The Bangalore Story:
Becoming the Outsourcing Capital of the World

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The persistent dynamism of Bangalore as the “Outsourcing Capital of the World” ever since the wave of globalization and liberalization came into India in the early 1990s is extraordinary to say the least. The city has come a long way from being the education hub in the south of India to being one of the strongest talent magnets in the country. Numerous papers and substantial research over the years has indicated the inherent strengths of the city which catapulted its development as the *Silicon Valley of India*. However, rarely has the enhanced pace of its evolution/growth been traced due to the ‘steroid like’ impact provided by planned, and at times even unintentional factors, that made the phenomenon called “Bangalored.” This article attempts to understand not only the inherent strengths of the city but also the agents of change that transformed the unknown capital of the state of Karnataka into the Outsourcing Capital of the World.

Bangalore Rising

This section looks at the various factors that enabled Bangalore to become the Outsourcing Capital of the World. These factors influenced the city simultaneously to put Bangalore on the world map.

**Factor One: Growth in Area and Population**

Bangalore, with its strategic location as well as congenial climate, fertile land and adequate rainfall grew steadily in its area and population. The cosmopolitan nature of the city and its population is clearly brought out from the pages in its history.

In the pre-independence era, with the establishment of the cantonment, the prospects of trade, employment and other means of livelihood increased and people started setting on the fringes of the cantonment area and various localities started springing up in 1800s. Bangalore developed not only as a headquarters of administration and an educational centre of Karnataka but also had a tremendous growth as an industrial center. Within a decade and a half after the re-organization of states in 1956, Bangalore became the seventh largest city in the country by 1971, its population exceeding 1.6 million. Its population growth in the decade between 1971 and 1981 has been beyond any expectation and reached nearly 3 million marks raising its place to fifth among Indian cities.

About a decade before the turn of the last century, the old towns of Bangalore began to expand rapidly. As the city expanded and it absorbed the smaller townships and cities surrounding it, the rapid growth attracted the attention of the government and efforts were set afoot for a systematic development of Bangalore. Hence, the city was brought under a single Greater Bangalore Municipal Corporation (BBMP\(^1\)).\(^2\) It also must be noted that the Bangalore jumped from its 34\(^{th}\)

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\(^1\) *BBMP*: Bruhat Bengaluru Mahanagara Palike

\(^2\) *Source*: BDA (Bangalore Development Authority)
place in 2000, to the 29th spot in the future cities in 2015 (based on population growth). An ambitious but realistic Master Plan 2015 is already underway from Bangalore Development Authority based on the current population growth rate of 3.25% annually.

**Factor Two: Early arrival of Technology in Bangalore**

Bangalore saw the most spectacular growth with the establishment of government driven Public Sector Units (PSUs) like the Hindustan Machine Tools (HMT), Indian Telephone Industries (ITI), Hindustan Aeronautics Limited (HAL), National Aerospace Laboratories (NAL), Bharat Heavy Electricals Limited (BHEL), Bharat Earth Movers Limited (BEML) and National Government Electric Factory (NGEF). Also research and education establishments like the Indian Institute of Science (IIS), Indian Institute of Management (IIM-B), National Law School of India University (NLSIU), Indian Space Research Organization (ISRO) and Space Commission and Department of Space (DOS) acted like catalysts to the technology environment of the city.

Overall these changes made the city acclimatize to the science, electrical and information technology industries earlier than most other mega cities in India. This gave rise to the exponential growth of the internet based businesses in the city over the next decade resulting in the dotcom boom. Due to the large number of professionals that the science and technology industry employed, the city became one of the hot spots for attracting technical talent from all around the country in the early 1990s.

The new millennium saw Bangalore moving ahead of the dotcom bubble burst and the Y2K bug, and being in the process of incubation to take on the outsourcing industry for a better part of its last fifty year history. With the talent availability and expertise already developed the world took notice of the immense untapped potential. Bangalore was in a stage where it could offer fantastic cost arbitrage for the type of expertise already available.

**Factor Three: Becoming the Outsourcing Capital of the World**

The Government of Karnataka took the initiative to develop the electronics industry of the city, not realizing how this effort would take shape in the future. With about 335 acres of land – 18 km south of Bangalore, the Government undertook the most important project to create the blueprint of a new industrial park called Electronics City. As of date, Electronic City is home to over 120 IT/BPO companies and contributes a significant amount to the outsourcing revenue from the city.

