Does the Indian Business Process Outsourcing (BPO) Experience Provide the Role Model for Information and Communication Technologies (ICTs) in Developing Countries?

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Abstract

This paper explores the phenomenon of BPO particularly as it relates to India and poses the question as to whether this is the way forward for developing countries in using ICTs for economic development. The paper will consider the link between ICTs and development, the nature of BPO and its rise as one of the fastest growing ecommerce services, the phenomenon of BPO in India and the political backlash against offshore outsourcing and whether the Indian success story could provide a model for progress via ICTs in other developing countries. Factors predicting success will be identified. The perspective adopted is that BPO should be seen as part of globalisation and trade and not in isolation. What appears to be evolving is a global delivery model with potential benefits for both developed and developing countries.

Introduction

In recent years India has achieved considerable success in business process outsourcing (BPO) and other developing countries have sought to emulate this success. This paper considers the factors underlying India's success in determining whether the achievements by India can be replicated by others. In seeking to answer this question the following issues will be considered: the link between ICTs and development and whether outsourcing may provide the so far largely elusive link, the nature of BPO and its evolution from data processing to business process transformation, the various tiers of offshoring supply countries, the implications of extending globalisation to services trade, research showing additional economic benefits to the developed country, the models developed for evaluating national software industries, the Indian experience and the conclusions to be drawn regarding the likely success of other developing countries with BPO. Despite the political backlash in developed countries the available evidence would suggest offshore outsourcing will continue and expand in the future as it is an evolutionary process in trade and those not involved will be at a trade disadvantage. In this paper I consider the research and models proposed to evaluate future directions.

Link between ICTs and Development

In recent times ICTs have been advanced as a means of propelling developing countries into the global economy and assisting with economic development. While this has been the focus of the development agenda by the international community the empirical evidence underpinning a link between ICTs and development in the developing world has so far been largely elusive. Research by Kirkman suggests that electronic commere in some form could impact on the growth of developing countries while Heeks is of the view that the development agenda by aid agencies has been largely misplaced and that attempts to emulate India's success in software development will be unsuccessful.

In 1999 Kirkman (Kirkman 1999 at p 1) posed the question as to whether the leapfrogging of development through ICTs was feasible. His answer while not unequivocal did express some optimism. While he recognised that many claims regarding the potential of ICTs to overcome the problems of the developing world were extravagant nevertheless he was of the view that some manifestations of electronic commerce could significantly impact upon the economic growth of developing countries. The most promising area he considered to be technology-mediated information service processing (Kirkman 1999 p7). He saw the two main drivers behind this success as being the rising quality and declining cost of technology which allows services to be carried out over global networks and the continuing discrepancy in wage rates between developing and developed nations which allows firms to use a labour arbitrage model to contract out services to low cost service providers. Other factors which drove the competitiveness of offshore outsourcing models included language and time zone differentials. He saw trade in services as the driver

in electronic commerce in developing countries since infrastructure problems would still impede other forms of international trade.

Heeks (Heeks 2000) has also been of the view that the development agenda of the international agencies has been misplaced. Heeks viewed this as being "a focus on the 'icing' and not on the 'cake'". (Heeks 2001 p1)). The implications for development he saw as three fold: (1) the focus on small firms and poverty re ICTs is misplaced as it has been large firms which have been the engine for development in industrialised and newly-industrialised countries (2) It is business to business (b2b) transactions where most activity is occurring not in business to consumer (b2c) or government to consumer (g2c) transactions (3) the new economy has not arisen from the use of ICTs in business, government and other sectors but rather from a boom in the production of ICTs – the IT producing sector. For developing countries this money goes to the US ICT producing firms (Heeks 2001 p 2).

Heeks asserts that at least 80% of ICT use projects in development fail leading to a massive wastage of investment and that the link between ICTs and development is unclear. His view is that the investment of aid money in such circumstances is misplaced. (Heeks 2000 p 3).

