Capability Building and Innovation in the Offshore IT Services Industry in India and China

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Agenda

- Background
- The Global IT industry
  - Roles of India and China in the offshore IT services industry
- Evolution of the IT Services Industry in India and China
- Capability Building in the IT Services Industry
- Innovation in the IT services Industry
- Conclusions and Recommendations

Background

Sponsor

Skolkovo-E&Y Institute for Emerging Market Studies

Moscow and Beijing

http://www.skolkovo.ru/public/en/iems/

Sources of Data and Information

Everest Group · Gartner · IDC · NASSCOM

Company Websites + Secondary Sources

In-depth Company Interviews

Methodology: In-depth Interviews

IT INDUSTRY ASSOCIATION, India
NASSCOM - President

INDIAN IT SERVICES COMPANIES

Genpact, Gurgaon
Senior Vice President

HCL Technologies, Noida
Associate VP; Dy. General Manager

iGate, Mumbai and Bangalore
EVP; VP, Human Resources

iknowvate Technologies, Mumbai
CEO

Infosys Limited, Bangalore
VP & Research Fellow, Educ. & Res.

Mastek, Mumbai
Founder

Mindtree, Bangalore
Chief Marketing and Strategy Officer

NIIT Technologies, Noida and Bangalore
Senior Vice President; CTO

Quatrro Global Services, Gurgaon
Chairman and Managing Director

Tata Consultancy Services, Beijing
CEO, TCS China
General Manager, Global Business, TCS China

In-depth Interviews

CHINESE IT SERVICES COMPANIES

Beyondsoft, Beijing (Phone Interview)
Vice President, Outsourcing Group

Chinasoft International, Beijing
General Manager, Professional Services Group

CEO, Outsourcing Services Group

Pactera Technologies, Beijing
Vice President, Marketing

AMERICAN IT COMPANIES

Cisco (India and China)
Director, Cisco India
Senior Project Manager, Cisco China

CSC (USA, India, and China)
Chief Innovation Officer & President, Global Business Solutions (USA)
Global Director, Office of Innovation & Business Practices, CSC India
General Manager, CSC India
Chairman, CSC Greater China

Google India, Bangalore
Product Manager, AdWords

IBM, Bangalore
Director, Systems & Technology Eng.

Insight Enterprises (China)
Lead, Consulting Services

The Global IT Industry

US$ Billion

Industry Segment	2012 Spending	2013 Spending	2013 Growth	2014 Spending	2014 Growth	2017 Spending	2017 Growth	CAGR 2012-2017
Devices	676	695	2.8%	740	6.5%	863	4.3%	5.0 %
Data Center Systems	140	143	2.1%	149	4.1%	165	3.4%	3.4%
Enterprise Software	**285**	**304**	**6.4%**	**324**	**6.6%**	**395**	**7.0%**	**6.7%**
IT Services	**906**	**926**	**2.2%**	**968**	**4.6%**	**1,127**	**5.2%**	**4.5%**
Telecom Services	1,641	1,655	0.9%	1,694	2.3%	1,803	1.9%	1.9%
Overall IT	3,648	3,723	2.0%	3,875	4.1%	4,354	3.7%	3.6%
Software & IT Services	**1,191**	**1,230**	**3.3%**	**1,292**	**5.0%**	**1,523**	**5.7%**	**5.0%**

Source: Gartner, 2013

Product vs. Services Companies

IT Product Companies	IT Services Companies
Microsoft	IBM
Oracle	Accenture
SAP	Computer Sciences Corp.
Google	Fujitsu
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Apple	Tata Consultancy Services
Dell, Intel	Infosys, Wipro
HP (pre-EDS)	HCL Technologies
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Lenovo; Huawei	Pactera Technologies
HCL	Chinasoft International

Net Global Revenue/Employee: $0.5 - $1 M (American Companies)   **Net Global Revenue/Employee: < $0.5 M**

The Global IT Services Industry:
Market Structure

	Market Size 2013
IT Services (Worldwide)	**$1.23 T**
Offshoring Component	$122 B - $134 B
India's Share (Offshoring)	$76 B
China's Global Offshore Share	$6 B - $7 B

Growth Rates
(2010-2011)

Global IT Industry	2.5%
Global IT Services Industry:	8.1%

Offshore IT Services Industry:

