Winning Strategy In Turbulent Times: Total Supply chain solutions for IT and ITes industry

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Abstract

We are in an era where personal, professional, as well as commercial relationships are greatly impacted by technology. Some lament over its ill effects while others rejoice over the enabling nature of technology. We believe that irrespective of people's individual preferences, the pervasive technology is a reality no one can escape The pivotal role of the IT outsourcing industry in the knowledge economy is clearly evident. Therefore logically, human capital management or talent management is the greatest challenge of today's times. Considering the unique characteristics of the IT and ITES sector, traditional models of human capital management in general, and talent supply chain management in particular do not capture the unique reality. There is thus an emerging need for academics and practitioners to pay attention to this aspect of the IT outsourcing industry. This paper analyses the issues of talent supply chain management prevalent in the IT outsourcing industry. The review revealed that there is an emerging need for total solutions providers for managing the supply chain. The authors opine on the basis of literature and industry data, whosoever wins the talent supply chain battle will win in the IT services industry.

Key words: *IT & ITes industry, Talent Supply Chain Mangemnt*

Introduction

Talent Supply Chain in IT Outsourcing Industry

We are in an era where personal, professional, as well as commercial relationships are greatly impacted by technology. Some lament over its ill effects while others rejoice over the enabling nature of technology. We believe that irrespective of people's individual preferences, the pervasive technology is a reality no one can escape. The IT and IT Enabled Services (ITES) are the offshoots of this magnificent technology. The pivotal role of the IT outsourcing industry in the knowledge economy is clearly evident. However, the paradox is that we need human beings to make the IT enabled communications possible. Therefore logically, human capital management is the greatest challenge of today's times. Considering the unique characteristics of the IT and ITES sector, traditional models of human capital management in general, and talent supply chain management in particular do not capture the unique reality. There is thus an emerging need for academics and practitioners to pay attention to this aspect of the IT outsourcing industry. The paper uses the metaphor of truffles (exotic, expensive, and perishable delicacy) for 'elusive' IT professionals with intellectual capital, on the IT outsourcing industry highway (indicating phenomenal growth prospects) and analyses the issues of talent supply chain management prevalent in the IT outsourcing industry. The review revealed that there is an emerging need for total solutions providers for managing the supply chain.

The knowledge industry-demystified

The term 'knowledge industry' was first

coined by Austrian-American economist Fritz Machlup (1962) who looked upon knowledge as an economic resource that could be commoditized. The knowledge industry works on an economy of production and dissemination of knowledge. It would be apt to introduce a complementary term here –the 'information society'. Cawkell (1987) defines an information society as a society in which ultimately most of the people are engaged in "brainwork" rather than "physical work". In such society, more attention is paid on information activities (such as acquisition, processing, generation, recording, transmission, dissemination and management of information) and more expenditure is incurred on information. This buzzword is the reason for the interest of the developed world in transacting with India. The knowledge industry mainly consists of the Information Technology (IT) industry and the IT enabled services (ITeS) industry. In fact, steps are being taken to help India to shift from an 'economy of goods' to 'knowledge economy' or 'knowledge driven economy' (Singh, 2005)

The fastest growth in the Indian economy is being observed in the IT-ITeS sector which grew by 31% froms $22Bn in 2004-2005 to $29.6Bn in 2005-2006, as per NASSCOM (National Association of Software & Service Companies) releases. In fact, it is contributing up to 4.8% to the GDP of the nation. This aggressive growth is mainly export driven and through services rendered abroad, as India is poised to capture a 6% share of the global market in Services and IT Software by 2010 as against its present share of 3%, according to 'India's Cutting Edge in Services', a study conducted by the Associated Chambers of Commerce and Industry of India (ASSOCHAM, 2005). In fact, Exports of software and IT-enabled services have risen at a compound annual rate of 38 per cent a year since 1997-98. (Chandrashekhar, 2005)

Thus, even though the software and IT-enabled services sector started from a small or negligible base a decade back, its rapid expansion at an annual compound rate of more than 30 per cent per annum between 1998-99 and 2004-05 has ensured that it is today an important presence in the economy. Today, increasing number of fortune 500 companies and global giants are off-shoring projects to India. The evolution of Indian software industries from 'body shopping' to being a hub of IT services is visible in the increasing ratio of offshore work to on-site work (Nair & Prasad, 2004), and from 2001–2002, offshore exports have exceeded on-site services exports.

Tread with care, for...

