational processes on an organizational level. The third factor is how offshore centers based in India and multiple organizations of various onsite and onshore centers based in Japan, the US and Europe can effectively collaborate with each other to create an onsite/offshore model and a global delivery model. Employee abilities, organizational capabilities and business models linking each organization of these companies are able to achieve QCD (quality, cost, delivery) to meet the needs of clients. At the same time, it is thought that the establishment of a business system that smoothly

combines these three factors is ensuring a high level of competitiveness.

[Fig. 3-1] Source of Competitive Edge of India's IT Services Industry



(Source) Mizuho Corporate Bank, Industry Research Division

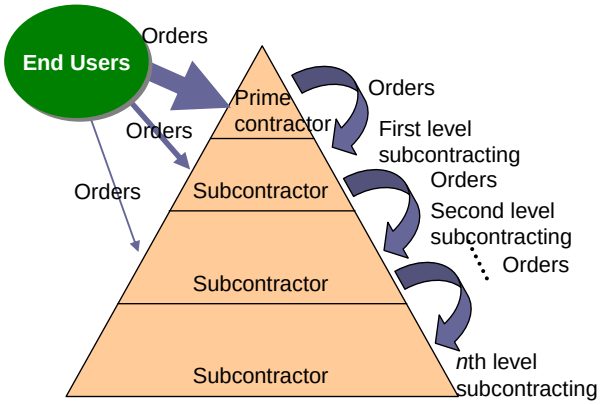
(1) Accumulation of knowledge through an in-house completion model

It is thought that external business relationships lie behind the reason why Indian IT services firms have been able to accumulate in-house knowledge such as technology and know-how. A comparison with the Japanese IT services industry – which is completely different to the industry in India – can shed light on how different Indian companies are.

Structure of Japan's IT services industry: poly-hierarchical business relationships

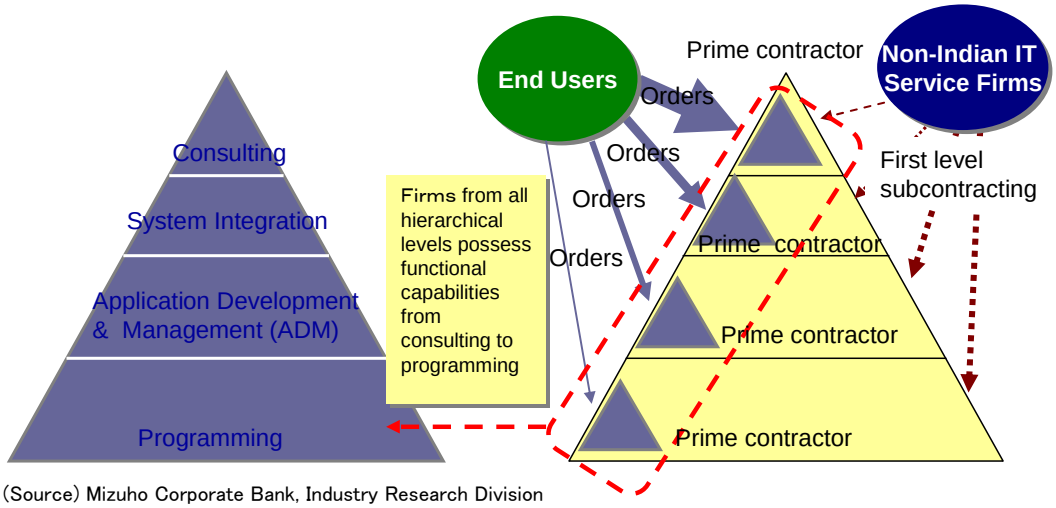
The Japanese IT services industry is said to generally involve poly-hierarchical business relationships (Fig. 3-2). Under this industry structure, a prime contractor directly receives development projects from end users and then outsources to subcontractors, which in turn outsource to smaller subcontractors. Major firms handle consulting and project management while medium-sized and smaller firms mainly take care of system development and integration and programming.

[Fig. 3-2] Business Relationships in Japan's IT Services Industry



(Source) Mizuho Corporate Bank, Industry Research Division

[Fig. 3-3] Business Relationships in India's IT Services Industry



(Source) Mizuho Corporate Bank, Industry Research Division

Establishing an in-house completion type delivery structure: many Indian firms can benefit from direct relationships with end users

Contrastingly, many Indian IT services companies have established an in-house completion type services structure through direct dealings with end users (Fig. 3-3). To be precise, in addition to end users, there are subcontracting projects from overseas IT services firms that have dealt with Indian companies from the time of their establishment. However, even for these customers too, it is normal practice for downstream processes to be completed in-house rather than outsource them externally. Furthermore, in striving to strengthen their upstream processes on the IT services value chain, many firms are increasing the proportion of prime contracts they hold, while many medium-sized IT services firms already derive the greater part of their earnings from prime contracts.

In-house completion delivery structure generates mixed benefits

There are multiple benefits to completing all stages of IT services in-house and as a result, those benefits can contribute to improved business performances. The first benefit is that standardization of processes across all in-house stages and accumulation/sharing of technology/know-how, becomes possible. Secondly, coordination with other companies other than end users is not required and therefore projects can be pushed ahead without the need to allow time for coordination and without incurring costs associated with outsourcing. Thirdly, because operational processes are completed in-house, their results can be easily distinguished and due to the existence of many opportunities within the company for employees to further their individual careers as programmers, SEs, team leaders or project managers,

competitiveness among staff will arise from the implementation of an individual skill-based wage structure and improvements in abilities, which can also lead to a more wealthy pool of human resources[13].

(2) Organizational capabilities: processes that allow all abilities to be utilized on projects

Indian IT services firms must focus on development processes and quality control, as well as implementing thorough approaches to information security. In order to help make the right decisions, the CMM/CMMI is usually used in the software development field as an indicator of the maturity levels of organized development processes. The eSCM[14] model, also known as the ITO / BPO version of CMM/CMMI, is generally used, as well as Six Sigma[15], which is used to eliminate defective products. Furthermore, BS7799 is used as a standard to measure levels of information security.

Using CMM/CMMI to standardize development processes

With regard to CMM/CMMI, which the majority of companies have adopted, approximately 80 NASSCOM member companies have acquired the highest rating of a level 5. The CMM/CMMI model was developed as an ideal development process to eliminate unsuccessful projects by the Software Engineering Institute (SEI) – an institution jointly established by the US Department of Defense and Carnegie Mellon University. It has also become an industry standard, owing to the fact that the US Department of Defense required its contractors' processes to be higher than level 3 – the level that corresponds to the organization's standard processes – in addition to many companies around the world (many based in the US) adopting the model and utilizing it as a standard for selecting the companies that processes are outsourced to. By endeavoring to standardize their development processes based on this model, these firms can easily eliminate project failures and inefficiency.

It is thought that the standardization of these processes and steps taken to make development more efficient has a catalytic effect on efforts of firms to develop their own development models and industrialize software based on CMM/CMMI and Six Sigma and is a key factor in achieving improvements in QCD performance.

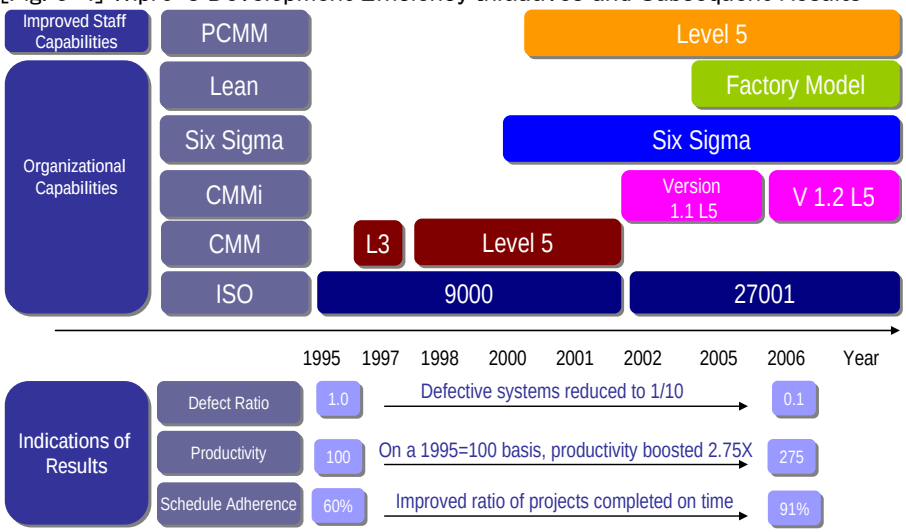
Software factories: industrializing software

Wipro is a classic example of a company that has actively made innovative changes to its development processes in its quest to becoming an IT services firm chosen for its low cost and high quality. In addition to ISO and CMM/CMMI, Wipro aimed to apply a model for

[13] See Table 2-3.
[14] eService Capability Maturity.
[15] Six Sigma was implemented by Motorola to improve efficiency of production processes. Later, GE expanded the scope of its application to make its entire management processes more efficient.

efficient production and development in the manufacturing industry on its own software development and therefore, implemented Six Sigma. In addition, Wipro examined Toyota's lean production method, which standardizes production methods, and established its own software development methodology known as the Factory Model[16]. As a result, Wipro has improved its development performances through a reduction in the ratio of defects, enhanced productivity and improved adherence to development schedules (Fig. 3-4).

[Fig. 3-4] Wipro's Development Efficiency Initiatives and Subsequent Results



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Using knowledge management to reuse software components and establish templates

Additionally, many firms are reusing software components from programs and solutions that were used in the past for software development, therefore in order to share such information within companies, these firms have adopted knowledge management (KM), which is helping to improve the efficiency of their services and deliveries[17]. In particular, owing to characteristics common to Indian IT services firms, such as the need to collaborate with remote regions, mass hiring of employees and a high turnover rate, it is vital that information is shared at the organizational level, which may be why there has been a strong incentive to embrace KM.

[16] A method similar to a manufacturing assembly line where orders from the clients of each country are analyzed for specific client needs, integrated, developed and standardized by sharing overlapping system areas and then assembled in accordance with the specifications of each client.
[17] Even in the field of BPO, templates are being established in the same way for each industry and solution type. Based on these templates, processes are being carried out more efficiently as companies provide extra customization to their users.

ODC enhances knowledge management

Another structure that enhances the functions of KM is the utilization of ODCs (offshore development centers). An ODC is a type of outsourcing contract where facilities and human resources are for the sole use of a specific customer with access to the center restricted to authorized personnel only due to the enforcement of strict security. Although an ODC requires a long-term contract and core members of the personnel team involved will often be permanently attached to the center, there are many advantages to be gained from offshore development in contrast to one-off development projects. As a result of specializing in projects from the same company (such as continual development of specific software), information such as specifications, program details and development tools from past client projects can be easily accumulated among development members, thus leading to time and cost savings on development projects.

(3) Establishment of Indian-based global delivery model

The onsite/offshore model and its successor, the global delivery model – the third factor giving India its competitive advantage – are business models that have been well established on the initiatives of Indian firms. The locations that perform the various services involved, from development and management to BPO, can usually be grouped into four areas. In order of physical proximity to the client, those four areas are (1) onsite: offices permanently situated in the client's location, (2) onshore (or offsite): offices located where the client is based and in the client's region (usually country), (3) nearshore: offices located in a region close to where the client is based, and (4) offshore: low cost offices located some distance apart from where the client is based (Fig. 3-5).

[Fig. 3-5] Classic Example of Regional Composition of the Global Delivery Model

(Source) Mizuho Corporate Bank, Industry Research Division

Using the GDM to optimize QCD

The distinguishing feature of this business model lies in the fact that the onsite, onshore, nearshore and offshore centers all combine to form a global sourcing framework to provide services in accordance with what the customer requires. Teams are formed for each project after considering the capabilities of staff in each region, backgrounds and languages to be used, service providing costs and distances and time differences between customers. As a result, projects can be optimized so that the quality of services called for can be made available for delivery by the appointed date within the budgetary constraints of the project. Indian IT services firms in particular, are quite familiar with the attributes of their offices in India – which are key to the success of this model – and are thought to be leading their US and European competitors in terms of long-term accumulation of technology and know-how in order to seamlessly integrate their onsite / offshore centers.

Collaboration based on role sharing that utilizes the special qualities of each country

Major nearshore centers of Indian companies include Canada and Latin America (mostly Mexico, Brazil and Chile) for US clients, Ireland for UK clients and Spain, Eastern Europe (mostly Romania, Poland and the Czech Republic) and Africa (mostly Morocco and South Africa) for European clients (Table 3-1). Additionally, Indian IT services firms command a large variety of centers. Roles between centers differ with centers in India performing various functions, such as consulting, SI, application development and maintenance, infrastructure and management and BPO, while centers in Eastern Europe and Latin America focus solely on limited operations such as multilingual BPO and application development and maintenance.

[Table 3-1] Global Delivery Models of Indian IT Services Firms

	Global Delivery Model (GDM)				
	GDM Name/Trademark	Features	Main Offshore Locations	Main Nearshore Locations	Main Onshore/Onsite Locations
TCS	Global Network Delivery Model	In addition to India, utilizes offshore centers in South America and Eastern Europe; utilizes a nearshore center in India for Japanese clients as well as a center in China	India, China	Canada, Mexico, Chile, Brazil, Argentina, Hungary	USA, Canada, UK, Singapore, Japan, Australia, Germany, France
Infosys	Global Delivery Model	GDM also handles business consulting; centers in Eastern Europe and Latin America upgraded and expanded	India, China	Canada, Mexico, Czech	USA, Canada, UK, Japan, Austraila, France, Germany
Wipro	GlobeGain	Offshore/outsourcing model for Six Sigma based software development; BPO, R&D, infrastructure management and various types of outsourcing services provided	India, China	Canada, Mexico, Brazil, Romania	USA, Canada, UK, Japan, Austraila, France, Germany
Satyam	RightSourcing、GDM2.0	Provides an ODC based support structure tailored to customer needs; centers outside of India such as China and Malaysia upgraded and expanded	India, China	Malaysia, Brazil, Hungury, Canada	USA, Canada, UK, Japan, Austraila, Singapore, France, Germany
HCL	-	Chinese center established in Dalian in August 2007	India, China	Malaysia	USA, UK, Japan, Austraila, Singapore, France, Germany
Cognizant	4th Generation offshore outsourcing	Commencing offshoring with its center in China to add to its Indian center	India, China	Canada, Argentina	USA, UK, Japan, Austraila, Singapore, France, Germany

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

(2) Business Strategies: Providing Higher Added Value, Branching into Other Operations to Diversify Risk and Boosting Offshore Ratio

Common strategies among Indian IT services firms include: (1) initiatives to provide higher added value such as advancing into upstream services of the value chain and strengthening solutions, (2) reducing reliance on particular customers (diversifying client base), (3) branching out operations from IT services into BPO, and (4) increasing the proportion of offshoring when providing services.

(1) Higher added value strategy: moving up the value chain

These companies are currently placing much importance on expanding from application development and maintenance (ADM) into SI, IT outsourcing, IT consulting and business consulting services and scaling up their IT services to upstream operations of the value chain. Indian IT companies are also looking to acquire and secure the capabilities to achieve these aims by head hunting experienced managers and managerial level staff from European and US firms and also taking over companies from these regions. For Indian IT services firms, moving up the value chain is a key strategy in the sense that enhanced added value on services can be provided, full outsourcing projects can be secured and the ratio of subcontracting can be reduced. This development is also allowing Indian firms to establish a base on which they can compete equally as prime contractors with rival firms in Europe or the US.

High level solution abilities in the financial services field

On top of this, by promoting their own financial software products in the field of financial services, Indian IT services companies have been successful in securing contracts from heavy-weight financial institutions within India and even from developed and newly emerging nations (Table 3-2). This has become possible due to the following: (1) the ability to deal with rapid changes in technology and accommodate the client's diverse system construction needs by basing software on system modularization and SOA (service-oriented architecture) design concepts, in addition to (2) being able to provide low cost, 24 hour services by utilizing a global delivery model when providing system development, operations and maintenance services.

[Table 3-2] Leading Solutions of Indian IT Services Firms for Financial Institutions

Financial Solution	Vendor	Architecture	Main Financial Institutions Targeted for Implementation
BaNCS	TCS	Module Design SOA	Retail, Wholesale, Investment Banks, Universal Banks, Insurance Firms
Finacle	Infosys	Module Design SOA	Retail, Wholesale, Investment Banks, Universal Banks, Insurance Firms
FinnOne	Nucleus	Module Design	Nonbank Financial Institutions, Retail, Wholesale
FLEXCUBE	i-flex (Oracle)	Module Design SOA	Retail, Wholesale, Investment Banks, Universal Banks, Insurance Firms
intellect	Polaris	Module Design SOA	Retail, Wholesale, Investment Banks, Universal Banks, Insurance Firms, Nonbank Financial Institutions

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

(2) Risk diversification by expanding customer base

Many Indian IT services firms are intent on reducing the high ratio of sales derived from specific major clients, which is thought to encompass a certain element of risk. The reason why a high proportion of sales is derived from specific users is because firstly, contracts from clients gained at the time IT firms were established became regular clients and the scale and scope of those contracts then expanded. Secondly, IT/BPO subsidiaries of user firms have been spun-off but have achieved growth through capital tie-ups with user firms[18]. More specifically, major UK and US corporations have made large contributions to this situation. For example, in the case of GE, the company enjoys business relationships in the IT services field with TCS, Wipro, Satyam, Patni, and iGate GS (Table 3-3), while GENPACT – a leading BPO firm derived from GE's captive BPO – is making use of the opportunity to learn of quality and process control based on GE's Six Sigma practices. Citicorp too has elevated its presence in the financial sector based on capital tie-ups with i-flex and Polaris.

Stability is considered to be an advantage of relying heavily on specific clients, but at the same time, because those contracts largely affect the business performances of an IT services firm, some firms have suffered declines in profit margins because their standing with customers has weakened and they are unable to wield much bargaining power such as in terms of contract amounts. Therefore, in order to reduce such risks, many firms have made efforts to actively pursue new customers in the industry fields they specialize in.

[18] In addition to GE, there exists BPO firms that have extensive knowledge of financial and travel services such as i-flex, originally an IT services division of Citibank, and WNS, a former captive BPO of British Airways.

[Table 3-3] Indian IT Services Firms with Close Relationships with GE

Company	Relationship with the GE Group	Ratio of Sales from GE
TCS	Development contracts	Less than 10%
Wipro	Development contracts, joint venture (Wipro GE Medical Systems	–
Satyam	Development contracts, joint venture (Wipro GE Medical Systems	Approx. 5%
Patni	Development contracts, capital tie-up	Approx. 12%
iGATE	Development contracts	Approx. 20%-30%
Nucleus	Development contracts	–

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

(3) Branching out into the BPO business

In addition to expanding the value chain of their IT services operations, Indian IT services firms are also branching out into BPO operations. As opposed to technicians such as SEs and programmers that assume outsourcing responsibilities in the IT field, call center operators and agents that handle data input, analysis and management for various operational processes are central to BPO operations. Since operations between these two businesses differ, the conventional method was for these projects to be managed by separate company names or organizations – some firms have carried out joint investment with funds and end users or acquired captive BPO or specialized BPO organizations. However, in recent times, as seen by the standardization of company names with IT services operations of BPO subsidiaries and moves to wholly acquire subsidiaries, there is an increasing trend for companies to amalgamate their IT services and BPO operations (Fig. 3-6). For instance, Progeon – a joint venture between Infosys and Citibank Investment – was bought out by Infosys and transformed into Infosys BPO, while Satyam acquired other investors' stakes in its BPO arm Nipuna to establish Satyam BPO. In this way, these companies have re-branded their subsidiaries and turned them into fully owned subsidiaries.

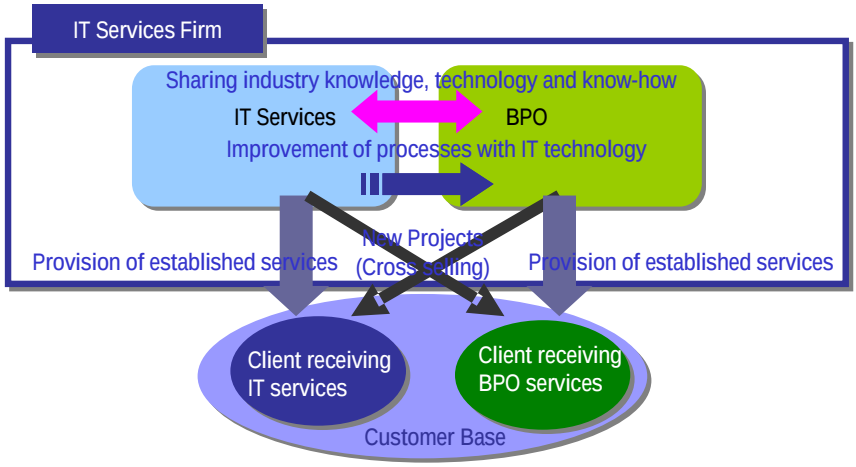
[Fig. 3-6] Amalgamation of BPO Operations by Indian IT Services Firms

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Complementary and synergistic effects between IT services and BPO operations

These developments have come about because of the following benefits: the introduction into the company of a new profit base due to strengthened support to meet customer needs, and the creation of synergy effects through cross selling of IT services and BPO. When operations are provided to clients, IT services take charge of operational systems, while BPO takes care of operational processes. It is possible that customers' outsourcing needs will arise from both operational systems and operational processes, therefore, by managing both IT services and BPO, firms can expect to expand their profit bases by securing more project opportunities and undertaking projects in other areas. By outsourcing IT services that combines both operational systems and processes, both types of services can be provided to end users in a one-stop fashion, and help to accommodate the needs of clients to make management of multiple subcontracting firms more efficient by reducing costs. As for creating synergy effects, more thorough industry targeted solutions can be provided through the sharing of industry and operational knowledge between IT services and BPO. Furthermore, the design of operational processes that reflect the latest IT technology and the automation and efficiency of operations can be made possible for BPO projects (Fig. 3-7).

[Fig. 3-7] Complimentary and Synergy Effects Between IT Services and BPO



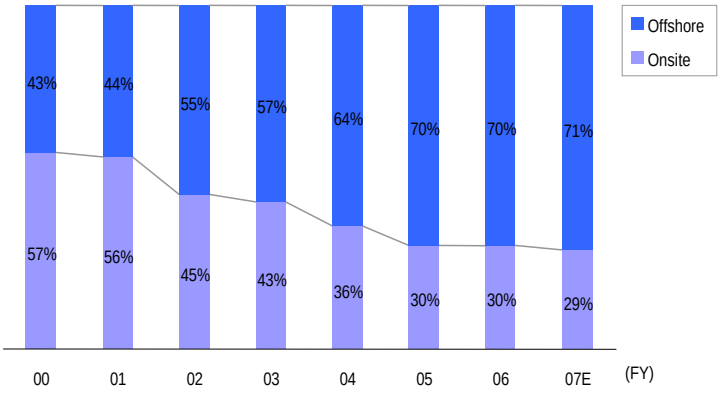
(Source) Mizuho Corporate Bank, Industry Research Division

(4) Shift from onsite to offshore model: securing price competitiveness by utilizing differences in wages

When comparing how much offshore and onsite operations contribute to sales figures of India's IT services industry, one can see that the ratio of offshoring has continued to increase on an annual basis (Fig. 3-8). A large proportion of sales from offshore divisions – which have been

instrumental among IT services firms – has come from the utilization of resources in low cost regions, which has also led to fewer expenses. This is due to the fact that from the 1990's, Indian companies pursued a shift in profit structure from onsite to offshore by utilizing differences in wages between India and Western countries. As a result, by specializing in onsite operations that require frequent contact with clients such as consulting and the identification of customer requirements and then conducting the latter processes in offshore regions that center around India, an Indian IT services firm is able to achieve price competitiveness by having around 70-80% of its workforce at its offshore centers.

[Fig. 3-8] Offshore Ratio of India's IT Services Industry (based on sales)



(Source) Mizuho Corporate Bank, Industry Research Division, based on NASSCOM (2007)

(3) Business Strategies by Market Position

Four types of Indian IT services firms

Based on the competitive advantages of business systems and the operational strategies common to Indian IT services firms, as hitherto discussed, this section will summarize these corporate strategies from a more detailed viewpoint and weigh up their attributes from both quantitative and qualitative perspectives. Based on sales amount, employee numbers and market standing, Indian IT services firms can be categorized as either leaders, challengers, followers or nichers. A leader company is defined as a major corporation, a challenger as a major/semi-major company employing more than 10,000 staff but 50% or less in sales and employees of a leader company, a follower as a medium-sized general IT services firm with around 5,000 employees, and a nicher as a semi-major/medium-sized firm that focuses on specific solutions and industries. This report presents company data for two or three publicly listed companies for each group that was obtained during a

set period. Leaders: TCS and Infosys. Challengers: Satyam, Cognizant and Patni. Followers: iGate GS, NIIT and Hexaware. Nichers: KPIT, Polaris and Nucleus (Table 3-4).