During the 1980s, led by Wipro and Infosys, a number of private enterprises specializing in computer systems and software production began to emerge in Bangalore. India had already been the location of choice for international corporations to recruit great technical talent. What these new firms helped catalyze was the paradigm shift of India being a location to for business operations and not just ‘body-shopping’. This earned a transnational reputation for high quality services at low cost for India in general and Bangalore in specific.

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3 Source: World Urbanization Prospects, United Nations
The next logical stage saw the advent of global giants into India, starting with the US-based Texas Instruments established an agreement with India’s VSNL[^4], the first offshore software production centre in the city. This started the phenomena towards the emergence of offshore development centers and services globalization in Bangalore.

As the Department of Electronics (DOE) realized the potential of the employment opportunity, market demand, and technological feasibility, it developed the Software Technology Park (STP) scheme. The scheme was designed to attract offshore software production houses and 100% export oriented units to government managed facilities offering broadband communication networks, reliable infrastructure, tax breaks, and tariff-free imports of equipment. The already existing Electronics City in Bangalore was recognized as the first of the six STPI units when the scheme was implemented. The value proposition for Electronic City was further enhanced with STP’s broadband communication system being established in Bangalore while excellent telecommunication and internet connectivity was made a part of the incentive to locate in the city.

The other large zone for outsourcing players developed in collaboration with STPI, the central/state governments and Tata’s team from both India and Singapore. Construction for the ITPL[^5] began in early 1995 and within four to five years, the park had achieved close to 75% occupancy. Karnataka also became the first state to announce its IT Policy in the year 1997 (Information Technology Policy 1997).

[^4]: VSNL: Videsh Sanchar Nigam Limited
[^5]: ITPL: Information Technology Park Limited
Factor Four: #1 Outsourcing Destination

What followed after initial incubation phase for Bangalore was extraordinary to say the least, the city erupted with ITO/BPO companies in the mid-1990s up to mid-2000s with more than 5 MNCs establishing in the city on an average every month. The events in the late 1980s was already paving the way for offshoring of services, US and Europe for example was facing a shortage of software professionals and the talent supply was unable to support the rapid expansion by the large firms. Back in the 1970s and 1980s, entire batches of students from the top technical institutes in India used to migrate to the Americas or Europe. This created a large presence of Indian professionals in these firms and the Indian Diaspora promoted the belief in Indian talent and India amongst the decision makers. These factors prompted the first few to take a trip to Bangalore; they were not only surprised with the technology know-how of the professionals in the city but also with the excellent climate that the city offered throughout the year.

The early entrants like Texas Instruments (1985), Motorola (1987), HP (1989), Nortel (1991), Sun Microsystems (1995), Cisco (1995), Philips (1996), IBM (1997), and Intel (1998) were conservative to start with. However, once the value proposition was proved with success stories from these early captive setups, the ones who followed like GE (2000), Google (2004), Yahoo (2005), Microsoft (2005) among others became very strong cases promoting outsourcing and Bangalore. Let us briefly look at the value some of these early establishments were able to get from the city and the impact they had on Bangalore rising.

1. Texas Instruments

TI established their center in the city back in 1985 with only 20 professionals, the establishment now houses more than 1,200 engineers and over 500 business associates. The area of specialization for their Bangalore center is primarily Research and Development, Sales and Marketing of semiconductor products in India. The center also contributes to TI's innovation lab for wireless handset technology research and development.

**Texas Instruments: Impact to/from Bangalore**

The key achievement for TI in Bangalore is the development of economical mobile handsets; the same technology has been used by TI to become the second largest chip maker for mobile phones around the world. R&D initiatives in India have resulted in close to 300 patent applications being filed from engineers in TI's Bangalore development center.

In order to bridge the employability gap in the country, TI (India) started masters programs in VLSI design and signal processing in more than 15 universities across India, including prominent institutes like Indian Institute of Science, Bangalore. TI's University program in India impacts 10,000 students a year in more than 400 universities and colleges across India. Texas Instruments venture into Bangalore proved beyond doubt the capabilities of the city and its benefits of cost and talent availability.