Heeks is also of the view that there are many myths regarding software development in developing countries and these myths may hinder other developing countries wishing to emulate India's performance. "India's apparent success in software exports has encouraged many developing countries to naively believe that they can follow the same path. But they cannot. Adding to its inherent linguistic and size advantages, India has spent more than two decades developing the requisite skills, contacts, policies and infrastructure that are so lacking in many other countries. As a result, it will continue to consolidate its position whilst squeezing out latecomers." (Heeks 2000 p 3)

Even for India Heeks dispels some myths. Figures quoted on software are deceptive as exports are gross figures and much of this money leaves India to pay for travel and living expenses in the client's country, for marketing and for software and hardware imports.

Recent concerns have related to job losses in the west as a result of outsourcing to places such as India. Previous concerns regarding the exodus of manufacturing jobs abroad have again arisen in relation to service industries with a fear that countries like India will cause displacement in the United States and elsewhere.

A study by Forrester Research estimated that this type of labour migration, generally referred to as outsourcing if contracted to another company, or offshoring if run by a company itself, could send 3.3m American jobs overseas by 2015. India is expected to get 70 per cent of them. The concern is with job losses and the political pressures resulting from that. A reaction to the threat of job losses by legislating against outsourcing is counterproductive as outsourcing is just trade. (Walman 2003). What is occurring is the result of a shift in production as a response to comparative advantage.

Hence the issue has been defined as a trade issue, likened to what occurred in manufacturing several decades ago and also likened to the "flying geese" pattern of East Asian development (only in this case being "flying geeks") with India being the lead goose with other countries aspiring to follow its flight path. (O'Connor 2003).

There is a trend of developing countries developing a growing presence on the Internet even though this is concentrated in a small number of countries. China, Republic of Korea, India, Brazil and Mexico accounted for approximately 62% of all Internet users in the developing world. Estimates by the International Telecommunications Union (ITU) (UNCTAD 2004 b) were that about 12% of the world population (676 million) had access to the Internet at the end of 2003, almost 3 out of 4 Internet users in developing countries lived in Asia as did two thirds of all the new Internet users in the world. There is little doubt that Asia is the focus of the uptake of the Internet in developing countries. Refer to Fig.1 which shows internet users in developed and developing countries in 2000 and 2003 (UNCTAD 2004 b)

How feasible is it that outsourcing will provide an effective utilisation of ICTs for developing countries. To answer this we need to consider the nature of business process outsourcing (BPO) and consider what has occurred in India and why.

Business Process Outsourcing (BPO)

While outsourcing has been used for some time for other purposes particularly manufacturing it has only been relatively recently that this has extended to information technology and business process outsourcing. The growth in

this area has been attributed to advances in information and communication technologies (ICTs) together with the globalisation of the world economy. (UNCTAD 2003). The growth has occurred in information technology enabled services (ITES) and business process outsourcing (BPO).

The term offshore outsourcing "is now in wide use globally to describe outsourcing to a provider in another country" (UNCTAD (2003 p136). A definition of BPO is difficult to arrive at given that it is an umbrella term to encompass an increasing number of functions. Considerable caution has to be exercised in looking at figures on BPO as some include both software and IT enabled services whereas others just refer to the latter hence figures vary markedly depending on exactly what is included as BPO.

UNCTAD (UNCTAD 2003 p137) provides definitions of BPO by three firms which are both BPO vendors and clients. "Accenture defines BPO as 'contracting with an external organisation to take primary responsibility for providing a business process or function. For Pricewaterhouse Coopers, BPO 'is the long-term contracting out of non-core business processes to an outside provider to help achieve increased shareholder value". Gartner defines it as 'the delegation of one or more IT intensive business processes to an external provider that, in turn, owns, administrates and manages the selected processes based on defined and measurable performance metrics" (UNCTAD 2003 at p 137)

BPO could encompass data entry services, human resources, finance, tele-marketing, management, legal and accounting services, medical transcription, website designing and credit card applications and many other functions. The trend in developing countries is to start out on lower level functions for example, data entry processing and move on to higher level functions for example, human resources. The movement is hence from transaction processing initially to business process transformation through outsourcing. Fig.2 (UNCTAD 2003 p 140) illustrates the BPO hierarchy of services.

UNCTAD recommends that developing countries should endeavour to move up the hierarchy of services rather than just increasing revenue via greater volume at the lowest levels of the hierarchy. As service providers move up the hierarchy additional skills are required and with this comes an increased employee cost. UNCTAD believes government support is vital to achieve a favourable environment for ICT in developing countries and included in this is a "capacity to identify potential niches and make the required investments in terms of telecommunications infrastructure, education, a legal framework and tax incentives to attract overseas clients" (UNCTAD 2003 p148).