[Table 3-4] Four Groups by Market Standing of Indian IT Services Firms

	Strategy Features: (1) Operational Strategies, (2) Offshoring and (3) Overseas Expansion	Sales ($M)	Employees	Leading Firms
Leaders	(1) IT services/BPO for various industries, centering on finance, manufacturing, telecommunications and media (2) Core center in India; delivery centers established in China, Eastern Europe and Latin America (3) Japan, the US, Europe and key markets in Asia	3,000 ～5,000	50,000～	TCS Infosys Wipro
Challengers	(1) IT services/BPO centering on the finance and manufacturing industries (2) Core center in India; establishment of a delivery center in China begun (3) Japan, the US, Europe and key markets in Asia	500 ～1,500	10,000 ～50,000	Satyam Cognizant HCL Patni
Followers	(1) IT Services/BPO for specific business fields centering on the finance and manufacturing industries (2) Offshore structure centering on India (3) Key markets in Japan, the US and Europe	～500	4,000 ～10,000	NIIT L&T Hexaware iGate Mastek 他
Nichers	(1) Mainly IT services centering on one industry type (2) Offshore structure centering on India (3) Mainly key markets in Japan, the US and Europe	～500	～10,000	i-flex Polaris KPIT Nucleus 他

(Source) Mizuho Corporate Bank, Industry Research Division

Indicators used to analyze the current situation of each group

Data to be analyzed includes items common to all groups, such as operating profit, sales, employee numbers and offshore ratio. Application development and maintenance (ADM) ratio and the proportion of major customers is also included where appropriate (Table 3-5). Each item can be used to observe common points and differences between and within the leader, challenger, follower and nicher groups. Operating profit margin and sales are closely related to a company's scale, business scope and operations, while employee numbers, offshore ratio, ADM ratio and the level of reliance on specific customers will be used as indicators to compare company operations. The offshore ratio shall equate to the percentage of all employees at offshore centers and signify the utilization of differences in wages between low cost offshore centers and high cost onsite/onshore centers. The ADM ratio shall denote the percentage of ADM of total sales and demonstrate how business scopes have expanded from conventional ADM into relatively new domains of consulting and infrastructure management. In addition, the level of reliance on specific clients shall represent the percentage of total sales derived from the company's top five clients and the proportion of sales gained from one specific customer and shall be indicative of the breadth of a company's customer base.

[Table 3-5] Proxy Variables of Strategies

Indicator	Definition	Strategic Importance
ROS (Operating Profit Margin)	Operating profit divided by sales	Results achieved through the execution of operational strategies and various operations
Sales	Consolidated sales	Size of business
Number of Employees	Number of consolidated employees	Size of business, current delivery structure
Offshore Ratio	(1) Offshore center sales divided by total sales (2) Number of offshore center employees divided by total number of employees	The higher the offshore ratio is, the better the advantages of wage arbitrages and ability to turn over profits
ADM Ratio	Percentage of ADM of total sales ADM: Application development & maintenance	Value chain shift (handling upstream processes)
Proportion of Major Customers	Total amount of sales from top clients divided by total sales Top clients: One specific client or the top five clients	Extent of customer base (concentration on top clients is a risk factor due to a high reliance on specific customers)

(Source) Mizuho Corporate Bank, Industry Research Division

a) Leader Analysis – TCS and Infosys

(i) TCS: Company Outline and Operational Strategies

A core company of the Tata group, TCS is the biggest firm in the Indian IT services industry

TCS is one core subsidiary of the major Indian conglomerate Tata Group. Established in 1968, it is also India's oldest IT services firm. In addition to core markets of the US and Europe – with the UK at its helm – the company has actively been engaged in the Japanese market too in recent years. It has attracted blue chip companies as clients mainly in the finance, manufacturing and telecommunications industry and provides a range of full outsourcing services from consulting and infrastructure management to non-voice BPO services. Furthermore, TCS has set itself the goal of breaking into the global top 10 firms in the IT services industry by the year 2010.

[Table 3-6] Company Outline

Established	1968	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Mumbai, India		●	●	●	●	●
Employees	111,407 (2008/3)	Sales by Region[2]	A	Europe	India	Others	
Sales ($B)	5.1 (2008/3)		56%	29%	9%	6%	
Market Value ($B)	19.8 (2008/3/31)	Sales by Industry[3]	BFSI	M	Telecom	H	Others
Listed on	National Stock Exchange Bombay Stock Exchange		42%	15%	17%	4%	21%
Major Shareholders	Tata Sons 75%	[Notes] 1. C: Consulting, ADM: Application Development & Maintenance 2. A: Americas 3. BFSI: Banking, Financial Services and Insurance, M: Manufacturing, H: Life Science & Healthcare					

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

GNDM: Access to clients in 41 countries through 155 locations including 80 delivery centers

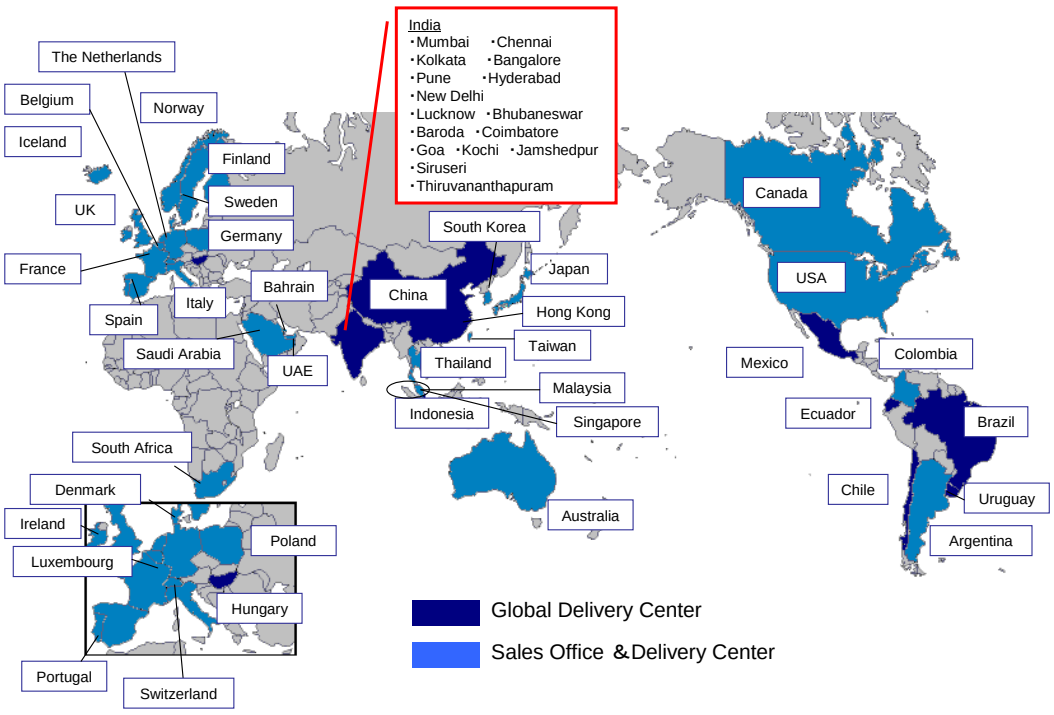
The key element that differentiates TCS services is thought to be the ability of the company to be able to provide a full line of outsourcing services by cross selling its IT and BPO services under its own brand of global delivery model, known as the Global Network Delivery Model (GNDM).The GNDM extends to 155 sales centers and 80 delivery centers in 41 countries. TCS is able to provide an optimum level of service to meet project characteristics and customer needs with its offshore centers (Global Delivery Centers) in India and China that deal with all regions, offshore centers (Regional Delivery Centers) in Hungary and Latin America that handle limited regions and nearshore centers (Nearshore Delivery Centers) in regional cities in the US and the UK.

While many Indian IT services firms utilize India and China as offshore locations, TCS was quick off the mark to establish a delivery center in the region of Latin America and also utilizes nearshore centers in Northern America combined with offshore centers in European countries such as Spain and Portugal (Fig. 3-9).

Active expansion into Eastern Europe and Latin America, while also focusing on the Indian domestic market

A feature of TCS' strategy is its aggressive forays into regions other than Europe and the US. Firstly, while many firms position India and Latin America as development centers, TCS also recognizes them as markets and is pursuing customers in these regions. Naturally, TCS provides support to the Tata Group in India, but also signs prestigious clients such as the government and major local financial institutions and even in Latin America, it is actively securing projects for local firms and governments. For instance, it handled projects for an Ecuadorian financial institution and provided outsourcing services to Mexico's Social Security Institute. Secondly, in aiming to strengthen its Japanese market approach, TCS established an offshore center known as J-ODC in Kolkata to specially cater for Japanese clients. With this center as a hub and coordinating with Shanghai and Guangzhou, the company is planning to ramp up its operations in Japan, holding high hopes for the embedded systems sector which is in need of more technicians, in addition to providing its standard outsourcing services to financial institutions and manufacturers.

[Fig. 3-9] Global Delivery Model: TCS



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

TCS has enhanced its solution services by acquiring leading niche firms

The results of positive M&As in the past are also beginning to come to fruition for TCS. Common characteristics of such M&As have so far included the following: aiming to boost company presence in specific regions and enhance ability to provide solutions to certain industries, and acquiring small companies with a market worth of under US$1 million.

Indian domestic operations bolstered by the acquisition of CMC

The acquisition of CMC in India is a prime example of how TCS boosted its presence in a particular region. CMC was established as an IT services firm to take over from IBM in the wake of its departure from India in 1975 and mainly dealt with computer maintenance for the Indian domestic market – a region where it commanded a strong market presence. Owing also to the fact that many Indian IT services firms, including TCS, traditionally focused on the export business and were slow to deal with domestic demand in comparison to foreign affiliates like IBM, the acquisition of this company has contributed to TCS' fortified market presence in India.

Strengthening financial solutions business

Classic examples of how TCS has enhanced its ability to provide solutions to certain industries can be seen by its acquisitions in the financial services sector. Namely, the acquisitions of TKS Teknosoft of Switzerland, the Australian firm FNS, and Comicrom of Chile. The wholesaling banking solutions operations of TKS, known as Quartz, and the core banking solutions of FNS, known as FNS Bancs, were consolidated to form TCS BaNCS and become TCS' core product aimed at the financial services industry. TCS has succeeded in securing a number of outsourcing contracts with major financial institutions such as the Bank of China, the State Bank of India and New Zealand Exchange Limited, New Zealand's stock exchange. Moreover, in addition to securing a customer base of local financial institutions and government agencies, the acquisition of Chile's BPO firm Comicrom has enabled TCS to provide offshore BPO services to customers in Spanish speaking countries.

[Table 3-7] Main Acquisitions by TCS

Acquired Firm	Stake	Announced	Main Objectives	Employees	Acquisition Amount ($M)
CMC (India)	51%	2002	(1) Strengthening domestic market structure in India	n.a	n.a
Airline Financial Services (India – Switzerland)	25%⇒75%	2003.5	(1) Bolstering BPO operations (2) Customer base in the aviation and leisure industries (acquisition of Swissair's stake in JV)	400	n.a
Aviation Software Development Consultancy (India – Singapore)	49%⇒100%	2004.3	(1) Acquisition of mission critical solutions (TPF) technology (2) Customer base in the aviation industry (acquisition of Singapore Airlines' stake in JV)	180	3.5
Phoenix Global Solutions (India – US)	100%	2004.5	(1) Enhancing consulting solutions for the insurance industry	400	n.a
FNS (Australia	100%	2005.10	(1) Incorporation of core banking solutions (Bancs) (strengthening financial packages) (2) Customer base of over 115 firms in 35 countries	n.a	26
Comicrom (Chile)	100%	2005.11	(1) Fortifying BPO for financial institutions and governments (2) Upgrading and expanding Latin American centers and securing customer base (12 countries in South America)	1,257	23
TKS-Teknosoft (Switzerland)	75%	2006.10	(1) Boosting presence in continental Europe such as in Switzerland and France (2) Obtaining products (Quartz) aimed at wholesale banking	115	80
TCS Management (Australia)	100%	2006.11	(1) Securing points of contact with customers (major financial institutions, telecommunications, media, governments, etc.) (2) Strengthening IT consulting	35	12

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

(ii) Infosys: Company Outline and Operational Strategies

Overview: Infosys has grown from a venture firm to a major company of real proportions

Infosys was established in 1981 by seven engineers from Patni, including former CEO N.R. Narayana Murthy. From the outset, the company embraced an offshore-based business model oriented towards development of US contracts in India and was the first firm to establish a global delivery model.

[Table 3-8] Company Outline

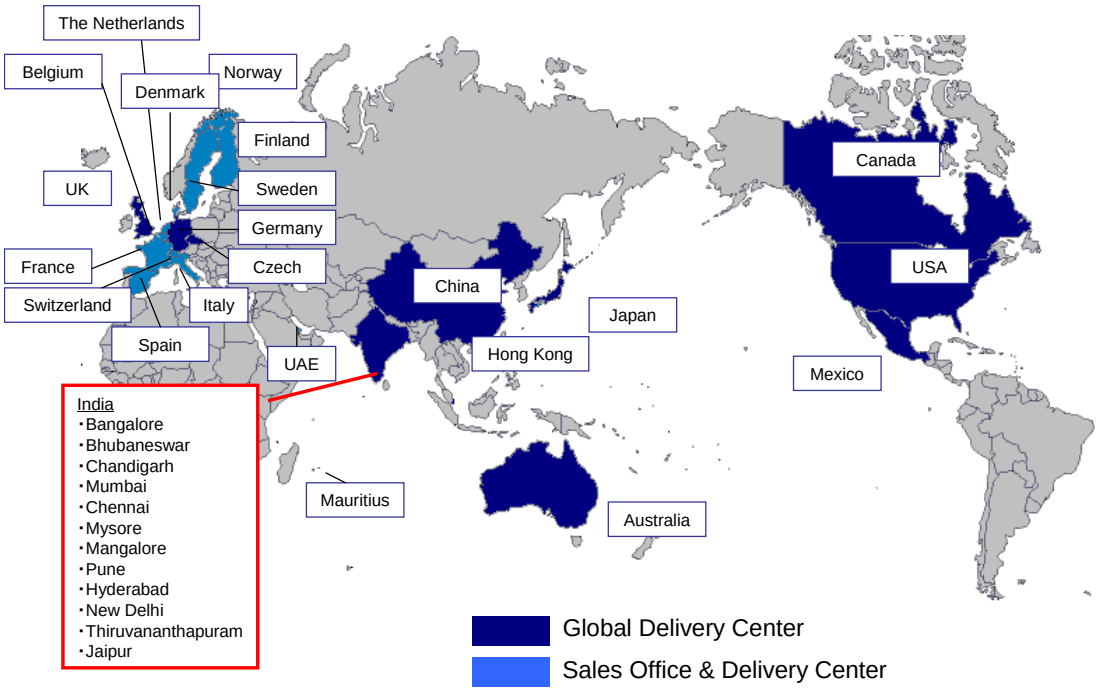
Established	1981	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Bangalore, India		●	●	●	●	●
Employees	91,200 (2008/3)	Sales by Region[2]	NA	Europe	India	Others	
Sales ($B)	4.2 (2008/3)		63%	26%	2%	9%	
Market Value ($B)	20.5 (2008/3/31)	Sales by Industry[3]	BFSI	M	Telecom	Retail	Others
Listed on	National Stock Exchange Bombay Stock Exchange Nasdaq		37%	14%	19%	10%	20%
Major Shareholders	Founder 17%	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. NA: North America 3. BFSI: Banking, Financial Services and Insurance, M: Manufacturing					
	External Investors 64%						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

GDM: Access to clients in 26 countries through 47 locations including 52 delivery centers

Infosys implemented its global delivery model in the early 1980's and now commands 52 delivery centers and 47 sales points across 26 countries (Fig. 3-10). The core features of the company's strategies include: improving added value and staying competitive through value chain expansion, geographically widening the range of its delivery centers, and strengthening cross selling by diversifying its operations.

[Fig. 3-10] Global Delivery Model: Infosys



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

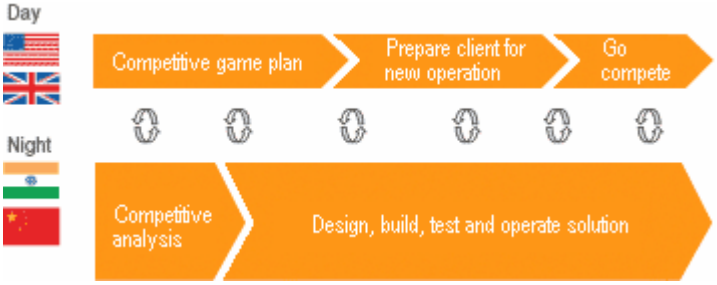
Higher added value and competitiveness: business consulting and financial solutions

Infosys has already moved up the IT services value chain into business consulting – a field considered to be at the top of upstream processes. It seriously moved into this line of business after establishing a wholly owned subsidiary named Infosys Consulting (ICI) in the US in 2004. Although the company looked into acquiring a consulting firm or establishing a joint venture, it decided to head hunt top consultants from substantially powerful US consulting firms[19]. This presented Infosys the opportunity to extend its global delivery model into the sphere of business consulting by implementing a structure referred to as the 1:1:3 Model (Fig. 3-11). The 1:1:3 model involves onsite business consulting (one process) being provided at market rates of developed countries and

[19] Personnel well-established as top consultants were head hunted from Capgemini E&Y, AT Kearney & EDS and Deloitte Consulting. The CEO of the firm was sourced from the latter, while all three firms each provided Infosys Consulting with a managing director.

onsite IT systems installation (one process) and offshore analysis, design/development/testing and management (three processes) services at rates cheaper than market averages. This model has made it possible for business consulting operations to be combined with the hard-to-emulate offshore/onsite collaborative model that has been developed over a prolonged period of time. In doing so, Infosys has established a framework to rival leading European and US IT services firms and has been able to land outsourcing deals from blue chip firms in Europe and the US. Additionally, in the financial services field – the biggest client segment for the firm – Infosys has differentiated its services with Finacle, its self-developed core banking solution. Finacle's track record shows that 109 banks in 60 countries have already implemented the system, including leading financial institutions such as ABN AMRO, India's ICICI Bank and Credit Suisse.

[Fig. 3-11] Infosys' 1:1:3 Model



(Source) Publicly available company material (reproduction authorized)

Delivery centers outside of India rapidly expanding

As for expanding its delivery centers, Infosys has established offshore centers in low cost regions other than India and also beefed up its onshore centers. From 2007, the firm has focused on reinforcing the services it provides from low cost regions other than India and China, by doubling the size of its center in the Czech Republic, which has been in use since 2004 as a nearshore center for European clients, as well as establishing a delivery center in Mexico for the North American, Latin American and European markets. Furthermore, with the goal to strengthening recruitment of university graduates from outside of India, Infosys is engaged in a program called the Global Talent Program at its Indian training center in order to cultivate developers for its onshore centers.

Wholly owned and acquired BPO business

One way that Infosys has diversified its businesses is by undertaking BPO operations. In 2006, it acquired Citigroup's shares in the BPO subsidiary Progeon and changed its name to Infosys BPO. The following

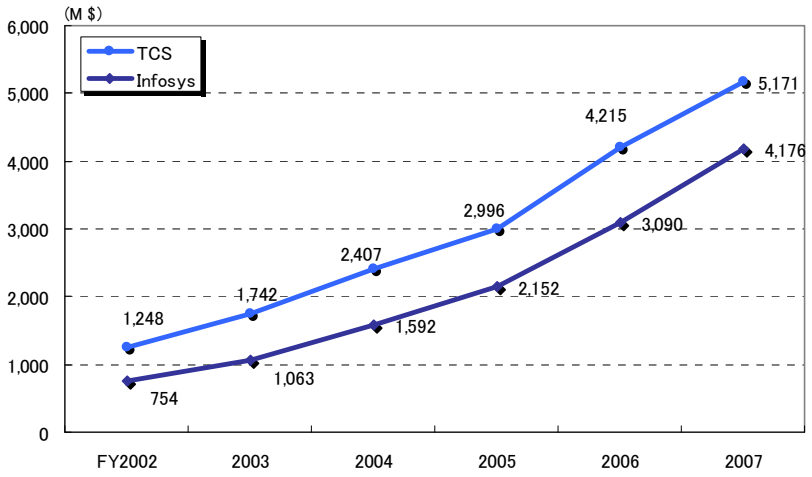
year, it additionally acquired BPO businesses in India, Poland and Thailand owned by Royal Philips of the Netherlands and then also proceeded to conclude outsourcing contracts with the Dutch firm. It can be said that such efforts made by Infosys to bolster its BPO business is reflected in increased customer needs for combined IT and BPO services.

Operation Data Analysis of Leaders

High profit growth continues

In terms of sales, TCS recorded approximately US$5 billion in 2006, while Infosys raked in around US$4 billion. Both companies are maintaining high growth levels, centering on organic growth with TCS posting a growth rate of 30% and Infosys 40% (Fig. 3-12). As for value chain expansion, the ADM ratio for both firms has already dropped to around the 50% level, while the proportion of sales from ERP solutions, BPO or infrastructure management such as data center operations has increased.

[Fig. 3-12] Sales Trends

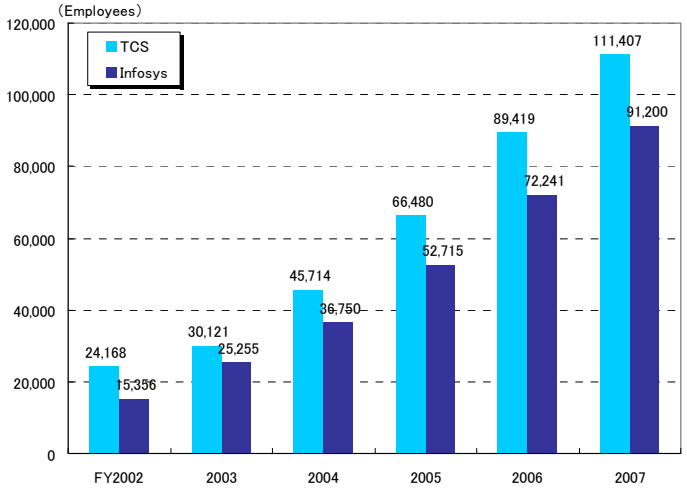


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Recruitment rising by 20,000 workers per year

As of March 2008, TCS and Infosys employed 110,000 and 90,000 personnel respectively, with the pace of increase in recruitment rising from 5,000 to around 20,000 employees annually in the last three years (Fig. 3-13). It is thought that even these two companies have felt the effects of mass hiring by powerful foreign affiliated IT services firms, therefore, they have been active in boosting their hiring activities in India's regional cities such as the tier 2 and tier 3 zones and in China, Eastern Europe and Latin America.

[Fig. 3-13] Employee Trends



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Both firms posting high operating profit ratios

Both companies continue to post a high operating profit margin in the 20% range (Fig. 3-14). This is due to the welcome benefits of utilizing differences in wages owing to a high offshore ratio (Fig. 3-15).

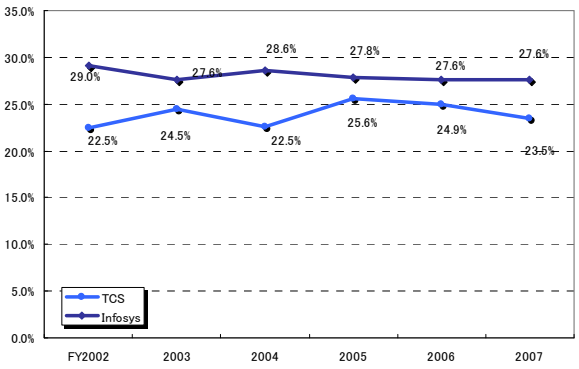
Increasing one's offshore ratio and reaping the benefits of arbitrage transactions

The style of systems development and maintenance whereby staff were permanently dispatched onsite was a mainstream method in the 1960's when TCS was founded, but in the 1980's, Infosys emerged as a pioneer in the implementation of the onsite/offshore model and quickly embraced a development structure centering on offshoring. It could have been that TCS, which entered the market 15 years earlier than Infosys, required more time to convert its business model from onsite to offshore, however, it too has endeavored to migrate its outsourcing projects with existing customers to offshore locations and continues to ramp up its arbitrage strategies. This can be seen in the fact that TCS' ratio of offshoring to sales is on an upward trend. The difference in offshore ratio between the two industry leaders continues to shrink due to TCS' aggressive offshoring that utilizes India and other low cost regions.

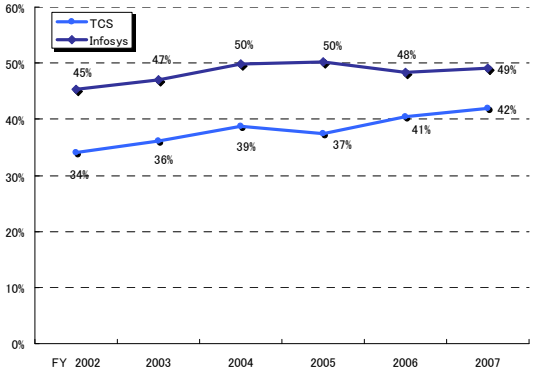
Moreover, as part of their plans to secure more customers, both TCS and Infosys are focusing on their consulting businesses and are bumping up their overseas offices in Europe the US and Asia from the perspective that the ability to deal with business customs and needs of each region will need to be improved. As the ratio of employees in locations other than India rises in connection with the increase in overseas offices, there is a chance that cost factors may weigh upon these two firms. Up until now, because both companies have maintained high profit ratios, it can be said that they have succeeded in cleverly balancing contradicting

strategies such as the utilization of wage differences versus the bolstering of strategies designed for specific regions and have been able to achieve competitive differentiation.

