

Fourth Generation Outsourcing Ricardian Model On Indian Outsourcing Industry and Need For Next Generation Outsourcing

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INTRODUCTION

Outsourcing officially became a part of the business-dictionary during the 1980s. Even though the companies have been outsourcing work for many years, but this trend has been carried to an extreme level in the case of *offshoring*. People often use *outsourcing* and *offshoring* interchangeably, but there are important technical differences between them. Outsourcing involves contracting with a firm, individual or a supplier to do a specific task for which the client does not have talent, time, skill or efficiency of operation. Offshoring is a subset of outsourcing which specifically includes moving the organizational function outside of the home country, usually to take advantage of cheap labor and production.

OUTSOURCING HISTORY: A 3-PHASE EVOLUTION MODEL

History of Outsourcing is very interesting. Even though the word ‘outsourcing’ is just two decades old, yet the concept of sub-contracting ‘non-critical’ activities is far older. Companies have been trying to exploit the benefits of ‘comparative advantage’ since the dawn of industrial revolution. To better understand the growth of outsourcing, we can divide the 20th century industrial-history into three parts.

1. **1901-1960:** Industrialization and growth of war economies.
2. **1960-1985:** Rise of the Corporations and Multinationals.
3. **1985 onwards:** Globalization, internet, service-industry and offshoring.

1.1901-1960: In the early 1900s, companies were vertically integrated organizations, undertaking their own production, manufacturing, packaging as well as the shipping. However, some innovative firms started moving the ‘non-critical’ services (like insurance, accounting and architecture) to sub-contractors, who would do the same job at half the cost. This led to the first wave of outsourcing during the industrial revolution. But at this time, the sub-contractors were mostly located in the same city or at most in the same country.

2. 1960-1985: With the growth of big corporations and multinationals, the outsourcing phenomena extended to manufacturing outsourcing. Initially they outsourced manufacturing of low-tech items such as clothes, toys, shoes and package-boxes, but eventually moved to higher value items like semiconductor-chips, computer components, consumer electronics and even payroll-services. More so, in the US during 1970s, it became common to outsource tasks that involve massive amounts of information, such as data processing to external vendors. Also, it was common for computer companies to export their payrolls to outside service providers for processing - a phenomena that continued into the 1980s.

3. 1985 onwards: One of the main consequences of globalization was the increasing level of fragmentation at various levels of a business cycle. This phenomenon affected both the composition and the pattern of international trade. This fragmentation led to the establishment of international production networks, which moved even the value-added activities like R&D, design and knowledge-processing to third world countries. Take for example, UK, where it follows that total outsourcing in terms of value-added activities increased from 38% in 1984 to 53% in 1995, while outsourcing within the same industry increased from 11% to 16% over the same period (Campa and Goldberg, 1997; Yeats, 2001).

Figure 1: Growth of Outsourcing

1901 – 1960	1960 – 1985	1985 onwards
• Sub-Contracting labor. • Legal services Outsourcing. • Insurance Outsourcing • Architecture and design outsourcing.	• Production Outsourcing (low end consumer goods). • Manufacturing Outsourcing (Hi-Tech Components). • Payroll and Accounting Outsourcing.	• Business Process Outsourcing. • Knowledge Process Outsourcing. • R&D Offshoring. • Strategic Partnerships. • CRM, billing and Customer support.

WHY OUTSOURCING EXISTS - RICARDIAN MODEL AND WAGE ARBITRAGE

Many researchers have put forward theories explaining why companies go in for outsourcing. There is a dominant school of thought based on views of Adam Smith and his tenets of free-trade. In his book, *The World Is Flat*, Friedman also emphasizes how globalization has changed core economic concepts. However, we find that the economic implications of outsourcing can be better explained within the context of the **Ricardian Comparative Advantage** framework. We make an attempt, both theoretically and empirically, to identify the benefits and costs of outsourcing by taking example of the US and India.

CONSIDER THE MODEL BELOW

Two Countries: US and India

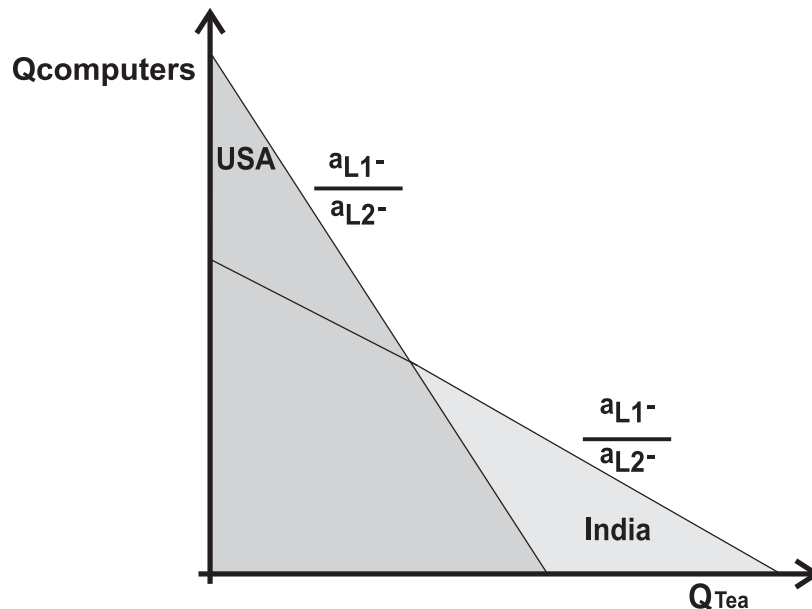
Two Goods: Computers and Tea

Factor: Labor

Productivity in Tea (MPL_s) = 1 (in both countries)

