

Track: Emerging Issues in a Globalized and Interconnected World

Authors¹: Roberto Candiotta, Silvia Gandini, Pavan Soni

IT offshoring: an Indian perspective

Abstract

In the last few years outsourcing has become a strategic choice by companies all over the world that want to increase their performances; particularly, the practice of externalize some activities or full processes in far countries (offshoring) has caught on in India because of different motivations.

The aim of this work is to give a general description of outsourcing evolution and a specific perspective about the meteoric growth of the Indian Information Technology (IT) industry over the last three decades, to analyze success factors and threats related to offshoring diffusion in the Indian market and also to explain what are new growth opportunities.

1. From traditional to strategic outsourcing

Outsourcing is the strategy that implies the recourse to third parties to realize usual internal activities.

In the last few years, outsourcing has rapidly developed in companies around the world, concerning different business areas and value chain activities. The growing preference for this choice, to revise processes and business structures, can be related to some general forces and trends²:

- rapid environmental changes;

¹ Although this work is the result of a common will, every paragraph has been written by a single author; particularly:

- 1st and 2nd section by Silvia Gandini;
- 3rd section by Roberto Candiotta;
- 4th section by Pavan Soni.

Roberto Candiotta is associated professor in Piemonte Orientale University - Faculty of Economics, Silvia Gandini is research fellow in Piemonte Orientale University - Faculty of Economics, Pavan Soni is an Innovation Evangelist at Wipro Ltd.

This work has been produced for Alfieri research project "L'outsourcing dei dati aziendali in India e Cina: il problema dell'enforcement delle norme a tutela della sicurezza dei dati", sponsored by Fondazione CRT.

² WILLIAMSON O., *Markets and Hierarchies; Analysis and Anti-Trust Implications*, Free Press, 1975.

- diffusion of hyper-competitive models in a growing number of business areas;
- the growing importance of intangible assets, particularly inter-organizational relations, that become highly strategic in value (co)production processes and competitive advantage development;
- the spread of Information and Communication Technology (ICT);
- the trend, for companies, to focalize their resources on distinctive competencies.

The kind of relation between company and outsourcer depends on different elements, such as temporal orientation, width of activities content, co-partnership level to results and resource investments, coordination and management modalities³. In fact, with reference to the complexity degree, it's possible to find different forms⁴:

- *transaction-based outsourcing*, that has a short term and regards simple goods and services supplying;
- *relationship or partnership-based outsourcing*, that requires a stronger integration both in planning and in relation managing steps;
- *business process outsourcing* (BPO), when whole processes are externalized, involving specialists that are responsible both of cost and quality results.

In some cases it's possible to speak of *Business Transformation Outsourcing* (BTO) which, involving also core processes, regards situations in which outsourcing becomes a change instrument, strategic for a rapid and significant performance improvement⁵.

Anyway, more complex models are used to enter in new markets, through relations with local outsourcers that offer infrastructures, professional services and Information Technology (IT) to make direct investments in unknown contexts easier.

2. IT outsourcing: changes and perspectives

Sophistication reached by new information systems has produced, in some cases, significant changes in organizational structure; the input to change typically comes true in new systems' planning, and concerns the way to carry on some activities or the organization of some functions.

More important is the information systems' influence on organizational strategies; it's a reciprocal interdependence:

- on the one hand, all company informative flows have an impact on every strategic managerial choice;

³ BENSOU M., *Portfolios buyer-supplier relationship*, in *Sloan Management Review*, 40, 1999.

⁴ CANTONE L., *Outsourcing e creazione del valore*, Il Sole 24 Ore, Milano, 2003.

⁵ FUMAGALLI L. – DI CIOCCIO P., *L'outsourcing e i nuovi scenari della terziarizzazione*, F. Angeli, 2002.

- on the other, strategy influences the information system structuring, because its importance in adapting the company to the external environment.

As every information system project produces positive effects both on tangible and intangible asset, it's necessary to look for and define with precision the whole of costs and profits that result from its realization. Under this point of view, every company should consider the possibility of externalizing to a specialized supplier all or part of the informative services. Loh and Venkatraman define IT outsourcing as a «significant use of some resources, both technological and human, external to the hierarchical organization, to manage IT infrastructures»⁶.

IT outsourcing motivations have time after time changed: as for outsourcing in general, they have passed from a focalization on reducing costs policies to a major emphasis on the possibility, through the use of external competencies, of improving outsourcee's business performance.