[Fig. 3-14] Operating Profit Margin Trends



[Fig. 3-15] Offshore Ratio Trends (based on sales)



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

b) Challenger Analysis – Satyam, Cognizant and Patni

(i) Satyam Computer Services: Company Outline and Operational Strategies

Pioneer of the ODC model

Satyam Computer Services was founded in 1987 by Ramalinga Raju of NRI. During the early days, the company mainly dispatched software engineers to client locations, however, due to an outsourcing project for US agricultural equipment maker Deere & Company in 1991, it discovered that it was possible to utilize an offshore development model and consequently formulated a new business model that provided an exclusive development environment for its clients at an ODC.

[Table 3-9] Company Outline

Established	1987	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Hyderabad, India		●	●	●	●	●
Employees	51,127 (2008/3)	Sales by Region[2]	NA	Europe	India	Japan	Others
Sales ($B)	2.1 (2008/3)		63%	19%	4%	1%	12%
Market Value ($B)	6.6 (2008/3/31)	Sales by Industry[3]	M	BFSI	TIMES	H	Others
Listed on	National Stock Exchange Bombay Stock Exchange NYSE		27%	26%	20%	7%	19%
Major Shareholders	Founder (8.79%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. NA: North America 3. M: Manufacturing, BFSI: Banking, Financial Services and Insurance, TIMES: Telecom, IT infrastructure, Media and Entertainment, Semiconductor, H : Healthcare					

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Establishing a new global delivery model with GDM2.0

Satyam has already established a global delivery model to optimize the needs of its clients with its Right Sourcing Model combining onsite, onshore, nearshore and offshore services (Fig. 3-16). New strategy concepts have been hammered out in recent years in the form of a succeeding model known as GDM2.0 and Satyam continues to convert its service providing system from an India-based single center model to a decentralized model with multiple centers. The GDM2.0 involves components of large-scale projects being allocated and completed at multiple global delivery centers and is characterized by combining the strengths of each and every center. In September 2007, Satyam established its largest global delivery center outside of India in Malaysia where 300 engineers have begun to provide support services to customers in ASEAN countries, the Middle East and the US. As it becomes more difficult to secure talented engineers amid intense competition in India to obtain manpower, Satyam's move into Malaysia can be seen as an initiative to setup full-scale operations in Southeast Asia ahead of rival companies.

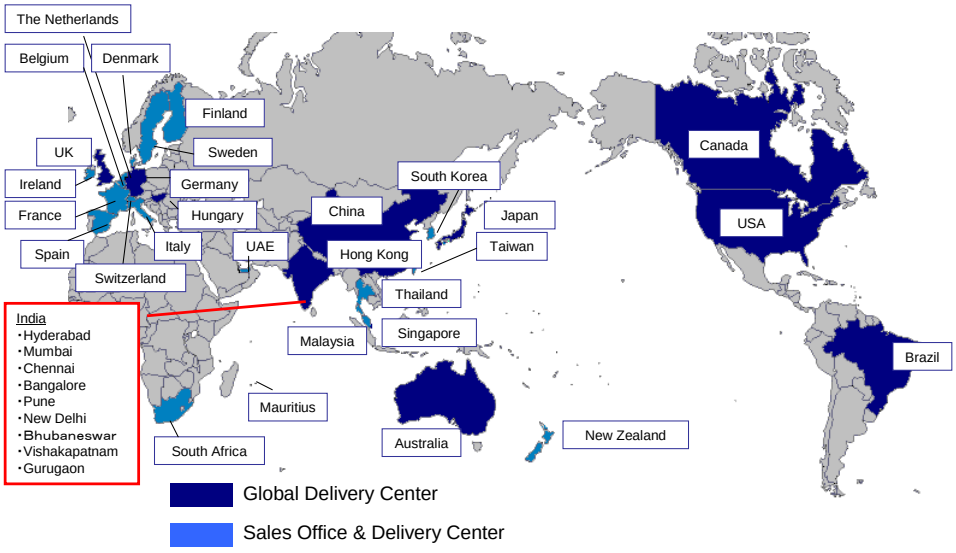
Strong dealings with mature sectors and strengthening of growth sectors

Satyam classifies industries and solutions by their maturity levels, which paints a picture of the firm's future growth strategy. In addition to continued focus on highly mature areas such as financial services and the manufacturing industry, the company is also inclined to bolster services to relatively new fields such as transport, retail and healthcare/pharmaceuticals as part of its industry strategy. In the solutions field, on top of mature areas of operations such as ADM and ERP, it is aiming to strengthen BPO, infrastructure management, engineering solutions such as product design and embedded systems. A concrete example of this is the fortification of Satyam's BPO business. In coming up with a new policy to promote the attainment of comprehensive outsourcing contracts that encompass the multiple fields of IT services and BPO, Satyam took full ownership of its BPO subsidiary Nipuna Services in 2007, which had been managed through venture capital participation[20], and subsequently changed its brand name to Satyam BPO. By doing this, the firm was able to deal with the value chain of outsourcing operations by itself.

Participated in the development of eSCM; strong desire to improve processes

It is assumed that the level of focus afforded by Satyam BPO to improving processes is at a high level within the IT industry. Being the fifth company in the world to achieve level 5 CMMI and collaborating with Carnegie Mellon University in the US to develop the BPO services provider capability model known as eSCM, it is no wonder that Satyam BPO has become the world's first company to be accredited with eSCM level 5 certification.

[Fig. 3-16] Global Delivery Model: Satyam



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

[20] Investment from Olympus Capital and Intel Capital.

(ii) Cognizant Technology Solutions: Company Outline and Operational Strategies

Indian firm derived from major US company

Cognizant was set up in 1994 as an in-house IT services division of major US credit information research firm Dun & Bradstreet (D&B). Centering on its Indian operations base, Cognizant India, which was established through a JV with Satyam in 1993, D&B implemented an onsite/offshore model for transactions between India and the US. Even now, around 80% of Cognizant employees are assigned to its offices in India.

[Table 3-10] Company Outline

Established	1994	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	USA		●	●	●	●	●
Employees	55,405 (2007/12)	Sales by Region[2]	NA	Europe	Asia		
Sales ($B)	2.1 (2007/12)		86%	13%	1%		
Market Value ($B)	5.5 (2008/3)	Sales by Industry[3]	BFSI	H	MRL	Others	
Listed on	Nasdaq		48%	23%	15%	14%	
Major Shareholders	Fidelity Management (14.1%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. NA: North America 3. BFSI: Banking, Financial Services and Insurance, H: Healthcare, MRL: Manufacturing, Retail, Logistics					
	Wells Capital (3.9%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Two-in-a-box: a model integrating offshore and onsite to complete projects

In a fresh departure from the business of dispatching human resources, since its establishment, Cognizant has undertaken orders for full life cycle development projects and maintenance services and applied an onsite/offshore model. Following Cognizant's spin-off from D&B in 2003, the company started anew with a structure that had its founder Kumar Mahadeva taking charge of US customer support and its COO Lakshmi Narayanan overseeing delivery operations in India. It is thought that this where the firm's two-in-a-box relationship model has its origins, which features a pair of senior managers – one in the US and the other in India – to handle and carry out each development project based on equivalent responsibilities and evaluation standards. In addition, this model also places emphasis on the hiring of key executives and project leaders in order to enhance the capabilities of onsite centers.

Differentiating itself by enhancing the ability to provide business solutions

Through seamless integration of both offshore and onsite, Cognizant's global delivery model concept, 4th Generation offshore Outsourcing, sets in place a structure to facilitate regular communication with clients onsite and to provide services with large-scale, low cost offshoring (Table 3-11).

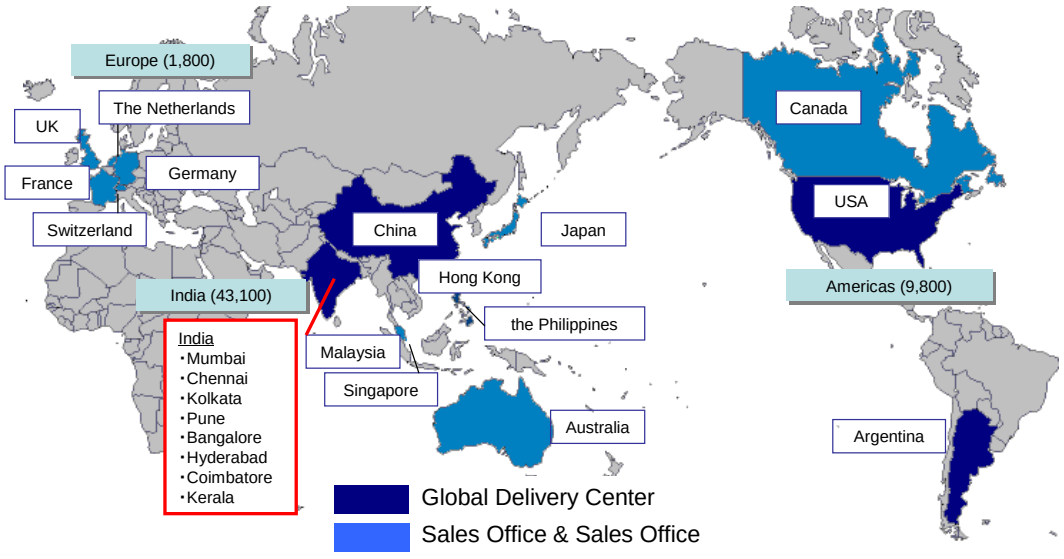
[Table 3-11] Four Stages in the Evolution of Cognizant's Offshore Outsourcing

	Features of Offshore Outsourcing	Complexity of Systems	Impact on Business
1st Generation	Onsite staff augmentation	Low-complexity systems	Low business impact
2nd Generation	Offshore production	Low-complexity systems	Low business impact
3rd Generation	Onsite/Offshore	High-complexity systems	High business impact
4th Generation	Partnership, seamless integration	High-complexity systems	High business impact

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

42 delivery centers – the foundation of the model – and more than 20 regional sales offices have been established in India, Europe, the US, Asia and Latin America, while Cognizant is aiming to strengthen its ability to secure more customers in the future by setting up more sales offices in North America, Europe and Asia (Fig. 3-17). While centering operations at its Indian development centers, it also established a center in China in 2005 and as of the end of 2006, had expanded its staff there to 300 people. With comparatively large-scale projects being handled in India and China, in meeting the needs of its clients, Cognizant has established a global delivery model to provide services via more user-friendly nearshore centers and small-scale onshore teams. As well as bettering relations with prestigious universities around the globe in order to lay hands on graduates from tier 1 schools, each global center is also ramping up their recruitment of experienced personnel from rival firms. Cognizant perceives offshore services to be a prerequisite for an IT services firm and places emphasis upon hiring MBA graduates, considering the capability to provide business solutions as the lifeblood of differentiating services.

[Fig. 3-17] Global Delivery Model: Cognizant



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

(iii) Patni Computer Systems: Company Outline and Operational Strategies

Founded in the 1970's, deals mainly in the finance and manufacturing industries

Patni Computer Systems was founded in 1978 predominantly by its current CEO Narendra Patni. Financial services and the insurance industry account for 39% of its sales, 22% comes from the manufacturing industry, and another 10% is derived from product engineering such as hardware design. Patni is engaged in full outsourcing services from IT consulting to system ADM and BPO, while a breakdown of sales by region shows that roughly 80% is for the US market.

[Table 3-12] Company Outline

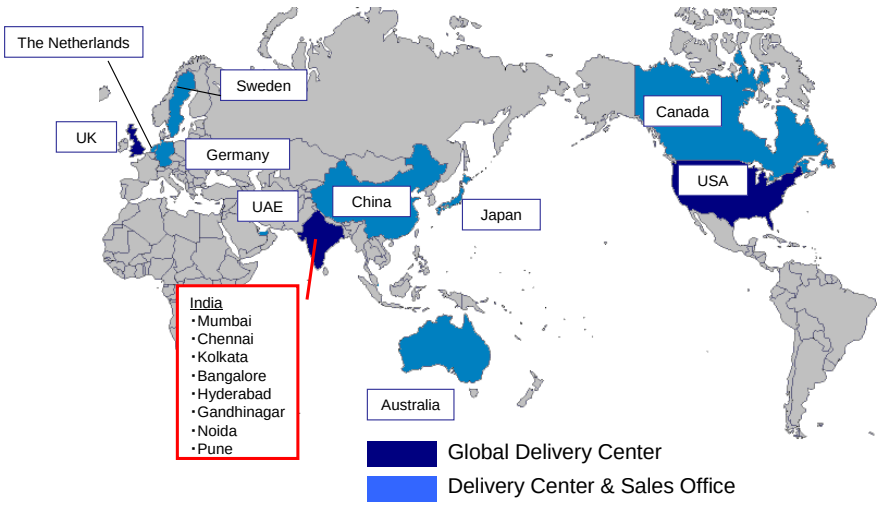
Established	1978	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Mumbai, India		●	●	●	●	●
Employees	14,945 (2007/12)	Sales by Region[2]	US	Europe	India	Japan	Others
Sales ($M)	663 (2007/12)		81%	12%	4%	0.4%	3%
Market Value ($M)	771 (2008/3/31)	Sales by Industry[3]	BFSI	M	C	PE	Others
Listed on	National Stock Exchange Bombay Stock Exchange NYSE		39%	22%	19%	10%	11%
Major Shareholders	Founder (44%) General Atlantic (16.5%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. BFSI: Banking, Financial Services and Insurance, M: Manufacturing, C: Communications, PE : Product Engineering					

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

GDM: Patni has established an India-based delivery system directed at Japanese, US and European clients

Patni's global delivery model is comprised of 20 global delivery centers combining offshore centers in India and onshore centers in the US and the UK, as well as 22 sales offices mainly in the US and Europe (Fig. 3-18). It currently plans to establish centers in Brazil and China as global delivery centers in low cost regions outside of India.

[Fig. 3-18] Global Delivery Model: Patni



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Strengthening operations in finance, telecommunications and manufacturing sectors

Based on this global delivery model, Patni employs three main strategies: a focus on specific industries, provision of full-line services, and more efficient and better quality project management. Firstly, focusing on specific industries will strengthen marketing know-how in those fields, mainly in financial services, telecommunications and manufacturing, and is oriented towards securing profits solely from clients that wish to establish long-term relationships in the form of strategic accounts. To achieve these aims, in addition to the fact that industry knowledge of sales staff, business analysts and developers has been gained through the acquisition of firms specialized in particular industries, Patni has also secured a customer base in such industries. In particular, as an integral part of its efforts to enhance solutions for the finance and telecommunications industries, Patni is actively buying up IT consulting firms that possess customer bases made up of major European and US end users in the fields of finance and telecommunications (Table 3-13).

[Table 3-13] Main Acquisitions by Patni

Acquired Firm	Announced	Business	Employees	Acquisition Amount ($M)
Logan Orviss International (Europe)	2007/7	Telecommunications consulting	n.a	n.a
Taratec Development Corp (US)	2007/7	Consulting for the life sciences industry	n.a	27.2
ZaiQ Technologies (US)	2006/6	Network application software	n.a	0.4
Cymbal Corporation (US)	2004/11	Consulting for the telecommunications industry	500	68
The Reference Inc. (US)	2003/4	IT services for the financial sector	44	7.5

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Full outsourcing provided, ranging from consulting to data centers and BPO

Secondly, by supplying a range of solutions from consulting to BPO and KPO based on strategic accounts, Patni has been able to construct a system capable of providing full outsourcing services. Moreover, exclusive account managers have been assigned to expand the scale and scope of projects in order to improve the effectiveness of this system.

Improved delivery efficiency with Six Sigma and knowledge management

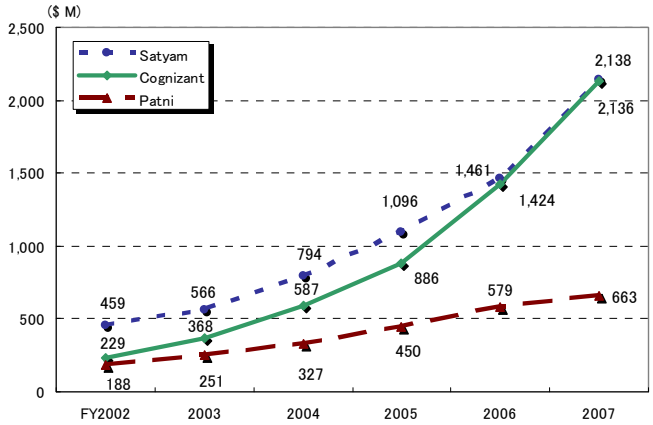
Thirdly, the firm is actively investing in the development of project management tools – implementing project management based on CMMI level 5 and PCMM level 5 and redressing development practices with Six Sigma. In addition, because knowledge management centering on the reuse of components, such as programs created for previous system development projects, has also been implemented at all levels of business units, customer accounts and project teams, Patni has established a structure where information is shared but also makes sure of information security issues.

Operation Data Analysis of Challengers

Sales up to one third of bigger firms

Satyam and Cognizant each earned around US$2.1 billion in sales in 2006, which is one third of the sales amount of leader firms, while Patni recorded 600 million, or one seventh of leader firms. All three companies continue to maintain double digit growth levels, in particular, Cognizant is growing at an annual rate of 50%, its sales increasing by 10 times over a period of five years (Fig. 3-19).

[Fig. 3-19] Sales Trends

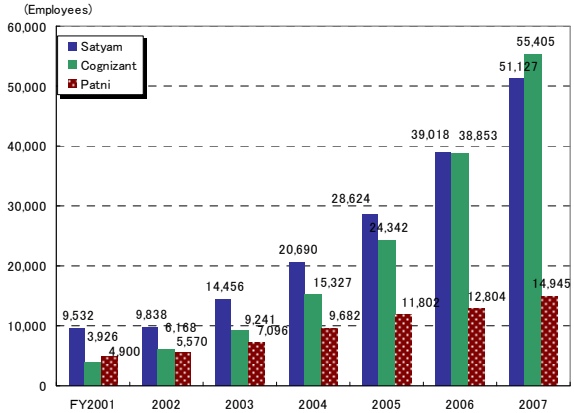


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

10,000-50,000 employees; movements related to trends in sales

As with sales, a similar trend can be seen in the number of employees at these three companies. Employee numbers at Satyam have increased from 6,000 per year to 8,000, 10,000 and 12,000 per year in 2005, 2006 and 2007 respectively. Cognizant has rapidly boosted its numbers at a faster pace than Satyam and has grown from less than half the size of Satyam in 2001 to almost be on a par with its rival in 2007. Meanwhile, the increase in the number of Patni's employees has slowed in comparison to the other two firms, hovering between 1,000 and 2,000 employees per year from 2002 onwards (Fig. 3-20).

[Fig. 3-20] Employee Trends

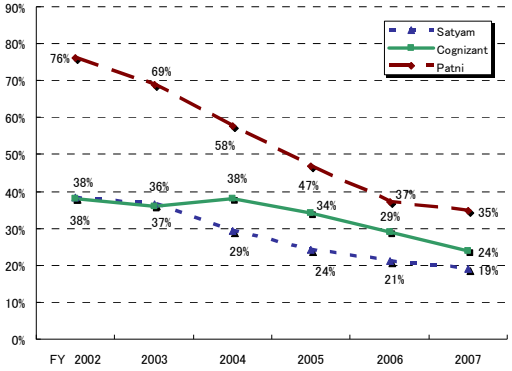


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

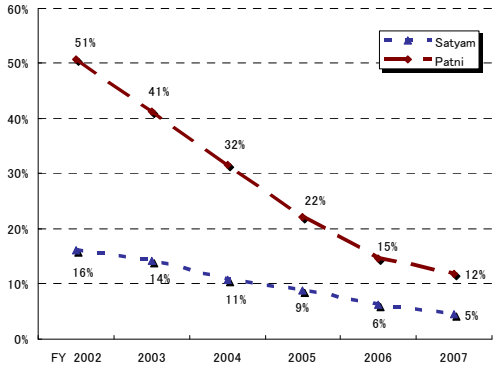
Large falls in reliance on specific customers associated with expanding customer bases

The percentage of total sales derived from the top five clients for Satyam, Cognizant and Patni is around 19%, 24% and 35% respectively and continuing to fall, indicating that these three firms are endeavoring to expand their customer bases (Fig. 3-21). GE is the biggest client for both Satyam and Patni, with the former relying on GE for approximately 16% of its revenue as of 2002 and Patni sourcing around 50% of its sales from the US conglomerate, but by the end of 2007, these figures had fallen to 5% and 12% respectively (Fig. 3-22). For Cognizant too, the ratios of sales from former group companies D&B, IMS Health and ACNielson have decreased to below 10% for each firm.

[Fig. 3-21] Sales Ratio from Top 5 Clients



[Fig. 3-22] Sales Ratio from GE

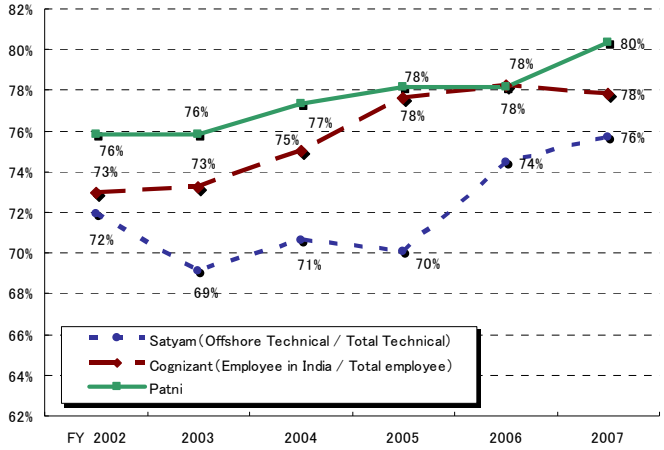


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Offshore ratio: more than 70% of employees are stationed at offshore centers

On an employee basis, all three companies have an offshore ratio of more than 70% (Fig. 3-23). Although they may be smaller than leader firms in terms of the number of overseas offices, the challenger firms are recruiting personnel and acquiring other companies in onshore regions such as Europe and the US with the aim of bolstering their abilities to provide customer support centering on the key markets of Japan, the US and Europe. In addition, it is assumed that since these firms are hiring staff in offshore regions centering on India on a scale much larger than onshore regions, the increasing trend in offshore ratios is continuing.

[Fig. 3-23] Offshore Ratio (based on employees)

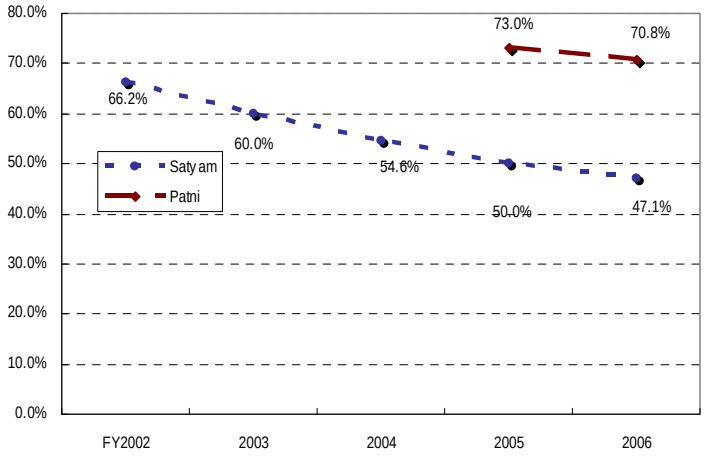


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

ADM ratio decline and value chain expansion

Due to expansion in business fields such as consulting, BPO and infrastructure management, the ADM ratio for challenger firms is on a declining trend (Fig. 3-24).Satyam excels at ERP related solutions and is boosting its consulting, IT outsourcing and BPO businesses, while Patni too is striving to bolster its upstream processes of the value chain by acquiring several IT consulting firms in Europe and the US.

[Fig. 3-24] ADM Ratio

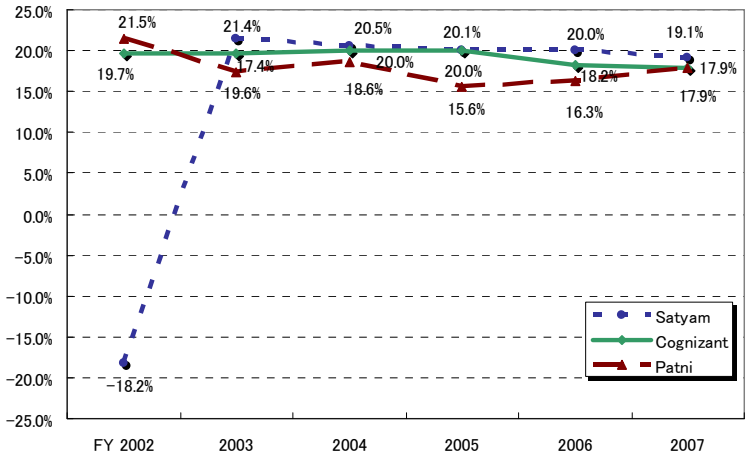


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Operating profit margins at high levels

In comparison to leader firms (around 25%), operating profit margins may be low for these three companies, but continue to move at high levels between 15-20% (Fig. 3-25). It is thought sustained high profit levels are because a lower reliance on specific clients, an upward shift in the value chain and increasing offshore ratios have weakened the effects of profit deterioration such as intensifying competition in European and US markets and wage hikes in India.