"Outsourcing business processes to developing countries had its beginnings in the early 1990's when US companies began outsourcing to India the conversion of custom-made software programs from one operating system to another (Gupta 2002)" (UNCTAD (2003 p136). India is the main outsourcing provider among developing countries however other providers are emerging in China, the Philippines, Brazil, Russia and many others.

Offshore Outsourcing is Globalisation in Action

While there has been concern in developed countries that offshore outsourcing leads to job losses and the migration of jobs abroad that aspect needs to be seen in context. Attempts to prevent such outsourcing are really a form of anti-globalisation which could well impact negatively on a long term basis. The important point to note is that the economic benefits resulting from offshore outsourcing are just an illustration of gains from trade and specialisation. Outsourcing is just trade. The outsourcing of business processes is just a modern day equivalent of what previously took place in outsourcing manufacturing.

The figures themselves also need to be kept in perspective even though estimates vary as to just how big offshore outsourcing is likely to become.

"The current size of the offshoring phenomenon needs to be kept in perspective. First, whereas offshoring is likely to grow over time, most outsourcing remains predominantly a domestic affair; only a small proportion of all business process outsourcing is international and, within that segment, much is outsourced among developed countries (Scholl et al 2003). Second, there is no sign of offshoring leading to a decline of similar services in home countries .... The 3.4 million service jobs that are forecasted to be offshored from the United States until 2015 (or about 300 000 annually over the next 11 years) seem insignificant compared with the average normal turnover of some 4 million every month." (UNCTAD 2004a p176)

What is the Size of the Market

In 2002, the market for offshore outsourcing of IT enabled services (mostly business process outsourcing) was estimated at $1.3 billion– less than 1% of the global market for such outsourcing (Scholl et al 2003)...the total market for all offshore service exports was estimated at $32 billion in 2001, most of which was supplied by Ireland, India, Canada and Israel, in that order (McKinsey and Co, 2003)" (UNCTAD 2004a p153).

BPO offshore outsourcing excluding software is expected to grow from $1.3 billion in 2002 to $24 bn in 2007 and correspondingly the international share of the market is expected to grow from 1% to 14% in five years.(UNCTAD 2004a p153)

The effects on employment have been predicted to be 3.3 million service jobs from the US to low income countries by 2015 according to Forrester Research. It is predicted that offshoring is likely to spread across industries and countries and that appears to be occurring.

Recent trends show companies having a global presence and the emergence of a new type of transnational corporation that supplies the services of other companies. Not only are US companies buying out Indian companies, Indian companies are also establishing a presence in the US and moving to set up a presence in other Asian countries and also central and eastern Europe.

While the US looks predominantly to India there is an increasing trend for European countries to look to outsourcing closer to home in central and eastern Europe. The Czech Republic, Poland and Hungary are securing many of the outsourcing contracts in Europe.

While various research classifies countries involved in BPO according to different tiers and this depends on exactly which services are being ranked a useful description is a Deloitte research report which shows the following:

"Deloitte's four-tier offshoring supply countries list puts India as a distant leader in the first tier. The second-tier, which comprises 'challengers' with moderate offshoring capabilities, includes Canada, China, Czech Republic, Hungary, Ireland, Israel, Mexico, Northern Ireland, the Philippines, Poland, Russia, Spain and South Africa.

The third-tier, which comprises 'Up-and-comers' positioning for offshoring with limited experience, are Belarus, Brazil, Caribbean, Egypt, Latvia, Mauritius, Singapore, New Zealand, Ukraine and Venezuela. The fourth-tier comprises 'neophytes' with countries such as Bangladesh, Cuba, Sri Lanka, Thailand, Korea, Malaysia and Vietnam. The key factors considered while selecting an offshoring location are cost (38%), proficiency in language (22%), industry expertise (18%), technology infrastructure (9%), time zone (5%), political risk (4%) and climate (1$)." (rediff.com 2004)

Refer to another classification in Fig.3 which classifies countries as the leader, challengers, up and comers and beginners. (Marriott 2003). Hence the global trends include an accelerating trend towards offshore outsourcing and this is part of a movement towards global sourcing. There are various movements underway with US companies establishing themselves in India and Indian companies moving offshore to the US and other lower cost nations eg China. There is a movement up the value chain in established locations such as India and with increasing wages there, lower value work is moving to cheaper locations. There is a recognition that offshore outsourcing is trade and part of globalisation and the emphasis is moving from possible cost advantage to cost disadvantage if offshore outsourcing or global sourcing is not utilised.