...the growth path in this sector is strewn with its own set of critical issues. Al-Khatib and Bukhres (1995) opine that valuable pre-requisites for vendors are skills in data analytics, follow-up reassessment, and technical skills relating to application development, and improvement of productivity during downturns by increasing working effectiveness. In India, the principal differentiators of the IT industry with respect to other industries - better qualified management and rigid quality guaranteeing procedures have been found to be indispensable to success. The Financial Express, 2005.

In the ESO market, there is a problem of quantification of technical competence and soundness of technical recruiting processes. (Peabody, 2000). Similarly, there may be a skew of talent towards specific kinds of assignments, as is the case with e-commerce in USA. In fact, there are institutional effects arising from complex organizational inter-relationships that shape the market. As empirically investigated by Oza, Hall, Rainer, and Grey (2006) in high maturity software

vendor companies based in India, trust between vendor and client, (initially, while securing the business, and later, maintaining it through the service commitment) which is a crucial aspect of a software outsourcing relationships was found to be fragile.

The quest for truffles

We now encounter in this paper, the major worry that creases the foreheads of the management of IT companies. Many believe that a shortage of talent is looming. In the US, a trend of insatiable demand was forecasted and noted by Cappelli (2001), and earlier by Lazowska (1999).

The phenomenal growth of the Indian IT sector too banked on the availability of skilled professionals who were readily absorbed by the IT-ITeS sector in huge numbers to deal with the tremendous growth opportunities at the horizon. The NASSCOM figures in Table 1 indicate the sustained leaps in employment provided by the industry:

Table 1 – Employment Figures: Software and Services

Sector	FY 2004	FY 2005	FY 2006E
IT Services	215000	297000	398000
ITES-BPO	216000	316000	409000
Engineering Services and R&D and Software Products	81000	93000	115000
Domestic Market (including user organizations)	318000	352000	365000
TOTAL	830,000	1,048,000	1,287,000

(Figures do not include employees in the hardware sector)

Source – NASSCOM Press Release

According to B. Ramalinga Raju, Chairman of India's fourth-largest outsourcing company, Satyam Computer Services, India produces three million college graduates every year, including nearly 400,000 engineers in 2004. (Singh, 2008) If we add skilled professionals to this number, organisations should not face a dearth when it comes to recruiting, to satiate the ever-increasing inflow of assignments.

However, there is an imminent shortage of talent as shown in figure 1. This demand-supply gap could surface as a speed breaker in India's quest to achieve its ambitious goals and in justifying the optimism of having secured a niche in the new world economy of knowledge. Despite having 12% of the world's total engineering workforce, India is likely to face a talent crunch (Bharadwaj, 2006).

Figure - 1
Widening demand-supply gap in IT resources

The next growth avenue in IT outsourcing is outsourcing of engineering services for sectors such as Automotives, Aerospace, Telecommunications, and more. This includes product conceptualization & design, development, testing, and may extend to product life cycle management.. In fact, India has garnered 12% of the global engineering services outsourcing (ESO) pie, while 26% of participating organizations in a NASSCOM-Booz Allen study (Bharadwaj, 2006) identified India as a future resource for outsourcing their business. With about 35,000 people employed currently in engineering services, India may

not have enough trained professionals to handle the projected volume of work as the business develops according to the mentioned projections. In order to deliver its potential, the sector requires 250,000 qualified engineers, armed with technical as well as interpersonal skills which will allow them to be readily absorbed and thrive in the IT industry.

According to NASSCOM, every year over 3 million people (graduates and post graduates) are added to the workforce in India. Of these, only 25 percent of technical graduates and 10-15 percent of other graduates are considered employable by the growing IT and ITES sectors (The Fiancial Express, 2006). This has lead to the increasing shortfall in the availability of skilled IT workforce. All in all, McKinsey estimates the shortfall of quality people to reach 0.5 million by 2010 (NASSCOM, 2005. Currently however, it is unclear whether the shortfall is occurring in talent across the board for all kinds of IT jobs, or is it a narrow gap in the supply of the very best and qualified talent.

Cappelli (2001) believes that the shortage does not inherently exist in the supply, but in availability of talent at the prevailing wage rate from the employer's perspective. He explains a cycle of adjustment between wages and employment, where wages rise to compensate for a shortfall in talent, leading to an oversupply which begins to reduce wages and depress the entry of talent until a shortfall is felt. The same cycle is replicated within the industry at the level of skill sets. His view is that the status of this supply-demand interaction will be controlled by the fluctuating demand in the IT industry, which prevents allocation of talent in a smooth way, and creates apparent shortages.