[Fig. 3-25] Operating Profit Margin



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

c) Follower Analysis – iGate GS, Hexaware and NIIT Technologies

(i) iGate GS: Company Outline and Operational Strategies

Increased efficiency via integration between the US and India

iGate Global Solutions (iGate GS) is an Indian medium-sized IT services firm and flagship subsidiary[21] of its umbrella company, the medium-sized US IT services company iGate Corporation. By delisting iGate GS from the stock exchange, iGate Corporation plans to take full ownership of the firm, while it is inferred that more efficient group management will be promoted between the US head office and the Indian subsidiary.

[Table 3-14] Company Outline

Established	1993	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Bangalore, India		●	●	●	●	●
Employees	6,259 (2007/12)	Sales by Region[2]	NA	Europe	AP		
Sales ($M)	161(2007/3)		78%	11%	11%		
Market Value ($M)	--	Sales by Industry[3]	BFSI	M	S	ME	Retail
Listed on	Unlisted		49%	20%	16%	10%	5%
Major Shareholders	iGate Corporation	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. NA: North America, AP: Asia Pacific 3. BFSI: Banking, Financial Services and Insurance, M: Manufacturing, S: Services, ME : Media & Entertainment					

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

General IT services firm of the medium-sized class

While other Indian medium-sized IT services firms are hammering out niche strategies, iGate GS tends to be more of a general IT services firm that can provide a full lineup of services. Compared to other medium-sized IT services firms, iGate GS comprehensively covers the key industries of finance, manufacturing, telecommunications and media, which are client industry segments that it specializes in. As for its scope of business, it has also established a structure to cover all activities of the value chain, including IT services ranging from consulting and ADM to infrastructure management, call center operations and non-voice BPO services. In particular, iGate GS is actively developing its services in so-called high growth fields, such as customization of and implementation support for ERP, business intelligence (BI) and testing.

[21] Other firms under the umbrella of iGate include the US IT personnel dispatch firm Mastech and the CRO (Contract Research Organization) firm iGate Clinical Research Institute (iGate CR). Following Mastech's establishment in 1986, it founded a separate company in India in 1993 called Mascot (now iGate GS). iGate CR was formed by the combination of a clinical research institute of the University of Pittsburgh Medical Center, which iGate GS acquired in 2003, and another Indian company. iGate CR has research sites in both the US and India.

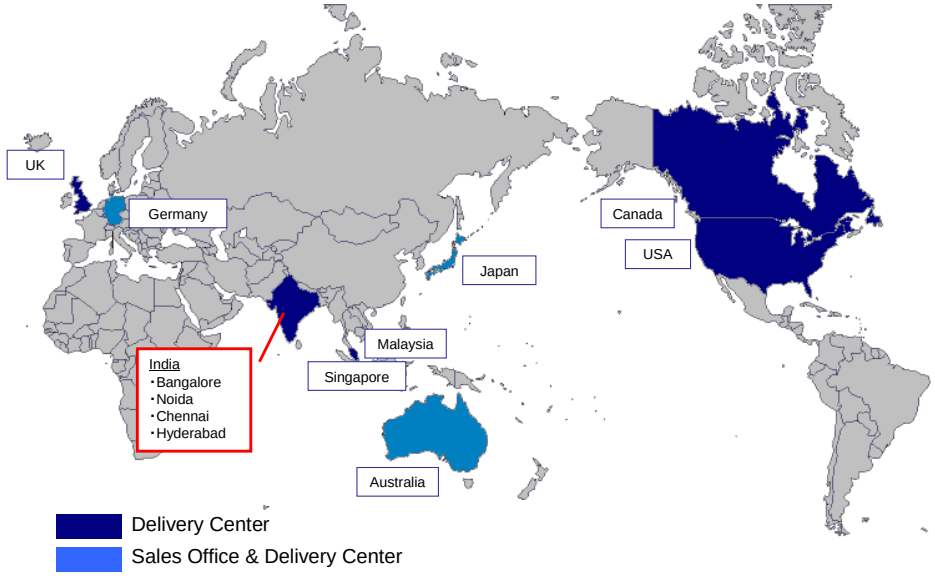
Standardization of development processes and its unique services concept iTOPS

As a strategy to differentiate itself, iGate GS is equipped with tools to manage and analyze individual development processes and projects, combining Six Sigma for quality control with CMMI level 5 for development process models. It also implements its services concept known as iTOPS, which integrates technology (IT) with operations (business processes), which the firm has actually focused on as an element that sets the company apart from its competitors. Indian companies are already cross selling their IT and BPO services, and generally charge their clients for BPO services on a man-hour basis. iGate GS on the other hand, employs a different business model to its rivals. Firstly, when undertaking outsourcing projects, it binds itself to provide both business operations (or business processes) and the implementation and upgrade of IT systems to make business operations more efficient. Secondly, it bills its clients based on the number of business operations carried out for the client. Consequently, with cheaper operation costs for automated components due to processes being upgraded with IT systems, a rise in the number of operations processed for the client leads to an increase in sales. Already, iGate GS has entered into iTOPS-based outsourcing contracts in Japan with several companies such as life insurance firms, car parts manufacturers and other conglomerates.

The accumulation of many years of experience in the Japanese market is this firm's strength

The global delivery model of iGate GS is comprised of offshore centers in India, main sales offices in Japan, the US and Europe, as well as onsite centers. In recognition of the Japanese market, the firm also held an offshore center in the Chinese city of Wuxi, however, in recent years has made the switch to offshoring between Japan and India without going through China. There is reason to believe that the well-established business model for offshoring in India based on more than 10 years of experience and know-how in the Japanese market, which places more than 100 mostly Japanese consultants and bridge SEs who determine what Japanese end users require, is a distinguishing characteristic and strength of iGate GS. Furthermore, the company plans to open a center in Mexico in July 2008 and utilize it as a nearshore center to provide IT services and various BPO services.

[Fig. 3-26] Global Delivery Model: iGate GS



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

(ii) Hexaware: Company Outline and Operational Strategies

Hexaware has the edge in finance, manufacturing and aviation

Hexaware was established in 1990 by an Indian entrepreneur named Atul Nisher, also the founder of the major IT education and training organization Aptech[22]. It is a dominant medium-sized IT services firm that specializes in the two industry segments of finance and manufacturing and provides IT services to the aviation services industry. From the 1990's to early in the year 2000, Hexaware undertook offshore outsourcing projects for the likes of IBM and Unisys, but at present, mainly handles direct orders from end users in various industries.

[Table 3-15] Company Outline

Established	1990	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Mumbai, India		●	●	●	●	●
Employees	7,068 (2007/12)	Sales by Region[2]	A	Europe	Others		
Sales ($M)	242 (2007/12)		69%	26%	5%		
Market Value ($M)	217 (2008/3/31)	Sales by Industry[3]	BFSI	M	T & H	Others	
Listed on	National Stock Exchange Bombay Stock Exchange London Stock Exchange		46%	33%	17%	4%	
Major Shareholders	Founder 26%	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. A: Americas 3. BFSI: Banking, Financial Services and Insurance, M: Manufacturing, T&H: Transportation & Hospitality					
	PE Fund 15%						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

[22] Aptech was established as an Indian IT educational institution but was later bought out by a third party. Along with NIIT, it is one of the two largest specialist IT training institutions.

Strategies focusing on client industries

The way Hexaware focuses its managerial resources on specific fields in order to distinguish itself from major firms is a feature of its strategies. One trait is how it focuses heavily on developing its top 40 companies, while another is the way it assails several niche markets. More specifically, it has clients in the financial services industry centering on capital markets and asset management, in addition to mainly aviation companies in the travel and transport industries. As for business fields, providing ERP solutions is Hexaware's forte. Furthermore, Hexaware utilizes its fully owned BPO subsidiary Caliber Point to conduct its BPO operations, ranging from HR BPO such as payroll accounting and personnel recruitment, to KPO such as data analysis and corporate valuation assessments. Accordingly, by providing BPO services to its IT services customer base, the firm is ensuring cross selling of both types of business.

Accumulating a wealth of experience in the the ERP field

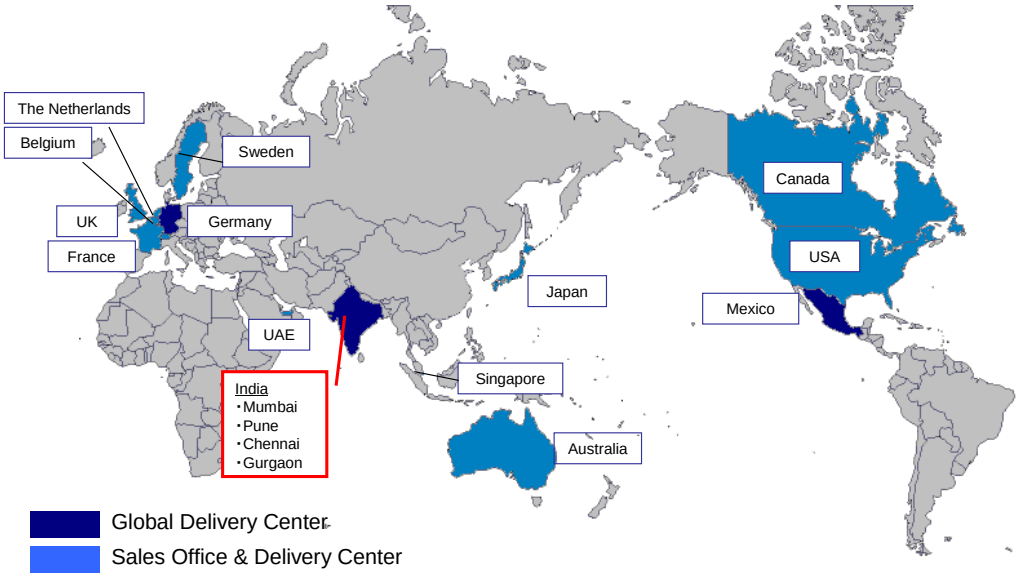
The firm focuses its efforts on enterprise resource planning (ERP) solutions and has accumulated a wealth of experience in undertaking ERP packages related development projects after being involved in the management of an ODC for PeopleSoft[23]. Moreover, since 2000, Hexaware has branched out its ERP implementations to SAP and Oracle and now carries out a broad spectrum of services like installation consulting for ERP software, customization, testing and maintenance.

GDM: With India at its core, Hexaware is now moving to strengthen its new Mexico center

As for operations by region, approximately 60% of Hexaware's sales is derived from the North American market, while the European market – which Hexaware places much emphasis on developing – accounts for 25%, mainly from Germany. Its global delivery model for both IT services and BPO is made up of Indian offshore centers and nearshore centers in the UK, Germany and the US (Fig. 3-27). Additionally, it has assigned the Mexico development center of FocusFrame, an American medium-sized IT consulting firm that it acquired in 2006, as its nearshore center for the North American market, and is planning to expand its workforce to 1,000 people by around 2010. On top of this, it views the Latin American region as a growth market and is promoting the nurturing of engineers aimed at developing IT services for local customers.

[23] Hexaware's Bangalore ODC for PeopleSoft, a leading ERP packages firm, was sold to Oracle after Oracle bought out PeopleSoft in 2005.

[Fig. 3-27] Global Delivery Model: Hexaware



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

(iii) NIIT Technologies: Company Outline and Operational Strategies

IT services business derived from a major training institute

Three engineers founded NIIT (National Institution of Information Technology) in 1982 as a specialist IT training institution. With a slump in demand for training in the Indian IT services industry following the Y2K furor, NIIT spun off its IT services business as a separate company, known as NIIT Technologies, with the purpose of enhancing its IT services operations. NIIT's BPO operations are handled by its fully owned subsidiary NIIT SmartServe, which provides inbound and outbound call center operations and non-voice BPO services to the same client segments as NIIT Technologies.

[Table 3-16] Company Outline

Established[1]	1984	Business Scope[2]	C	SI	ADM	ITO	BPO
Head Office	New Delhi, India		●	●	●	●	●
Employees	5,118 (2008/3)	Sales by Region[3]	A	Europe	AP	India	
Sales ($M)	213 (2008/3)		32%	50%	10%	8%	
Market Value ($M)	149 (2008/3/31)	Sales by Industry[4]	BFSI	T	R & M	Others	
Listed on	National Stock Exchange Bombay Stock Exchange		42%	25%	12%	21%	
Major Shareholders	Founder's Group 40%	[Notes] 1. NIIT commenced its IT consulting business 2. C: Consulting , ADM: Application Development & Maintenance 3. A: Americas, AP: Asia Pacific 4. BFSI: Banking, Financial Services and Insurance, T: Transportation, R & M : Retail & Manufacturing					

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Focus strategies

A feature of this company's strategies is that it concentrates on specific industries and solutions in order to differentiate itself from other firms. In particular, full outsourcing ranging from IT to BPO targeted at clients from the two industries of financial services and transport services; SAP related solutions centering on the manufacturing sector; and prioritizing the European and Southeast Asian markets.

Strong presence in the aviation services industry

While many Indian IT services firms focus primarily on the finance, manufacturing and telecommunications segments, NIIT Technologies has gone ahead of its competitors and to focus on the aviation services industry, undertaking outsourcing projects for major airline heavy-weights such as British Airways and Singapore Airlines. The firm provides a wide variety of BPO solutions ranging from the integration of a number of system types, sales support, reservation management and operations control.

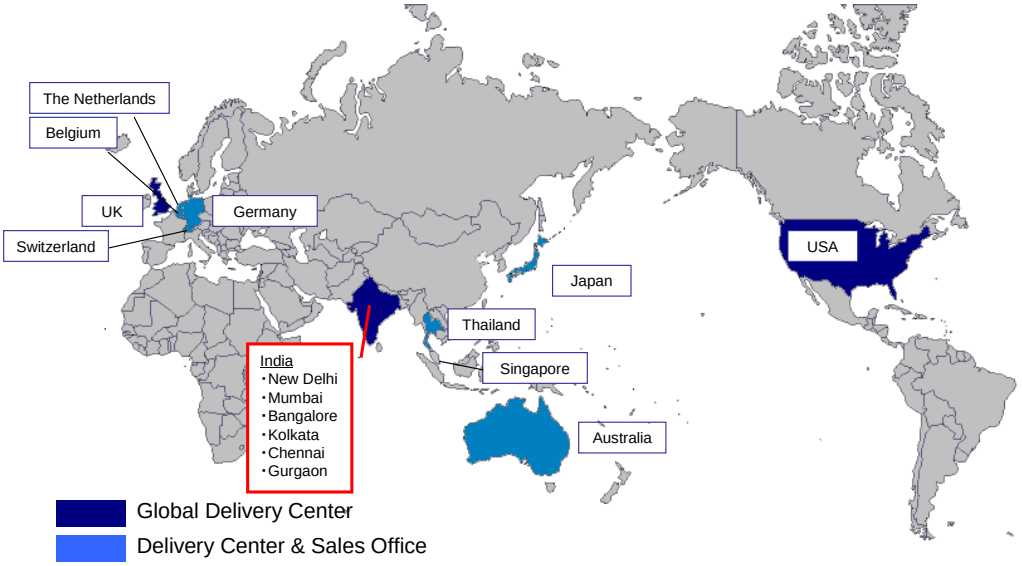
Specializing in SAP solutions

NIIT Technologies has established a presence in the field of ERP mainly with projects for the manufacturing industry and provides full outsourcing associated with SAP, one of the leading packages on the market, beginning with IT consulting and implementation and ending with managed services such as maintenance and help desk. Its ability to provide ERP solutions around the clock based on its centers in India, the US and Thailand is a characteristic of NIIT Technologies' business.

Active expansion into Europe and Asian regions

The firm's global delivery model is comprised of offshore centers in India and onshore centers in Europe and the US (Fig. 3-28). In addition, a comparison with other Indian medium-sized firms shows that NIIT Technologies is aggressively expanding its operations in Asia, while even in the Asia-Pacific region such as Singapore, Thailand and Australia, it is forging a structure to provide support to local firms and major end users from Japan, the US and Europe.

[Fig. 3-28] Global Delivery Model: NIIT Technologies



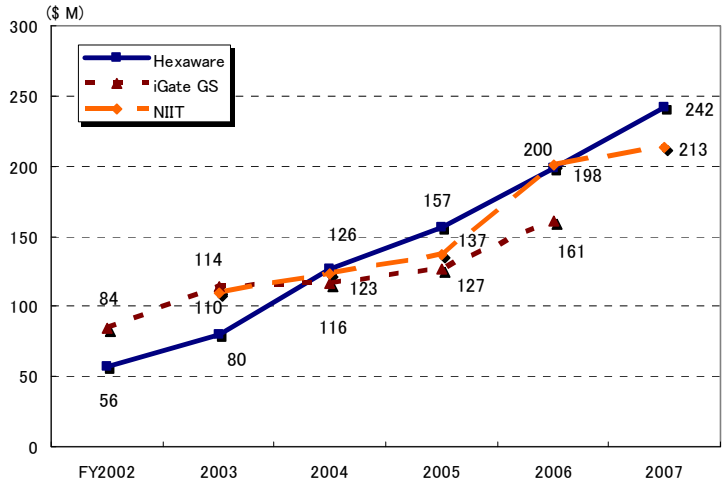
(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Operation Data Analysis of Followers

Sales up to 5% of the leader firms

All three follower companies turned over around US$200 million in sales in 2006, or around 5% of the leader firms' turnover figures. In terms of growth rate, these firms continue to maintain yearly growth levels of between 20-40% in the same fashion as leader and challenger firms (Fig. 3-29).

[Fig. 3-29] Sales Trends

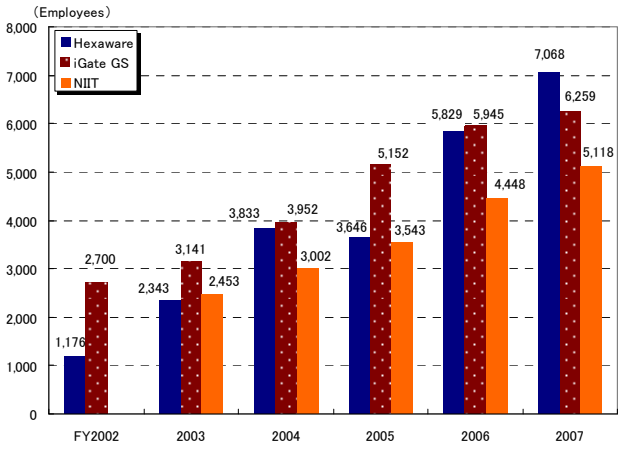


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Employee numbers 5,000-7,000

As with sales, a similar trend can be seen in the number of employees. All three companies employ around 5,000-7,000 people, or about 10% of the bigger corporations, but continue to expand at a rate of between 500-1,000 employees per year (Fig. 3-30).

[Fig. 3-30] Employee Trends

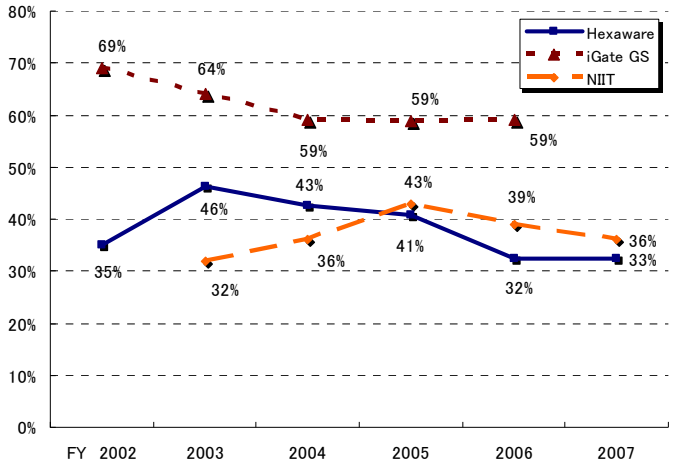


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Sales ratio from top five client firms higher than that of bigger companies

The ratio of sales derived from the top five companies for each follower is higher than figures for leader and challenger firms, indicating that these three firms depend on sales from specific client firms. The ratio for Hexaware and NIIT Technologies is around 30-40%, while iGate GS is higher at approximately 60% (Fig. 3-31).

[Fig. 3-31] Trends in Top 5 Clients

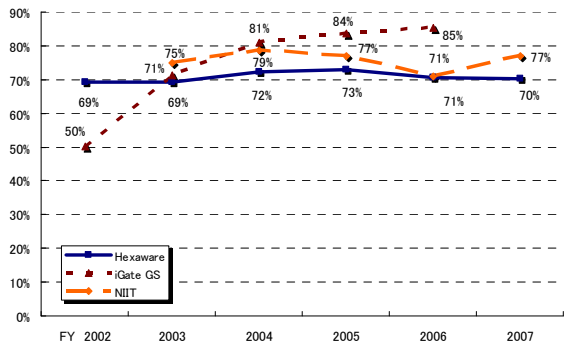


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

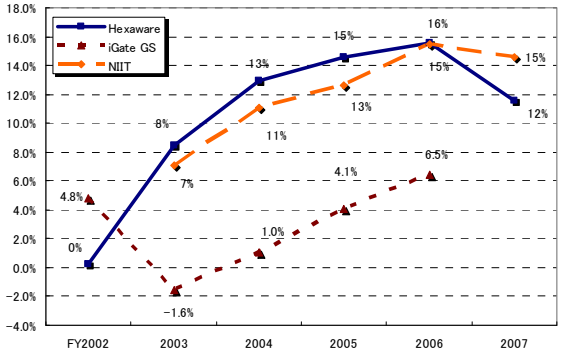
Offshore ratios on a par with bigger firms

Going by the offshore ratio of employees, one can infer that roughly 80% of staff are stationed at offshore centers (Fig. 3-32). As of 2002, iGate GS' offshore ratio was lower than the other two follower companies at around 50%, however, resulting from restructuring carried out from 2003 to improve the proportion of its workers offshore, iGate GS' offshore ratio has increased rapidly since then. In terms of operating profit margin, follower firms are at a lower level than their leader and challenger counterparts. Profit margins for Hexaware and NIIT Technologies sit in a range of 10-15%, while iGate continues to improve on the success of its efforts to quickly haul up its offshore ratio (Fig. 3-33)

[Fig. 3-32] Offshore Ratio Trends (based on employees)



[Fig. 3-33] Operating Profit Trends



Note: [Fig. 3-33] Depreciation costs added to operating expense

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

d) Nicher Analysis – Polaris, KPIT Cummins and Nucleus

(i) Polaris Software: Company Outline and Operational Strategies

Handles outsourcing to globally top-class financial institutions

Polaris Software was established in 1993 by Arun Jain. With a strong business relationship with the Citi Group, around 40% of this firm's sales is derived from the said global banking group, which also has a 22% stake in Polaris Software. Approximately 90% of its contracts go out to the BSFI sector and boasts a customer base of many leading global players Polaris Software undertakes outsourcing projects for four of the world's top seven banks, seven of the 10 best investment banks, and two of the top five insurance firms in the world.

[Table 3-17] Company Outline

Established	1993	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Chennai, India		●	●	●	●	●
Employees	10,093 (2008/3)	Sales by Region[2]	US	Europe	AP	I & ME	
Sales ($M)	249 (2008/3)		37%	31%	17%	16%	
Market Value ($M)	193 (2008/3/31)	Sales by Industry[3]	BFSI	Others			
Listed on	National Stock Exchange Bombay Stock Exchange		89%	11%			
Major Shareholders	Citibank (22.9%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. AP: Asia Pacific 3. BFSI: Banking, Financial Services and Insurance, I & ME : India & Middle East					
	Orbitech (22.5%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Specializing in the financial services industry

As a niche player, Polaris Software provides specialized technology solutions to the BFSI sector and is one of the top 10 global companies in this field. In achieving such a ranking, the firm employs the following strategies: having each of its centers in India equipped with outsourcing functions with a high level of expertise, rolling out next generation financial solutions based on its own brand of financial solution known as Intellect, and cross selling its IT services with BPO.

Pursuing expertise and advantages of scale by having each center specialize in a certain solution

Polaris Software has each of its centers in India specialize in a specific financial solution, pursues advantages of scale by consolidating resources (Table 3-18) and utilizes nearshore centers in locations such as Northern Ireland and Canada to conduct mission critical system tests for its clients. Plus, the company carries out its operations across the entire globe from Europe and the US to Asia, including Japan, China and India, and even in the Middle East and

Africa.

[Table 3-18] Centers in India for Specific Solutions

Solutions Centers for Specific Financial Operations	Location
Global Transaction Processing Center	Mumbai
Retail Banking Center	Chennai
Investment Banking Center	Hyderabad
Risk and Treasury Center	Mumbai
Insurance Center	Chennai

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Developing a new brand of solutions business based on SOA

Coupled with its conventional ODC-centered outsourcing, the source of Polaris Software's ability to differentiate itself lies in its efforts to enhance operations using its financial solution Intellect to target all sorts of SOA-based business processes of financial institutions. This solution service was introduced in 2005 and grew at annual rate of 147% in 2006, accounting for around 20% of yearly turnover and has played a crucial role as the driving force behind the firm's growth.

Business services for banks carried out by BPO subsidiary

Polaris Software's subsidiary Optimus Global Services handles the company's BPO operations and together with the entire group, forms a system capable of providing IT consulting, systems development and operations management and BPO outsourcing to financial institutions. The BPO subsidiary provides back office operations such as securing and retaining clients, telemarketing, market research services, lending and card related customer management and risk analysis.