Opportunities in services trade for developing countries

There has been an outcry from the developed countries regarding outsourcing. An argument advanced in India (Bhaumik 2004) is that this outcry is really a protest by the advocates of globalisation when the implications of globalisation expanded from manufacturing to the entire gamut of business activities. For many developed countries their core strength is the services sector (accounting for perhaps 70% of their economy) and there had been pressure for developing countries to open up their services sector via the WTO (World Trade Organisation) and GATS (General Agreement on Trade in Services). What has occurred is a boomerang effect of the policies of globalisation for developing countries with skilled manpower. Hence developing countries have turned the push by developed countries into the services sector of their economies to their own advantage. A solution to this is not protectionism,

which will just lead to impaired competitiveness but rather a move in developed countries to higher value-added activities. Perhaps the backlash from the outsourcing of services may be more pronounced than that for manufacturing since services provide up to 70% of the economy in the US even though most of these cannot be outsourced offshore.

Nielson and Taglioni (Nielson and Taglioni 2004) undertook a study into services trade liberalisation with two components: identification of concrete examples of services exports by developing countries and quantitative studies on the gains from liberalisation. From this they found clear evidence that developing countries have important service sector export industries including a clear comparative advantage in labour intensive industries eg data processing where technological advances together with a well educated and cost effective workforce enabled them to export computer related services. The study specifically names the Indian performance over the last 20 years as evidence of this.

Under the General Agreement on Trade in Services (GATS) there are 4 modes of supply for trade in services. These are:

1) cross border trade – where the service itself crosses the border
2) consumption abroad
3) commercial presence
4) movement of natural persons

Bodyshopping where Indians worked in firms abroad supplying software services (the "flying geeks" phenomenon) is an illustration of the 4th mode of supply but it is the 1st mode of supply where the service itself crosses the border which is of increasing importance in BPO. The study specifically identifies modes 1 and 2 as offering potential for developing country service firms.

"Services make up a major portion of the world economy. In 2000, the estimated total value of world services production was US $1.4 trillion." (Nielson and Taglioni (2004) at p 17). While developed countries dominate services trade, the importance of electronic supply of services for developing countries emerges strongly in the study. ICTs have created real opportunities for developing countries by dramatically reducing transportation costs and hence enhancing their comparative advantage. Hence the clear potential for future growth.

Can outsourcing be a win-win situation?

Can offshore outsourcing be a win-win game? (McKinsey Global Institute 2003). The focus of much of the offshore outsourcing debate has involved the US and India. US businesses account for about 70% of the offshoring market and India is the clear leader as a global sourcing country. Forrester predicts that the number of US jobs lost to offshoring will go from about 400 000 in 2003 to about 3.3 million jobs by 2015. India does gain. McKinsey predicts the gain to be about 33c for every $ spent offshore. What is the impact on the US?

Evidence available to McKinsey Global Institute suggests that 70% of US services cannot be offshored. Even if in the US 3.3m jobs do go offshore the job loss debate misses the point that offshore outsourcing actually creates wealth for the US. " Offshoring not only captures every bit of economic value, dollar for dollar, that exists in the US economy prior to the decision to offshore, but it also creates a net additional value for the US economy that did not exist before. The US will capture economic value through several different channels: reduced costs, increased revenues, repatriated earnings, and the redeployment of additional labour"(McKinsey Global Institute 2003 at p 7). "Far from being bad for the United States, offshoring creates net additional value for the US economy that did not exist before, a full 12-14 cents on every dollar offshored. Indeed, of the full $1.45 to $1.47 of value created globally from offshoring $1.00 of US labour cost, the US captures $1.12 to $1.14, while the receiving country captures, on average, just 33 cents." (McKinsey Global Institute 2003 at p 9). This offshoring value in the global economy is illustrated in Fig.4.

