

# **GLOBALISATION PATTERN OF EMERGING MARKET FIRMS**

## **A Case of Indian IT Industry**

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### **ABSTRACT**

Emerging Market Firms (EMF) from Indian IT Industry followed a new and unconventional model of globalisation that created billion dollar enterprises in a short period of time. Their model of growth defied the dictum that one needs to be successful in the home country before venturing overseas. These EMFs showed that in the new economy, where rapid technology changes are driving new business models, knowledge based service providers need to use an unconventional approach to globalisation. The model focused on leveraging arbitrage factors to define the market and business. The initial entry strategy focused on core IT enabled services but soon they re-engineered their value propositions to reposition themselves at the top end of the value chain. Internalization of businesses and customization of services accelerated their globalisation goal by adding 'verticals'<sup>1</sup> and broader 'service footprints'. EMFs' innovative global delivery model (GDM) changed the global benchmark standard of service delivery. This case study based research observed this recent globalisation phenomenon in its real life context to document some meaningful events and its explanations. Also this paper documented some critical phenomena and the new rules of the game in the IT enabled service industry, post Y2K. Finally, systematically matched patterns, processes and strategies deployed by EMFs, described how they created an alternate unconventional model of globalisation and how they had set a new trend in conducting transnational businesses profitably, by leveraging global resources.

## **INTRODUCTION**

Since the closing decade of the previous century, rapid globalisation of emerging market firms has taken place in the knowledge based service delivery area, yet very little has been documented in academic literature till date. The rapid growth (Business Express, 2006) of emerging market firms (EMFs) from Indian IT Industry are creating new rules of globalisation, breaking away from the market seeking routes that early enterprises took to internalise global geographies. A closer look at this interesting new development gives an invaluable insight into how some emerging nations have slowly and steadily circumvented their traditional disadvantages of being cut-off from the main centres of innovation, to be transformed into powerhouses of strength in specific business sectors like IT enabled service delivery (Sinha, 2006). Leveraging human capital as the single most assets, EMFs appear to have driven a new quantum model of globalisation and a major human capital revolution (Arora et al., 2001).

The new route is simple and explicable: governments provided the backbone of advanced factor endowments through education and training, which in turn, motivated the highly capable human resources to excel and achieve their aspirations (Das, 2006). The externalities arising from this exercise became larger than anyone could predict. As the business model for success increasingly became more reliant on creation and application of new domain expertise and knowledge based value propositions to multinational enterprises from developed countries, some emerging nations found their niche. A large talent pool with knowledge leadership delivered the high-end applications, supported by an intrinsic discipline of stretching out their learning capabilities to add value to business challenges anywhere in the globe (Friedman, 2006). As a result, a snowballing spill over effect began, combining knowledge as the principle differentiator, with an innovative service delivery mechanism in an increasingly complex global business environment.

This paper maps the sequence and strategies that the Emerging Market Firms from Indian IT Industry (hereafter EMF) followed, that resulted in rapid global success in recent times (post Y2K). The study observes the phenomena of the making of Information Technology (IT) giants, in its real life context. More specifically the research looks at a specific case study of Infosys (a leading EMF from India), the favourite of NASDAQ (New York stock exchange) as the most profit delivering entity from the developing world (Das, 2005). Infosys' model of rapid expansion, pattern matched with cross-case evidences from similar EMFs like TCS and WIPRO, gives the insights into a new model of globalisation, which is instructive for those studying models of internationalisation. The global strategies of these EMFs are new and unconventional, rather than previously carved out in history, as observed by the researchers in this study. So far, literature has focused on 'technology globalisation'. However this paper focused on the enterprises those are behind these technologies, which could be defined as the "creator-corporate-capabilities" angle of strategic globalisation.

## **INTERMEDIATE INTERNATIONALIZATION VIA MULTINATIONAL ENTERPRISES**

Research suggests that process models (Johanson and Vahlne 1977, 1990) are valid but only at early stages of globalization (Forsgren, 1989). While these theories provide valuable insights, they do not fully explain the internationalization of new ventures. Hence researchers have called for new theories of the internationalization of new ventures (Andersson and Wictor, 2003; Sharma and Blomstermo 2003; Autio, 2005) and the incorporation of key

international business research on foreign direct investment (FDI), MNEs and globalization (Buckley, 2002).

In this paper we argue that EMFs use an “intermediate path” to internationalization where they become embedded in exporting intermediate knowledge on behalf of overseas companies’ (Terjesen et al., 2008; Fletcher 2004) and gain higher-end international market-segments as a spillover. The reason why EMFs consider indirect means to internationalization through multinational enterprises is because they are based in small domestic markets and therefore require a platform provided by MNEs to internationalize as a tool of growth. New ventures form strategic linkages with foreign firms to limit liabilities of newness, foreignness and small size and enable access to markets, technology, and reputation (Kuemmerle, 2002).

Using the intermediate path, the EMFs need not expand abroad directly (Terjesen et al., 2008). MNEs’ greater scale and scope enable innovative support firms to earn greater returns without expending resources to overcome the barriers to international expansion. The EMF need not invest heavily in foreign organizational and distribution infrastructure, but benefit from learning flows with the MNE. MNEs act as catalysts, or facilitators, allowing new ventures to expand internationally by proxy. Indeed, given the list of reasons for new innovative firms to forego foreign expansion, indirect access to foreign markets via the MNE might well offer a more efficient choice. Thus, MNEs can serve as international conduits for new ventures’ innovations.

In the case of Indian IT firms we notice a similar pattern. Investing heavily in human not financial capital, EMFs use initially leveraged their low cost high quality human resources, but soon evolved onto an accelerated path of globalisation by adding ‘verticals’ and broader ‘service footprints’. Using human capital, EMFs added and augmented their knowledge bases by internalizing the spillovers from the interchanges with MNEs for the next stage of international expansion. This process continued and transcended into a model of continuing international expansion – about which not much is known. Our objective in this paper is to empirically examine this model of growth. We dwell not so much in existing theories but more on the phenomena of unconventional globalization. Testing theory needs the specification of theoretical propositions derived from an existing theory (Darke et al., 1998). Little has been theorised in the academic literature about rapid globalisation in the knowledge based service delivery of Indian IT companies till date. Hence this research area is currently under-investigated. A more broad based study would be possible as time goes by and more studies are conducted and documented in academic literature.

## **METHODOLOGY**

This paper mapped the sequence of the globalisation process adopted by the EMFs, and investigated the reasons for such a phenomenon. The focus was on identifying whether an alternate model of globalisation would pass the scientific scrutiny of being significantly different from the existing known models. Also whether any such model meets the expectation of the scientific community in terms of an acceptable conceptual framework that is both relevant (reliable x valid) and consistent, and which would produce similar results if used / replicated in similar circumstances.

The observation of this recent and nascent phenomenon and finding an explanation of its cause and effects tells an interesting, but unconventional story of globalisation used by EMFs. Hence the authors concluded that the globalisation efforts of EMFs, witnessed in the

new millennium, should focus on descriptive research phenomena. This research focused on the explanations of a contemporary phenomenon within its real life context (Darke et al., 1998), rather than trying to discover the variables that constitute a formula of an alternate model of globalisation. Since the focus was on explanations, not variables, the most appropriate methodology was the case study approach. Context being part of the study, too many variables and complexity were thought to make standard experiment and survey designs (McClintock et al., 1979) impossible to address. The next objective was to choose an appropriate type of case study research i.e. either *descriptions of phenomena* or *development of theory or testing theory* (Darke et al., 1998). The authors' argument for such choice is as follows.