Productivity in Computers (MPL_c) = $A > 1$ in US and **1** in India

Figure 2: Ricardian Equilibrium



IN ABSENCE OF OUTSOURCING

At the Ricardian equilibrium, it is easy to see that:

- US will specialize in Computers and India in Tea.
- Relative price of computers (in terms of Tea) must follow: $1/A < P_C/P_T < 1$.
- Wage in USA will be $A \cdot P_C/P_T$
- Wage in India (in terms of Tea) will be 1.

DEDUCTION

Since $1/A < P_C/P_T$ so $P_C/P_T \cdot A > 1$, it implies that the wage in US is greater than in India.

USING OUTSOURCING

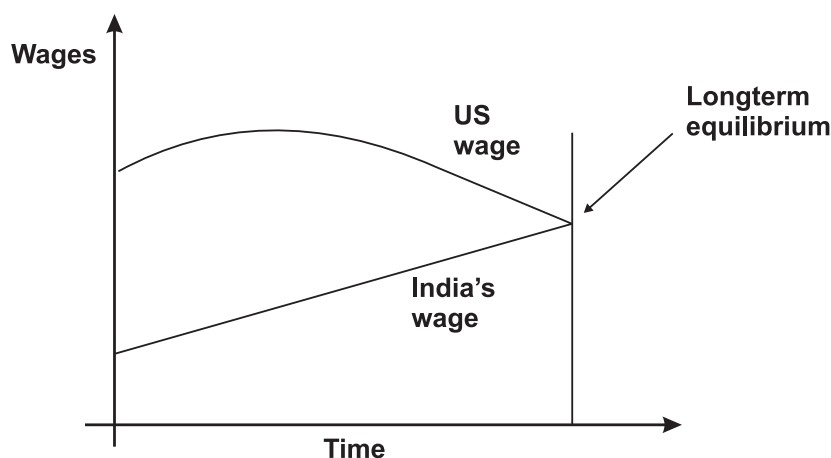
Let us presume that computers are made from two activities:

1. **Production** (call it Activity-1)
2. **Customer Support** (call it Activity-2).

Clearly, USA has a comparative advantage in Activity-1 over Activity-2 because of better technology (and hence high A). For sake of conservatism, let us assume that productivity in Activity-2 is same across USA and India.

Thus there is an incentive for US companies to *offshore* Activity-2 to India (cost savings). As more US firms start offshoring to India, they are able to improve their efficiency by exploiting lower labor costs in India and produce more and more computers for the same cost. This leads to increased supply of computers in the international market and hence a fall in their prices. However, it is easy to see that as the prices of computers fall, the wages in US ($A \cdot P_C/P_T$) also fall.

Figure 3: Effect of Outsourcing On Semi-Skilled Wages



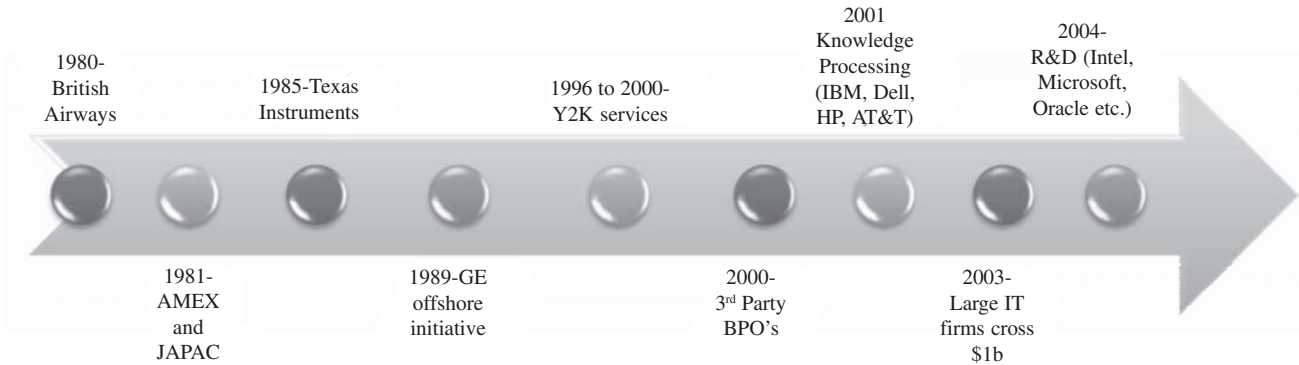
This gives rise to a two-fold debate. On one hand, outsourcing helps the companies increase the production of goods and make them cheaper, but on the other hand, it reduces the wages for secondary (unskilled) activities in developed countries.