This is not to deny the hardship suffered by those directly affected and McKinsey Global Institute quotes a finding by the Bureau of Labor Statistics that 31% of those whose jobs were displaced by trade were not fully re-employed. Clearly the effects of displacement caused by offshore outsourcing need to be addressed. McKinsey Global Institute finds the benefits to the economy will however mean an increase in offshore outsourcing by 30-40%

to 2008 which will result in a loss of about 200 000 US jobs a year in services over the next decade.

Even the term "offshore outsourcing" is increasingly obsolete as the phenomenon is really one of global sourcing and a logical extension of globalisation. Can it be stopped and is it desirable even if it could be. Even if protectionism were invoked it is unlikely to be successful long term. The argument is that if you choose not to do it your competitors will probably do so and gain the resulting competitive advantage. The trend already underway is that the "onshore" vs "offshore" debate will give way to global sourcing achieving the greatest efficiencies.

Success Factors

Various models have been proposed for evaluating national software industries. In seeking to determine if other developing countries can emulate India's success in BPO the factors underlying India's success need to be determined and analysed.

Heeks and Nicholson (Heeks and Nicholson 2002) considered major software exporters of developing and transitional economies – the 3 I's – India, Ireland and Israel – and used the model developed as a result to investigate the potential of 3 second tier exporters: Russia, the Philippines and China.

What they found as critical for each of the 3 I's success was a shared vision within the country of what software could achieve for the country. They also found that while the 3 I's overlap in what they do the "the bigger picture is one of differentiation. India means software services; Ireland means product-related services for multinationals; Israel means home-grown product exports." (Heeks and Nicholson 2002 p 6).

Each of the 3 I's has followed a different strategic path. India started with bodyshopping program services and its strategy is to climb the value chain. Also 20 of the 37 recipients of the Capability Maturity Model highest level rating are Indian software exporters. Challenges facing India include increasing labour costs, brain drain and dependence on the US (2/3 of Indian software exports.) Ireland has a more diversified export country base but also faces challenges of increased labour costs and brain drain. It has diversified away from customisation of foreign packages and into software services projects and niche market products. For Israel the challenges have been obsolescence of products and competition from other product firms as well as dependence on the military sector. Its strategy has been to focus on innovation and differentiation.

Heeks and Nicholson identified the following success factors for the 3 I's they looked at:

- international linkages and trust. At the root of linkages have been national diaspora which formed the basis for early contracts. Most of the larger firms in the 3 I's have formed bonds with single, large multinational clients. Usually these clients formed local subsidiaries or joint ventures. Trust has been established by ISO 9000 certification.
- Software industry characteristics. Common characteristics include competition between privately owned firms, clustering in a few locations – in India this is in Bangalore, Mumbai, Delhi and Hyderabad – and collaboration in areas of mutual benefit eg overseas marketing.
- Domestic input factors/infrastructure. There is a reliance on people and the skills, expertise and size of the local labour pool. Strong technical and scientific education, labour costs and the English language are important.
- Technology. A strong technological infrastructure together with government and foreign investment were present.
- Finance. Each of the 3 I's had heavy investment of overseas aid into infrastructure. For India this came from donor aid, for Ireland from the European Union and for Israel from the US.
- Research and development. All of the 3 I's have invested in software related research and development.

Applying these success factors to second tier exporting nations – Russia, the Philippines and China - Heeks and Nicholson found the following. For Russia its strengths are: human infrastructure with Russia ranking third in the world regarding per capita scientists and engineers with low labour costs, valuable international linkages and investments and clustering. Weaknesses include lack of clear vision and strategy for software export growth, human resource management skills eg poor knowledge of western business practices, limited English skills. There are also problems with piracy, a weak legal system and a perception of corruption and too much bureaucracy leading to weaker trust in relationships. For the Philippines its export activities fall within the broader IT related services

including back-office data operations and call centre work rather than just software development. Its strengths are knowledge of western business practices, education and English skills. Difficulties relate to infrastructure, labour costs and issues of trust linked to perceptions of political instability, corruption and a poor legal system. China has a strong domestic software industry. Its strengths are a clear government strategy, strong telecommunications infrastructure and education system. Limitations include English language skills and knowledge of western business practices. It has trust issues with perceptions of corruption, piracy and potential for political instability. Its strong domestic market also diverts resources from exports.