In case studies, events are observed, recorded and analysed from real organisations. In fact, real life situations are reflected as data facts that had already gone through a whole lot of alterations, modifications, and adjustments. Hence, case facts represent the finished form of a stabilised experiment and reduce the need for further multi-point quantitative and survey research for validation. Campbell (1975) echoes similar views that the method can be applied even if there is a single case because the pattern must fit multiple implications derived from an explanation or theory. It was therefore concluded that a single case study focus with cross-case facts for comparison and pattern matching would be a valid and appropriate method to address the research quarry (the globalisation pattern of EMFs).

The authors focused on a research strategy that would be able to integrate alternate sources of data and use a chain of evidence to explain the findings (Yin, 1981). The case study research elements had a combination of qualitative and quantitative evidence. Evidence came from fieldwork (interviews), archival records, verbal reports, business reports and journalistic articles, published reports of corporations and personal observations. Repetitive interviews were conducted that were causal or explanatory in nature, with structured questionnaire as well as open-ended instrument to aid data analysis that deal with the words and its meanings. Since the boundaries between phenomenon and context were not clearly evident, the approach was to collect primary data<sup>2</sup> from relevant informants, which provided an opportunity for the researcher to witness and experience the relevant events by direct observation (Yin, 1981).

The focus of the research was firms from the emerging markets (nations) and those engaged in the business of knowledge based service delivery. Such specificity of study object ensured low variance (skewness) in the population parameters. Hence, even small sample set would statistically represent the whole. Although the rigour of parametric tests could not be incorporated in a case study approach, yet the basic principles of natural science research methods were incorporated to ensure that the process reflects robustness.

Non-probability-sampling methods were used to recruit and include study objects (EMFs), which is a valid statistical method when the existing knowledge on the *population* is sufficient (and handful as in this case). In the research strategy the *population parameters* were defined to constitute the industry segments engaged in the area of knowledge based service delivery and *sample statistics* were planned to be drawn from the lead player Infosys (a pioneering EMF).

Once the primary study object (Infosys in this case) was finalised, the '*snowball sampling technique*' automatically led the researchers to the next entity (EMF), based on similar population characteristics. Cross case evidences were then used from these EMFs like TCS and WIPRO, who operated in the same or similar domain and occasionally data were used from global players like IBM, Accenture, EDS for global comparisons. This design gave a somewhat 360-degree perspective and therefore most common data (evidence) analysis errors were minimised at the design stage.

Such comparative *research design* framework also helped in cross-validation and increased reliability. However the key was to ensure *construct equivalence* before selecting the objects of study. The *equivalence* premise was that in real life cases, significant diversity would exist in micro dimensions of the variables in the context, in spite of the phenomenon remaining same. Hence, it was important to focus on the macro conditionality to establish equivalence. In other words, the researchers were not overly concerned about similarities of two conditions to draw parallel but accepted the generality of the terms of engagement, purpose and similarity of mission to establish *equivalence*. Since the real life case facts represents several complex dimensions of corporate functioning, for selecting equivalents, the authors used the appropriateness and type of relationship between cross cases. In design terms, the research outputs and the explanations were expected to be valid if *monotonic* relationship existed between these cross cases thus selected.

Thereafter the study used the cross-case evidences to focus on the *presence* of similar systematic relationship between these cases, *direction* of such relationship and the *strength of association* to infer and explain the phenomena of globalisations of EMFs. The inferences were accepted if it met the criteria of *Relevancy* (i.e. *reliability x validity*).

Within-case data was segregated and segmented as important period data that helped to observe continuity and consistency. Cross-case data were designed to provide industry benchmark and datum to evaluate evidences and its applicability in wider cross section of similar industry.

The data tabulations were done in the *note-taking format* in bucketed segments that appropriately addressed the core research issues and consciously avoided narrative aspects of interviews, logs, and activity summaries (Yin, 1981). Evidence was organised around specific propositions, questions or activities with flexibility to be modified as the research progressed. Topic by topic integration of evidence (Gross et al., 1971) was done by collating data from different sources but on the same topic, in specific pre-defined segments that match the research query areas (Jick, 1979; Yin, 1980). The “meaningful events” (Yin, 1981) were tabulated culling out from the huge volume of case facts and data collected through interviews and desk research. This helped to remain focused and develop the *chain of evidence* (Yin, 1979:xii) that best explained a phenomenon. As one shifted from data collection to within-case analysis to cross-case analysis, this chain of evidence finally bound the outputs of all the methods used and established the evidences sequentially and continually to the scientific outcome and conclusions. For building explanations, the technique consisted of an accurate rendition of the facts, considering alternative explanation of these facts and then finding the most appropriate explanation congruent with facts (Yin, 1981). Lessons from cross-case study were compared to observe a common explanation that emerged (Derthick, 1972). As the search for an explanation is a kind of pattern matching process (Campbell, 1975), the systematic matching of evidences that caused the rapid globalisation across several EMFs, gave rise to the final research conclusions.

The inquiry is assumed to be value-free (Darke et al., 1998) and hence at all times the researchers remained detached, neutral and objective. In the following sections the outcome of the research is presented with the descriptive observations of the phenomenon and the explanations.

## THE BEGINNINGS OF INFOSYS

Infosys is a typical example of an Emerging Market Firm from Indian IT Industry (EMF) that started in 1981 with just US \$250 and grew to US\$ 20 Billion market capitalisation in just 25 years (Business Express, 2005). In terms of revenue ranking Infosys’ 5.8 billion (est. 2010)

is still tiny, in comparison to the global giants like IBM, EDS, Accenture with \$46, \$20 and \$15 billion respectively (See Table 1).

**Table 1**

REVENUE RANKING					
Ranks	Company	Revenue \$b	Ranks	Company	Revenue \$b
1	IBM	46.42*	9	BEARING POINT	3.4
2	EDS	20.6	10	SUNGARD	2.95
3	FUJITSU	16.86*	11	CONVERGYS	2.48
4	ACCENTURE	15.11	12	HEWITT ASS.	2.43
5	COMP. SCIENCE	14.26	13	TCS	2.07
6	ADP	8.1	14	PETROT SYS.	1.77
7	FISREV	5.61	15	INFOSYS	1.43
8	AFFLTD COMP. SRV	4.14	16	WIPRO	1.3

The figures here are uniformly for Jan-Dec 2004. \*Revenue from IT services only.

Source : Global Outsourcing : The Most Valuable Outsourcing Companies, [Shvamanuja Das](#) April 06, 2005

But what is striking is such EMFs capacity to challenge the global multinationals. In particular, its sustained high paced growth and highest industry P/E ratio 54% is enviable, compared to the top MNEs like IBM (18%), Accenture (20%) and EDS (negative) in a fiercely competitive global market place (Das, 2005) (See Table 2 below).

**Table 2**

TOP COMPANIES: HOW THEY COMPARE					
RANK	COMPANY	Mkt CAP (\$b)	P/E	P/E RANK	EPS (\$)
1	IBM	147.66	18.26	10	4.95
2	ADP	26.14	27.47	4	1.63
3	ACCENTURE	22.96	20.12	7	1.22
4	INFOSYS TECHNOLOGIES	19.89	54.46	2	1.36
5	WIPRO	14.58	45.1	3	0.46
6	FUJITSU	12	23.57	5	1.27
7	EDS	10.7	NA		-0.59
8	SUNGARD DATA SYSTEMS	9.95	22.39	6	1.54
9	COMPUTER SCIENCE CORP	8.68	19.12	9	2.38
10	FISREV	7.6	19.65	8	2
11	AFFILIATED COMPUTER	6.59	18.26	10	2.85
12	COGNIZANT TECHNOLOGY	6.2	65.28	1	0.7

Note: Only companies listed in the US are ranked. All the market capitalisation figures are for 1st April 2005 except Fujitsu and Fisrev, which are the market cap figures for 5th April 2005. the P/Es and EPS are for trailing twelve months. IBM, FUJITSU, and WIPRO operate in areas other than IT service as well.