(ii) KPIT Cummins Infosystems

Strengths lie in embedded systems and their designs for vehicles and semiconductors

KPIT Cummins Infosystems was founded in 1990 by accountants from the Indian accounting consulting firm Kirtane & Pandit Chartered Accountants. Its business portfolio is mainly focused on embedded software for automobiles, semiconductor circuitry design, ERP solutions centering on Oracle and SAP, and IT services for financial institutions. The company's name was changed to its present form upon acquisition of an IT services subsidiary of the major US engine maker Cummins in 2002.

[Table 3-19] Company Outline

Established	1990	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Pune, India		●	●	●	●	●
Employees	4,481 (2008/3)	Sales by Region[2]	US	Europe	Others		
Sales ($M)	136 (2008/3)		62%	29%	9%		
Market Value ($M)	152 (2008/3/31)	Sales by Industry[3]	M	BFSI	Others		
Listed on	National Stock Exchange Bombay Stock Exchange Pune Stock Exchange		77%	10%	12%		
Major Shareholders	Founder's Group 26%	[Notes] 1. C: Consulting, ADM: Application Development & Maintenance 2. M: Manufacturing, BFSI: Banking, Financial Services and Insurance					
	Cummins 13%						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Concentrating on clients with an industry niche model and undertaking M&As

Features of the company's strategies include: focusing its niche strategies on valued customers centering on manufacturing in addition to growth through outsourcing projects associated with acquisitions and capital tie-ups with influential companies.

Strengthening relationships with valued clients through via its Star Model

KPIT Cummins Infosystems employs a Star Model strategy where it specializes in the two industries of manufacturing and financial services and aims to increase sales by concentrating on its top 50 client firms, as well as a Pyramid Model to boost sales from existing customers. Basically, this model maintains relationships with its 10 biggest (Star Customers) clients in terms of sales via comprehensive account management and elevates the next best 15 companies (Existing Potential Stars) to Star Customers by increasing turnover from these firms by cross selling other solutions and upgrades the relatively new 25 clients (New Potential Stars) to better rankings by establishing business relationships with them. With the importance of the European and Japanese markets, KPIT Cummins Infosystems is also engaged in securing customers mainly in the manufacturing industry, acquiring outsourcing contracts with elite manufacturers[24].

Gaining customer bases and IP (intellectual property) is at the core of its acquisition strategy

Through aggressive capital tie-ups and M&As in these two industries, KPIT Cummins Infosystems is securing a wider customer base and technological assets. For instance, in the business of embedded systems for the automobile industry, the firm acquired the IT services subsidiary of the major US vehicle engine manufacturer Cummins and therefore became a customer of the manufacturing giant (around 40% of sales comes from Cummins) and also came to

[24] The firm's biggest client in Japan is semiconductor heavy-weight Renasas Technology, which has setup an ODC with KPIT to undertake semiconductor circuitry design.

be in possession of valuable technology used to provide solutions to the automobile industry. Moreover, by buying out CG Smith, an Indian embedded software firm, KPIT Cummins Infosystems has been able to upgrade and expand its embedded software product lineup for auto manufacturers and gain intellectual properties and a customer base.

(iii) Nucleus Software Exports Limited

Expanding in Asia with its finance packages

This company grew out of IIS, which was founded by three technocrats[25] in 1986 with the purpose of developing software products, and commenced its operations in 1989 as Nucleus Software Exports. The firm specializes in developing and distributing software to financial institutions and carries out its business mainly in the Asian region.

[Table 3-20] Company Outline

Established	1986	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	New Delhi, India		●	●	●	●	●
Employees	1,936 (2008/3)	Sales by Region[2]	Asia	India	Europe	NA	Others
Sales ($M)	65 (2008/3)		64%	11%	6%	3%	16%
Market Value ($M)	153 (2008/3/31)	Sales by Industry[3]	BFSI				
Listed on	National Stock Exchange Bombay Stock Exchange		100%				
Major Shareholders	Karmayogi Holdings (27.81%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. Asia: Far East + South East Asia, NA: North America 3. BFSI: Banking, Financial Services and Insurance					
	Vishnu Dusad 11%						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Features of this company's strategies include: developing its business mainly in emerging markets, including India, focusing on its IP-based solutions operations such as project development centering on its FinnOne packaged software for financial institutions; and establishing an ecosystem through alliance strategies with IT services firms.

[25] Vishnu Dusad and Yogesh Andlay of IIT-Delhi together with Arun Jain, who went on to later establish Polaris, founded International Information Systems. Later on, the company was reorganized as Nucleus Software Workshop upon undertaking outsourcing development projects for Citibank.

Financial packages lead the way in the firm's outsourcing business

Its flagship software suite FinnOne has been implemented by financial institutions in the Asian region[26] as a robust accounts package for use in retail and loan sectors such as with consumer finance and credit card businesses. With such a strategy of focusing heavily on its own products, Nucleus is bolstering sales, installation support and customization of its highly profitable products, much more so than unitary operations of system development and BPO projects of other Indian IT services companies. The total percentage of sales of its product segment increased from approximately 38% to around 54% between 2005 and 2006.

Building an ecosystem centered on Asia and emerging markets

In addition, the company possesses its own sales offices in major Asian countries such as Singapore, Japan, Australia and Hong Kong and is also expanding into developing nations in Asia, the Middle East and Africa. As a method for doing so, the firm is constructing an ecosystem by aligning itself mainly with IT services firms that can take charge of sales and product support services in order to boost sales of its own products.

The firm's reliance on its top five client companies has fallen from around 70% to approximately 60% y-o-y and Nucleus is now attempting to strengthen its brand image by securing new customers with a goal to reducing that reliance to 40%. In particular, it aims to further broaden its customer base by ramping up its operations in emerging markets.

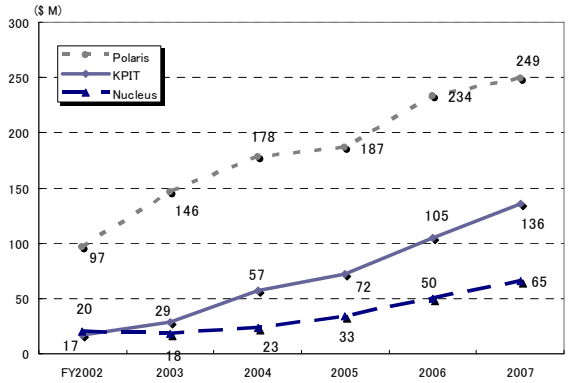
[26] In Japan, the leading consumer finance firm Acom announced in January 2007 to migrate its mainstay system to FinnOne after reviewing its outsourcing operations to existing IT services firms and planned to reduce systems costs by 30%.

Operation Data Analysis of Nichers

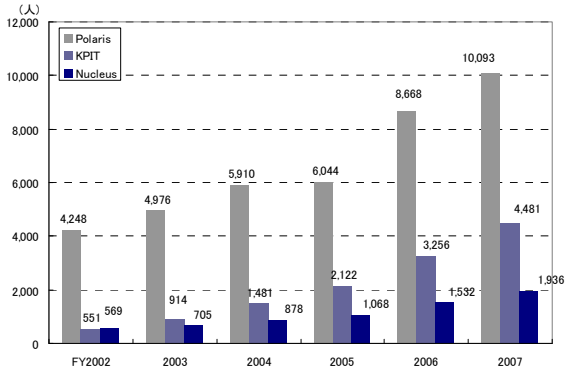
Along with sales and employees, high growth continues

Sales for each nicher vary from company to company because of large differences in the industries and operations that they specialize in, making it difficult to draw simple comparisons. Classified as a medium-sized firm, Polaris is worth around US$249 million, while Nucleus, a smaller firm, has a market worth of US$65 million. As for growth rates, a characteristic of nicher firms is that they are able to realize high growth because they concentrate their managerial resources by specializing in certain business spheres, as indicated by growth rates between 25-60% being higher than follower companies of the same size (Fig. 3-34). In the same fashion as sales, employee numbers for these firms also differ greatly (Fig. 3-35).

[Fig. 3-34] Sales Trends



[Fig. 3-35] Employee Trends

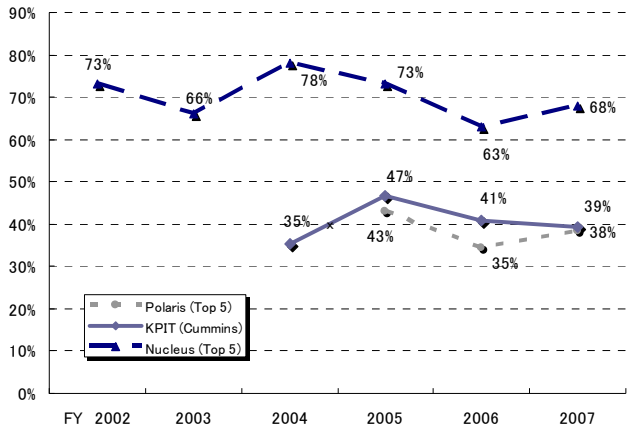


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

High rate of reliance sales from specific firms

Although there are no stark differences between follower firms with regards to the sales contribution of the top five clients of nichers, the level of reliance on a single company (or group) by Polaris and KPIT is distinctly high. From the time of its establishment, outsourcing contracts to Citigroup were crucial to Polaris' operations and even now constitute around 40% of its turnover. By taking over the Indian IT subsidiary of Cummins, KPIT's sales ratio to that very company is around 40% (Fig. 3-36). Nucleus has established a medium-term goal to bring down its reliance ratio on its top five clients from 60% to 40%

[Fig. 3-36] Trends in Reliance on Top Clients

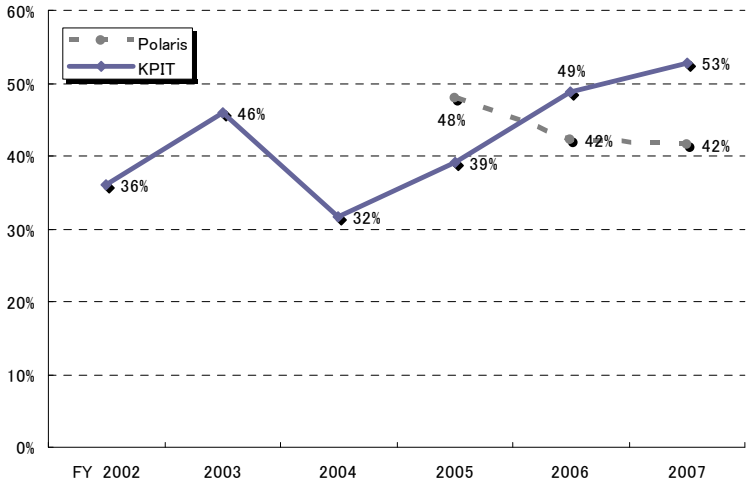


(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

40%-50% offshore ratio

Offshore ratios on a sales basis for both Polaris and KPIT are at similar levels to that of other companies in different segments. One reason for this may be because of projects that require onsite development and maintenance of both KPIT's embedded software for automobiles and Polaris' solutions for financial services (Fig. 3-37). KPIT is setting up more and more ODCs and its offshore ratio continues to increase.

[Fig. 3-37] Offshore Ratio Trends (based on sales)



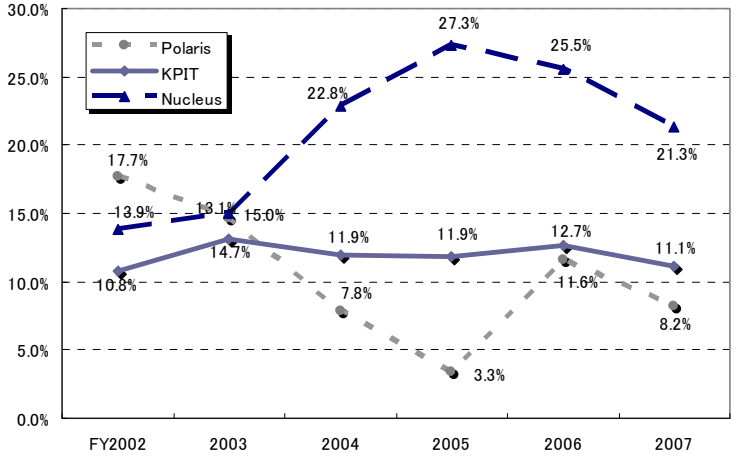
(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Packaged software-based Nucleus has an operating profit margin of around 25%

Operating profit margins for Polaris and KPIT, which have a high ratio of system development type operations, are around 10% while Nucleus, which focuses mainly on development and distribution of packaged

software, is much higher at about 20%. Even though competition is fierce in the field of packaged software with other company products, if a sales channel and partners can be sought out and implementation results improved upon, it is easy to secure a higher profit margin than system development type businesses that require substantial amounts of human resource costs (Fig. 3-38). This is also true with Polaris, which has cemented its place by employing the key strategy of scaling up its intellectual property (IP)-based earnings centering on its own software package Intellect.

[Fig. 3-38] Operating Profit Margin Trends



Note: Depreciation costs added to operating expense

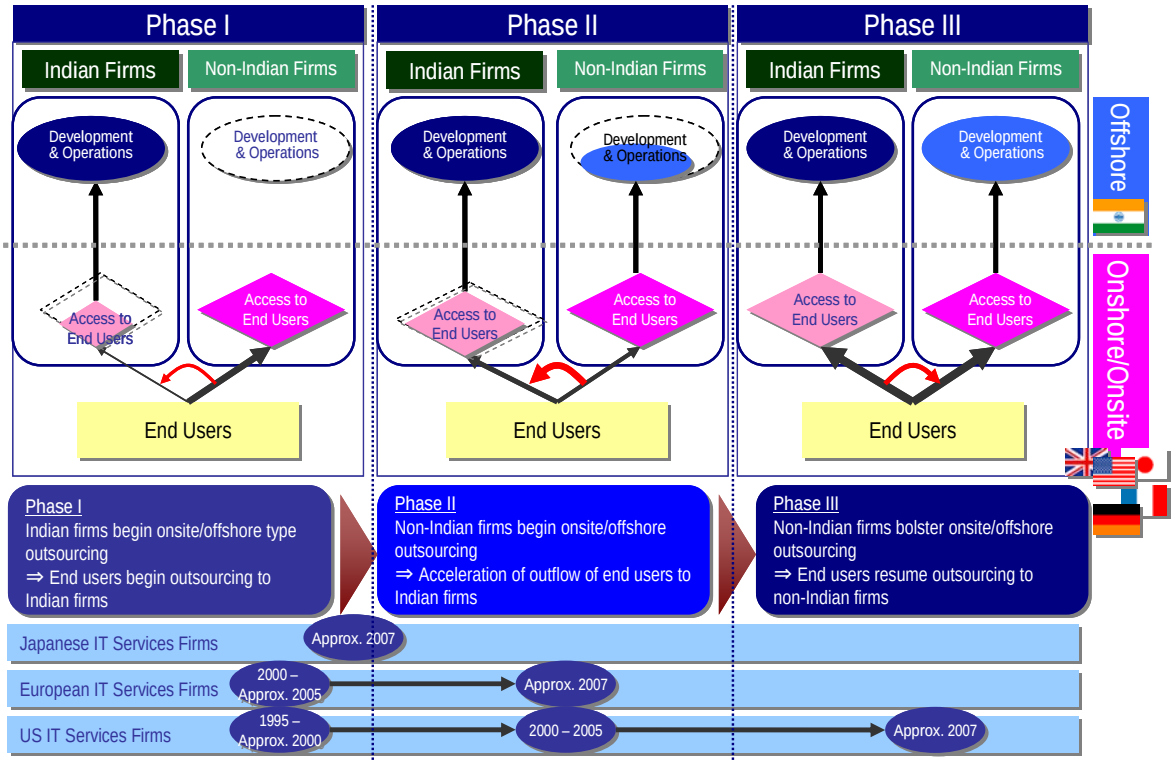
(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

2. Impact of Indian IT Services Firms on European and US Companies

Phase I: Focusing on European and US markets, Indian IT services firms implemented the onsite/offshore model

Competition is growing fierce mainly in European and US markets, fuelled by the global expansion of Indian firms. This phenomenon can be chronologically ordered into three phases (Fig. 3-39). Phase I is when Indian firms initially commenced outsourcing to overseas markets. As these firms possessed sales and consulting systems inferior to that of non-Indian firms, especially those from Japan, the US and Europe, they began to implement onsite dispatch systems that utilized India's abundant human resources and onsite/offshore type business models. It is thought that there was a limit to how much outsourcing end users could supply to Indian firms, which faced the problem of having to strengthen their access to clients, therefore, it was often the case that non-Indian IT services firms would subcontract work to Indian companies. Through the success of trial projects for customers and M&As in European and US markets, Indian IT services firms were able to fortify their customer bases, gradually secure contracts from overseas end users and begin to lay claim to the business of non-Indian IT services firms.

[Fig. 3-39] Competition to Establish an India-based Onsite/Offshore Model



(Source) Mizuho Corporate Bank, Industry Research Division

Phase II: Establishment and expansion of centers in India by European and US firms

In phase II, as the presence of Indian firms grew stronger, non-Indian IT services firms, faced with competition in securing clients and a sense of crisis over deteriorating business results due to a price-cutting war, began to emulate their Indian counterparts and establish and expand centers in India as an opposing strategy. As non-Indian firms became overwhelmed by the size of Indian firms' offshore centers, the gap in cost competitiveness become more prominent and an outflow of customers from non-Indian companies then continued.

Phase III: Quality of business models of European and US firms equals that of Indian companies

During phase III, non-Indian firms established centers in India on scales large enough to rival their Indian competitors and differentiating factors inherent to Indian firms such as large-scale development resources and cheap manpower petered out. Offshore centers of non-Indian firms were strengthened and in line with increasing cost competitiveness, these firms utilized their long-established sales and consulting prowess in and outside of India to be recognized as superior to Indian firms because of their wide ranging support and handling of complex projects.

Market penetration of Indian firms spread from the UK and US to continental Europe and then to Japan

Although it may vary between firms, at present, Japanese firms are thought to be in phase I, European firms in phase II and US firms in phase III. It is thought that these time differences have come about because the timing of Indian firms in three regions starting to penetrate the mother market differed from each other. In other words, this probably indicates when counter strategies were first adopted by each countries' firms – triggered by a sense of crisis when competing against Indian companies going through those three phases. One can predict that the phenomenon that occurred mainly in English speaking markets such as the US and UK progressively spread to continental Europe and even Japan, then Indian IT services firms secured access to clients through subcontract projects, small-scale trial projects and M&As, after which non-Indian firms came to threaten the position of local IT services firms by eliminating principal subcontracting firms and winning monumental large-scale projects.

(1) Fierce Competition Related to Penetration of European and US Markets by Indian Firms

Competion with Indian IT services firms in European and US markets

The advent of Indian IT services firms extending their influence in European and US markets has even been mentioned in annual reports of European and US IT services firms when discussing risk factors and competition [27] (Table 3-21). Firstly, it appears that application development – a core business field for Indian IT services firms – is not the only field that foreign firms are competing with their Indian counterparts in, but also a wide range of sectors from business consulting to infrastructure management. Secondly, because a number of these reports list TCS, Infosys and Wipro as the top three firms competing against major European and US IT services firms, and the semi-major US firm Perot Systems also mentions them to be a threat to medium-sized Indian IT services companies, it can be inferred that major to medium-sized Indian IT services firms actually pose a threat to the markets with the US market most central to that threat. Thirdly, it can be noted that since Capgemini and Atos Origin – two major French companies – started to comment in 2006 of their rivalry with Indian firms, the advent of Indian firms eating away at English speaking markets in North America and the UK is now gradually spreading to continental Europe.

[Table 3-21] European and US IT Services Firms Cautious of Indian Competitors

Company	Country	Key Points from Company Reports (2006)	Companies Mentioned
Capgemini	France	As the outsourcing industry is an attractive business field for many companies, we are faced with an unprecedented amount of competition. Indian companies gained ground in 2006 and this trend is expected to continue.	–
Atos Origin	France	We are competing with major Indian IT services firms associated with rivalry in the European market to acquire assets and human resources. Although Indian companies have smaller sales scopes, they are continuing to grow, leading to competition in not only application services but also in IT infrastructure management, IT consulting and BPO.	TCS, Infosys, Wipro, Satyam, HCL (FY2006)
Accenture	US	One of the many types of companies we are competing with is offshore services providers located in low cost regions, such as Indian IT services firms.	–
EDS	US	Recently there has been fierce competition with offshore IT services companies, mainly Indian firms, in various business fields such as infrastructure, applications and BPO.	TCS, Infosys, Wipro
CSC	US	We have become engaged in competition with many foreign firms, brought on by an increase in the importance of offshore centers. In order to respond to customer needs by providing services that utilizes offshore centers and to compete with low cost offshore IT services firms, we have launched a sales channel in India which will enable us to directly handle overseas demands.	–
Perot Systems	US	We are competing with various firms in our consulting and application solutions operations in terms of a number of factors (cost, expertise in the client's industry, process methods, intellectual property). The emergence of offshore development in countries such as India and China has intensified competition in software development services.	Cognizant, Wipro (FY2003 –) iGate, Infosys, Mastek, Mphasis, Patni, Polaris, Satyam, TCS (FY2004 –)

(Source) Mizuho Corporate Bank, Industry Research Division, based on company financial reports

High sales growth for Indian firms

In fact, a glimpse of this can also be seen by financial data of major firms. In comparing growth rates in European and US markets where

[27] Mentions of a sense of alarm have yet to be seen among Japanese IT services firms, unlike in Europe and the US.

Indian IT services firms are infiltrating, the largest amount of sales growth for European and US firms is 15% in the US and 19% in Europe, while contrastingly, sales growth for Indian IT services firms is extremely high at 56% in the US and 66% in Europe. Additionally, whereas many Indian firms are posting profit margins of over 15%, save and except for IBM and Accenture, European and US firms do not exceed 10% (Table 3-22).

[Table 3-22] Comparison of Major IT Services Firms with Business Performances of European and US Companies

	Sales FY2006 ($M)			CAGR (FY03-06)		Operating Profit	ROS	Accounting Period (FY2006)	Accounting Standards	Remarks
	All Regions	North America / US	Europe / EMEA	North America / US	Europe / EMEA	(M$)	(%)			
IBM Global Service	51,427	n.a	n.a	n.a	n.a	4,994	9.7%	06/1-06/12	US GAAP	Based on profits before tax
Accenture	18,228	8,566	8,281	9.2%	11.9%	1,841	10.1%	05/9-06/8	US GAAP	Americas/EMEA
EDS	21,268	12,938	6,448	3.2%	-0.4%	816	3.8%	06/1-06/12	US GAAP	Americas/EMEA
CSC	14,857	9,223	4,146	2.5%	4.0%	607	4.1%	06/4 - 07/3	US GAAP	Based on profits before tax US/Europe
Perot Systems	2,298	1,894	179	14.5%	18.7%	113	4.9%	06/1-06/12	US GAAP	US/UK
Capgemini	11,088	1,931	9,046	-0.4%	14.5%	481	5.8%	06/1-06/12	IFRS	North America/Europe (1 euro=US$1.44) CAGR calculated for FY04-06
Logica	5,464	n.a	4,274	n.a	16.7%	319	5.8%	06/1-06/12	IFRS	Europe (1 pound=US$2.05)
Atos Origin	7,772	291	7,292	-19.4%	1.5%	355	4.6%	06/1-06/12	IFRS	Americas/EMEA (1 euro=US$1.44)
TCS	4,215	2,369	1,202	30.3%	54.2%	1,051	24.9%	06/4 - 07/3	US GAAP	US/Europe (1 rupee=US$0.02) CAGR calculated for FY04-06
Infosys	3,090	1,955	815	37.2%	58.6%	852	27.6%	06/4 - 07/3	US GAAP	North America/Europe
Satyam	1,433	909	275	30.0%	52.5%	292	20.0%	06/4 - 07/3	US GAAP	US/Europe
Cognizant	1,424	1,228	184	55.7%	66.0%	259	18.2%	06/1-06/12	US GAAP	North America/Europe
Patni	579	468	67	28.0%	54.6%	94	16.3%	06/1-06/12	US GAAP	US/Europe
Hexaware	198	133	49	36.0%	37.4%	31	15.5%	06/1-06/12	Indian GAAP	US/Europe (1 rupee=US$0.02)
NIIT Technologies	200	64	100	14.5%	35.2%	41	20.4%	06/4 - 07/3	Indian GAAP	Depreciation costs added to operating expenses (1 rupee=US$0.02) Americas/Europe

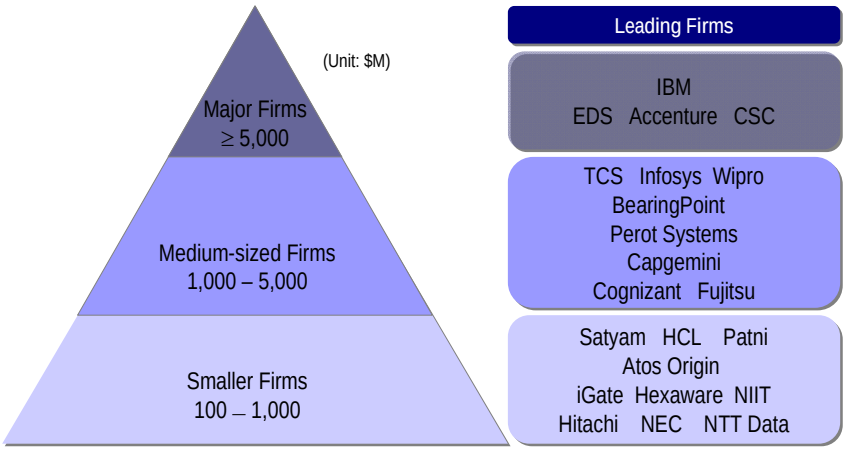
(Source) Mizuho Corporate Bank, Industry Research Division, based on company financial reports

Major Indian firms securing themselves as semi-major firms in European and US markets

The ranking of Indian firms on a sales basis in these two markets is also quite high. Situated below the JPY1 trillion sales class of companies like IBM, EDS, Accenture and CSC, there exists a semi-major class of firms that turnover several hundred billion yen, such companies include Unisys, Bearing Point and Perot Systems. At the same time, the top six Indian firms from TCS to HCL, are on a par with the semi-major firms of the US in terms of sales and medium-sized Indian firms that boast sales to the US in the range of JPY10-50 billion such as Patni and iGate GS are now establishing their position as medium-sized firms in the US market (Fig. 3-40). This situation can be attributed to competition in the US market being subject to Indian offshoring, meaning that firms that are too slow in adapting to offshoring will become disadvantaged in terms of price competitiveness and will ultimately struggle to attract customers

and be exposed to the risk that existing clients will opt for other companies.