2. Motorola

Motorola's captive in Bangalore was started in 1987, ever since the R&D based center has been expanding rapidly. The company setup internal software development division (Global Software Group) in 1991. Apart from Bangalore the company also expanded to Hyderabad and Delhi NCR.
The captive center in Bangalore focuses on software development for all Motorola handsets and research on wireless technologies.

**Motorola: Impact to/from Bangalore**

Motorola India develops software and applications for handsets sold across the world, including the software used in Motorola Accompli PDA-cum-GSM phone that was launched globally was developed entirely in India. Nearly 40% of software for all Motorola’s latest phone is researched, written and tested in India.

Motorola has been actively involved in improving the employability of the Indian talent pool by donating its networking processor technology to more than 15 top institutes in India under the IMPACT-SSS program of the Ministry of Information Technology and Bangalore based Indian Institute of Science.

3. **Hewlett-Packard**

Hewlett-Packard’s operations in India (called HP India Software Operations) started more than two decades back in the year 1989 and primarily concentrates on developing, enhancing and improving HP’s product huge line. The major wave of expansion for India operations happened in the year 2000 with 2 new centers established in the city. Bangalore now caters to a large gamut of services stretched across customer service to R&D for HP.

**Hewlett-Packard: Impact to/from Bangalore**

HP now has over 1,200 engineers working across eight different centers which are all part of HP-ISO, the center works closely with other vendors and partners like GlobalSoft, TCS and Wipro for maintenance, implementation and support services.

HP also had a significant impact in India in general and Bangalore in specific. Apart from the HP products which reached large number of households in the city, the company also highlighted Bangalore’s capability in not just handling low-end programming but also services across high-end ITO to support for customers in US from the same city. Also HP setup a joint training lab with IIT, focusing on technologies for developing markets. The objective of the lab is to provide an environment for HP professionals to work with the academy in the creation of communication technologies.

4. **Nortel Networks**

Nortel established its first office in India in 1991, as the country began the process of liberalization for the telecommunication industry. Since then Nortel grew rapidly evolved into a major telecommunications player in India, working out of offices in Mumbai, Delhi, Bangalore, Chennai, Hyderabad and Kolkata. Avinash Vashistha, CEO, Tholons was instrumental in bringing Nortel to India and developing its center in the city. He further outsourced and partnered

Nortel get together, N. Murthy and Dr. Sridhar Mitta from Wipro Technologies

*Source: Tholons Archive*
with third-party providers like TCS, Infosys, Wipro and Sasken. Nortel became the first large global client for these providers who were just taking their first steps. TCS, the only known provider from India at that time, was made responsible for Nortel’s legacy systems, while Wipro received the contract for enterprise systems and optical networks. Infosys on the other hand was outsourced the intelligent network, new generation network and network management pieces. Sasken’s first client was Nortel and they were contracted to take care of enterprise systems for EU and wireless systems. It became one of the largest establishments for Electronic City, Bangalore and grew rapidly under Avinash’s leadership.

**Nortel Networks: Impact to/from Bangalore**

Nortel’s centers in Bangalore enabled the giant to develop expertise in infrastructure services, internet based services, and innovation for cellular services. The company served the Indian domestic market by partnering and collaborating with BPL Innovation Business Group as well. Nortel also invested heavily in the academia and partnered with top institutions like IISc in Bangalore, IIT in Kharagpur and IIM in Ahmadabad.

5. **IBM**

IBM re-entered India after their exit in late 1970s due to restrictions which existed to MNCs at that time. Their entry back to India came with a joint venture with TCS. However, the opportunity of an establishment in Bangalore was soon visible and IBM Global Services was established in 1997. The center first became the development and testing center for IBM and worked on numerous significant projects like the Blue Gene and IBM’s Giga Processor successfully. The expansion for IBM in Bangalore continued with another new facility for web-based application development, the Solution Partnership Center (SPC).

**IBM: Impact to/from Bangalore**

IBM was able to strike the right on-site (India) - off-shore (US) mix and that resulted in the phenomenal growth of the company, driven by excellent management. Currently their India center employs over 4,000 engineers and tester and also a sizable BPO headcount after their acquisition of Daksh eServices, India’s third largest business process outsourcing firm in 2004. IBM Daksh was the first acquisition done by the company in India and it helped them develop significant competencies in the BPO space.