India:	**23.8%**
China:	**22.8%**

Sources: Gartner, Everest Group, NASSCOM

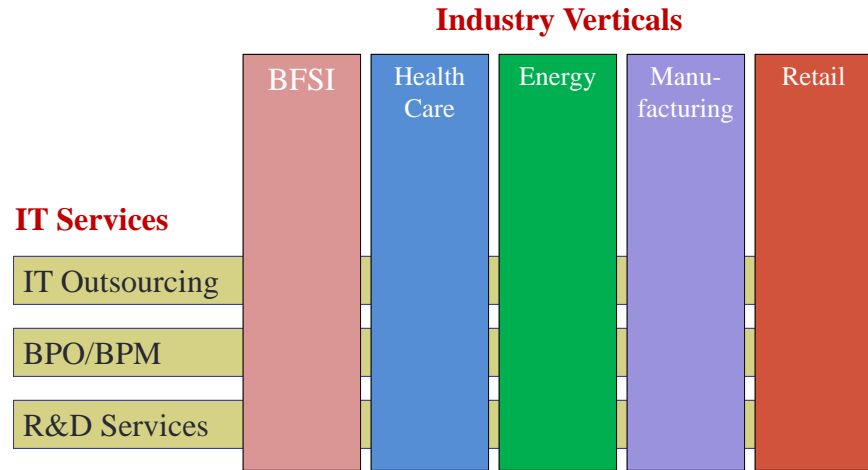## The Offshore IT Services Industry

- **What it includes:**
  - IT Outsourcing (ITO)
  - Business Process Outsourcing (BPO or BPM)
  - Enterprise software
  - Engineering and R&D services
- **Two markets**
  - Domestic
  - Offshore (exports)

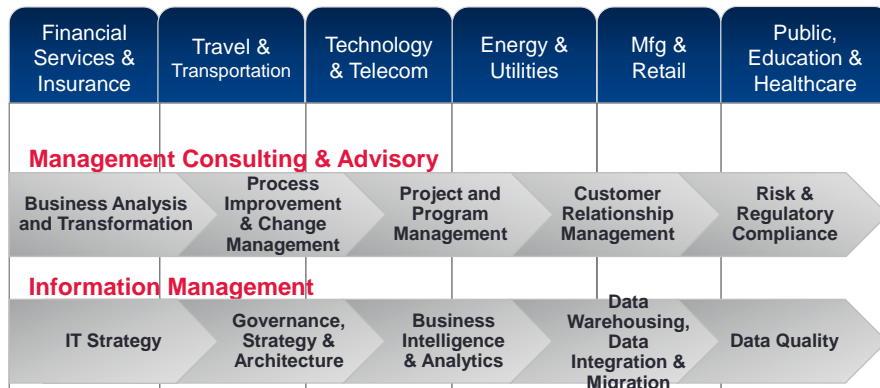## Share of Domestic vs. Offshore Segments in the IT Services Industry in India and China, 2011

Markets Served	India	China
Domestic	32%	81%
North America + Europe	60%	9%
Asia-Pacific (excl. Home Country)	8%	11%
Total Market Size	$100B - $105B	$30B - $35B

Source: Everest Group

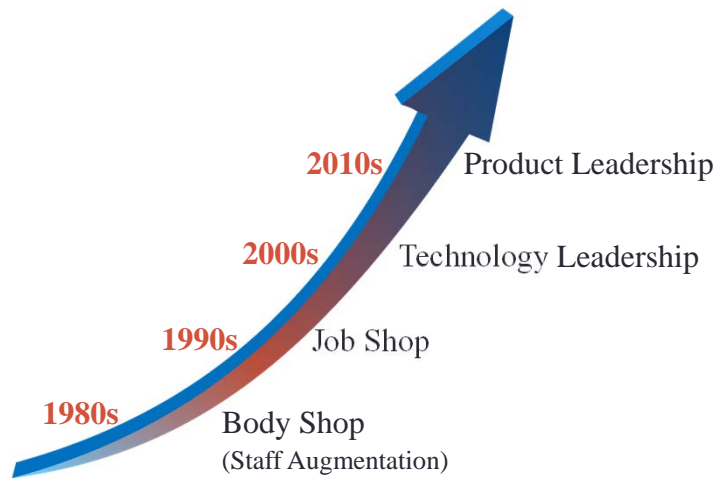**Examples of Industry Verticals Served by the IT Services Industry**

Industry Verticals

BFSI	Health Care	Energy	Manu-facturing	Retail

IT Services

IT Outsourcing

BPO/BPM

R&D Services

Company Example: Pactera Technologies

Financial Services & Insurance	Travel & Transportation	Technology & Telecom	Energy & Utilities	Mfg & Retail	Public, Education & Healthcare

Management Consulting & Advisory

Business Analysis and Transformation	Process Improvement & Change Management	Project and Program Management	Customer Relationship Management	Risk & Regulatory Compliance