Here is a short description of the evolution of IT outsourcing:

- *1960s*: the externalized services mainly regard the use of basic and standardized computer applications, to manage wages, salaries and general accounting or to provide data processing capability, from the so-called service bureau;
- *1980s*: technological development makes the production of smaller dimensions elaborators possible; the passage to personal computers, simpler to use and less expensive, leads companies to take all production activities inside the organization again, decreasing so investments in outsourcing;
- *1990s*: there's a new interest toward IT outsourcing strategies, also because of bandwagon effects, linked to great and famous companies decision to apply to external subjects for IT management⁷.

In a period in which the role of ICT becomes very important to support general growth of national economies, a great number of companies decide so to externalize all or part of information system: it's probable that the attention is focalized on information management, emphasizing ICT use as a support to competitive potential. The relation between company and outsourcer becomes a real strategic partnership, one which requires the service provider to perfectly know the clients' strategic goals, to adapt his own activities to their specific needs⁸. This also requires the passage to measurement elements based on the definition of a Service

⁶ LOH L.-VENKATRAMAN N., *Diffusion of information technology outsourcing: influences sources and the Kodak effect*, Information System research, vol.3, n.4, 1992.

⁷ In 1989 Estman Kodak decided to give in outsourcing its data processing services to three IT great companies (Ibm, Digital Equipment Corporative and Businessland): this event, worth 250 million dollars, surely determined a turning-point in the evolution of IT outsourcing. Source: Msx International, 1999.

⁸ Transactions with service provider should allow contract parts to establish goals coherent with the impact of ICT on business performance; in this sense, and to increase effectiveness, service providers' strategies have become more specialized, in relation with companies' sectors (vertical orientation). Source: SOOD R., *Outsourcing across vertical markets*, Gartner Group, September 4th, 2002.

Level Agreement (SLA), that allow clients to value how much outsourcer can support their competitive processes, creating so a gain-sharing system.

A clear example of IT outsourcing, based on SLA, is Application Service Provider (ASP), with which companies offer the access and use of some applications, such as Enterprise Resource Planning (ERP), E-commerce or Customer Relationship Management (CRM) online. In this kind of relationship, a provider cares for software maintenance as well as updating and managing the client's data in a continuous way while users have only to pay a monthly fee or time of use. This is a particular IT outsourcing contract, in which service provider represents the owner of a «server farm», composed by network infrastructures and a medium-big size data processing centre, that allows the supplier to assure services distribution under physical and logic security conditions.

ASP let clients to make use of some advantages, such as an increase of profit resulting from the exploitation of external high competencies, service reliability and continuity, data security (assured by continuous back-up and specific hardware and software instruments) and data accessibility, also by remote placing. On the other hand, problems can come from losing control on applications and information managed through the Internet, intrusion of hackers in ASP public server (mainly when the Internet traffic is overloaded) and scarce offer differentiation, that doesn't allow companies to take an advantage from personalized solutions.

Generally, main IT outsourcing strengths can be classified as follows:

- *lower production and transaction costs*, because of the resources redistribution inside and outside the company;
- *strategic and operative flexibility improvement*, through the demand variation risks transfer on a supplier who, operating in a wider market, can use economies of scale and experience;
- *exploitation of technical, organizational and managerial competencies* that a company doesn't hold or that it could hardly acquire and manage inside.

Nevertheless, main risks can be:

- *loss of supplier control*, when partnership presents planning errors;
- *rise in costs*, related to supplier research, selection and control, partnership management and switching costs, to change partner or strategy;
- *competitive position erosion*, because of knowledge transfer to the partner, who can have opportunistic behaviours.

IT outsourcing is nowadays strongly influenced by the growing diffusion of offshoring, which can be defined as the moving of a business process done by a company in one country to the same or another company in another, different country⁹. The growth of services offshoring is linked to the availability of large amounts of reliable and affordable communication infrastructure following the

⁹ On the same lines, the IT offshoring could be depicted as where some or all of the components of a firm's IT operations are relocated to a firm in some other country. These IT operations could be composed of the Hardware, Software, Network, Data and People. A further addition to this is the IT Enabled Services (ITES) such as Business Process Outsourcing (BPO), where a firm's non-core (typically) business operations are outsourced/offshored.

telecommunication and Internet expansion of the late 1990s thru the year 2000. Coupled with the digitalization of many services, it was possible to shift the actual production location of services to low cost countries in a manner theoretically transparent to end-users.