IBM went ahead to establish a Center for Advanced Studies in their Bangalore facility to promote co-operation between employees and key engineering institutes in India. The center (one of eight around the world) offers advanced technical course students (like M.Tech., MS and PhD) from top institutes in India, access to IBM research repository and its personnel for solving complex development problems. IBM collaborates with NIIT to improve the employability of the talent pool by training them with IBM software technologies. Also the global giant introduced National Entrance Test (NET) for IBM Advanced Certificate course in software engineering, a structured short certificate program offered at authorized centers in India.
Established Center of Excellence

The four dimensional factors of 1) growth and expansion of the city, 2) its early introduction to technology, 3) the infrastructural/regulatory preparedness, and finally 4) the impact of early entrants provided the catalyst to the phenomenon that gave rise to the services outsourcing industry. The trend of outsourcing started in Bangalore but that’s not where it stayed for long, other countries followed within the next five years, both in India and around the world. The top5 offshore nations are India, Philippines, Ireland, China and Brazil; followed by the next5 which include Poland, Vietnam, Canada, Mexico, and Russia.⁶

One of the greatest advantages for Bangalore was the establishment of entrepreneurial ventures like Infosys and Wipro and others like TCS, Satyam, HCL, Genpact, Cognizant and Patni who setup large development centers in the city. Due to the numerous satisfied clients, the perception about Bangalore was created quickly in the client nations, of a place which is not the best in terms of infrastructure but offers cheap labor and great economic value for businesses to perform back-office operation. This perception didn’t change till the year mid 2000s, when more and more American managers discovered Bangalore and realized that the infrastructure and the talent availability kept improving every year. The aspirations of the Indian youth had seen a paradigm shift from wanting to become a doctor or an engineer to becoming an outsourcing professional. However, the economic crisis in US drastically reinforced the belief of a few people, about Indians taking away American jobs, to a majority of the American population. This is the phase where we have witnessed protectionism, changes being brought into international trade policies and revival of phrases like Bangalored, which originated in the 90s and literally means that someone’s job has been taken to Bangalore or outsourced.

Bangalore on the other hand went from strength to strength with the largest organizations expanding their operations in the city. For the most well known names like IBM, Accenture, Oracle, SAP, Motorola, HP, Motorola and Dell - Bangalore is a part of their strategic corporate plans and they already have multiple centers employing thousands of people in the city.

Specialization in Outsourcing

Bangalore has established itself as the center of excellence for outsourcing services from low-end to high-end services, considered an established destination for a wide array of services ranging from application development & management, testing, business analytics, English language contact center, engineering services, financial services, healthcare services, HR outsourcing, IMS, product development, R&D and emerging in new service lines like animation & game development.⁷

Bangalore is fully equipped to take on its role as a complete outsourcing destination and has continued to dominate all locations due to its competencies derived from its history and evolution. During its evolution, it mastered one outsourcing process after another to become the established

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⁶ Source: Tholons Top50 Emerging Outsourcing Destinations 2009 (www.tholons.com/top50.html)

⁷ Source: Tholons Location Assessment 2009
destination that it is now. Starting with low-end ITO/BPO processes like customer service and software testing to specialized KPO processes like R&D, business analytics and engineering services.

Bangalore has also remained one step ahead of its competition by adapting to new domains and technology with time. With the advent of technologies like virtualization, cloud computing, green-IT, Bangalore has constantly reinvented itself to stay at the pinnacle of outsourcing destinations.

**Anatomy of an Outsourcing Destination**

In the journey that Bangalore has witnessed in its history and during its evolution provides us substantial proof of what/how/why the dynamics an established destination perform. This section provides hypothetical comparison for an entrant, emerging, and established outsourcing destination in terms of the two major factors headcount of professionals in the city and employability.

**Entrant: Outsourcing Location**

A typical new entrant in the outsourcing location landscape has the characteristic of the employable talent pool numbers being higher than what the industry employs. This means that the attrition rates are low and the salary inflation is automatically controlled by the surplus in supply of professionals. Moreover, the employability curve in these locations is also more or less flat.

**Emerging: Outsourcing Location**

Emerging destinations have a different headcount and employability curve. While the employability curve is steeper the headcount curve rises more sharply to match supply of talent. However, emerging locations have enough availability of talent to further support the demand for headcount expansion. Emerging destinations for this reason have been able to control other factors like salary and attrition.