Information Management

IT Strategy	Governance, Strategy & Architecture	Business Intelligence & Analytics	Data Warehousing, Data Integration & Migration	Data Quality

Source: Pactera Technologies, Beijing

Evolution of the
IT Services Industry in India

Evolution of India's IT Services Industry

2010s   Product Leadership

2000s   Technology Leadership

1990s   Job Shop

1980s   Body Shop
(Staff Augmentation)

India's Offshore IT Services Industry

Strengths

- Labor cost arbitrage; multi-skilled talent
- Maturity, scale, and deep expertise in many verticals and domains
- Onshore, offshore, near shore capabilities; industry certifications
- Ability to handle very large projects
- State-of-the art processes and project management skills
- Deep client relationships
- Highly developed HR practices
- Slack resources
- English language skills

Challenges

- Very high attrition rates
- Rising overall costs
- Over-reliance on the T&M (Time and Materials) revenue model
- For smaller firms: Lack of innovation culture; haven't developed own IP or IP-based products
- Concerns in many developed countries re. white collar job losses
- Weakness in the domestic market

China's Offshore IT Services Industry

Strengths

- Labor cost arbitrage
- Growing maturity and expertise in many verticals and domains
- Major firms have onshore, offshore, near shore capabilities and industry certifications
- Strong bespoke application-development capabilities
- *Guanxi* (esp. for government and public sector clients)
- The "China card" (for foreign clients)
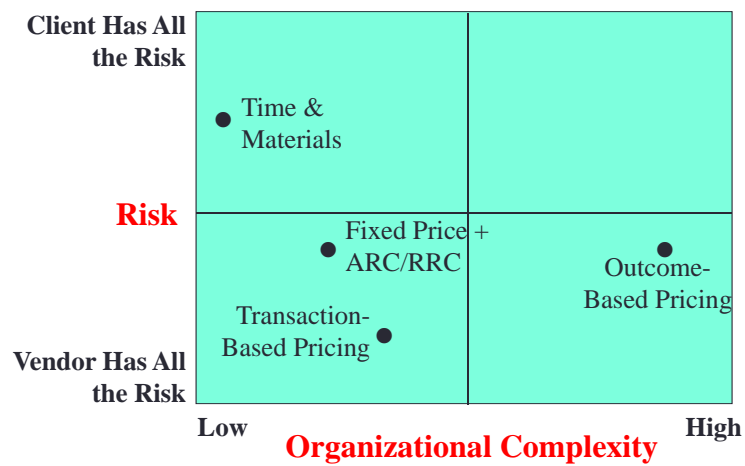- Strong cost control

Challenges

- Wage inflation; overall costs rising faster than in India; high attrition rates
- Using both T&M (Time and Materials) and fixed price revenue model
- Working capital constraints; inability to invest in R&D
- Lack of innovation culture; lack of own IP or IP-based products
- Lack of English language skills; "translation loss"
- Continuing trust issues with foreign clients
- Rising yuan

Revenue Models in the
Offshore IT Services Industry

- T&M (Time and Materials)
- Fixed price contracts
- Transaction- or subscription-based pricing
- Outcome-based pricing
- Gain share

Outsourcing Revenue Models

Client Has All the Risk

● Time & Materials

Risk

● Fixed Price + ARC/RRC

Transaction-Based Pricing ●

● Outcome-Based Pricing

Vendor Has All the Risk

Low — **Organizational Complexity** — **High**

Source: Adapted from Wipro Technologies

Capability Building in the IT Services Industry in India and China

"We read, ask questions, explore, go to lectures, compare notes and findings … consult experts, daydream, brainstorm, formulate and test hypotheses, build models and simulations, communicate what we're learning, and practice new skills."

- Bill Gates

Capability Building at Indian
IT Services Companies

- Highly developed HR and training & development practices (at major IT services companies)

- Major companies spend 2% or more of annual revenues on employee training and competency development each year

- Huge scale of operations, e.g.,
  - TCS hired about 70,000 employees each year for the last 3 years, and Infosys about 42,000 employees each year for the last 3 years
  - Infosys can evaluate 10,000+ job applicants simultaneously across 7 cities in India, and can train 5,000 entry-level recruits simultaneously at the "Infosys University" in Mysore, India

- Best practices in competency development, developed with assistance from major consulting firms and top professors

- M&As, technology licensing, hiring returning expatriates, etc.