Source : Global Outsourcing : The Most Valuable Outsourcing Companies, [Shyamanuja Das](#) April 06, 2005

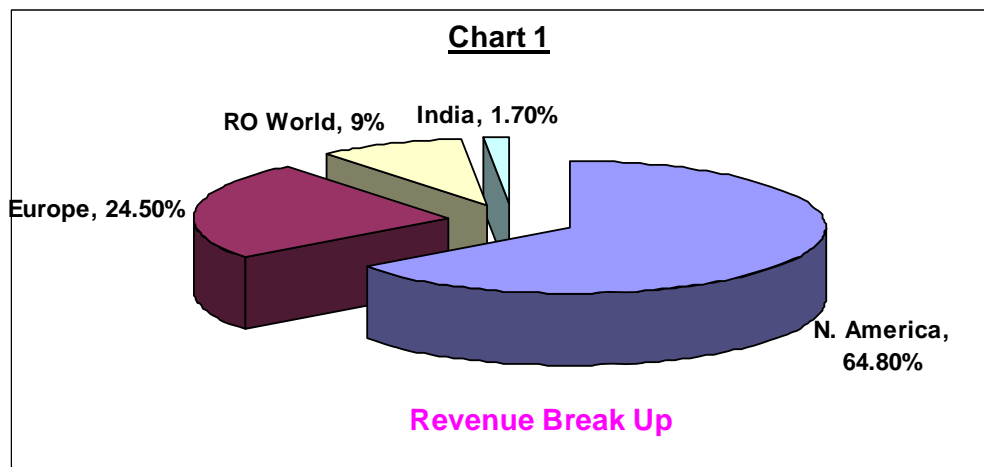
Infosys is the first-ever Indian Company to be listed in the NASDAQ (Annual Report, 2005), a unique accomplishment and dream of any aspirants, operating in the global business arena. Infosys' annual report 2005-2006 reports that this EMF touched \$2 Billion in revenue, a growth of 31.6%. The operating profits increased by 28.56% (33.9% of total revenue), the kind of steady profitability that makes these stocks a favourite of NASDAQ. According to the

Chief Operating Officer and Deputy Managing Director Infosys “First billion took us 23 years and the next took only 23 months”(Gopalakrishnan, 2005).

A close look at the revenue breakdown of Infosys shows some interesting features. Unlike the traditional MNEs, this EMF did not progress to be an international player after empire building in the home nation. Indeed, the case is quite the reverse. International business drove their size and scale- through a unique differentiating strategy from traditional models. (See Table 3 and Chart 1).

**Table 3**

Geographies	2004	2005	2006
N. America	71.20%	65.20%	64.80%
Europe	19.20%	22.30%	24.50%
RO World	8.20%	10.60%	9%
India	1.40%	1.90%	1.70%
Total	100%	100%	100%
Revenue break Up. Source : Infosys Annual Report 2005-2006			



As evident from Table 3, the home country revenue is less than 2% and USA and Europe constitutes ~90%. Infosys Technologies Australia<sup>3</sup> attributes this to the “arbitrage factor” between USA, Europe and India. Businesses in USA grew rapidly as the arbitrage factor (of knowledge worker’s cost) between USA and India is substantially high (40 to 45%). As a result, it made sense for the decision makers in the American corporates to explore India as an IT related service offshoring location for their non-core activities. The profit driven US Corporates instinctively sensed the potential of huge cost savings and bottom line improvement. Thus US enterprises inadvertently became the early sponsors of EMFs (Kumar, 2006). As the initial experiments at off-shoring proved successful, a reputation externality resulted, and an ever-increasing number of offshoring projects started pouring in from other countries.

In the second phase, the rationale of sound business decisions to shift non core activities to locations that gave cost advantage and yet delivered high quality of service was

the motivation for an increasing flurry of outsourcing. Competitive pressure from other companies operating in the same industry space brought in more and more customers and more projects to EMFs and a new business model began to take shape. For the EMFs, the IT enabled specialisation of business processes and global standardization of remote service delivery, gave the scale benefit thus proving the new trade theorists correct once again. Bangalore became the hub centre for offshore processing activities and the Government's support on infrastructure development created a "cluster effect" of locational advantage (Porter, 1990) that gave both increasing returns of scale as well as the network benefit, a classical Michael Porter's diamond condition that built a sustainable competitive advantage.

If these were the basic environmental and external conditionality that supported the globalisation ambitions of the EMFs, then what did the EMFs do to capture these opportunities? The research gave some insights of the phenomena as well some appropriate explanations.

### **PHASE I: BODY SHOPPING**

Initially the EMFs pitched in for business with a proposition that is termed as "Body Shopping" i.e. offering technology savvy talented human capital trained by home country's elite educational institutions like the IIT and IIS<sup>4</sup>, that came with substantially lower cost. Such human capital accumulation became the key differentiator in the client companies' profitability model (Patibandla and Petersen, 2002). This created the opportunity for the client MNEs to leverage the favourable arbitrage factors and remain competitive. In other words "Staff Supplementation" was the business model- substituting high cost onshore staff with low cost offshore dedicated manpower without compromising on quality and timeliness (Interview Transcript).

It worked both ways as a positive sum game. Offshoring allowed the principal company to focus their expertise on more critical value-added activity at home while delegating the lower-end, routine and repetitive work to more cost effective locations. It created leaner organisation and generated higher profits for the parent clients and for the EMFs and host country it created new jobs, more revenue and a larger scale, to further its globalisation efforts.

### **PHASE II: BUSINESS MODEL RE-ENGINEERING**

The business model driving the principal-agent relationship in the next phase broadened from Business Process Outsourcing (BPO) to Knowledge Process Outsourcing (KPO) model. The focus shifted from the lower end routine operation and transaction processing to the higher end of the value chain (Annaswamy, 2007).

The EMFs in the KPO space thus needed to make the transition from "Body shopping" proposition to services that required high degree of organisational learning through human capital and IT enablement (Mehra and Dhawan, 2003). The business strategy focused on the high end "Analytics", the critical business function that created the sustainable competitive advantage for survival and growth. For the EMFs, it was a step forward - a deeper penetration into the inner circle of "corporate strategy group" of clients.

This created a meaningful and trustworthy partnership, and a launching pad for the next quantum leap into globalisation (Nirjar, 2008). Today, according to rough estimates, a minimum of 70% of the revenues of EMFs come from repeat business, or in other words, from the same client over and over again due to this long term partnership strategy<sup>5</sup>. Once again, an externality related benefit of reputation effect upgraded agents from BPO to KPO. In turn, this benefited other factors in the location cluster (i.e. Bangalore). However, the



transition for EMFs was not smooth. A change in business model meant a change in “capabilities” (Wipro Annual Report 2001). Hence the structure had to address the changed strategy.

Maintaining existing IT based systems or transaction processing for clients is quite a different game than operating in the domain of Knowledge leadership (Dayasindhu, 2002). The EMF partners are now expected to bring in new business dimensions, cutting edge technology and analytic capabilities (Interview Transcript). In addition the MNEs were looking forward to the EMFs to bring in the “Global Best Practices” early enough in their business planning horizon due to their service practices operating in different industry segments and handling a gamut of competitive clients through their alternate practices in the global geographies. These included domain expertise in diverse areas like content development, database creation, data-mining and modelling, financial modelling, design and development of automotive and aerospace industries, animation and simulation, competitive intelligence, medical and R&D content and services, intellectual property and patent research - to name a few. Hence, the phase two of globalisation of EMFs constituted a “Re-Positioning” of their corporate capabilities and value propositions. Indeed, the EMF corporate statements like “Powered by Intellect, driven by values” (Infosys), “Nurturing Ideas”, “Driving Growth” (TCS), “Applying Thought” (WIPRO Technologies), reveal their new mission to operate in the domain of knowledge and Innovation.

The challenges in this phase entailed crafting a strategy of how to incorporate the most critical “People” strategy to address the structure issue (Banerjee, 2003).