The 3 I's have the advantage of being early entrants into software export markets and will probably attempt to squeeze out latecomers. The difficulty is in moving up the value chain from data services to software services to software products. India while moving from its bodyshopping origins to software services has had difficulty in moving further up to software products. This may not bode well for the Philippines to move from low value data services to higher value software services.

A difficulty for all is diversification eg India's reliance on the US. Determining a market niche based on the strengths of the country does appear to work for Russia with its strong scientific and technical skills, for China with Chinese language software and for the Philippines with its focus on data entry work. Heeks and Nicholson conclude that apart from determining market niches based on the strengths of the particular country the following factors are important:

- make it easier for professionals to travel to other countries
- encourage people, money and ideas to come in ie a climate conducive to foreign investment
- facilitate relationships
- build trust by reducing areas of perceived risk (eg on software piracy)

Carmel (Carmel 2003) takes this model further by classifying the new software exporting nations into four tiers instead of two: (1) US, UK, Germany, India, Israel and Ireland (2) transition – China and Russia (3) emerging (4) infant stage of software nations. Carmel introduces what is termed the "oval model" of national software export success factors which also emphasises human capital and quality of life but places less emphasis on piracy or trust.

Carmel deems that "the strength of a nation's human capital stems from a multi-generational tradition of science and engineering that has its roots in strong universities, polytechnics and vocational schools." (Carmel 2003 p 4). This factor in the case of the 3 I's dates back at least 1-2 generations and cannot come about in just a few years. Carmel also finds that the quantity of human capital is also important eg China is graduating about 50 000 new computer graduates each year and 465 000 are graduating in all science and engineering courses. A distinction is made between those possessing "talent" at the upper end of the spectrum and those possessing "skills" (something which can be learned in a few months or years) at the lower end of the spectrum. It is suggested that those with talent reside in clusters which have quality of life factors which may not exist in some developing/emerging nations.

The wage factor or "race to the bottom" suggests that as wages increase firms turn to other cheaper countries. In terms of clustering these clusters are numerous in nations in tiers 1 and 2, less striking in tier 3 and often absent in tier 4. A success factor is the ability to pool resources into a national association eg NASSCOM (National Association of Software and Service Companies) in India, which also assists with branding. Success may also be gauged by the attaining of internationally recognised standards of quality – eg in India the Capability Maturity Model (CMM). In terms of capital most firms in tiers 3 and 4 lack sufficient capital to grow. With regard to linkages "the 'brain drain' has become a 'brain gain' in the ties and know-how that have been forged between firms in the home country and the country of the diaspora" (Carmel 2003 p9). New linkages include geographic linkages eg Mexico and Canada and their proximity to the US. Carmel downplays the issue of piracy as "the growth of software exports from high piracy nations such as Vietnam, China and Russia, attests to the irrelevance of piracy as a national factor."(Carmel 2003 p10). A limitation for some in tiers 3 and 4 is that "most lower-tier software nations ...have insufficient domestic demand to catalyse a healthy software export industry" (Carmel 2003 p10).

Carmel's conclusion is that "in order to gain a sustained competitive advantage firms must develop firm-specific resources or capabilities that are: valuable, rare or costly to copy. It is quite unlikely that being the low cost software producer by competing simply on low wages for commodity-type skills is a path to a sustainable position. National software industries that do not add value beyond simply being the low cost producer will soon see their work shift to

lower-cost destinations. This is the 'race to the bottom' (of the wage scale) that typifies such commodity work. Software work moved first to India because of low wages" (Carmel 2003 p11).

India

'By 2008, forecasts McKinsey, IT services and back-office work in India will swell fivefold to a $57 billion annual export industry employing 4 million people and accounting for 7% of India's gross domestic product." (Kripalani and Engardio 2003 p 4).

What has been the contribution of software to India's economic development? Conclusions are that the impact has been limited to a small section of the economy and to be sustained requires a significant increase in domestic demand. Arora and Athreye (Arora and Athreye (2001) argue that "a potentially important and under-appreciated contribution of the software industry is thus its exemplar of good entrepreneurship and corporate governance to the rest of India". The compared the ratio of labour productivity in software and found it twice that of India's manufacturing and 1.3 times that of the US. There were relatively few linkages found to the other sectors of the economy.