Competency Development Model
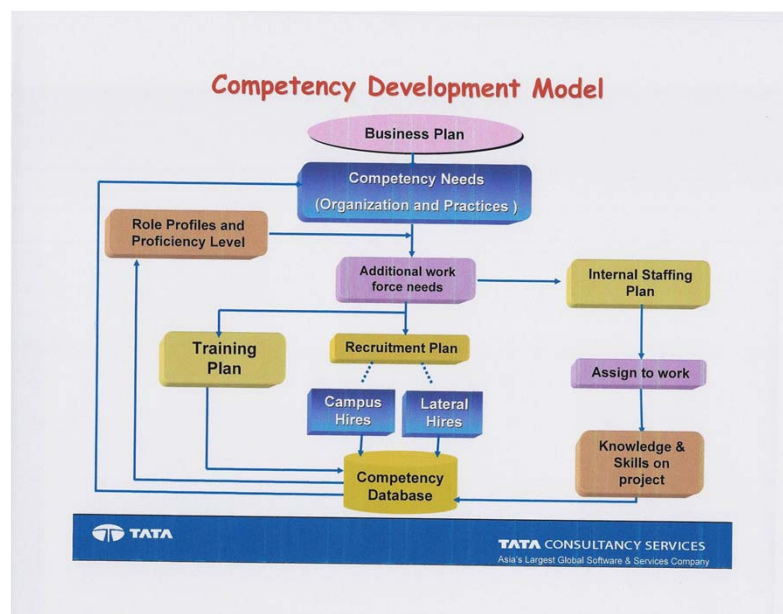
Tata Consultancy Services

- Recruitment and selection
  - 70,000 new hires each year for the last three years
  - 24,500 job offers made to college students in 2012-13
  - Global campus recruitment, esp. in USA, Canada, China, Uruguay, and Hungary
  - Lateral hires worldwide
- Internal training and development
  - Initial Learning Program + web-based learning modules
- External training
  - Opportunities to obtain recognized qualifications and certifications
- Each employee receives 14 days of training per year

Infosys

- Talent management includes
  - Identification of competencies and skills needed for each role
  - Appropriate training programs to impart the needed skills for each role
  - Skills measurement by an in-house certification center
- Four educational institutions and programs
  - Education & Research (E&R)
  - Infosys Leadership Institute (ILI)
  - InStep: Infosys Global Leadership Program
  - Campus Connect
- The E&R group trains 30,000 new recruits each year
  - Foundation program at Infosys University
  - J-I-T courses to meet unforeseen client needs
  - E-learning available anytime, anywhere to all employees

Infosys University

- The Infosys University (Global Education Center)
  - The largest corporate training center in the world
  - 337 acres, 200 classrooms, and 500 full-time instructors
  - Can accommodate 5,000 trainees at any one time
- Runs the "foundation program" for fresh engineering graduates, lasting 12-14 weeks of full-time rigorous training in both technical and soft skills
- *Fortune* Magazine: It's "an odd combination of Disney World, Club Med, and a modern American university"
- China has sent four batches of 100-150 young engineers each year to Infosys University in the last few years, with the cost of training being absorbed by Infosys

The Infosys University

ChinaSoft International

- First Excellency Training Center (ETC) established in Beijing in 2006

- By now, ChinaSoft has several ETCs around the country, now operated as a profit center

- Partnership with over 400 higher learning institutions in China to provide university students with opportunities for internships and training

- Induction training for new employees and continuing education for employees at different levels

Innovation in the IT Services Industry in India and China

Innovation in the IT Industry

Product Companies	Services Companies
Digital Products:	Much less ability to obtain network externalities
• A new, upgraded version every 2-3 years	Innovation typically depends on customer needs
Smart Phones, Tablets, Xbox:	Innovation may also be intended to:
• A new, upgraded version every year or more often	• improve processes and/or quality
	• lower costs
Both benefit from network externalities	• enter new markets (verticals, domains, geographies)
➢Much higher revenue per employee than for services firms	and may involve business model innovation and open and collaborative innovation, among other approaches

Business Model Innovation at HCL Technologies

Employees First, Customers Second

- Adopted in 2005

- **What it means**: Conventional wisdom has it that a company must put customers above everything else. HCL Technologies turned the hierarchical pyramid upside down by making management accountable to employees, and not the other way around.

- HCL Tech has generally achieved higher growth rates than India's Top 3 and Global Top 3 IT services providers

- *Fortune*: "One of the most innovative and disruptive companies in the world"… HCL has "the world's most modern management."

- *Economic Times*: "HCL is a breeding ground for entrepreneurial talent" that has produced 100 CEOs in its 30-year lifespan."