### **People Strategy**

By the late 90s, no longer did staffing requirements in IT EMFs focus on inducting IT savvy operational profiles but shifted to analytics talents of global standards (Annaswamy 2008). The globally reputed institutions like IITs (Indian Institute of Technology), IIS (Indian Institute of Science), TIFR (Tata Institute of Fundamental Research) and IIMs (Indian Institute of Management) provided a ready hunting ground. For decades the top brains from these institutions were picked up by global MNEs and now the same international opportunities and salaries (in US\$) were offered by the domestic EMFs to attract and retain talents at home. Narayana Murthy, the founder chairman and currently chief mentor of Infosys attributed this to a pioneering dialogue success with Government of India that culminated in a forward looking fiscal policy which made possible to attract and retain talents with ESOP (Employee Share Option). In his own words:

“I must say that this is one industry where the government has been very proactive, has gone out on a limb and made sure that the industry has a chance to succeed on a global level. I don't know how many of you know; today the best taxation regime for stock option plans is from India. It is much better than the US because in India what they have said is that stock options will be taxed only on the basis of capital gains at the time of sale of the stocks. The capital gain in India is just 11 per cent. For once we are even better than Hong Kong. I can tell you that's a rare thing.”<sup>6</sup>

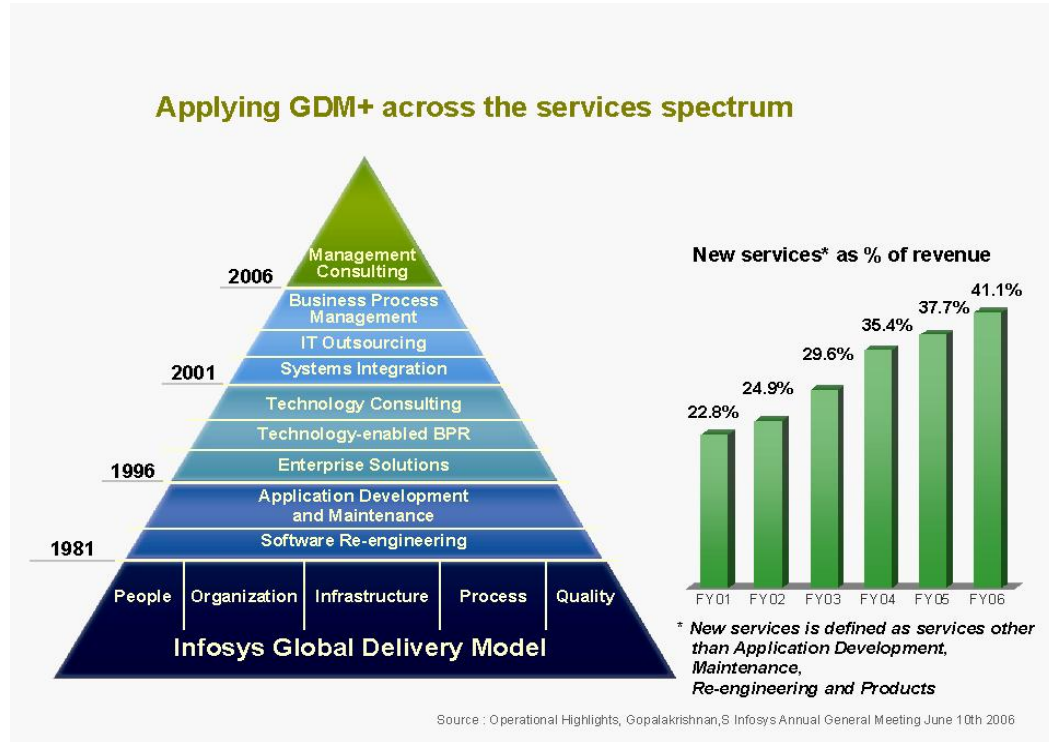
This model he described as the first large-scale experiment in “democratisation of wealth”<sup>7</sup> - a sound motivation and talent retention strategy that worked. Khanna and Palepu (2004) described such corporate governance standards at Infosys as exception rather than the norm in India.

### **Re-Positioning Value propositions**

With re-positioning, the business proposition diversified into several practice areas. From the initial software development, re-engineering and maintenance platform, the business now focused on enterprise solutions, technology consulting, IT outsourcing and finally in the domain of consulting practices. These “new-services” business grew rapidly. At

Infosys the contribution of these new services to the total revenue grew steadily from 22% to 41% (Gopalakrishnan, 2006). In other words these became the engine of growth. The following chart 2 would give a clearer picture of the migration of business platforms in the globalisation model of Infosys.

**Chart 2**



This model was critical to compete in the global market place as the EMFs now operated in the high end of the value chain that was otherwise the domain of the existing global giants like IBM, EDS and Accenture etc. These established IT global giants' business model was to enter the sales cycle early and shadow the clients at the early concept formulation stage so that both confidentiality and timeliness works in their favour when the RFP (request for proposal) stage comes (interview transcripts).

### **Internalisation of business segments**

To compete with the top players in the global market place the EMFs had to convert and 'internalise' (Buckley and Casson, 1976; Rugman, 1981) these critical and diverse service segments into core competencies. Thus, using reputation, they were able to internalise the externalities of client-supplier relationships for stepping into higher domain expertise and value added segments (Athreya, 2005). On the one hand, without a holistic integrated service offering and specifically a sound consulting practice, it was virtually impossible to get into the coterie of the strategic think tank group of MNEs who had the million dollars IT spending budget. On the other, rising costs of wage labour at home and scarcer talent meant that unless EMFs moved into higher value addition, their static comparative advantage would no longer be sufficient to compete globally (D'Costa, 2003). The internalization of business segments was done with a view to craft a competitive strategy that would lead to a number of beneficial spill overs like economies of scope, arising from

the use of common product and process platforms; human capital domain expertise and so on – in turn powering an even more rapid globalisation process.

### Customisation as core focus area

The second aspect of the strategic model was to focus on customisation capabilities. The belief that drove the “customisation” model is that the “products” could be obsolete and replaced by another in the marketplace but customised IT solution would always be in demand. The changing environment and the changing mindset would always require specialists to adopt, modify, transform and customise business solutions, in other words the game of being unique. The strategy echoed Michael Porter’s competitive model:

“Competing to be the best versus competing to be unique: The worst error in strategy is to compete with rivals on the same dimensions”<sup>8</sup>.

Infosys’ articulation of this strategy is “being unique requires that you create a layer of customisation around even standard packing”<sup>9</sup>. This Internalisation and customisation became the two strong legs on which Infosys ran this competitive race, to be a globalised enterprise from an emerging nation. Infosys’ grew to 221 strong million-dollar customers (see Table 4 below) who give as high as 90 % repeat business – a strong practice base. The repeat in this industry is an indicator of continuous value delivery, satisfied customers and the very basis of high profitability.