**Established: Outsourcing Location**

Established destinations like Bangalore are however different when we compare them to emerging destinations in terms of the industry headcount and the employable pool that the city offers.
Tholons calls the crossover of the employability curve by the headcount curve as “Point of Scale Resistance”, the point where the availability of employable pool is unable to support the growth of the industry headcount. This point of resistance is responsible for the location being pegged back in its growth due to factors like attrition and salary inflation coming into play. For locations which don’t offer large number of employable pool, the point is reached early and the location quickly loses its attractiveness, however, Bangalore with its rapid population growth and migration of outsourcing professionals was able to delay the resistance of scale for a long time. Moreover the employability curve also was rising sharper than most other cities with institutions flourishing in and around Bangalore.

According to a popular hypothesis, the first phase of growth for an industry drives the academic institutions; however, as the industry matures the institutions start to drive the enterprises. This is the phase that the outsourcing industry in Bangalore has matured into, where the talent pool drives the industry since the employability curve is now under the headcount curve.

The academia has risen up to the challenge of supplying the employable talent pool to the outsourcing industry. One more important factor that has had a significant impact on the employability is the aspiration of the youth. Once the industry became successful, the student population of India wanted to be a part of the high-growth outsourcing industry. NASSCOM\(^8\) and the Ministry of HRD also implemented both immediate and strategic plans to improve/increase both employability and scalability. 10% of the Indian graduates are produced in the state of Karnataka, which has historically been a place for technology and R&D based institutions in India. Along with the best available IT infrastructure in the country, coupled with the scalable/employable talent pool – Karnataka became a powerhouse for the outsourcing industry. Also along with the significant migration of outsourcing talent pool (for ITO/BPO/KPO) from all around the country, Bangalore has started gaining from the surge visible in employability curve already.

\(^8\) NASSCOM: National Association of Software and Services Companies, is the premier (non-profit) organization that represents and sets the tone for public policy for the Indian outsourcing industry; set up in 1988 to facilitate business and trade in software and services and to encourage advancement of research in software technology.
Bangalore: Outsourcing Scorecard

Outsourcing Revenue: US$15.9 billion
Outsourcing Headcount: 584,000

Demographics
- Population: 6 billion, over 50% aliens (Foreigners or other parts of India)
- Population Growth Rate (CAGR 2000-2015): 2.74% per annum
- Temperature
  - Minimum (January): 15° Celsius
  - Maximum (April): 34° Celsius
- Precipitation
  - Minimum (January): 3 mm
  - Maximum (September): 195 mm

Additional Remarks
- 58% of (33 out of 58) CMM Level 5 companies in India are established in Bangalore
- Contributes around 34% to India’s total outsourcing revenue of US$47.3 billion
- Issues with infrastructure (road traffic congestion, increased time of transportation, slow development of facilities) are hindering the growth
- Bangalore offers the most congenial risk profile among other Indian metros with minimal threat of terrorism, regionalism and political disturbances; however, the city is prone to a high-level of bureaucracy and corruption
- Considered the best outsourcing destination, established destination for multiple outsourcing processes like ADM, testing, business analytics, contact center, engineering services, financial services, healthcare services, HR outsourcing, IMS, product development and R&D
- Bangalore is well on its way to become the fourth largest city in India after Mumbai, Delhi and Kolkata by overtaking Chennai and Hyderabad by 2015

Source: World Urbanization Prospects, United Nations Populations
Source: NASSCOM, STPI and Tholons Research 2010
Sources & References

- Bangalore Development Authority, *Bangalore Master Plan 2015*
- *Bangalore: Globalization and Fragmentation in India’s High-tech-Capital*, April 2007, Christoph Dittrich
About Tholons

Tholons is a Services Globalization and Investment Advisory firm that combines "Best of Breed" consulting experience with deep execution expertise and investment insights to deliver truly effective services to its clients. Tholons offers a detailed understanding of business processes and combines it with practical hands-on expertise in executing the strategy. Tholons draws upon the considerable experience of a hand-picked team, which has successfully formulated and executed globalization strategies to unlock value for Global Fortune 1000 companies. Service providers leverage Tholons expertise to optimize their global delivery model. Tholons advisors engage with government bodies to build compelling strategies for making countries attractive destination for outsourcing.

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