Business Model Innovation

Outcome-Based Revenue Model at iGate

- Clients "pay for results only", not for the time and resources spent on an engagement
  - iGate makes upfront investment in client-specific technology and process platforms; the client pays only for using the infrastructure
  - Helps align client and vendor goals
  - Vendor shares risk with client on technology and demand variation
  - Converts fixed costs into variable costs for the client
- Examples:
  - Mortgage company (iGate)
  - Tobacco Board India (NIIT Technologies)
  - Bharti Airtel (cellular network: Nokia, Ericsson, Siemens; IT services: IBM)

Ad in *The Economist*, January 19, 2013

FOREWORD BY JOHN SEELY BROWN

HENRY CHESBROUGH

OPEN INNOVATION

The New Imperative for Creating and Profiting from Technology

HARVARD BUSINESS SCHOOL PRESS

"… firms that can harness outside ideas to advance their own business while leveraging their internal ideas outside their current operations will likely thrive in this new era of open innovation"

Innovation at TCS

Structured Innovation

- **19 Innovation Labs** (India, USA, and UK) working on different technologies and domains, e.g., Web 2.0, software engineering, insurance, telecom, etc.
- **Client Innovation Days** – full-day workshops at client sites focused on their specific needs, conducted jointly with them

Open/Collaborative Innovation

- **Annual Innovation Forum** held on each continent to facilitate interaction with academia, Silicon Valley start-ups, VCs, own R&D labs, and client CTOs
- **University Partnerships** (e.g., with MIT and Stanford) to research emerging technologies such as social, mobile, analytics, and cloud (SMAC)
- **The TCS Co-Innovation Network** (COIN™) uses IP management and partnering strategies to drive innovation in an environment of open communities and solution brokers

Innovation at Infosys

Structured Innovation

- **Infosys Software Engineering and Technology Labs** (**SETLabs**)
  - Has filed over 100 patents with USPTO in the last 18 months
- **Infosys Edge™**: A portfolio of 20 IP-based products and platforms, hosted and managed by Infosys, and delivered to clients in the cloud
- **Education & Research Group**: Working in "totally futuristic" and even "beyond IT" domains – ideas with potentially big impact

Open/Collaborative Innovation

- **Innovation Co-creation**: Joint research, joint innovation centers, joint IP licensing, and joint product development with partners and clients
  - e.g., Infosys Oracle Innovation Center (Redwood Shores, California, and Shanghai, China)

Innovation at HCL Technologies

Innovation Portal

- The Value Portal – Employees encouraged to develop and implement grassroots innovations for customers
  - Over 10,000 employees involved through June 2012, generating 12,600 ideas, of which 2,242 had been implemented and 629 were under implementation; has created a culture of innovation within the company
  - MAD Jam (Make a Difference Jamboree): Intended to celebrate employees offering the best innovation ideas, designed like the American Idol TV program; over 70,000 employees participated via the Value Portal
    - The largest, company-based institutionalized ideas platform in the world
- A 2011 TED-style event, that featured Bill Clinton, Gary Hamel, and other speakers – intended for over 650 client senior executives
- And, of course, their innovative EFCS business model

Innovation at Genpact

Open Innovation

▪ Has developed a vast ecosystem of innovation partners, including select clients, select consultants and advisors, leading university centers (e.g., the MIT Center for Collective Intelligence), its own Board of Directors, and its web-based *SolutionsXchange* collaboration network of "crowd sourced" experts

  • Genpact and its clients post business challenges on the *SolutionXchange* website and offer registered experts significant financial rewards for submitting the most innovative solutions

The Future of the IT Services Industry in India and China

▪ **Demand Side**: The global IT services industry worth $1.19 trillion in 2012 and growing at 5% a year through 2017 ➔ $60 billion worth of *new potential business* each year

  • In addition, about $100 billion worth of contract renewals coming up in the next 2-3 years

▪ **Supply Side**: China and India will double the engineering manpower in the coming five-six years, and the cost advantage will not disappear

  • Risk-averse customers ➔ Buyer switching costs (client "stickiness")
  • Indian firms have the maturity, scale, and slack resources to carve out a fair share of this business opportunity, and Chinese firms will do well too

▪ So, the future for the IT services industry in India and China looks fine, at least for the immediate future

The Future of IT Services Industry in India and China, contd.

- However:
  - Emergence of new competitors from new geographies and new technologies still unknown pose significant risk to India and China
  - The continuing war for talent; rising overall costs
  - Over-reliance on the T&M revenue model, and lack of investment to develop own IP and IP-based products
  - Too much focus on exploitation of existing assets, not enough on exploration of new opportunities
- To develop and sustain competitive advantage, companies must:
  - focus on capability building, innovation, and R&D
    - Open innovation, collaborative innovation, and business model innovation
    - Capability building through avenues in addition to existing approaches
  - develop and nurture client relationships – with not just the CIOs but in the CXO suite as they take on higher and higher value-added work for clients

Thank You

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