**Table 4**

<b><u>Client Relationships</u></b>			
<b>Year</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>No. of Clients</b>	<b>393</b>	<b>438</b>	<b>460</b>
<b>Clients added during the year</b>	<b>119</b>	<b>136</b>	<b>144</b>
<b>No. of million dollar+ clients</b>	<b>131</b>	<b>166</b>	<b>221</b>
<b>No. of 5 million dollar+ clients</b>	<b>51</b>	<b>71</b>	<b>81</b>
<b>No. of 10 million dollar+ clients</b>	<b>25</b>	<b>42</b>	<b>54</b>
<b>No. of 20 million dollar+ clients</b>	<b>12</b>	<b>19</b>	<b>26</b>
<b>No. of 30 million dollar+ clients</b>	<b>6</b>	<b>11</b>	<b>19</b>
<b>No. of 40 million dollar+ clients</b>	<b>4</b>	<b>8</b>	<b>14</b>
<b>No. of 50 million dollar+ clients</b>	<b>3</b>	<b>5</b>	<b>9</b>
<b>No. of 70 million dollar+ clients</b>	<b>–</b>	<b>1</b>	<b>4</b>
<b>No. of 90 million dollar+ clients</b>	<b>–</b>	<b>–</b>	<b>1</b>
<ul style="list-style-type: none"> <li>• Top 10 clients represent 30.3% of revenues, providing high predicability to business model with 95% repeat business</li> <li>• ‘One Infy’ service offerings, synergizing multiple strengths of delivery units. Won a large 5-year deal with ABN AMRO</li> <li>• ITRAC (Infoscion as Trusted Advisor to Clients) initiative implemented across key clients to enable account leadership as trusted advisors to clients’ senior executives</li> </ul>			
<b>Source:</b> Operational Highlights, Gopalakrishnan, S June 10 2006 @Infosys 2005 – 06 Annual General Meeting			

### Strategic Partnerships

The next major shift by IT EMFs was to strike strategic partnership with major MNEs – a new initiative. For IT service industry it is critical to have strategic alliances with “product” providers like Microsoft, Oracle, and SAP etc. New dimensions of opportunities open up as one becomes an approved and preferred vendor to maintain and service these global products. As a result the “Package Implementation” business became part of the new

strategic focus (Interview Transcript). This kept the EMFs in touch with the latest IT products in the industry at the same time provided further inroads into the client-partnership to do customisation, bridging and upgrading, while maintaining these packages.

In the case of Infosys, package implementation business gave a new scale effect. The ownership advantage of IT domain expertise got further leveraged with the internalisation business model of bringing in this part of clients' requirements in addition to their other service offerings. This gave the complete strategic thrust to the new business model because now a home country specific OLI model got evolved, similar to the outward looking OLI model of the Dunning's (1988) eclectic theory of MNEs. The already existing locational advantage of Bangalore (Nair et al., 2007) being internalized by the EMFs, in turn, led to ownership advantages that completed this domestic OLI (Ownership, Locational and Internalisation) model of globalisation.

### Coming of age

The exposure to these integrated “verticals-products-geographies” added substantially to the “wisdom line” and knowledge inventory. The outcome of this re-positioning exercise truly gave the yesterday's nascent players a transformed leadership position. Now clients looked these EMFs upon as independent assessors, knowledge leaders and source of future technology steps. In other words the business entered the maturity stage of life cycle graph.

In the case of Infosys, Chart 2 above and Table 5 below gives a clearer picture of the business verticals that they internalised progressively over the period of their business maturity cycle. Chairman and Chief Mentor N.R. Narayana Murthy defines this as “coming of age”.....This journey of 25 years has been a symphonic marathon”<sup>10</sup>. Incorporating and integrating diversified verticals in an existing structure is both a challenge as well as opportunity space. The matured business entity could bring in these modifications in their strategy game. Yet the core business drivers remained strong in fundamentals. The development and maintenance business continued to give ~50% revenue while the “new services” took the enterprise to a new league.

**Table 5**

<b><u>Services footprint</u></b>			
<b>Service offerings</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>
<b>Development</b>	<b>25.7%</b>	<b>23.2%</b>	<b>20.2%</b>
<b>Maintenance</b>	<b>30.1%</b>	<b>29.9%</b>	<b>30.2%</b>
<b>Package Implementation</b>	<b>14.5%</b>	<b>15.2%</b>	<b>16.2%</b>
Testing	5.3%	5.8%	5.9%
Re-engineering	6.0%	6.2%	4.7%
Consulting	3.7%	3.6%	3.5%
Business Process Management	1.6%	2.7%	4.0%
Engineering Services	2.2%	2.0%	1.8%
Other services	8.1%	8.4%	9.7%
Products	2.8%	3.0%	3.8%
Total	100.0%	100.0%	100.0%
Package implementation scaled to 16.2% of Infosys revenues, strengthening competitive position and profitability			
Infrastructure Management Services recommended for ISO 2000-1; 2002 worldwide certification, aimed at IT Service Management. Once certified, Infosys will be among the first few			
Independent Validation Services continues to demonstrate sustained growth and value differentiation			
<b>Source:</b> Operational Highlights, Gopalakrishnan, S June 10 2006 @Infosys 2005 – 06 Annual General Meeting			

In other words Infosys continued to occupy the core space of software development - reengineer software from one technology to another or from one level of functionality to

another and software maintenance. The fundamental definition of business was that, as long as technology changes, demand for these services would exist. This maturity stage added new business babies or verticals in the portfolio that would insure their future and provide stability. However the core strategy continued unaltered.

### **Innovation: Global Delivery Model**

Finally, the mainspring of globalisation strategy of EMFs became their service delivery model that is distinguishably different from the existing IT giants like IBM, EDS and Accenture (Mirchandani, 2006). Interestingly successful EMFs did not make the often-repeated mistake, as stated by Michael Porter, of “competing with rivals on the same dimensions”<sup>11</sup>. Instead they created a new value proposition in the “Service Delivery Mechanism”. Since the conduits through which services are delivered, are integral and critical pieces of successful implementation, this strategy worked in the rapid globalisation thrust.

EMFs realised that the value creation would be through an “optimal sourcing and maximal utility / gain model” (Varghese, 2006). Combining home country factor advantages in the delivery strategy would leverage the benefits most. Also in this model was built in a strategic component-split, by location and specialization. The front end-architects, analysts, consultants and client servicing were localized on-shore whereas the back-end tasks, technical design, programming, lab- testing were done in emerging nation locations like India and China (off-shore) based on specialization. In a nutshell, Global Delivery Model (GDM) was created as an integrated network that delivered services through a geographically distributed, process-centric and low-cost mechanism (Interview Transcript).

Traditionally, existing global giants like IBM used their “onshore” (local) support and service capabilities as the unique selling proposition. The model worked on building significant infrastructure locally, close to the clients or housing adequate manpower locally. This offered a customized and dedicated service that clients were happy with. However, in an increasingly borderless world soon the cost of such dedicated services seems unsustainable and inefficient. This made the business economics vulnerable to “Offshore” (remote location) low cost options. The EMFs identified this large gap and positioned themselves as an alternative “Global Service Provider” with matching Quality at reduced cost, as against onshore or local service providers. Thus the concept of GDM (Global Delivery Model) developed as an alternate and later more appropriate service delivery model. Being the creators, the EMFs derived maximum benefit from this new strategic service delivery globalisation model. The competitive proposition of EMFs was simple but quite powerful - local capabilities vs. global capabilities, in the service delivery.

This created a new ladder (Ries and Trout, 1998) and the existing one marketplace got divided into two distinct markets or value propositions, namely “onshore” players and the “nearshore” or “offshore” challenges. For example at the top end the onshore vendors constituted the big three IBM, EDS and Accenture whereas the offshore segments were championed by the EMFs like TCS, Infosys and Wipro. This strategy suited the EMFs as the market got fragmented and there were no straight competition. No player could offer a total comprehensive capability, yet most had specific attractive value proposition.

All vendors made significant investments in skills upgrading, processes re-engineering, technological tools, locations, and infrastructure yet none could truly assume the leaders position. The offshore players needed to add more consulting domain expertise and equity building on client relationship and account management area to better manage “transitions” after winning the business. The onshore players needed to quickly build and better manage their offshore facilities, to be able to offer low-cost value proposition in a highly competitive market. Thus GDM became the new mantra and the IT industry norm in

the global service delivery. Now both onshore and offshore players have incorporated GDM in their service delivery strategy (IBM, 2006).