A more detailed classification considers the outsourcer's country involved in the contract, making a distinction between¹⁰:

- *onshore (outsourcing) or onshoring*: the activity of subcontracting an outsourcer in the same country of the outsourcee (for example, a company based in the US decides to outsource jobs to another US-based company);
- *nearshore (outsourcing) or nearshoring*: the outsourcer is out of the outsourcee's country borders, but still very close to them (for example, a company in the US outsources activities to a Latin American one);
- *offshore (outsourcing) or offshoring*: the work is delivered out of the country and far from it, mainly because of cost arbitrage (for example, a US company subcontracts a company in India);
- *onsite (outsourcing)*: denotes the activity of carrying out the job at the client's site¹¹.

Outsourcing literature analysis has focused on two main themes: IT outsourcing and IT offshoring, both divided into general theory (about pros and cons, goals, evolution) and case study (analysis of a single company, business or geographical area).

Literature consulted (1995-today) has been downloaded from two different electronic sources:

- *Cilea Digital Library*, which includes 1,147 articles about outsourcing and offshoring;
- *Business Source Premier*, which includes 567 articles about outsourcing and offshoring.

Table 1. IT outsourcing and offshoring literature analysis

	IT outsourcing in general	IT outsourcing case study	IT offshoring in general	IT offshoring case study
Cilea Digital Library (1995-today)	53	21	9	4
Business Source Premier (1995-today)	36	30	29	6

¹⁰ HENDEL A. – MESSNER W. – THUN F., *Rightshore!*, Springer, 2008.

¹¹ Because of that it's possible to define two sub-categories: *onsite nearshoring* and *onsite offshoring*; these two terms identify a delivery model aimed at working closely to the client in order to have a direct contact and a continuous interaction for the whole project life-cycle.

Table 1 shows how IT offshoring still represents a wide field of analysis. The following sections in this work will therefore describe the evolution of IT offshoring in India, what are some threats to the prominence of the Indian IT and IT enabled services (ITES) industry and new growth opportunities.

3. IT offshoring in India

In 2008 the worldwide spending on the IT/ ITES breached the USD 1.6 trillions mark. Of this, USD 967 came from software and services and rest from the hardware. The BPO segment grew the fastest at 12%. Of this the Indian IT-BPO industry aggregated USD 64 billions in revenue, contributing a healthy 4% to India's Gross Domestic Product (GDP)¹².

Talking exclusively about the BPO industry, the Indian BPO service providers are giving stiff competition to Western BPO providers, accounting for 5% of market revenue generated among the top 150 providers in 2008¹³. While United Kingdom and United States remain as the largest markets, the Western Europe at large is showing a strong growth. The industry verticals having the highest share are telecommunications, manufacturing, insurance and banking, government and retail. On the overall economic point of view, the IT- BPO industry is a big source of direct and indirect employment, both at India and outside. It provides employment to over 2 million people directly and over 8 million, indirectly. For every job created in IT-BPO industry, 4 jobs are created in rest of the economy in sectors such as commercial real estate, physical security, transport, catering, hospitality and mortgage banking industries.

There are different reasons why India has become the leading outsourcing country¹⁴. Apart from the cost saving aspect, two other determinants should to be discussed. On the one hand, India still benefits from the almost 200 years of English domination; this left a profound sign in Indian culture and education, especially on the strong legacy derived from the use of English as a spoken language. In fact, despite many low class members still speak a little or no English, a vast part of the Indian population has a high level of proficiency in English. On the other hand stands India's strategic geographical position, resulting in a time zone advantage both for Europe and USA: this makes it possible to have a direct contact with customers all over the world, at every stage of delivery, in a language which is common to the business world.

¹² NASSCOM: Indian IT-BPO Industry Factsheet, February 2009.

¹³ Gartner: Gartner says BPO Market Share of Indian-Centric Vendors Will Almost Double by 2010, April 2009.

¹⁴ Based upon the parameters of financial attractiveness, people skills, and economic/political environment, A.T. Kearney identified the top countries for Outsourcing. The top 10 are: India, China, Malaysia, Thailand, Brazil, Indonesia, Chile, Philippines, Bulgaria and Mexico. Source: KEARNEY A.T., *Countries for Outsourcing*, August 2007.