In view of the above perspectives, it is noted that this imbalanced market is characterised by a shortfall of a three-pronged nature:

- A shortfall in availability of talent

- A shortfall in availability of desired skills and qualifications in available talent

- A shortfall perceived by an employer in availability of talent at the prevailing wage rate

Sifting truffles for a closer look

The incoming workforce is utilised in different ways by the IT industry. According to the nature of the job, the three core IT occupational clusters mentioned by Lazowska (1999) are : Computer scientists/engineers, Systems Analysts, and Computer programmers. However, according to the relationship between the company and the IT professional, they can be classified into groups as shown in figure 2.

Figure 2
IT professional classification
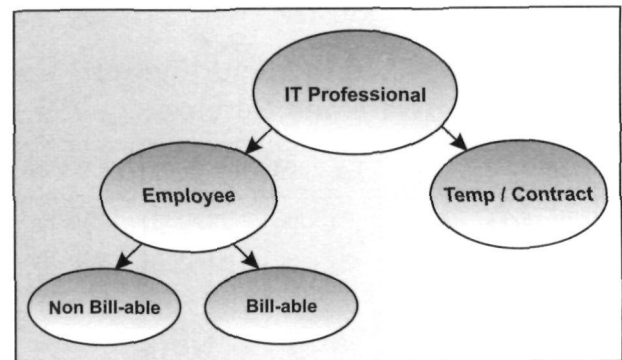
IT professionals who are employed by a company and on a client's project are bill-able employees who earn revenue for the company. The non bill-able employees are ones who are either in training or on in-house projects that do not earn revenue for the company. At times, they perform support functions for bill-able employees, during which they are said to be 'on bench'. Thirdly, for various reasons 'temps', a colloquial term for skilled professionals, are hired on a temporary basis on a contract that expires

once the assignment they are hired for is completed. This is a non-standard employment arrangement and may take the form of independent contractors or temporary workers. Contractors are often smaller firms with specialized skills in relatively narrow areas. As a trend it has been rising in the last two decades, and is increasingly observed in the form of use of independent contractors to perform tasks previously assigned to employees (Mayer & Nickerson, 2005). Various studies documented reveal the cumulative benefit of temporary workers over employees, such as:

- Serving as a buffer for employees' job security when revenues fall

- Flexibility in skill sets and domain expertise possessed by the firm

- Cost savings and avoidance of legal obligations related to employees

They have also empirically established the criteria for decision making on the issue of sourcing work force, such that under the following conditions, projects should rather be assigned to employees and not contractors:

- The project necessitates a high degree of interdependence among workers

- The potential impact of appropriation by contractors is highly adverse

- The cost of verifying quality of deliverables from contractor is very high

- There are frequent unscheduled changes which will require time consuming and costly re-negotiations with contractors if they are involved

On a strategic note, employees are used to accomplish the core functions that are key to competitive advantage and contractors are used for peripheral areas or one-off assignments. The US annual employment market for contingent ('temp') workers is considered to be about $100 billion, with an expected growth of 15 percent per year .

Demand-side adversities

Attrition or employee turnover is a common problem faced by IT companies. This includes not only the switching of employers within the IT industry, but also switching careers altogether. Cappelli (2001) points out that IT employees are twice as likely to change careers as professionals in other fields. These occurrences have made attrition the bane of the IT Services industry in India. There are many opportunities chasing few quality and suitable candidates. Companies are willing to pay 15-30% more to hire out these qualified candidates from their competitor. (Wilson 2003)As a result there is constant churn in the industry. Within major IT centers the attrition is much more pronounced because of agglomeration of IT companies in these cities.

Another disturbing fact that is starting to emerge in the Indian IT services industry is the amount of "bench" time spent by the resource. Increasingly, these individuals want to be counted as 'billable' members and if they do not see that happening they seek out gratification elsewhere. Many talented people have had the experience of getting stuck in a dead-end corner of a company, not finding the right experiences and challenges to grow, finally bail out (Bryaletal, 2006)

Attrition has ripple effects that negatively impact the business of the organisation. Voluntary employee turnover brings its own financial load with it, which leads to organizations losing upto 9% of their profits on an average. (Burnes, 2006) The costs include not only the replacement costs of retraining, rehiring, and loss of skill sets and expertise, but also the cost of employees

taking confidential information away with them when they leave for another company. In India, the average amount of time for fulfillment of an open requisition may range from 90 to 120 days and cost between 1.5 to 2.5 times the salary of the replaced employee (Chatterjee, 2005), which can include both direct costs – costs of advertising for vacancies created, recruitment fees, and use of contract employees, besides salaries, and indirect costs – loss of productivity, time spent interviewing candidates etc.