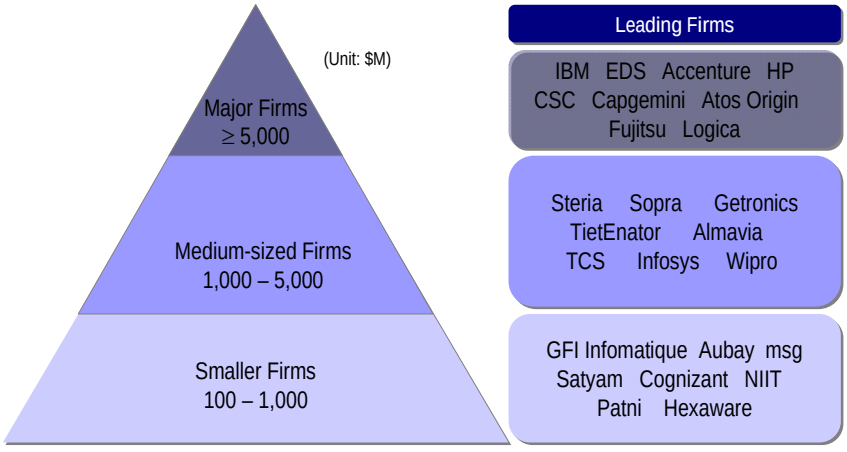
[Fig. 3-40] Major Players in the US Market



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

This phenomenon is continuing to spread throughout the markets of the UK and continental Europe. Like in the US market, major Indian IT services firms such as TCS are profiting on the same level as medium-class European companies like Steria and Sopra in the European market and are consolidating their standing to rival medium-sized to semi-major firms in European markets centering on the UK (Fig. 3-41). Instigated by the need to even out their lopsided US sales ratios, Indian firms view Europe as a key market and are aiming to enhance their presence in not only the UK but also throughout continental Europe.

[Fig. 3-41] Major Players in the European Market



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

More and more projects garnered from European and US blue-chip firms

Behind the surge in Indian IT services firms in European and US markets is an increase in the number of large-scale projects garnered from blue-chip companies. Even for just projects made public, in addition to a wide range of operations from business application and maintenance to operation and BPO, deals are being signed for a number of years on major scales, ranging from between several million to more than one billion dollars (Table 3-23). For instance, an aggressive five year, US$15 billion dollar investment in IT by US automobile manufacturer GM is symbolic of such outsourcing projects. EDS, a former subsidiary of GM and recipient of major projects even after its relationship with the parent company ended, continued to deal with GM and undertake new orders that arose with the completion of the contract period, however, GM has announced that it will also conclude a business relationship with Wipro[28]. Moreover, a 10 year, US$1.2 billion deal to outsource global IT systems and business processes to TCS by leading US media information firm Nielson, has come under the spotlight for being the largest ever contract awarded to an Indian firm.

[Table 3-23] Recent Outsourcing Deals Secured from European and US Blue-chip

Company	Announced	Client (country/business)	Contract Length (years)	Contract Value ($M)	Overview
TCS	2005/9	ABN AMRO (Netherlands/finance)	5	260	Business application development and maintenance
	2006/11	Qantas (Australia/transport)	7	90	Business systems development and maintenance
	2006/11	Eli Lilly (US/chemicals)	n.a	35-40	BPO (data management and analysis)
	2007/8	AGL Energy (Australia/energy)	5	16	Total SAP application support
	2007/09	Roche (Switzerland/pharmaceuticals)	n.a	n.a	IT services and BPO in R&D fields such as clinical trials
	2007/10	Nielsen (US/information media)	10	1,200	Global IT services and BPO
Infosys	2005/9	ABN AMRO (Netherlands/finance)	Multiple	Multi Million (€)	Business application development
	2006/8	Zurich Bank (Switzerland/finance)	n.a	n.a	Implementation of business packages
	2007/7	Royal Philips (Netherlands/electronics)	Multiple	Multi Million	BPO (shared service purchasing and outsourcing contracts)
	2007/8	Canadian Pacific (Canada/transport)	Multiple	n.a	Provision of Modular Global Sourcing Services to IT divisions
Wipro	2004/12	TUI (UK/leisure)	5	Multi Million	Infrastructure management
	2005/4	Akzo Nobel (Netherlands/pharmaceuticals)	3	Multi Million	Construction and operation of systems
	2006/2	GM (US/auto)	5	27	Construction of business systems
	2006/12	ITV (UK/media)	n.a	n.a	Platform development
Satyam	2006/3	Nissan (Japan/auto)	5	Multi Million	Maintenance of mission critical business applications
	2006/11	Qantas (Australia/transport)	7	Multi Million	150 types of application development and maintenance
	2007/3	Applied Materials (US/device manufacturing)	5	200	Business application development and maintenance, business transformation
	2007/5	Hawker Beechcraft (US/aircraft manufacturing)	Multiple	n.a	Design related outsourcing
	2007/6	Nestle (Switzerland/food) *previous contract renewed	3	n.a	Business application development and maintenance, infrastructure management
HCL	2006/7	Teradyne (US/device manufacturing)	5	70	IT consulting, ADM, infrastructure management
	2006/12	Skandia UK (Sweden/insurance)	5	200	Business systems development and maintenance
	2007/12	Merck (US/pharmaceuticals)	Multiple	n.a	Outsourcing across multiple disciplines
Cognizant	2005/1	Pfizer (US/pharmaceuticals)	Multiple	n.a	Clinical data related BPO (data analysis, management, etc.)
	2007/1	Kimberly-Clark (US/consumer goods)	5	Multi Million	Business systems development
	2007/5	Simon & Schuster (US/publishing/media)	Multiple	n.a	IT infrastructure services
	2008/3	AstraZeneca (UK/medical information services)	5	95	Medical data management

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

[28] For new contracts that arose with the ending of a 10 year outsourcing contract between GM and EDS in June 2006, HP, Capgemini, IBM and Compuware stepped in to join EDS and Wipro in undertaking projects from GM.

Securing access to clients through M&As

On top of this kind of organic growth, a trend is emerging for these companies to boost presence in the regions of Europe and the US by utilizing M&As. Features of targeted companies common to M&As in the past include: comparatively small-size (less than JPY10 billion) and more often than not, an IT consulting firm[29] (Table 3-24). Although Indian IT services firms are capable of buying out companies with their ample free cash flow and total market value equal to that of their major European and US rivals, they are also wary of large-scale M&As. The largest ever takeover by an Indian firm – which was Wipro buying out medium-sized US infrastructure management Infocrossing – only amounted to US$600 million.

[Table 3-24] Main Acquisitions of 3 Major Firms

	Company Acquired (country)	Date	Business Field	Employees	Acquisition Amount ($M)
Wipro	New Logic (Austria)	2005.12	Semiconductor design services	120	56
	mPower (US)	2005.12	Financial solutions	300	28
	cMango (US)	2006.2	Business management solutions	120	20
	Quantech (US)	2006.5	Product design, analysis and development	500	n.a
	Enabler (Portugal)	2006.6	Retail consulting	300	41 (€M)
	Saraware (Finland)	2006.6	Design services for telecommunications firms	200	25 (€M)
	Infocrossing (US)	2007.8	Infrastructure management such as data centers	882	600
Satyam	Citisoft (UK)	2005.4	Consulting for financial institutions	120	23
	Knowledge Dynamics (Singapore)	2005.7	BI/BA solutions	n.a	3.3
	NITOR (UK)	2007.10	Infrastructure management services	n.a	6
	Bridge Strategy Group (US)	2008.1	Management consulting	40	35
	Caterpillar Market Research & Customer Analytics (US)	2008.4	Marketing research (operations division of US firm Caterpillar)	120	60
	S&V Management Consultants (Belgium)	2008.4	SCM consulting	60	35.5
Cognizant	Infopulse (Netherlands)	2003.12	IT services for financial institutions	n.a	5
	Fathom Solutions (US)	2005.4	Consulting such as IT strategies and process design	120	19
	AimNet (US)	2006.9	Network solutions	100	n.a
	marketRx (US)	2007.10	Life science related analytical solutions	430	135

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

A factor for this is firstly, although Indian IT services firms have high profit ratios[30] in the IT industry, major Japanese, US and European rivals in the same industry are 10 to 15 times bigger in terms of the amount of sales they generate (Fig. 3-42). In short, an Indian company is at risk of a downturn in business results if it acquires a Japanese, US or European

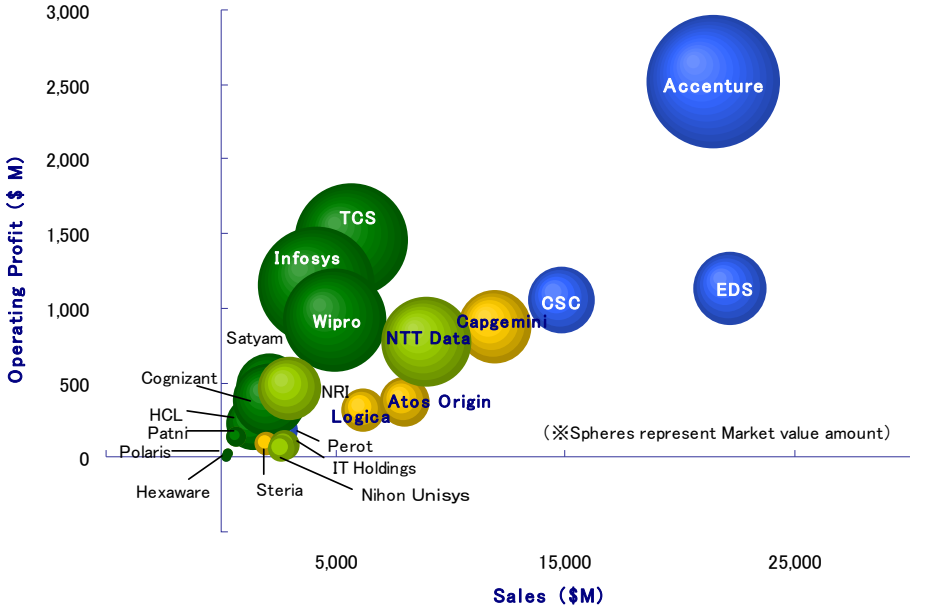
[29] Refer to Table 3-7 (TCS) and Table 3-13 (Patni) for examples other than Table 3-24
[30] SAP and Oracle have been left out because of their business attributes, which differ even in the IT services industry.

firm that has a lower profit margin and generates more sales than itself.

Highly profitable consulting firms are strong takeover targets for Indian firms

Secondly, if the target company is a consulting type IT services firm, it will usually have a high profit ratio and often have small-scale development teams and a high ratio of direct contracts with end users, therefore fitting in well with the offshore type business model of the Indian firm. In other words, acquiring a development-centered firm will lead to the Indian firm suffering from cost pressures due to a deluge of unnecessary technicians at offshore centers, therefore, such firms are less apt to become acquisition targets of Indian firms. From this perspective, it is likely that Indian IT services firms will carry out M&As targeting IT consulting firms and boost their presence in the market place in non-English speaking regions such as Japan, Germany and France, which are generally viewed as having too many market entry barriers by foreign affiliated companies.

[Fig. 3-42] Comparison of Size and Profit Ratio of Major Global IT Services Firms



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Major US firms engaged in restructuring of HR allocation

The aforementioned penetration of Indian IT services firms in European and US markets is accelerating a transformation in the business models of European and US IT services firms and a restructuring of human resource allocation on a global scale. For example, even though the major US IT services firms of IBM, EDS and CSC have laid off a substantial number of employees at its European and US centers, they are also actively hiring personnel in low cost

regions (Table 3-25). Both courses of action were announced between 2005 and 2007 and amounts to a large-scale reduction in the workforce of these firms, ranging from several thousands to several tens of thousands.

[Table 3-25] Restructuring related to Staff Allocation in Major Firms

Company	Employee Restructuring Summary
IBM	・Cut back on hiring in low growth regions and increased employee intake in high growth regions. Improved efficiency of operations by integrating many of its service providing functions in specific regions through the organization of cross-border teams. ・2005: Laid off between 10,000 and 13,000 employees mainly in Europe.
EDS	・3,700, 2,100 and 1,500 jobs cut in 2003, 2004 and 2005 respectively. ・2006: Number of employees in low cost regions boosted from 14,000 to 32,000. 5,000 personnel laid off in high cost geographies. ・September 2007: Early retirement packages offered to 12,000 employees in the US.
CSC	・4,400 jobs cut in 2006 (North America: 1,100, Europe: 3,300) ・2,100 recruits hired in low cost regions. ・4,400 and 1,100 employees are planned to be cut in 2007 and 2008 respectively. (Europe: 3,000 in 2007 and 500 in 2008, North America: 1,100 in 2007 and 500 in 2008) ・Hiring in low cost regions: 1,400 in 2007 and 800 in 2008.

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

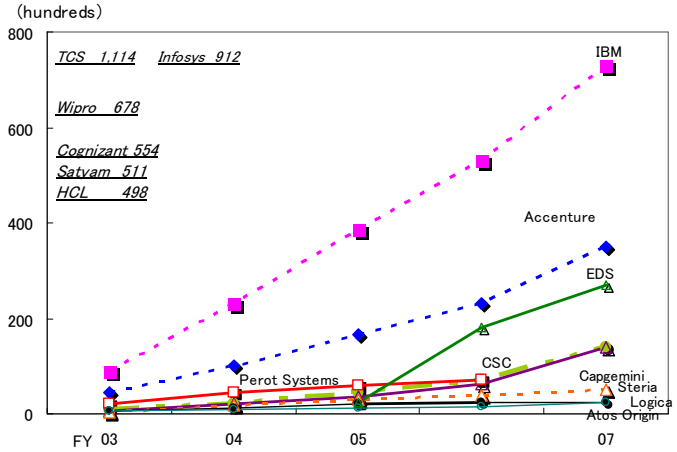
(2) Counter Strategies of European and US IT Services Firms

(a) Upgrading and Expanding Centers in India

European and US firms playing catch up

The phenomenon of mass hiring of personnel in low cost regions in addition to staff cutbacks at centers in Europe and the US, is particularly lively in India. In connection with this, a change is taking place in the rankings of companies in the Indian IT services industry, as seen by the number of employees. Up until now, the top five firms were dominated by Indian companies, however, IBM's expansion of its Indian centers to 70,000 employees has led it to surpass Satyam and HCL (50,000) and jump into third spot, closely nipping at the heels of Infosys at number three (Fig. 3-43). Additionally, companies slow to emerge such as EDS, CSC and Capgemini, have leapfrogged semi-major to medium-sized firms below Patni through their respective acquisitions of MphasiS, Covansys and Kanbay, and now sit behind Satyam, Cognizant and HCL (Table 3-26).

[Fig. 3-43] Trends in Employee Numbers at Indian Centers of European and US Firms



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

[Table 3-26] M&As Intended to Boost Indian Resources by European and US Firms

Company	Company Acquired	Employees (India)	Stake	Acquisition Amount ($M)	Date Completed
Steria (France)	Xansa (UK)	8,924 (5,038)	100%	909	2007.10
EDB (Norway)	Span (IN)	(550)	50%	3.8	2007.12
CSC (US)	Covansys (US)	8,200 (6,000)	100%	1,300	2007.7
Capgemini (France)	Kanbay (US)	7,600 (6,000)	100%	1,250	2007.2
EDS (US)	Mphasis (IN)	12,000 (11,000)	52%	380	2006.6
Fujitsu (Japan)	Rapidigm (US)	2,100 (900)	100%	n.a	2006.3
Perot Systems (US	HCL Perot (IN)	(2,000)	50%	105	2003.12

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

All Indian centers of the major European and US IT services firms have been assessed at CMMI level 5 (Table 3-27). Furthermore, Perot Systems has the highest Indian ratio (percentage of total employees stationed at Indian centers) with 34%, while Atos Origin has the lowest at 5%. Going by these IT services firms' plans to expand their operations in India, it appears that the trend of mass hiring will continue and it is expected that competition to secure human resources and expand centers will intensify even further.

[Table 3-27] European and US IT Services Firms' Centers in India and Expansion Plans

	Summary of Delivery Centers in India					
	Region	Maturity Level / Quality Control	Employees in India (A)	Group Employees (B)	India Ratio (A)/(B)	Strategies and Plans for Indian Operations
IBM	Bangalore, Mumbai, New Delhi, Chennai, Hyderabad, Gurgaon, Pune	CMMI Level 5 ISO 9001	73,000	386,558	19%	・Leveraging its global delivery model to fortify its services business ・Securing projects in the Indian domestic market, such as strategic outsourcing contracts ・Enhancing the IBM brand (aimed at government, clients and staff)
EDS	Bangalore, Mumbai, New Delhi, Chennai, Hyderabad, Gurgaon, Pune	CMMI Level 5 ISO 9001	27,000	139,500	19%	・Having 65% of Best Shore employees at Indian centers and expanding Indian centers as part of its goal of establishing a 60,000 employee Best Shore model
Accenture	Bangalore, Mumbai, New Delhi, Chennai, Hyderabad, Gurgaon, Pune	CMMI Level 5 eSCM PCMM Level 5	35,000	170,000	21%	・Establishing a 2,000 member business consulting structure by August 2008 and strengthening its consulting operations for the Indian market
CSC	Chennai, Noida, Hyderabad, Bangalore, Mumbai, Vadodara, Indore	CMMI Level5 PCMM Level5 ISO9001:2000	16,000	91,000	18%	n.a
Perot Systems	Noida, Bangalore Chennai, Coimbatore	CMMI Level 5 PCMM Level 5 ISO 9001:2000	7,500	22,000	34%	n.a
Capgemini	Bangalore, Mumbai, Chennai, Hyderabad, Kolkata, Pune	CMMI Level 5 ISO 9001:2000	17,000	83,508	20%	n.a
Logica	Mumbai, Bangalore	CMMI Level 5 PCMM Level 3	2,500	39,000	6%	・Commencement of transferal of various operations such as in-house support and software development and maintenance to Indian centers ・Expanding and upgrading development resources for offshoring aimed at French clients
Atos Origin	Mumbai, Bangalore Pune	CMMI Level 5 ISO 9001:2000	2,500	51,704	5%	・Doubling employee numbers at offshore centers, including India, between 2007 and 2009 ・Establishing new centers in Mumbai, Pune and Bangalore (3,000 employees in Pune)
Steria	Noida, Chennai, Pune	n.a	5,125	18,839	27%	・Development and expansion into tier 2 cities. New establishment of centers in Pune and Chennai that can house 9,000 employees because current facilities in Noida, Pune and Chennai are at full-capacity

Note: Employee numbers for centers in India and worldwide are based on publicly available company data as of 2007
(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Competitive edge in the job market for leading firms

Behind this scramble by European and US firms to upgrade and expand Indian centers, in addition to rapidly rising cost pressures triggered by competition with Indian firms in Europe and the US, there is an increasing need for these firms to establish a competitive edge by entering the Indian labor market ahead of competitors. A high level of company recognition is crucial in the job market to secure scarce resources in the form of talented personnel. In this case, company recognition equates to the firm's brand image in the job market, therefore, the general rule is that the earlier a company enters the Indian market, the better its brand image will be. On top of this, because there is a limit

to how many companies people are able to recognize, many market newcomers will be at a disadvantage because of the time taken for a firm's brand to penetrate the market. Leading firms are utilizing their brand power as a weapon to snap up excellent human resources and are able to provide projects to clients at a high quality level combined with quick delivery. Resultingly, technicians are able to accumulate technology and know-how while the firm consolidates its track record. Companies are then able to enjoy a virtuous cycle of boosting opportunities to snare deals from new customers in addition to new projects from firms it has already successfully transacted with (improving repeat ratio). Meanwhile, companies with lesser known brands will need to offer bigger paychecks and hire talented HR from other firms, or buy out influential companies with good track records in order to achieve this virtuous cycle. For example, firms that currently have an advantage in being market leaders include the six major Indian IT services firms, which includes TCS, Infosys and Wipro, and IBM and Accenture, which are two companies that have long-established business in India. Contrastingly, there are also latecomers that have swiftly caught up to the leading pack, such as EDS, CSC and Capgemini, by taking over powerful Indian firms.

Not only brand power, but establishing business systems based on the accumulation of lengthy experiences in Indian offshoring will also be required to make seamless collaboration possible between Indian offshore centers and onsite centers in each region. From the outside, because there is no way of knowing the intricacies of the structures of such systems, it will be quite difficult for companies to copy them. Accordingly, the following section takes an outside view of leading Japanese, US and European firms and summarizes their India-based global strategies.

(b) Establishing Global Delivery Models

Establishment of global delivery models by European ans US firms

At the same time as rapidly expanding their centers in India, European and US IT services firms are also pushing ahead with an expansion of their nearshore centers. By utilizing nearshore centers, these companies aim to free up the bottleneck of tricky issues such as language, cultural differences and distances from customers that only exist at offshore centers. While Indian IT services firms need to establish centers in Europe and the US and enhance their consultants and sales teams,

European and US firms are at an advantage owing to the fact that their onsite and onshore resources are already fully enhanced. Common features among them include: India forming the hub of offshore centers, Latin American countries like Mexico, Brazil and Argentina utilized as nearshore centers for the Americas, and Eastern Europe and Africa used as nearshore centers for Europe. Secondly, in order to achieve collaboration, each center's organization shares its project management tools and development methodologies. Plus, some firms utilize divisions that function as bridges to facilitate collaboration between centers (Table 3-28).

[Table 3-28] Global Delivery Models of Major European and US IT Services Firms

	Global Delivery Model			
	GDM Name / Trademark	Features	Main Offshore Centers	Main Nearshore Centers
IBM	Global Delivery Model	Concentrates global resources in specific regions and is shifting to a model where each center shares resources	India, China, Philippines	Canada, Mexico, Brazil, Argentina, Venezuela
EDS	Best Shore	Uses delivery centers in 20 locations and utilizes low cost offshore regions and nearshore regions that are close in terms of distance, culture and language, based on the goal of determining customer needs onsite	India, China	Canada, Eastern Europe South Africa, Mexico Brazil, Argentina
Accenture	Global Delivery Model	Approximately 40 centers forming a global delivery network achieves seamless collaboration by sharing components and methodologies under common standardized processes	India, China, Philippines	Canada, Brazil, Argentina, Czech Republic, Slovakia, Poland
CSC	World Sourcing	Support structure based on the three groupings of offshore, nearshore, and onsite/onshore. Positions India, North America, the UK and Australia as competent centers to provide advanced, specialized services	India, South Africa, Mexico, Czech Republic, China	North America, EMEA, Asia
Perot Systems	Global Delivery Model	Establishes an India-based onsite/offshore model. In particular, this model constructs a 24 hour delivery system based on Noida's position as a mirror of the firm's command center at its Texas head office	India, Philippines	n.a
Capgemini	Rightshore	Constructs an efficient and low risk model by sharing - both onshore and offshore - its Distributed Delivery Framework combining best practices, tools and guidelines	India, China, Australia, Brazil, Argentina	Canada, Spain, Poland
Logica	Blended Sourcing Blended Delivery Model	Creates a business unit with 6,000 employees from various regions in the form of a Global Service Delivery organization. Allocates administrative functions known as Global Control Bridges to major centers and ensures uniform quality of service	India, Malaysia, Philippines, Brazil	Czech Republic, Slovakia, Morocco, Portugal, Estonia
Atos Origin	Balanced Global Shoring	Utilizes centers in Malaysia, Brazil, Spain, Italy, Morocco, and Poland with India at its core to establish a cost efficient and well balanced service structure to meet the complex needs each domestic European market	India, Brazil	Poland, Morocco, Armenia, Malaysia
Steria	Global Delivery Model	A specialized global delivery unit coordinates the standardization of tools and methods. Xansa has established a global delivery structure with 3,000 employees in the UK and 5,000 in India	India	Spain, Poland Morocco

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

1) IBM

3 lines of business: hardware, software and IT services

IBM's operations are comprised of three areas of business, namely, hardware products such as mainframes and servers, software products such as applications, operating systems and middleware, and IT services. In the IT services field, it deals with all areas from business consulting to systems integration, operation and maintenance and BPO.