Outsourcing has grown in India in a very fast way and throughout the major cities of India. Nowadays, there is an ongoing expansion towards the so-called *second-tier cities* because of even lower operating costs. IT development and BPO are concentrated in two triangles. In Northern India, the cities of Kolkata, Mumbai and New Delhi are the major areas, while in Southern India, Bangalore, Chennai and Hyderabad are the major areas¹⁵.

The Indian offshoring industry had a humble start in early 80s with the work of Data Entry and Application Support coming down from global majors. Soon it picked up owing to some early success, investment by the global firms for setting up their captive centres here (such as General Electric and British Airways), and the Indian economy opening up in the year 1991.

4. The Indian IT/ITES industry: threats and new growth opportunities

India's IT/ ITES success story may come to sad conclusion if few of the daunting issues aren't addressed fast enough. A couple of these challenges are common to any industry that grows at a breakneck speed, but a couple of challenges are very particular to India and to the IT industry. These are:

- *India's low quality talent pool*: India's pool of young university graduates is estimated at 14 millions. It is 1.5 times the size of China's and almost twice that of the United States. This huge number of young graduates is topped up by 2.5 millions new ones every year. But a closer look at these numbers reveals that only 10 to 15 percent of these graduates are employable to the global IT/ ITES industry¹⁶;

¹⁵ «Mumbai has strong historic links to the financial services industry. Pune has scooped up some work previously performed in Mumbai. It is itself a large city, yet is close enough to Mumbai to allow business to be easily performed with Mumbai-based clients. The Delhi region houses the national capital and is a huge metropolitan area. Kolkata is not yet a major location for outsourcing organizations, however it is growing fast. [...] Bangalore became a frenetic supercharged city of growth and excess. [...] Hyderabad and Chennai both have their own history and attractive compliment of industries, but remain slightly in the shadow of Bangalore. The focus of these southern cities has been historically rather technology-oriented than other destinations». As Pune, also Mysore is gaining ground for the same reasons: it is one of the second-tier cities which, due to its proximity to a major center –Bangalore in this case– it is growing as an outsourcing spot because of its attractiveness and its cheapness in infrastructure. KOBAYASHI-HILLARY M., *Outsourcing to India: The Offshore Advantage*, Springer-Verlag Berlin, 2004, pp. 105-106.

¹⁶ One of the often sighted challenges is the spoken English. Further high rates of emigration among graduates of the top schools further depress local supplies of suitable talent. There's also a scarcity of middle level managers in India, much due to the limited international exposure that the existing pool of talent has got. Source: MCKINSEY, *Ensuring India's Offshoring Future*, September 2005.

- *surging cost of talent*: the above stated problem manifests itself in the form of high wages at all levels. Studies suggest that annual wages for project managers in India's export-oriented IT sector, for instance, have increased, on average, by 23% annually over the past four years, while the salaries of programmers have risen by 13%. With the salary cost contributing to almost 60% of the overall cost, this escalation makes India a less promising offshoring destination;
- *increased security concern*: on the wake of recent terrorist attacks at the major cities of India, including Mumbai and Delhi, the overall confidence of the global business community has sharply dented¹⁷.
- *emerging of alternative offshore destinations*: growing threat comes from regions such as Latin America (low cost, high-volume IT resources, same time zone as USA, government lobby and physical proximity to US), Eastern Europe (geographic and cultural affinity to West Europe and a strong back-office functioning capability), China (geographic and cultural affinity to Japan, having a huge manufacturing base for leading MNCs and a strong government support) and other South East Asian countries as alternate destination to offshoring.

In conclusion, it is an imperative to explore newer growth opportunities that taps into the existing capabilities of the Indian soft and hard infrastructure along with the already strong relationships. An area that encompasses outsourcing of engineering services largely involved with operations linked to the pre-manufacturing stage (designing, prototyping, etc.) and analysing data points for process improvement, is poised to be the next big opportunity in the Indian outsourcing services industry. It is estimated that the industry will grow at a compounded rate of 26% and post revenues aggregating about USD 7.5 billions by 2012-13. As a result, India's share of the global offshore engineering spend is expected to increase to 25% from the current 19%¹⁸.