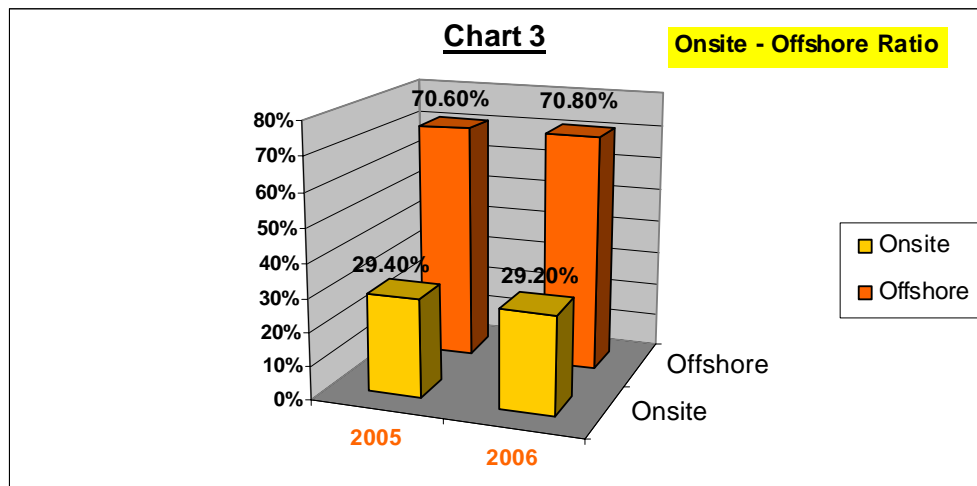
TCS, India's first billion dollar company (now ~US\$ 2.97b: 2005-06) delivers solutions to customers by leveraging its network of delivery centres globally. According to S Ramadorai, CEO TCS:

"It gives us the extra dimension to address the global delivery need. Besides this, there is the value articulation and the collaboration. The value articulation comes by differentiating solutions mechanisms..... grow our global delivery centres..... At the end of the day we should not be saying that we have one delivery model in India or only one delivery model to use. To me, the flexibility in the delivery model which addresses the clients' needs is the critical component" (Financial Express, 2004).

Again according to WIPRO which became a \$2.4billion company in 2005-06 observed:

"We use a proven global delivery model in all our global outsourcing projects.....This combines the best in Quality, Processes, People, Infrastructure and Alliances. Wipro has 40+ 'Centres of Excellence' that create solutions around specific needs of industries" (Wipro, 2006).

Infosys claims that it pioneered the GDM that later became the industry norm stating that GDM is all about "a global resource pool, a global infrastructure, global development centres and the philosophy to do the work where it makes the most economic sense and with the least amount of acceptable risk"<sup>12</sup>. Today the optimal model of global resource utilization and deployment that is working well for Infosys is a 70 -30 ratio as depicted in the Chart 3 below.



The National Association of Software and Service Companies projected that the total global offshoring market opportunity by 2008 will touch US\$ 141 billion (NASSCOM 2006). However, Scope e-Knowledge Centre estimates that only 45-50 per cent (about \$65-70 billion) of the total off-shoring opportunity is likely to be realized even by 2010.

### PHASE III: THE FUTURE STEPS

The future would rest on “Solution Focus”. U.B. Pravin Rao, Senior Vice President- Retail, Distribution and Consumer Products Group summarizes this in one sentence. “Bringing solution focus to all that we do for our clients, weaving together services, GDM, alliances, execution excellence and deep domain knowledge to create innovative new solutions, enabled by a structure of industry focused sales and relationship management teams, business / domain consultants and technologists”<sup>13</sup>. According the EIU (2005), in the new world of globalisation, price and quality will continue to matter, but what will matter much more is the personalization of services as interactions and customization become vital components of both customer service and worker behaviour<sup>14</sup>.

## **DISCUSSION**

Defining the business and ‘continuity of the strategy’ has been the key to EMFs success. The foresight of management to identify a global trend early, building the strategy around that trend, and more importantly, believing and sticking to the goal can be attributed to the spectacular rise. In Porter’s (2005) words: “continuity of strategy is fundamental to sustainable competitive advantage because it allows the organization to understand the strategy; it builds truly unique skills and assets related to the strategy; it establishes a clear identity with customers, channels, and other outside entities; and it strengthens the fit across the value chain”.

EMFs identified this maxim early in their march towards globalisation. Technology has been revolutionizing business models rapidly and the need for continuous change has never been such a compulsive force in the corporate governance model. The compulsion to change, driven by technology, presents enormous opportunities to the emerging world’s solution providers. The entities that identified this global trend, captured this strategic space early, and created a business model around this, have been able to grow and globalize. What is more, EMFs used an unconventional model of globalisation that had many right ingredients. First, the opportunity mapping, next sticking to core strategy and finally developing it further with naturally evolved and logically sound strategies, identified above. The core business of developing and maintaining software were never abandoned even though it was relegated to the lower end of value chain and ‘body shopping’ categories. Significantly it gives EMFs half of their revenue even today, and sustains the reputation in this domain of knowledge. However, these enterprises steadily and rapidly moved up the value chain by integrating a new services business to the existing strong core. The core gave the critical mass to rely on, and develop strong infrastructure. The induction of the comprehensive ‘verticals’ gave the required organic growth. The ‘service footfalls’ across a diversified yet integrated domains and geographies became the growth engines and the global delivery model created a unbeatable competitive niche that even giant competitors like IBM, EDS, Accenture had to incorporate in their revised strategy (Mirchandani, 2006).

The heavy mass of human headcount of the emerging nations that once seemed a national liability got transformed into technology powerhouses, in a new globalisation model, especially in Knowledge based business space.

## **CONCLUSIONS**

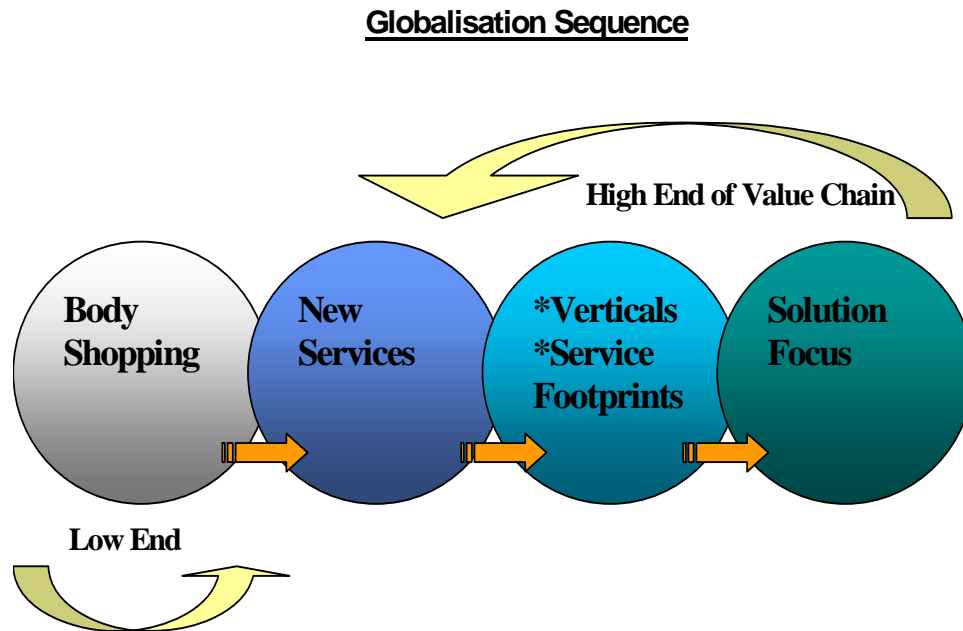
This paper demonstrated the sequence and strategy of the EMFs and mapped how EMFs leveraged the infirmities in micro economic environment into strengths. The paper shows human capital can be used to create an alternative model of globalisation in the IT enabled service sector. In a borderless and level playing global market, emerging nations could

participate and contribute as strong players if the enterprises follow a structured strategy matching their domain knowledge and factor strengths.