Their view is that what has occurred with software can be replicated for other services to be delivered globally. A generic business model for software can be used eg for data entry. Changed management practices do have the potential to spill over to the manufacturing sector of the economy. Hence there has been a diffusion of good management practices from the software sector to other economic areas and this in turn will be to India's gain. The poor linkage of the software sector to the rest of the economy has come about "because of the 'service' rather than the 'product' nature of the industry and its external rather than inward orientation" (Arora and Athreye 2001 p18). What has changed is management practices which may spill over into other sectors of the economy to make them more competitive and productive.

Initially the software industry in India relied on body shopping where firms in India would fly their professional staff to work on software problems at the site of their overseas clients. From this emerged the concept of "flying geeks". However the term could also "suggest a possible kinship between the Indian software experience and the so-called "flying geese" pattern of East Asian development" where 'it is India that takes the place of lead goose, with other countries in the region aspiring to follow its flight path". (O'Connor 2003). The flying geek concept has been a market entry strategy for Indian software firms. The "flying geek" model suggests the parallels to what occurred in manufacturing in East Asia and the attempts by various countries to replicate India's success would suggest an aspiration for BPO to follow the pattern of manufacturing.

In 2004 the Indian BPO industry excluding software was a $3.8 billion industry and grew 50% in 2003-2004. Gartner research predicts a 25% slide in Indian BPO by 2007, a significant drop from its present 80% market share. The strongest perceived threat is from China. To address perceived threats there is recognition of the need to diversify into other services where there is no significant challenge. According to estimates by NASSCOM the market for IT enabled services will continue to grow fast and could be worth $17 billion by 2008. (UNCTAD 2004a). The call centre industry is projected to provide employment for 2 million people by 2009. The IT sector combined with BPO had exports of $12.5 billion in 2003-2004. "Nearly 25% of the exports that involved 800 000 workers came from the top three companies in the sector: Tata Consultancy Services, Infosys Technologies and Wipro Technologies."(Reuters 2004). A silicon.com special report indicated that software exports are on track to grow by 30% in 2004-2005.(Reuters 2004).

In 2003 South Asia received $6.1 billion in FDI compared with $4.5 billion in 2002. For India FDI grew by 24% with the services sector and in particular ICT industries the most dynamic for FDI inflows. (UNCTAD 2004a). Average FDI into services offshoring in India totalled $300 million in 2001, or just over 10% of the country's total FDI that year according to McKinsey 2003 (UNCTAD 2004a).

What appears to be evolving from offshore outsourcing is a more sophisticated model based on a global network of multiple offshore locations. This global delivery model has no clear leader yet although Forrester Research has considered the capabilities of both the major Indian firms and non Indian firms. Tata Consultancy Services has begun to offshore its staff as a response to a rise in salaries in India and in 2005 Tata plans to have 3000 software engineers in China (ie 15% of their global workforce).

Perhaps one of the most significant effects of the Indian software success story is the boost to Indian confidence leading to increased expectations and innovative management and governance practices in this area have spilled over to other areas of the economy. The indirect effects on the Indian economy may be more profound than the effect of the technology itself in the longer term.

Conclusion

Can India's success be emulated and provide the role model in other developing countries? The answer would probably be a qualified 'yes' at least for lower level services and where there is a cost advantage provided by the country. For software exports entry and success is much more difficult to achieve. What appears to be evolving is a global delivery model which may benefit new entrants with a cost advantage. However sustainability would depend on the ability to move up the value chain and to identify market niches capitalising on the strengths of the individual country. Those countries which can identify some of the success factors identified by Heeks and Nicholson and refined by Carmel will have the greatest chance of success in this process.

Figures.