The US market is by-far the largest contributor to the India's IT/ITES industry, amounting to 65% of the total pie. The over dependency on one single market is one of the riskiest propositions of the industry. The good news though is that organizations in Western Europe are likely to outsource more IT and business process functions in 2009, while renegotiation of existing contracts will rise to more than 60%, says one report¹⁹.

¹⁷ For instance, investors from UK pulled a record USD 13.5 billions out of Indian stocks, contributing to the 56% fall in the main Bombay Stock Exchange index. Further many firms have deferred their investments into sectors such as retail, healthcare, and other service industries. Hence, both from the domestic as well the global demand point of view, the security threat is a severe impediment. Source: GUARDIAN, *India Counts the Cost of Global Terrorism*, November 2008.

¹⁸ CRISIL Research: *Indian Engineering Services Outsourcing to Treble by 2012-13*, August 2008.

¹⁹ Gartner, May 2009.

Being the fourth largest economy in the world²⁰, India serves as a very strong and developed market for the IT/ITES. Almost all of the Global Fortune 500 companies have either their research, design, manufacturing or the back offices in India. As companies around the world face global economic conditions that have not existed for a very long time, IT spending budgets in India, in contrast to many other regions of the world, will still grow at 5.52% in 2009²¹. Indian firms have shifted their focus from investing in emerging technologies to increasing the return on their existing investments and infrastructure.

The government as well the private sector in India is also participating in providing the necessary support in maintaining the leadership position India has carved in this space over the years. Initiatives include: the National Skill Registry (NSR), a centralized database of all employees of the IT services and BPO companies in India to improve recruitment practices in IT and BPO industry by minimizing any misuse of employee identity, accelerating pace of infrastructure development²², investments in the *second-tier cities* (because of the growing cost of living in Bangalore, Hyderabad and Mumbai), skill building and training²³.

References

1. ARNOLD U., *New dimensions of outsourcing: a combination of transaction cost economics and the core competencies concept*, in *European Journal of Purchasing & Supply Management*, n. 6, 2000.
2. BENSOU M., *Portfolios buyer-supplier relationship*, in *Sloan Management Review*, 40, 1999.
3. CANTONE L., *Outsourcing e creazione del valore*, Il Sole 24 Ore, Milano, 2003.
4. EHIE I.C., *Determinants of success in manufacturing outsourcing decisions: a survey's study*, in *Production and Inventory Management Journal*, 42, n.1, 2001.
5. FUMAGALLI L. – DI CIOCCIO P., *L'outsourcing e i nuovi scenari della terziarizzazione*, F. Angeli, 2002.
6. HENDEL A. – MESSNER W. – THUN F., *Rightshore!*, Springer, 2008.
7. KOBAYASHI-HILLARY M., *Outsourcing to India: The Offshore Advantage*, Springer-Verlag Berlin, 2004.

²⁰ International Monetary Fund, 2008.

²¹ Gartner, February 2009.

²² Poor infrastructure has often been observed as one of the key cause of the re-tarding foreign investment and business done in India. The recent research hints at a growth of 2.2 times in investments in key infrastructure sectors during 2007-08 to 2011-12 as compared to that over the previous 5 year period. Source: CRISIL Research: *Investments in infrastructure to remain buoyant despite uncertainties*, September 2008.

²³ The IT industry is sharing the responsibility of nurturing the talent along with the government of India and various educational institutes (both private and public). Large IT firms such as Infosys, Wipro and TCS have set-up huge training facilities and regimented training programs for their fresh hires. Further, Wipro has taken up the ambitious task of increasing the pool of suitable talent in India through Collaborative Learning and Innovative Teaching Techniques.

8. LOH L.-VENKATRAMAN N., *Diffusion of information technology outsourcing: influences sources and the Kodak effect*, Information System research, vol.3, n.4, 1992.
9. QUINN J.B., *Outsourcing Innovation: the new engine of growth*, in *Sloan Management Review*, Summer, 2000.
10. QUINN J.B., *Strategic Outsourcing: Leveraging Knowledge Capabilities*, in *Sloan Management Review*, Summer, 1999.
11. SOOD R., *Outsourcing across vertical markets*, Gartner Group, September 4th, 2002.
12. WILLIAMSON O., *Markets and Hierarchies; Analysis and Anti-Trust Implications*, Free Press, 1975.
13. WILLIAMSON O., *The Economic Institutions of Capitalism*, Free Press, 1985.