The IT EMFs followed a new and unconventional model of globalisation that concentrated not on the home country but targeted strategically a global market with core knowledge competencies and factor strengths of the home environment. EMFs used an “intermediate path” to internationalization where they initially embedded in exporting intermediate knowledge on behalf of overseas companies’ (Terjesen et al., 2008; Fletcher, 2004) but later gained higher-end international market-segments as a spillover. EMFs chose this indirect means to internationalization through multinational enterprises because they were based in small domestic markets and required a platform provided by MNEs to internationalize as a tool of growth.

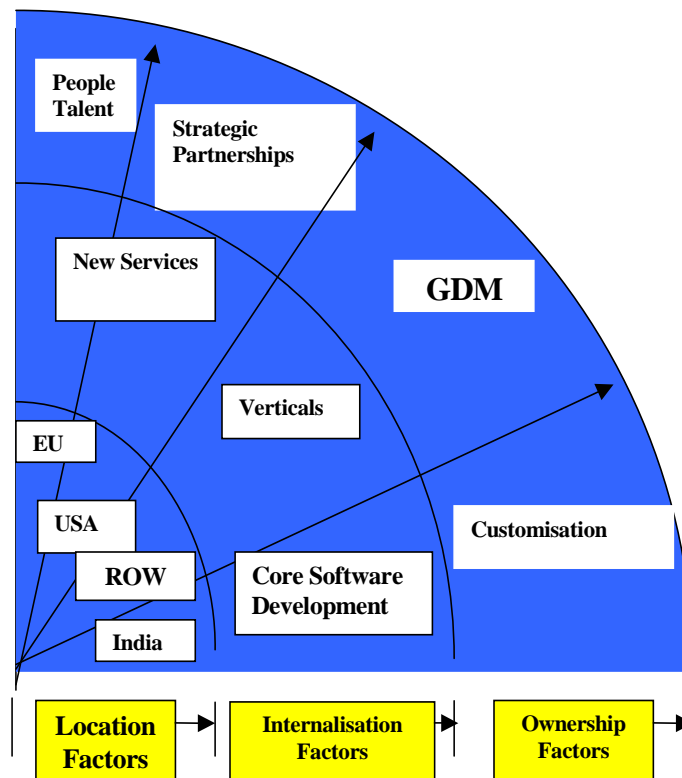
Powered by human resources trained in the home country’s elite educational institutions, these EMFs showed that in the technology driven business model, the knowledge workers could create a window of opportunity. Accordingly EMFs focused on leveraging arbitrage factors to define their market and business. Their entry strategy focused on core IT enabled services but soon they re-engineered their value proposition to position themselves at the top end of the value chain. They Internalised businesses and customized services by adding ‘verticals’ and new ‘service footprints’ to accelerate their globalisation goal. Their innovative global delivery model (GDM) changed the global benchmark of service delivery to the extent that the existing global giants had to follow their footsteps (IBM, 2006). Figure 1 and Figure 2 below summarises these sequences and the strategy. Finally, further externalities like spill over of reputation created alternate Silicon Valley type “cluster” in places like Bangalore that further helped to accelerate their globalisation goal. In summary, performance led to reputation - reputation brought respect and respect enhanced the power to globalise rapidly.

**Figure 1**





**Figure 2**  
**Strategic Globalisation Model of EMFs**



## LIMITATIONS

We now discuss some limitations of this paper. First, we did not have a theoretical framework to start off with and hence could not use theory testing logic. Testing theory needs the specification of theoretical propositions derived from an existing theory (Darke et al., 1998). However, little has been theorised in the academic literature about rapid globalisation in the knowledge based service delivery of Indian IT companies till date. Hence this research area is currently under investigated. A more broad based study would be possible as time goes by and more studies are conducted and documented in academic literatures.

For theory development and testing, comparison of case study findings with the expected outcomes predicted by propositions (Cavaye, 1996) would be needed. With time,

the availability of secondary data on the trend and direction of these EMFs globalisation progress / failures would make theory development and testing a viable proposition.

## BIBLIOGRAPHY

- Annual Reports: Infosys 2000 to 2006.  
Annual Reports: Wipro 2000 to 2006.  
Annual Reports: TCS 2000 to 2006.  
Andersson, S. and Wictor, I. 2003 Innovative internationalization in new firms: born globals – the Swedish case, *Journal of International Entrepreneurship*, 1 (3): 249–276.  
Arora Ashish, Arunachalam V.S., Asundi Jai, Fernandes Ronald (2001) The Indian software services industry Research Policy 30 (2001) 1267–1287.  
Athreye Suma (2005) The Indian Software Industry and Its evolving service capability Industrial and corporate change Vol14, No3, pp393-418 March 2005.  
Autio, E. 2005 Creative tension: the significance of Ben Oviatt's and Patricia McDougall's article 'Toward a theory of international new ventures', *Journal of International Business Studies*, 36: 9–19.  
Banerjee, P. (2003) Some indicators of dynamic technological competencies: Understanding of Indian software managers, *Technovation* 23 (2003) pp593-602.  
Banerjee, P. (2003) Resource dependence and core competence: insights from Indian software firms, *Technovation* 23 (2003) pp251-263.  
Buckley, Peter J. and Mark Casson (1976) *The future of the multinational enterprise*, London, Macmillan.  
Buckley, P. J. 2002 Is the international business research agenda running out of steam? *Journal of International Business Studies*, 33 (2): 365–373.  
Business Express, (2005) Infosys goes past TCS in market cap, [www document] May 9<sup>th</sup> 2005 (accessed 2<sup>nd</sup> July 2006).  
Campbell, Donald T., (1975) 'Degrees of freedom and the case study', *Comparative Political Studies*, 8: 178-193.  
Cavaye, A.L.M. (1996) Case study research: a multi-faceted research approach for IS. *Information Systems Journal*, 6, 227-242.  
Darke, Peta, Shanks Graeme, and Broadbent, Marianne (1998) 'Successfully completing case study research: combining rigour, relevance and pragmatism', *Information Systems Journal* 8, 273-289.  
Das Gurcharan (2006) The India Model, *Foreign Affairs*, New York: Jul/Aug 2006. Vol. 85, Iss. 4, p. 2-16  
Das, Shyamanuja 2005, The Most Valuable Outsourcing Companies, *Global Outsourcing* April 06, 2005.  
Dayasindhu, N (2002) Embeddedness, knowledge transfer, industry clusters and global competitiveness: a case study of the Indian software industry, *Technovation* 22 (2002) pp551-560.  
De, Rajneesh (2004) After the Party, The Real Race Begins, Dataquest Online edition [http://www.dqindia.com/content/top\\_stories/2004/104051301.asp](http://www.dqindia.com/content/top_stories/2004/104051301.asp) (accessed 2<sup>nd</sup> July 2006)  
D'Costa, Anthony (2003) Uneven and Combined Development: Understanding India's Software Exports, *World Development* Vol. 31 (2003), No.1, pp. 211–226.  
Derthick, Martha (1972) 'New Towns In-Town: why a federal program failed', Washington, D.C.: The Urban Institute.