[Table 3-29] Company Outline

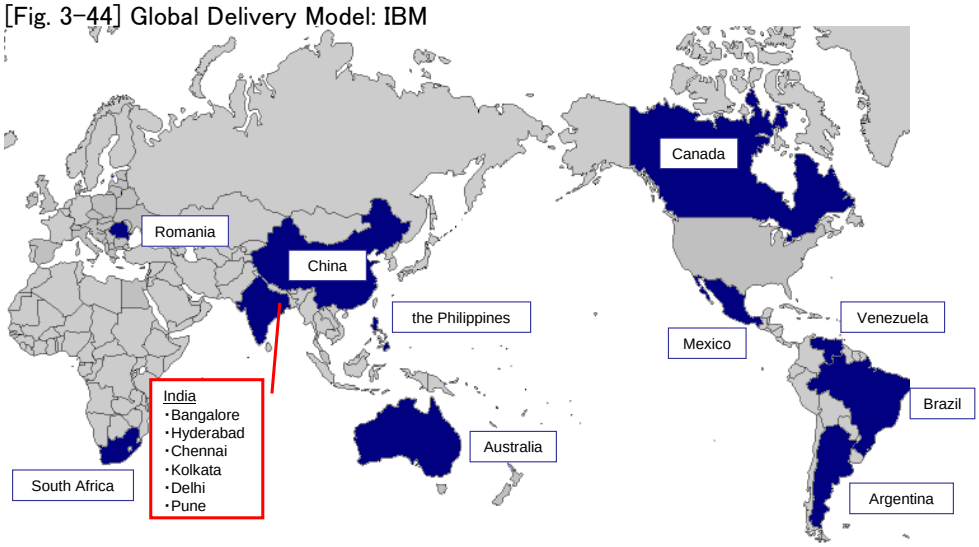
Established	1911	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	New York, USA		●	●	●	●	●
Employees	386,558 (2007/12)	Sales by Region[2]	A	EMEA	AP	Others	
Sales ($B)	98.8 (2007/12)		42%	35%	20%	4%	
Market Value ($B)	159.4 (2008/3/31)	Sales by Industry[3]	GTS	GBS	S & T	S	GF
Listed on	NYSE		37%	18%	22%	20%	3%
Major Shareholders	State Street (4.6%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. A: Americas, EMEA: Europe, Middle East & Africa, AP: Asia Pacific (based on hardware business) 3. GTS: Global Technology Services, GBS: Global Business Services, S & T : Systems & Technology, S: Software, GF: Global Financing					
	Barclays Global (3.5%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Transition to GIE

IBM has hitherto adopted strategies to fit in with each region of the world by establishing centers in the form of mini IBMs in various centers around the globe, however, with the objective of speeding up global decision making and improving cost efficiency, in the last few years IBM has cranked into high gear its transition to become a Globally Integrated Enterprise (GEI). The concrete initiatives of this model involve concentrating managerial resources scattered across the globe in areas where the best performance can be achieved, standardizing processes so that each center can have shared access, and establishing a system capable of consolidating the management of resources. As for system development resources, IBM meets the needs of its customers in all regions by handling large-scale projects at its offshore centers in India and China – designated as development centers of primary importance – and important small-scale projects at its nearshore centers in locations like Brazil, Mexico, the Philippines, Romania and Argentina (Fig. 3-44).

[Fig. 3-44] Global Delivery Model: IBM



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

IBM Japan is bolstering its offshoring by utilizing India and China

In October 2007, IBM Japan – until then under an Asia Pacific umbrella company directly managed by the US head office – was transformed into an entity directly under the jurisdiction of the US head office. This happened because maturation of the market was well advanced and decision making different to other Asian regions was required. IBM Japan too, like other overseas offices, is continuing to make itself more competitive through offshoring that utilizes delivery centers in India and China.

India strategies: 3 objectives

IBM's strategies in India focus on three points: India as the hub of its global delivery, the hub of its global innovation and a source of new profits (Table 3-30).

[Table 3-30] 3 Functions and History of IBM's Indian Centers

	Global Delivery	Global Innovation	Source of New Profits
1951			Withdrawal from the mainframe business
1992			Reenters the market via a JV with the Tata Group
1997	Establishment of IBM Global Services India Commences operations with Application Management Services		
1998		Establishment of IBM India Research Laboratory	
1999			Acquisition of the JV with the Tata Group, establishment of IBM India
2000			Commences lease operations for Indian customers with the establishment of IBM Global Financing
2001		Establishment of India Software Laboratory	
2002			
2003		IBM India Research Labs establishes its Technology Centre	
2004	IBM Daksh : BPO business strengthened with the acquisition of Daksh		
2005	Establishment of Global Services Delivery Centers		Establishment of Global Services Delivery Centers
2006		Establishment of Global Business Solutions Center, SOA Solution Center	
2007			Lands outsourcing contracts from Indian mobile phone carriers Bharti and Idea Cellular

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

1) India as the hub of global delivery

From the viewpoint of India as its global delivery hub, IBM sees its offshore center in India as servicing all of its global centers. This center has established a system to provide various IT services, from software development, operation and maintenance to BPO operations via IBM Daksh.

2) India as the hub of global innovation

As the hub of global innovation, IBM manages two research institutes in India. IBM India Research Laboratory undertakes a wide range of applied research from basic software engineering research to solutions development for specific industries, while IBM India Software Laboratory carries out design and development of operating systems for various middleware and hardware products. Additionally, IBM has established its Global Business Solutions Center to develop SOA solutions and solutions for individual fields of operations that can be utilized by consultants and engineers from its global centers.

3) India as a new and promising market

In terms of India as a source of new profits, IBM was quick off the mark among foreign affiliated firms to recognize India as a promising market, securing large-scale outsourcing contracts from foreign firms in India and leading local companies, such as a major telecommunications provider.

2) EDS

One of the world's biggest outsourcing firms

EDS is an outsourcing firm specializing in IT systems operation and maintenance, data centers and BPO. The US entrepreneur Henry Ross Perot founded the company and was later acquired by the auto giant GM in 1984. Even after the firm was spun-off by GM in 1996, it continued to win major contracts from its former parent company and commands a customer base of governments and financial institutions from around the world. In May 2008, EDS agreed to be bought out by the major US firm HP.

[Table 3-31] Company Outline

Established	1962	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Texas, USA		●	●	●	●	●
Employees	139,500 (2008/1/31)	Sales by Region[2]	A	EMEA	AP		
Sales ($B)	22.1 (2007/12)		62%	30%	8%		
Market Value ($B)	8.4 (2008/3/31)	Sales by Industry[3]	G	BFSI	M	H	Others
Listed on	NYSE		27%	18%	12%	10%	33%
Major Shareholders	Dodge & Cox (12.1%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. A: Americas, EMEA: Europe, Middle East & Africa, AP: Asia Pacific 3. G: Government, BFSI: Banking, Financial Services and Insurance, M: Manufacturing, H: Healthcare					
	Hotchkis & Wiley (11.4%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

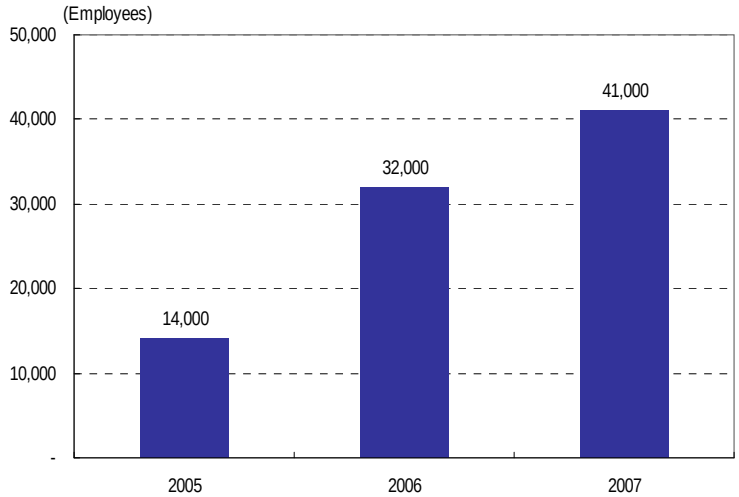
GDM: Globalization with its Best Shore strategy

In mid-1980, EDS implemented a forerunner of the global delivery model, utilizing centers in Europe and the US and then established its first offshore center in Ireland in 1990. Guided by its global delivery model 'Best Shore', EDS has now established a services structure that utilizes Best Shore delivery centers in 20 countries and is capable of providing IT outsourcing such as system development, BPO and data centers. Its Best Shore strategy is comprised of the following three functions: (1) defining requirements onsite and offshore and confirming the needs of the client and then providing system development and various outsourcing services that utilize (2) global service centers (offshore centers) and (3) regional service centers (nearshore centers). (2) and (3) interlock and bring together capabilities suited to the specifications of the end user for each project and provide services that optimize both quality and costs by leveraging time differences (Fig. 3-46). Global service centers are situated in high growth, low cost regions (such as India), while regional service centers (for example, Hungary) act as nearshore centers for clients and support global service centers in terms of languages and culture unique to each region.

Strategic Best Shore centers: India, Eastern Europe, Latin America and China

EDS concentrates development resources on its global service centers and places emphasis on centers in India, Latin America, Eastern Europe and China as strategically important regions of its Best Shore model. As of the end of December 2007, 41,000 employees, or around 30% of EDS' total workforce are stationed at Best Shore centers, of which approximately 70%, or 27,000 work in India (Fig. 3-45). The Best Shore model will continue to be expanded – EDS' present goal is for 60,000 employees.

[Fig. 3-45] Number of Employees at Best Shore Centers



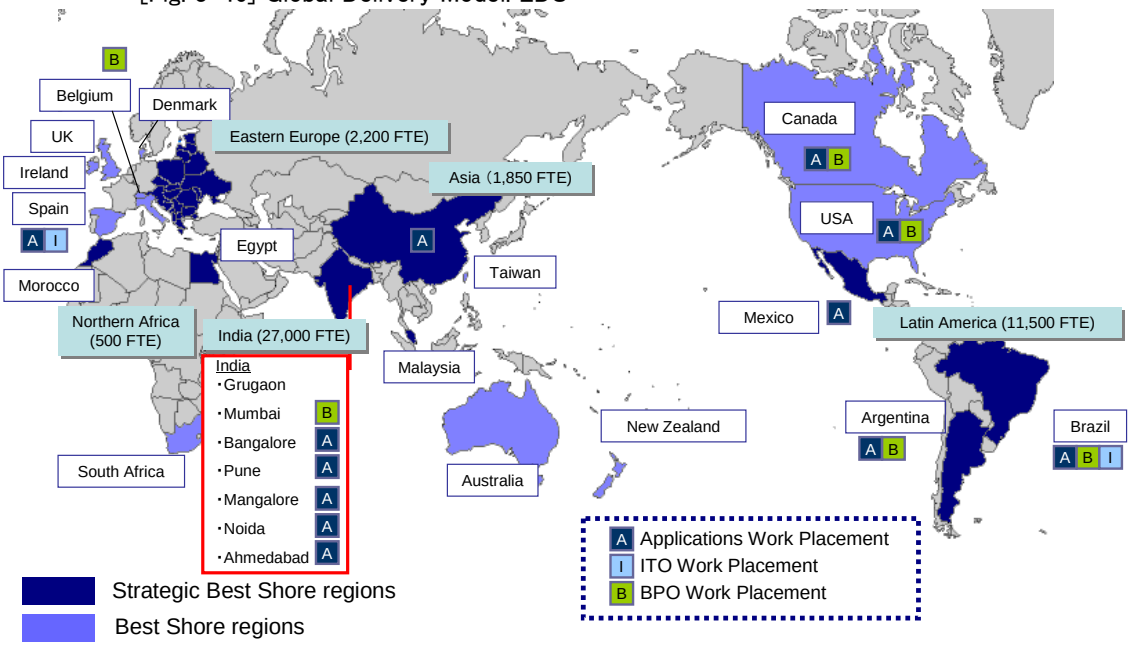
(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Indian centers greatly expanded by way of EDS' takeover of Indian medium-sized firm MphasiS

The core offices of the Best Shore model in India were established as EDS India in 1996 and from the outset, secured multiyear contracts for outsourcing projects with its onsite/offshore model. With the acquisition of the Indian semi-major firm MphasiS in 2006, it has hugely expanded its Indian centers – which were slow among major US IT services firms to penetrate the market – boosting employees from 3,000 in 2006 to 18,000.

This acquisition strategy to scale up its Indian centers is already beginning to yield results. Being awarded outsourcing projects from the World Bank typifies these results with contracts incorporating software development and systems maintenance to be carried out at MphasiS' Indian centers, while utilization of its Best Shore model may also have been a factor focused heavily upon by end users when deciding on which firm to outsource to.

[Fig. 3-46] Global Delivery Model: EDS



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

3) Accenture

Expanding from consulting to outsourcing

This firm commenced business in 1989 as a consulting division of the heavy-weight accounting firm Arthur Andersen. In 2001, it changed its name from Andersen Consulting to Accenture and currently carries out its global operations as one of the foremost comprehensive outsourcing firms in the world. In addition to its core consulting business, Accenture's ratio of outsourcing operations, which include systems construction, operation and maintenance and BPO, continue to increase every year.

[Table 3-32] Company Outline

Established	1989	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Chicago, Illinois		●	●	●	●	●
Employees	170,000 (2007/8)	Sales by Region[2]	A	Europe	AP		
Sales ($B)	19.7 (2007/8)		46%	46%	8%		
Market Value ($B)	26.2 (2008/3/31)	Sales by Industry[3]	C & H	BFSI	G	P	R
Listed on	NYSE		25%	22%	13%	24%	16%
Major Shareholders	Barclays Global (6.7%)	[Notes] 1. 1. C: Consulting , ADM: Application Development & Maintenance 2. A: Americas, AP: Asia Pacific 3. C&H: Communications & High Technology, BFSI: Banking, Financial Services and Insurance, G: Government, P: Products R: Resources					
	Wellington Management (4.9%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

GDM: Shared process standardization, templates and tools

As of 2001, Accenture had established the foundations of its global delivery model that utilizes over 20 delivery centers, and by 2007, had boosted this number to over 40 (Table 3-47). As a consequence of the many centers it has, it could be said that the firm's competitive edge lies in the abundance of options it has at its disposal by combining offshore, nearshore, onshore and onsite centers. Furthermore, making processes for development and services more efficient is also a characteristic of Accenture. By having its delivery centers around the world share standardized processes, templates, tools and over 700 components utilized by successful projects, Accenture maintains a structure that is capable of facilitating seamless collaboration and providing same quality support services 24 hours a day. The firm's offshore centers outside of India form a classic decentralized model, with locations such as the Czech Republic in Eastern Europe, Shanghai, Dalian and Guangzhou in China, Manila and Cebu in the Philippines, while projects for English speaking regions are handled by India and the Philippines, those for Chinese speaking regions or projects in Japanese dealt with by China, and projects for Europe handled by multilingual countries in Eastern Europe.

Full outsourcing with a labor sharing system utilizing multiple centers

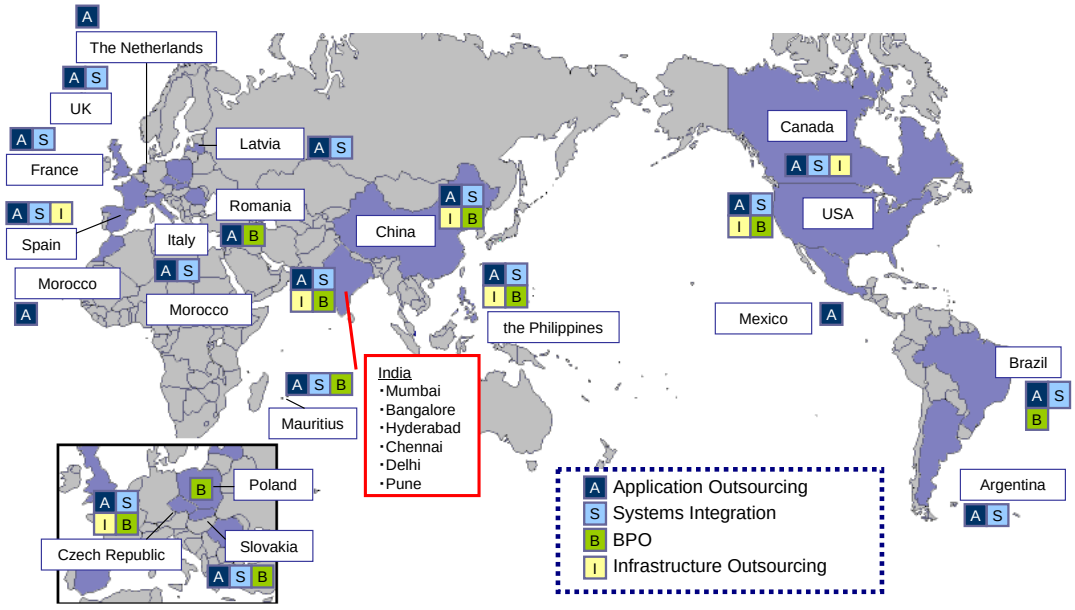
A case that demonstrates the advantages of Accenture's global delivery model is an outsourcing project it undertook for a leading pharmaceutical manufacturer involving multiple global operations such as financial and accounting BPO, HR BPO, and application maintenance. US, Filipino, Slovakian, Chinese and Brazilian centers handled operations for financial and accounting BPO, US and Brazilian centers took charge of HR BPO, while centers in the US, Brazil, the Philippines and India managed application maintenance. In this way, the project was simultaneously carried out by multiple centers utilizing shared tools and

the transferal of information between separate regions in addition to leveraging time differences. Later, the scope of outsourcing was expanded to R&D support and testing, evolving into a support structure encompassing 750 people and 15 languages in 47 countries.

Developing greater value added operations at Indian centers

Accenture has a long history in India even among foreign affiliated IT services firms, commencing its operations as an accounting consulting firm in 1987. Since it has already consolidated its brand image in the industry, it is relatively easy for the firm to mass hire human resources. It places its Indian centers (known as nodes) at the core of its global delivery model, which already employ 35,000 people, exceeding the number of workers in the US (30,000). Moreover, in complementing its traditional outsourcing operations, Accenture plans to increase the number of staff in its Indian consulting team to 2,000 professionals by the end of August 2008 in a move that will bolster its management consulting business. In doing so, the company is focused on providing various analytical and consulting services to not only the Indian domestic market, but also to overseas customers, making its Indian centers vital components of its serious approach to top-end offshore outsourcing that includes elements of KPO.

[Fig. 3-47] Global Delivery Model: Accenture



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

4) CSC (Computer Sciences Corporation)

CSC has the edge in US government contracts centering on US Department of Defense

CSC is an IT services firm providing services ranging from consulting to system development, IT outsourcing and BPO. In addition to its main clients in finance and manufacturing, it also boasts government agencies such as the US Department of Defense.

[Table 3-33] Company Outline

Established	1959	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Virginia, USA		●	●	●	●	●
Employees	91,000 (2008/3)	Sales by Region[2]	USC	Europe	D	G	Others
Sales ($B)	14.9 (2008/3)		26%	28%	24%	12%	10%
Market Value ($B)	6.5 (2008/3/31)						
Listed on	NYSE						
Major Shareholders	Dodge & Cox (13.1%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. USC: US Commercial, D: Department of Defence, G: Government					
	Barclays Global (6.8%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

GDM: World Sourcing

CSC's global delivery model, known as World Sourcing, is divided into three areas, namely, offshore centers (low cost centers), nearshore centers (remote centers), and onsite and onshore centers (onsite and local services), of which Europe, the US, Australia and India have been designated as competent centers to provide state-of-the-art and professional services (Table 3-34). By combining all of these centers, CSC aims to provide cost efficient services for every project it undertakes.

[Table 3-34] Division of Roles by Region for World Sourcing

World Sourcing Category	Features	Providing Region
Low Cost Centers	Providing services at the lowest cost by high level staff	India, South Africa, Mexico, Czech Republic, China
Remote Centers	Providing services at low cost while maintaining close proximity in terms of distance, language and time differences	North America, EMEA, Asia
Onsite and Local Services	Providing services through close and continual contact with development teams	Americas, EMEA, APAC
Competent Centers	Providing cutting-edge and specialized services	US, UK, Germany, India, Australia

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Expanding centers through takeovers

CSC's Indian offices are based on PMSC India, established in 1996 by the US Policy Management Systems Corporation (PMSC), which was then taken over by CSC in the year 2000. A year later, CSC's Indian centers were outsourcing to the healthcare sector as well as handling BPO, and then in 2003, began to provide infrastructure management services, which contributed to the company achieving organic growth. In 2006, the firm's Indian centers had grown to employ over 7,000 people. In 2007, CSC hammered out strategies aimed at enriching its offshore centers by buying out medium-sized IT services firms that possessed substantial offshore centers. Firstly, the acquisition of the medium-sized US outsourcing firm Covansys – which has strong roots in India – enabled the company to scale up its Indian centers to around 14,000 employees. Secondly, CSC took over First Consulting Group (FCG) in October 2007, a medium-sized US healthcare IT consulting firm and obtained the 600 technicians that it employed at its Indian centers.

5) Perot Systems

One of few US semi-major outsourcing firms to pioneer the Indian market

Perot Systems is an outsourcing firm established by the founder of EDS, the US entrepreneur Henry Ross Perot, following the sale of EDS to GM. The firm's strengths are found in consulting, IT outsourcing and BPO to the healthcare industry, such as to hospitals.

[Table 3-35] Company Outline

Established	1988	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Texas, USA		●	●	●	●	●
Employees	23,000 (2007/12)	Sales by Region	USA	UK	India	Others	
Sales ($B)	2.6 (2007/12)		88%	4%	3%	5%	
Market Value ($B)	1.8 (2008/3/31)	Sales by Industry[2]	H	C & O	G	Others	
Listed on	NYSE		54%	18%	20%	8%	
Major Shareholders	HWGA (24.6%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. H: Healthcare, C & O: Commercial Solutions & Other, G: Government					
	Royce & Associates (10.8%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Active use of Indian centers: 35% of staff in India

Take away firms such as Kanbay and Covansys that have origins in India, Perot Systems was the fastest company among US medium-sized IT services firms to adopt the onsite/offshore model, where it places India as the cornerstone of its global delivery model. As of the end of 2006, the company employed around 22,000 staff, of which 7,000 or 35% of its total workforce, are stationed at centers in India, which is a ratio that

exceeds major European and US firms' proportion of workers in India of about 20%. Additional offshore centers were established in the Philippines in 2007 to provide outsourcing services mainly to customers in Europe and the US. Of the 400 personnel allocated to its Filipino center in 2007, 350 were hired for the purpose of engaging in BPO operations.

Buyout of JV with HCL

Perot Systems established HCL Perot Systems (HPS) in 1996 as a joint venture with the leading firm HCL Technologies to launch its offshoring in India. HPS had a strong presence in India, even ranking in the top firms every year in NASSCOM's exporters ranking. In 2003, Perot Systems acquired Vision Healthsource, an Indian IT services firms, and then by buying out HCL's share in HPS, Perot Systems came to fully own the JV as its own subsidiary and changed its name to Perot Systems TSI. Clients of TSI extend far and wide, including Australia, Germany, India, Japan, Malaysia, Singapore, Switzerland, the UK and the US.

Separate roles for the firm's three Indian centers

Perot Systems designates roles for its three Indian centers in Noida, Bangalore and Chennai, namely, Bangalore: application solutions; Noida: infrastructure and application solutions; Chennai: BPO services (Table 3-36). The firm also defines its Noida center as vital to its 24 hour Global Service Delivery Model, which functions in the same way as its command center at the company's head office in Texas.

[Table 3-36] Division of Roles by Region for Global Delivery Model

Center	Services	Features
Noida, Bangalore	Application development and maintenance, migration, reengineering and test services	Adopts strategic methods and best practices to handle multiple sectors, technologies and platforms
Noida	Infrastructure solutions	Similar to its command center at its head office in Texas and vital to its 24 hour Global Service Delivery Model
Chennai	BPO	A state-of-the-art BPO services center providing offshore outsourcing services to healthcare services providers in the US

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Strong presence in Indian domestic market

Perot Systems identifies India as not only an offshore center, but also as a key IT services market. Its domestic sales in India amounts to about 3% of total sales, or US$75 million, and has achieved high growth rates on average of approximately 25% in the past two years. This does not exceed IBM (US$707 million) or TCS (US$380 million), but is higher than Satyam (US$75 million), Infosys (US$50 million) and Patni (US$2.3

million), suggesting that Perot Systems also commands a healthy presence in the Indian domestic market.

6) Capgemini

France's biggest outsourcing firm

Capgemini is France's largest IT services firm and is engaged in various full outsourcing operations from business consulting, IT systems development, operation and maintenance to BPO. The firm was founded in 1967 by Serge Kampf as a systems development company and has now become a genuine player in the fields of outsourcing and consulting by taking over a number of European and US firms since the 1990's. Additionally, its acquisition of Ernst & Young Consulting in 2000 further strengthened its presence in the North American market.