Attrition can be combated by improving retention techniques. Researchers such as Stokes (2000), Cappelli (2001), Lazowska (1999), and Ream (2001) have valuable insights to offer, such as training that ensures employee skills don't turn obsolete, an encouraging stance towards development of interpersonal employee networks, rotation of responsibility, mentoring, better nature-of-job design, improved methods of measuring-rewarding performance at individual level, and development of career opportunities within the company, beyond IT roles.

Currently, recruiting is under pressure as the mechanism for addressing shortfalls caused due to insufficient supply is accentuated by high attrition rates. An integrated approach to retention is not being focused upon as much and the authors believe this needs to be addressed strategically.

The IT 'silk route'

In cold economic terms, talent is inventory. Having too many—or, worse, too few—workers costs money and opportunities for growth. Much as supply-chain-management software changed the rules of inventory management, the coming of age of human-capital management promises to usher in a new era for workforce management[1].

In the high-tech manufacturing industry,

companies such as Dell and CISCO re-jigged and optimized their supply chains to pioneer concepts such as engineer-to-order, available-to-promise solutions and thereby became leaders in their respective markets. Similarly IT Services companies will have to think-rethink their sourcing strategies from the supply chain perspective.

Talent sourcing is no longer an internal issue but an extended enterprise one, in which all the supply chain participants will come together to fulfill an open job requisition with speed, accuracy and in budget. Successful talent supply chains will be synonymous with spontaneous and transparent flow of information throughout an extended enterprise minimizing latency and labour. Proposing a solution requires a clear mapping of the supply chain of talent. The existing 'silk route' which enables an IT professional to showcase his skills to a customer desirous of an IT solution is presented in figure 3.

Figure 3
The IT Talent Supply Chain
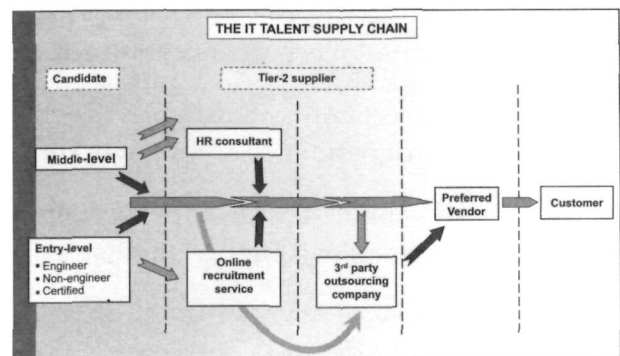
The supply chain design in figure 3 seeks to encompass the entry points of interaction between the workforce and the eventual customer. There can be a direct line of recruitment of workforce by the solutions provider. They can also be recruited by this vendor through an HR consultant, an online recruitment service, or a third party outsourcing company (usually on contract), each of whom are known as tier-2 suppliers

from the customers' point of view. The workforce itself is segregated into engineers, non-engineers with academic training of the requisite skills, and finally non-degree certifications such as the ones provided by Microsoft and Cisco, which are highly prized, and today sought even by those with a prior degree.

For the employer, workforce management has become a significant expense. In USA, it comprises an estimated 11-19 percent of most large enterprises' annual purchasing dollars, while companies are looking to address the complex challenge of finding and retaining talent in a timely and cost-effective way. The sourcing decision is particularly important because the members of any project team will typically interact directly with the customer.

Traditional practices for harvesting truffles

Various recommendations for resolution of the pressing IT talent supply chain management issues elaborated in this paper have been by researchers in their individual capacities in a dedicated or integrated manner.

Lazowska1 (1999) makes some universally applicable recommendations to stem the declining availability of IT workforce. He suggests an increase in IT research funding to train faculty which will ultimately enrich the student learning, and thus make him/her more industry-ready and encouragement of women, and minorities for participating in the IT workforce. This is particularly relevant to the Indian situation, and has been voiced often.

Within India, initiatives were taken to address the supply side issues of talented workforce in IT. As documented in the World Information Technology and Services Alliance report (2001) :

- Special Taskforce on Human Resource Development set up by the Government of India under the Ministry of Human Resource Development. The Task Force was created to prepare a long-term strategy for significantly increasing the number of well-trained IT professionals.