- Dunning, John H. (1988) 'The eclectic paradigm of international production: a restatement and some possible extensions'. *Journal of International Business Studies*. Vol. 19(1), pp. 1-31.
- Financial Express, (2004) Flexibility in the delivery model is critical, [www document] [http://www.tcs.com/0\\_media\\_room/reports/200401jan/20040102\\_model.htm](http://www.tcs.com/0_media_room/reports/200401jan/20040102_model.htm) (accessed 4<sup>th</sup> July 2006).
- Fletcher, D. 2004 International entrepreneurship and the small business, *Entrepreneurship & Regional Development*, 16: 289–305.
- Forsgren, M. 1989 *Managing the Internationalization Process – The Swedish Case* (London: Routledge).
- Friedman, Thomas L. (2006) *The world is flat- the globalised world in the twenty-first century*, Penguin Books: London.
- Gopalakrishnan, S (2006) Operational Highlights Annual General Meeting 2005-2006, June 10, 2006 [www document] (Infosys website accessed 2<sup>nd</sup> July 2006)
- Gross, Neal, Joseph B. Giacuinta, and Marilyn Bernstein (1971) *Implementing Organisational Innovations*, Basic Books, New York.
- Heeks, Richard (1990) *Technology Policy Making as a Social and Political Process: Liberalizing India's Software Policy*, *Technology Analysis and Strategic Management*, Vol 2, No.3 1990 pp 275.
- IBM Research (2006) IBM India Research Lab, [IBM website document] <http://www.research.ibm.com/irl/sirc/> (accessed 4<sup>th</sup> July 2006).
- Jick, Todd D. (1979) 'Mixing qualitative and quantitative methods: Triangulation in action'. *Administrative Science Quarterly*, 24: 602-611.
- Johanson, J. and Vahlne, J.-E. 1990 The mechanism of internationalization, *International Marketing Review*, 7 (4): 11–24.
- Khanna, Tarun and Palepu, Krishna G. (2004) Globalization and Convergence in Corporate Governance: Evidence from Infosys and the Indian Software Industry, *Journal of International Business Studies*, Vol. 35, No. 6 (Nov., 2004), pp. 484-507.
- Kuemmerle, W. 2002 Home base and knowledge management in international ventures, *Journal of Business Venturing*, 17 (2): 99–122.
- Kumar, Sameer (2006) A comparative analysis of key information technology players, *Technovation* 26 (2006) pp 836–846.
- McClintock, Charles C., Dianne Brannon, and Steven Maynard Moody (1979) Applying the logic of sample surveys to qualitative case studies: The case cluster method, *Administrative Science quarterly*, 24: 612-629.
- Mehra, K and Dhawan, S.K (2003) Study of the process of organisational learning in software firms in India, *Technovation* 23 (2003) pp121–129.
- Mirchandani Vinnie (2006) Turning CapEx into OpEX [www document] [http://dealarchitect.typepad.com/deal\\_architect/outsourcing\\_ibm\\_accenture\\_ed](http://dealarchitect.typepad.com/deal_architect/outsourcing_ibm_accenture_ed)s (accessed 6<sup>th</sup> July 2006).
- Nair, Anil; Ahlstrom, David and Filer, Larry (2007) Localized Advantage in a Global Economy: The Case of Bangalore, *Thunderbird International Business Review*, Vol. 49(5) 591–618 • September–October 2007.
- Nirjar, Abhishek (2008) Innovations and Evolution of Software SMEs: Exploring the Trajectories for Sustainable Growth, *VISION—The Journal of Business Perspective* April–June 2008 Vol. 12 | No. 2 |.
- NASSCOM (2006) Press Releases <http://www.nasscom.in/Nasscom/templates/LandingPage.aspx?id=48297> (accessed 6<sup>th</sup> July 2006)

- Patibandla, Murali and Petersen, Bent (2002) Role of Transnational Corporations in the Evolution of a High-Tech Industry: The Case of India's Software Industry, *World Development* Vol. 30, No. 9, pp. 1561–1577, 2002.
- Porter, Michael E. (1990) The competitive advantage of nations, *Harvard Business Review*, Vol. 68(2), pp. 73-93.
- Porter, Michael E. (2005) Strategy: Competing to Be Unique, Graduate School of international corporate strategy (ICS) Hitotsubashi University (accessed 4<sup>th</sup> July 2006).
- Ries, Al and Trout, Jack (1998) *Marketing Warfare*, McGraw-Hill, New York
- Rugman, Alan (1981) *Inside the multinationals*, London, Croom Helm.
- Sharma, D. A. and Blomstermo, A. 2003 The internationalization process of born globals: a network view, *International Business Review*, 12 (6): 739–753.
- Sinha, Kounteya (2006) India is the world's fastest wealth creator, [www document] <http://timesofindia.indiatimes.com/articleshow/2019044.cms> (accessed 25<sup>th</sup> Sept 2006).
- Annaswamy Sri, (2007) Indian specialist outsourcing expedition snapshot - LPO and KPO, Management Report, Sydney.
- Annaswamy Sri, (2008) The Onshoring wave by Indian companies, Consulting Report, Sydney.
- Terjesen, Siri; O'Gorman, Colm and Zoltan, ACS.J (2008) Intermediated mode of internationalization: new software ventures in Ireland and India, *Entrepreneurship & Regional Development* 20, JANUARY (2008), pp 89–109.
- Varghese George, 2006 *Interview Transcript*, Infosys Technologies Australia.
- Wipro (2006) The company website <http://www.wipro.com> (accessed 4<sup>th</sup> July 2006)
- Yin, Robert K. (1979) *Changing Urban Bureaucracies*. Lexington, MA: Lexington Books.
- Yin, Robert K. (1980) *Studying the Implementation of Public Programs*. Golden, CO: Solar Energy research Institute.
- Yin, Robert K. (1981) 'The case Study Crisis: Some Answers', *Administrative Science Quarterly*, Volume 26, March 1981.

## ENDNOTES

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- <sup>1</sup> Verticals and service footprints are business segments as defined by the corporation's internal strategy. See chart 2 and table 5 for more details.
- <sup>2</sup> Interview Transcripts: Interviews were conducted at Infosys, TCS, Wipro, IBM, EDS, and Accenture in India by the authors with several senior and middle managers. Recorded information, spanning some 40 hours of conversation was transcribed, arranged and analysed. Thereafter, secondary data was sourced and analysed to match patterns with the primary data. The chain of evidences was used for validation, conclusions and the final observation of the phenomena and the explanations. Details of the process given in the methodology section.
- <sup>3</sup> Varghese, George, *Interview Transcript*, Infosys Technologies, Sydney Australia.
- <sup>4</sup> IIS is Indian Institute of Science and IIT is Indian Institute of Technology termed as world's "hardest to get in" Science and Technology Institute: put Harvard, MIT & Princeton together (CBS network, USA; BW-McGraw-Hill, Nov 1998) and ranked as Asia's top 5 engineering College, AsiaWeek.com (2005) survey.
- <sup>5</sup> Infosys, TCS and Wipro Annual Reports: 2004-05, 2005-06.
- <sup>6</sup> Murthy, Narayana, 2000, *Asia Society* Hong Kong Centre and Bank of America Presentation Hong Kong, 8 May 2000 [www document] (accessed 30<sup>th</sup> June 2006)
- <sup>7</sup> Murthy, Narayana 2006, On entering the adulthood, Infosys Annual Report 2005 -2006.

- 
- <sup>8</sup> Special Lecture by Michael Porter December 1, 2005 - Strategy: Competing to Be Unique, Graduate School of international corporate strategy (ICS) Hitotsubashi University [www document] (accessed 4<sup>th</sup> July 2006).
- <sup>9</sup> Murthy, Narayana, 2000, *Asia Society* Hong Kong Centre and Bank of America Presentation Hong Kong, 8 May 2000 [www document] (accessed 30<sup>th</sup> June 2006).
- <sup>10</sup> Murthy, Narayana 2006, On entering the adulthood, Infosys Annual Report 2005 -2006.
- <sup>11</sup> Special Lecture by Michael Porter December 1, 2005 - Strategy: Competing to Be Unique, Graduate School of international corporate strategy (ICS) Hitotsubashi University [www document] (accessed 4<sup>th</sup> July 2006).
- <sup>12</sup> Bakshi, Rohit *Interview Transcript*, Infosys Technologies, Sydney Australia.
- <sup>13</sup> Pravin Rao, U.B., Senior Vice President- Retail, Distribution and Consumer Products Group Infosys, Transforming Retail Business, Analysts meet 2003 and AGM presentation 2006 (Infosys website accessed 4<sup>th</sup> July 2006).
- <sup>14</sup> Economic Intelligence Unit, *Economist*, 2005