[Table 3-37] Company Outline

Established	1967	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Paris, France		●	●	●	●	●
Employees	83,508 (2007/12)	Sales by Region[2]	France	UK	NA	B	Others
Sales ($B)	13.4 (2007/12)		23%	26%	20%	13%	19%
Market Value ($B)	8.2 (2008/3/31)	Sales by Industry[3]	MRD	G	BFSI	E & U	Others
Listed on	Euronext Paris		29%	28%	14%	13%	16%
Major Shareholders	Fidelity Management (10.0%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. UK : UK + Ireland, NA: North America, B: Benelux 3. MRD: Manufacturing, Retail & Distribution, G : Government, BFSI: Banking, Financial Services and Insurance, E & U : Energy & Utilities					
	Goldman Sachs AM (4.9%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

GDM: Standardization of delivery processes with Rightshore

Utilizing its global delivery model 'Rightshore', Capgemini has expanded its operations to over 30 countries by defining separate roles for different centers. Consulting is handled onsite, nearshore centers take charge of solutions planning, while offshore centers carry out development, testing and operations (Fig. 3-48). In order for Rightshore to function, Capgemini has implemented its Distributed Delivery Framework (DDF). DDF shares standardized procedures, best practices, tools and guidelines with other centers and among customers, therefore, by promoting collaboration between onsite and offshore, a structure can be maintained that is able to attract projects at low costs and minimal risk.

India, Poland and China the big three delivery centers

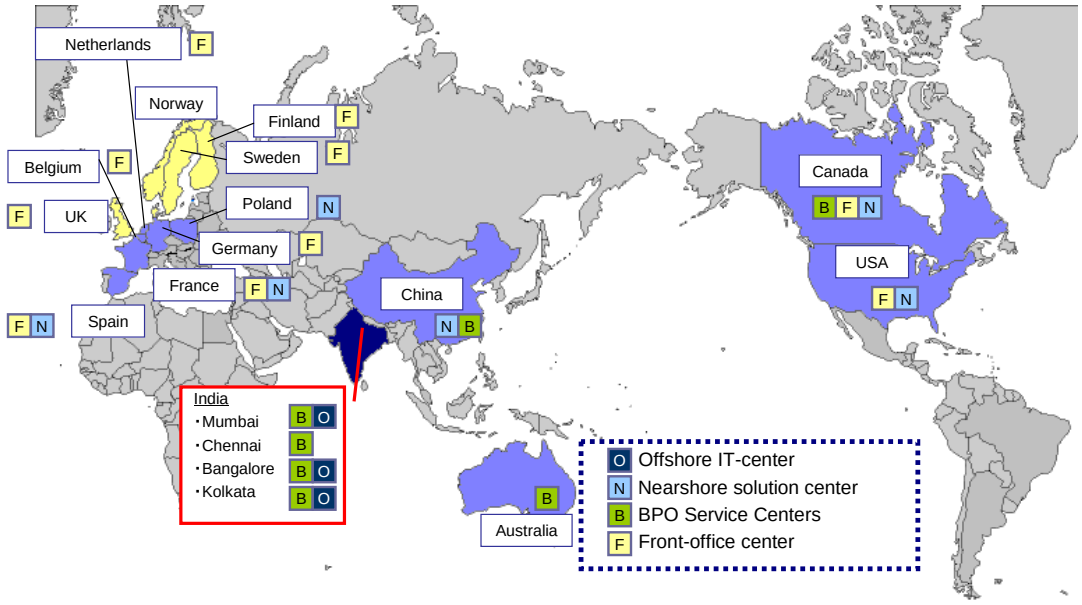
India, Poland and China are the three core delivery centers of this model. Based on an acquisition of a consulting firm that has centers in Argentina and Brazil, Capgemini opened its first Latin American delivery center in Argentina in November 2007. This center has been modeled

after its nearshore center in Spain and is set to take on business application development and maintenance for clients in Spanish speaking regions.

Indian centers rapidly expanding through M&As

The reinforcement of its Indian centers has been carried out with both organic growth and acquisitions, while two company takeovers in 2006 rapidly beefed-up its centers in India. To enhance its F&A BPO business in India, Capgemini acquired 51% of the shares in the captive BPO center of the Unilever Group staffed by 600 people. Furthermore, from the objective of expanding and strengthening its Indian centers and reinforcing its IT services business for the financial services industry mainly in North America, the company bought out the medium-sized US IT services firm Kanbay. At the time the acquisition was announced, Kanbay commanded 5,000 of its 6,900 employees at its Indian centers, which therefore drove Capgemini's total Indian employee count up to 12,000.

[Fig. 3-48] Global Delivery Model: Capgemini



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

7) Logica

Major UK IT services firm

Logica is a major outsourcing firm covering services from business consulting to IT services and BPO in European markets centering on the UK, France and the Netherlands. Its customer base also includes public institutions such as the UK Government and many blue-chip companies in sectors such as manufacturing, public service and finance. After the name LogicaCMG was used following the large-scale amalgamation of Logica and CMG in the early stages of 2008, the company changed its name back to Logica.

[Table 3-38] Company Outline

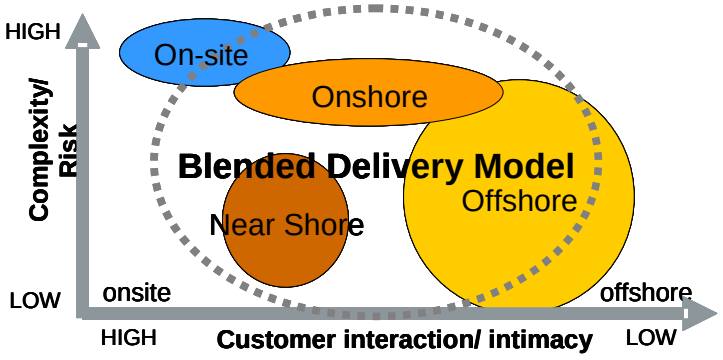
Established	1964	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	London, UK		●	●	●	●	●
Employees	39,000 (2007/12)	Sales by Region[2]	UK	France	NE	Germany	Others
Sales ($B)	6.1 (2007/12)		22%	19%	16%	6%	37%
Market Value ($B)	3.06 (2008/3/31)	Sales by Industry[3]	P	D & T	E & U	BFSI	T & M
Listed on	LSE Euronext Amsterdam		28%	30%	16%	18%	8%
Major Shareholders	UBS Global AM (8%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. NE: Netherlands 3. P: Public, D & T: Distribution & Transport, E & U : Energy & Utilities, BFSI: Banking, Financial Services and Insurance, T & M: Telecoms & Media					
	Morley FM (6%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

GDM: Blended Sourcing

Logica's global delivery model – Blended Sourcing – involves onsite, onshore, nearshore and offshore delivery teams adopting the same quality standards, processes and business systems. By combining these multiple frameworks, this model is able to select the best region to provide services, which all depends on the complexity and risk (vertical axis) of projects and the frequency and importance (horizontal axis) of collaborating with clients which also differs for each phase of a project (Fig. 3-49).

[Fig. 3-49] Decentralized Structure to Address Project Dimensions



(Source) Publicly available company material (reproduction authorized)

Logica's bridge function organically links centers

Logica boasts data centers, development centers, BPO centers and customer service centers in the UK and the Netherlands, while it also has development centers and customer service centers in other major markets. It has set up nearshore development centers in Eastern Europe and Africa in close proximity to the major markets in Europe, and offshore development and BPO centers in low cost and remote Asian regions (Fig. 3-50). In addition, as a means to differentiating itself, Logica has put together a Global Service Delivery (GSD) organization that uses each global center to form a single business unit that sees each center in the UK, the Netherlands, India, Australia and the like, functioning as a Global Control Bridge to manage governance between regions. Consequently, the firm is able to provide the same quality of service to a wide range of customers. Moreover, Logica utilizes development centers, such as ERP, and BPO centers in locations other than India, like Malaysia and the Philippines.

Business lines of Indian centers have expanded widely

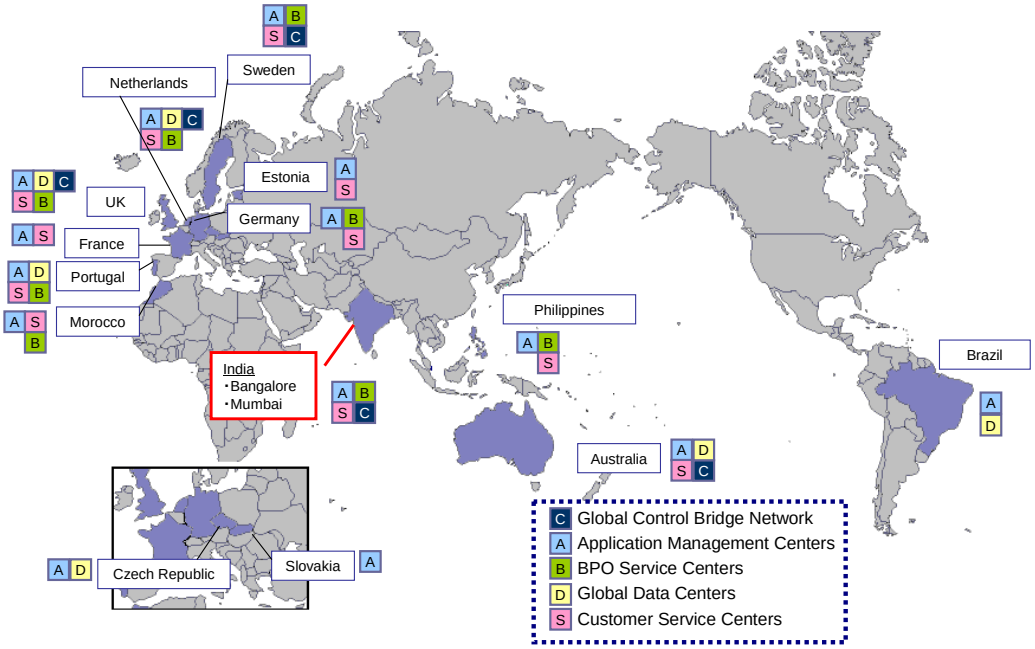
Half of the GSD unit's approximate 5,000 employees are stationed at Logica's Indian centers. The Indian centers were established in 1996, and originally limited its realm of operations to product design, however, this business scope has continued to expand every year and the centers now provide varied services such as infrastructure services, ADM, BPO and testing services to clients hailing from Europe, the Asia-Pacific, the US and Australia (Table 3-39).

[Table 3-39] Business Scope of Logica's Indian Centers

Commencement of Services	Field
2002	Product design outsourcing
2003	Service desks
2005	System development and maintenance BPO (administration services such as HR, paychecks, financial accounting, document control and procurement) Enterprise services (ERP, CRM, etc.) Infrastructure services Testing

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

[Fig. 3-50] Global Delivery Model: Logica



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

8) Atos Origin

This major French IT services firm excels in manages services

Atos Origin, France's second largest IT services firm, has grown to be one of Europe's leading IT services companies following the large-scale M&A centering on Atos and Origin. The firm's core operations include consulting, SI, ITO and BPO managed services. Among these lines of business, Atos Origin has developed its data center business in the major regions of Europe, the US and Asia – its managed operations accounting for 50% of the company's sales – while it has been one of the more aggressive firms among its European counterparts to take its business to Asian markets.

[Table 3-40] Company Outline

Established	1996	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Paris, France		●	●	●	●	●
Employees	51,704 (2007/12)	Sales by Region[2]	France	B	UK	G & CE	Others
Sales ($B)	4.9 (2007/12)		31%	21%	19%	11%	18%
Market Value ($B)	3.8 (2008/3/31)	Sales by Industry[3]	P & U	BFSI	M	TM	Others
Listed on	Euronext Paris		27%	21%	19%	18%	15%
Major Shareholders	Centaurus Capital (10.6%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. B: Benelux, G & CE: Germany & Central Europe 3. P & U : Public & Utilities BFSI: Banking, Financial Services and Insurance, M: Manufacturing, TM: Telecom & Media					
	Pardus Capital (10.0%)						

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Restructuring plan focusing heavily on establishment of a global delivery model

Fuelled by intense competition with Indian IT services firms in European and US markets and a slump in performance after the M&A, Atos Origin has hastened the pace of its business restructuring, such as selling off operations in specific regions. As part of its restructuring plan 3o3 (three main objectives for the next three years), the construction of its global delivery model is a key initiative in making its outsourcing operations more efficient (Fig. 3-51).

Global delivery model as a key initiative in 3o3

The purpose of establishing a global delivery model is to accelerate organic growth, improve operational efficiency and enhance its operational capabilities as a global firm. Moreover, the company aims to utilize its offshore centers in India for around 40% of its US operations and approximately 10% of its German SI operations. It has also set itself the goal of establishing a structure that houses a total of 8,000 people at both offshore and nearshore centers by the year 2009 by having 6,100 employees, or 20% of staff working in the field of systems integration deployed to offshore and nearshore locations as well as retaining 1,900 personnel in the field of managed operations (Table 3-41).

[Table 3-41] Employee Numbers at Offshore Centers

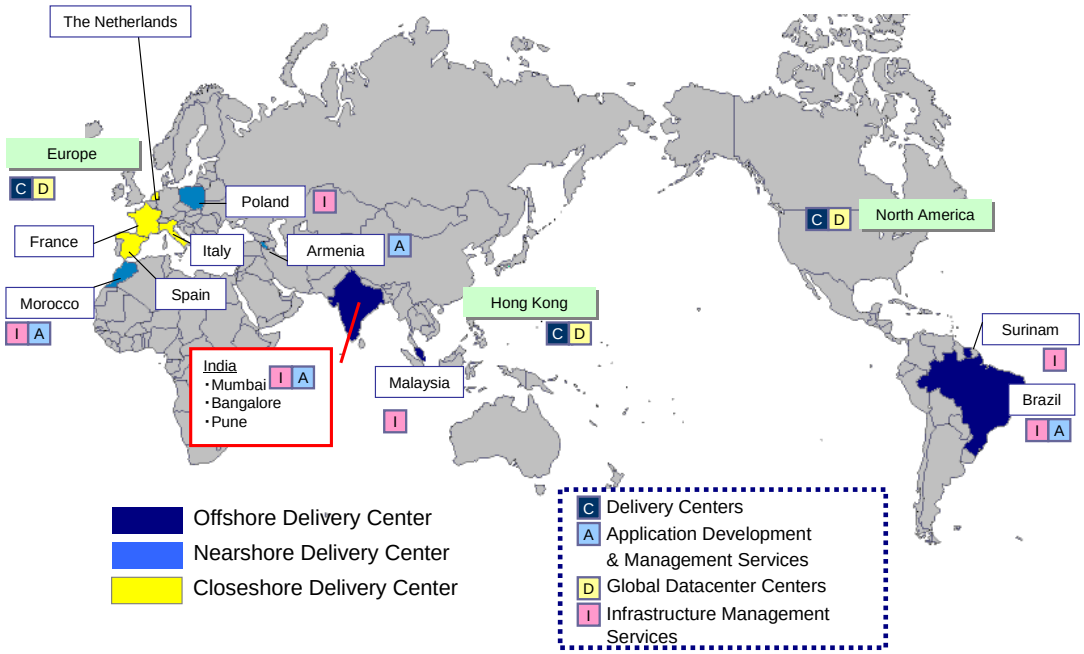
	2006	2007	2009 (target)
Group Total	1,585	3,091	8,000
SI	969	2,134	6,100
Managed Operations	616	957	1,900

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

Indian centers expanding

Based on the aforementioned restructuring plan, Atos Origin sets itself the goal of boosting its Indian centers from 2,500 workers to 5,000 within the next three years. Between 2006 and 2007, the number of employees at Indian centers rose from 1,300 to 2,500, which continues to strengthen its framework for providing services to regions centering on the Netherlands, the UK, Germany, France and the US.

[Fig. 3-51] Global Delivery Model: Atos Origin



(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

9) Steria

Company takeover propels Steria into the top 10 European firms

Steria, a semi-major French IT services firm, undertakes operations ranging from consulting to managed services. Owing to its acquisition of the semi-major UK outsourcing firm Xansa in 2007, the company was able to break into the top 10 companies of Europe in terms of sales, in addition to upgrading its Indian centers and seriously engaging in BPO operations.

[Table 3-42] Company Outline

Established	1969	Business Scope[1]	C	SI	ADM	ITO	BPO
Head Office	Paris, France		●	●	●	●	●
Employees	18,839 (2007/12)	Sales by Region[2]	UK	France	Germany	Others	
Sales ($B)	2.1 (2007/12)		47%	29%	11%	13%	
Market Value ($M)	931 (2008/3/31)	Sales by Industry[3]	P	BFSI	U	M	R
Listed on	Euronext Paris		36%	26%	24%	8%	6%
Major Shareholders	Jean Carteron (7.9%)	[Notes] 1. C: Consulting , ADM: Application Development & Maintenance 2. RoE: Rest of Europe 3. P: Public Sector, BFSI: Banking, Financial Services and Insurance, U: Utilities, M: Manufacturing, R: Retail					

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

5,000 employees consolidated in India by taking over Xansa

With the establishment of its global delivery model, Steria has commenced operations in Morocco and Eastern Europe. In addition, through an alliance with a local Indian firm under a BOT[31] agreement, it is at the stage of strengthening its system to conduct offshoring. Under these circumstances, Steria acquired the UK outsourcing firm Xansa in November 2007, gaining full control of its Indian centers and is currently boosting its operations significantly.

Boosting Indian offshoring from continental Europe

In 1997, Xansa established its Indian centers by acquiring an Indian firm, allowing it to already be in command of an onsite/offshore model between the UK and India, while the firm had set itself apart from competitors by stationing 5,000 of its total 8,000 employees among its centers in India. In the future, it is thought that Steria will further expand in India, mainly in the tier 2 cities of Noida, Pune and Chennai, and continue to enhance its system to handle offshoring from continental Europe.

[31] BOT: Build Operate Transfer. A method of subcontracting the establishment and operation of a center to another company on the condition that the center will be purchased from that firm in the future.

(3) Globalization of Major Japanese IT Services Firms

Differing globalization methods for each region

Major Japanese IT services firms are speeding up their global operations. In terms of offshoring in North America, Europe and Asia, since market maturity and competitive environments differ for each region, so do methods for making market inroads. In the Asian region, outsourcing from end users has not progressed to the extent of Europe and the US and there are few dominant local IT services firms. Accordingly, Japanese IT services companies are utilizing organic growth to further the establishment of their support systems. As outsourcing becomes more prevalent, Japanese firms are endeavoring to expand their operations in European and US markets – already heavily populated with IT services firms – by taking over medium-sized and smaller companies. However, the reality is that in terms of their efforts to move into India, these companies only possess small-scale centers in comparison to the European and US heavy-weights. In the future, as Japanese firms further expand their operations, it is assumed that they will come up against competition in India from rival European and US firms in relation to securing overseas projects, therefore, it is even more important for firms from Japan to set up a cost competitive and delivery efficient services system by utilizing offshore centers in India. This section of the report shall provide an overview of the trends of globally expanding super prime contractors.

[Table 3-43] Initiatives of 4 Major Japanese firms in Europe, the US and India

	North America				Europe				Indian Offshore Centers	Overseas Business Plans
	Consulting	Development / SI	ITO	BPO	Consulting	Development / SI	ITO	BPO		
Fujitsu	Structure of approx. 5,000 staff (estimated) Fujitsu Consulting (FC) ・Acquisition of Rapidigm (2,200 people) since 2004 ・Acquisition of 8 medium-sized IT consulting firms such as BORN (400 people) and G&R (425 people)				Structure of approx 22,000 staff (estimated) Fujitsu Services (FS) ・Acquisition of medium-sized firms TDS (Germany, 700 people) and Mandator (Sweden, 560 people)				・FC India (Indian centers of Rapidigm after takeover): approx. 2,000 people ・FS sold its stake in Indian JV, Zensar	・Europe: 5th in Europe in terms of market share within five years (FY06:10th) ・North America: JPY100 billion in sales and 8% operating profit margin in FY08 ・10,000 employees by 2010
Hitachi	Hitachi Consulting ・Acquisition of 5 consulting firms including iteration2				Hitachi Consulting ・Acquisition of Impact Plus (UK)				・Outsourcing mainly to major Indian firm Satyam and US Intelligroup	・Global structure (including Asia) of 3,000 employees by FY08 and 3,500 by FY09
NEC	NEC + Abeam Consulting ・Software business bolstered by takeover of Sphere ・Acquisition by umbrella firm Abeam Consulting of IT consulting firms such as QIS (120 people)				NEC Establishment of Abeam consulting in Europe (approx 25 people) ・Acquisition by umbrella firm Abeam Consulting of IT consulting firms such as Leadent (25 people)				・JV with leading Indian firm HCL (NECHCL, 200 people)	・Collaborate with major overseas IT vendors in the services platform business ・SAP-based global expansion (focusing on Asia) ・In addition to focusing on Asia, strengthen Abeam Consulting's operations in Europe and the US
NTT Data	Structure of approx. 700 staff The Revere Group (US, 450 people) Acquisition of Tryarc (US, 70 people)				Structure of approx. 1000 staff Acquisition of itelligence (Germany, 1,000 people)				・Acquisition of Vertex (200 people, offshoring for the Japanese market)	・Overseas sales of JPY100 billion for the period ending March 2009

(Source) Mizuho Corporate Bank, Industry Research Division, based on publicly available company material

1) Fujitsu

Large-scale acquisitions from the past now contirbuting to earnings

As part of its current overseas operations, Fujitsu's robust market presence abroad among Japanese firms is based on two large-scale acquisitions, namely, US-based Amdahl and the UK's ICL. Both were prestigious firms that focused on hardware, however, a transitional phase from hardware to software and the collapse of the IT bubble sparked a deterioration in business results for these two companies. Later, through a process of restructuring, DMR, the IT consulting subsidiary of Amdahl, was incorporated into Fujitsu Consulting, while ICL has since been renamed as Fujitsu Services. With these two firms as core companies, Fujitsu continues to achieve growth through acquisitions, targeting smaller to medium-sized IT consulting firms.

Current target of 10,000 employees in India

Fujitsu is utilizing India for offshoring from its centers in Europe and the US. It set up Fujitsu Consulting India with the Indian offices of Rapidigm, a medium-sized US IT consulting firm that Fujitsu Consulting acquired in 2006, and has established a framework in India with around 2,000 employees to serve the North American market. Meanwhile, Fujitsu Services in Europe made a 30% investment in Zensar, a joint venture with the local Indian conglomerate RPG Group, but after selling its stake in this company in 2007, it no longer commands its own offshore centers in India. It is thought that because Zensar transacted with other IT services firms other than Fujitsu, such as EDS, Fujitsu moved to sell its interest in the JV from a control perspective.

2) Hitachi

After strengthening IT consulting, Hitachi plans to expand its operations to managed services

Hitachi's global strategy is based on the tripolar structure – Asia including Japan, North America and Europe – of its umbrella IT consulting firm Hitachi Consulting. Its main line of business is in consulting and either undertakes SI operations on its own or outsources to a partner firm. The Hitachi Global Solutions Center in India handles the firm's development processes and is jointly utilized by the three regions of Asia, the US and Europe. Hitachi plans to expand its 1,800 consultants (as of 2006) to 3,500 by the year 2009. Additionally, it can be inferred that after a phase of boosting consulting and IT services, Hitachi will look to expand its operations to managed services in Europe and the US in the same way it did in Japan, such as operation and management and data centers.

Hitachi's Indian offshoring is mostly outsourced

The Hitachi Global Solutions Center is comprised of ODCs located at the Indian offshore centers of subcontracting firm Satyam and US-based Intelligroup. By acquiring its own exclusive development resources (engineers and development environments) and assembling project members according to core developers and project scale and technology, it is thought that the purpose of the Global Solutions Center will be to dodge fixed costs by putting together flexible teams in response to project scale and variation and continually achieve knowledge accumulation throughout the ODCs.

3) NEC

Overseas operations center on NGN

NEC's Europe and US-based overseas strategies focus heavily on its plan to fuse together networking and IT on the basis of its Next Generation Network (NGN). Furthermore, by increasing its stake in its subsidiary Abeam Consulting, NEC is reinforcing its overseas offices through acquisitions of IT consulting firms in Europe, the US and Asia. In February 2008, NEC announced that it will be jointly developing services platforms and collaborating in the global SI business with global IT vendors like HP, as well as a global collaboration with major ERP firm SAP.

Indian offshore centers set-up through a JV with HCL

In setting up its operations in India, NEC entered into a JV with fifth ranked Indian firm HCL Technologies (NEC 51%, HCLT 49%) and undertakes R&D related to high-end software technology such as embedded systems for the telecommunications sector.

4) NTT Data

Established a support structure in European and US markets by taking over medium-sized firms

NTT Data established its centers in Europe and the US by acquiring the medium-sized US IT consulting firms Revere and Tryarc, while In Europe, it bought out IT consulting firm and German SAP services specialist Itelligence. Based on these acquisitions, NTT Data has established an employee structure to the tune of 994 people in Europe and 707 in North America, enabling it to provide support services to global Japanese firms and local companies alike.

Expanding its Indian offshore centers

As a means to strengthening its offshoring in India, NTT Data announced in November 2007 that it would be taking over a firm called Vertex. It is thought that this company will be used mainly for offshoring

from Japan considering that around 40% of its approximate 200 engineers are capable of providing development services in Japanese.