- Indian Institute of Information Technology (IIIT) set up by state governments of Andhra Pradesh, Karnataka, Tamil Nadu, Madhya Pradesh, and Uttar Pradesh to increase the trained IT workforce in the country.

Companies have turned proactive to ensure they have access to the widest base of talent, and have thus made educational institutions their hunting grounds. TCS, which plans to recruit 30,000 engineers by March 2007, is looking to achieve the target by covering a total of 300 colleges. It has set the pace by recruiting 8,700 people in 190 colleges already.

The strategy to cut attrition rates has resulted in unprecedented salary hikes in software-service firms. Infosys has increased salaries at entry level by 12.5%, while offering 15% wage hikes to its offshore employees. TCS and Satyam have also upped wages for trainees. According to the 2006 Kelly Services India Salary Guide, India has the highest average salary increase, at 13.9%, and employees from the IT industry have received the highest increases across all occupational groups surveyed, at 17.9%.

To address the industry-readiness of entry level engineers and to ensure employees' skills always stay up to date, companies have taken strategic decisions to make sizeable investments in training. Infosys has invested $176 million in its Global Education Center in Mysore to triple, from 4,500 to 13,500, the

number of trainees the center can accommodate in a single sitting. TCS has earmarked 4% of its total revenue for R&D, education and training. Wipro Technologies has built a capacity to train 7,000 people a day. Nearly 5% of the total billing time of candidates is spent on being trained.

The internet and information technology can be utilised to handle the talent management issues in IT in a wholesome way. Though there is a gap in knowledge of the inter-relationship between these, the potential cost savings to organizations that effectively use technology and the Internet in their HR function have been known to be compelling. Ensher, Grant-Vallone, and Nielson (2002) look at how the Internet and technology have affected major HR activities of recruitment, performance evaluation, compensation, training and development, career management, employee relations/legal issues, employee retention and work-family balance. Today, online recruitment is on an upswing. A 2006 survey conducted by the Internet and Mobile Association of India (IAMAI) indicates that over 9.2 million Indians will be seeking jobs online in 2006-2007[15]. The rate at which this medium has been accepted by job seekers is astounding. The number of online job seekers reached 6.5 million in 2005-2006, a rise of 71% over the previous year.

Something's amiss...

The traditional methods have been able to allay certain difficulties but have met with limited success as the initiatives operate in silos. The need is for a bridge-building between HR and IT recruitment, and for streamlining the entire workforce management operations in order to make them more time and cost efficient.

As the earlier explained design of the talent supply chain indicated, talent management is an extended enterprise issue. It is a six phase process according to us, wherein all the supply chain participants come together to fulfill an open job requisition. However, most of the traditional HR consultants and even the recent job sites do not display capability of executing each of the six phases as brought out in Table 2.

Table 2

Comparative evaluation of IT resourcing approaches

Phase	HR Consultant	Job Portals	Emerging Solutions Provider
Creating Job Requisition	Executed by customer		
Publishing Job Requisition	●	●	●
Pre-screening Candidate	●	●	●
Candidate Selection			●
Contract Management			●
Overall Management			●

Emerging solutions providers are companies that accomplish the foresaid bridging. They provides solutions for ensuring a seamless experience for the customer with employees and contractors. They take charge of the entire process from recruitment to managing the professional's performance at a project level, in a cost-efficient way without expending the customer's precious time and human resources. They are responsible for:

- Maintaining visibility dashboard for a particular requisition

- Feedback on the employee's performance at the client end

- Electronic management of timesheets

- On-boarding & Off-boarding

These are essentially within the purview of the overall management activity mentioned in table 2.

Conclusion

In today's cut-throat competition for resources, be it because of agglomeration of companies in preferred destinations such as Hyderabad, Pune or Bangalore, lack of employable graduates, global competition or just sheer increase in demand of outsourcing business, next generation leaders have to think of new ways of dealing with resourcing issues. The IT Industry is changing dramatically; it is no longer possible to rely on traditional methods to resource projects. This is even more important with prospects of sourcing costs swinging outsourcing decisions either ways. With candidates in ever high demand following global tectonic shifts for low-cost labour and increasing expenditure on projects, as much as 60% is attributed to wages, companies need to be more aware than ever of the need to approach recruitment with careful planning and strategy.

Whoever wins the talent supply chain battle will win in the IT Services industry!

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