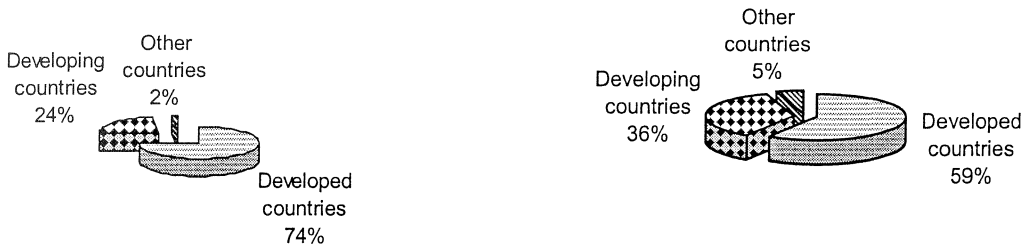
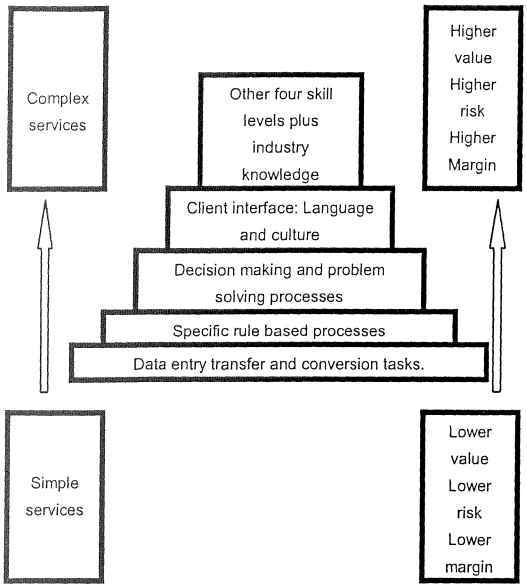


Fig. 1: INTERNET USE 2000 AND 2003. (Data source UNCTAD 2004 E-Commerce and Development Report 2004.)



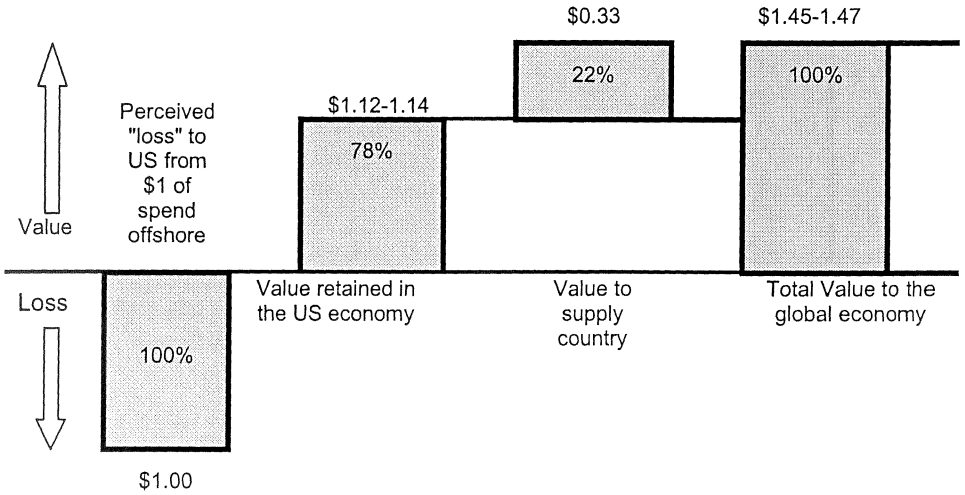
Adapted from: UNCTAD: 2003 E-Commerce and Development Report 2003. Chap 5, at p140. UNCTAD/SIDTE/ECB/2003/1

Fig.2: BPO HIERARCHY OF SERVICES

Leaders		Up and Comers	
India		Belarus	Lithuania
		Brazil	New Zealand
		Caribbean	Singapore
		Egypt	Ukraine
		Estonia	Venezuela
		Latvia	
Challengers		**Beginners**	
Canada	Mexico	Bangladesh	Nepal
China	Northern Ireland	Cuba	Senegal
Czech Republic	Philippines	Ghana	Sir Lanka
Hungary	Poland	Korea	Taiwan
Ireland	Russia	Malaysia	Thailand
Israel	South Africa	Mauritius	Vietnam

Adapted from: Marriott, I. 2003: The Changing Shape of Outsourcing. Gartner.

Fig. 3: GLOBAL SOURCING POWER



Source:McKinsey Global Institute 2003: Offshoring: Is it worth the Game?

Fig. 4: OFFSHORING VALUE IN GLOBAL ECONOMY

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