Even though there is a reduction of wages in semi-skilled sector in US, yet the *aggregate effect* of outsourcing is highly positive for USA. For example, Catherine Mann (2004) estimated that outsourcing abroad reduced prices of high-tech hardware by 30 percent, which not only boosted the diffusion of information technology in the U.S. economy but also raised both productivity and growth by around 0.3% points per year. *The McKinsey Global Institute (2003) finds that for every dollar of activity outsourced to India, the United States receives between \$1.12 and \$1.14 in economic benefits.*

INDIA AND OUTSOURCING - BALTIMORE TO BANGALORE

India got into the *Offshoring* game as early as 1980's. In the early 1980s, several companies like British Airways, GE and Texas Instruments started their operations in India. But most importantly, India gained momentum in outsourcing because of the Y2K problem. Clubbed with the shortage of trained IT professionals in U.S. and the promise of faster, less expensive fix to the Y2K forced American companies to turn to India.

Figure 4: Indian Outsourcing Timeline



INDIA'S COMPARATIVE ADVANTAGE

India became a hub of international outsourcing business because of three reasons:

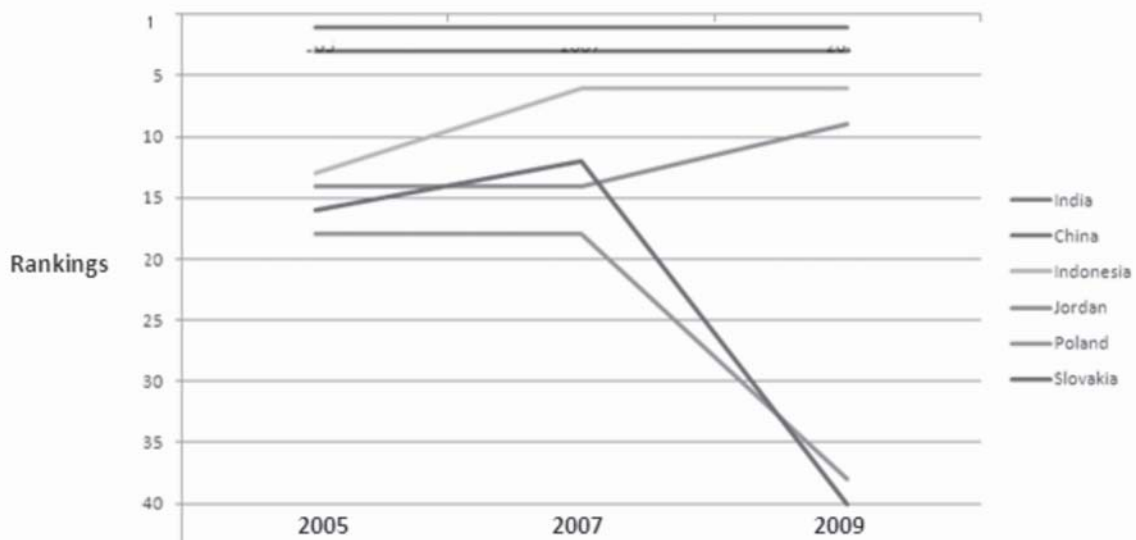
- A. Availability of IT and Hi-technology talent.
- B. Huge English-speaking population.
- C. Cost differential.

So, in the long run, if India has to maintain its lead, then all these factors must remain valid. But as the world progresses, we see various major competitors evolve throughout the globe, posing huge challenge to India's ability to maintain this lead.

The emerging market economies of China, East-Europe, and Russia have not only ample higher education level but also individual core-competencies. Russians are experts in basic sciences and engineering subjects; Chinese have tremendous infrastructure and manufacturing capabilities and East-Europe offers a destination with shorter journey times, smaller time-zone differences, close proximity and cultural ties to Western Europe.

According to A.T. Kearney's *Global Services Location Index*TM (GSLI) ^[2], there has been a phenomenal shift in world's preference for global outsourcing destinations. Although India and China maintained the top two positions in the 2009 GSLI rankings, but the competition coming in from low-cost regions such as Southeast Asia and the Middle East is huge. Even the previous strong players like Poland, Czech Republic and Hungary have fallen because of increasing costs of operations that eroded their competitiveness.

Figure 5: GLSI Rankings For Preferred Outsourcing Destinations. ^[2]



KEY DEDUCTIONS

Going deeper into this report we find that the **wage-cost** advantage of offshore locations will last for at least another 20 years. At the same time, key emerging markets in Southeast Asia and Eastern Europe are becoming more attractive in terms of talent, industry experience, quality certifications and regulatory environment. These factors along with the U.S. dollar's depreciation against many currencies can provide good **labor-cost** advantages when investing there. This may pose another threat to India's dominance in outsourcing industry.

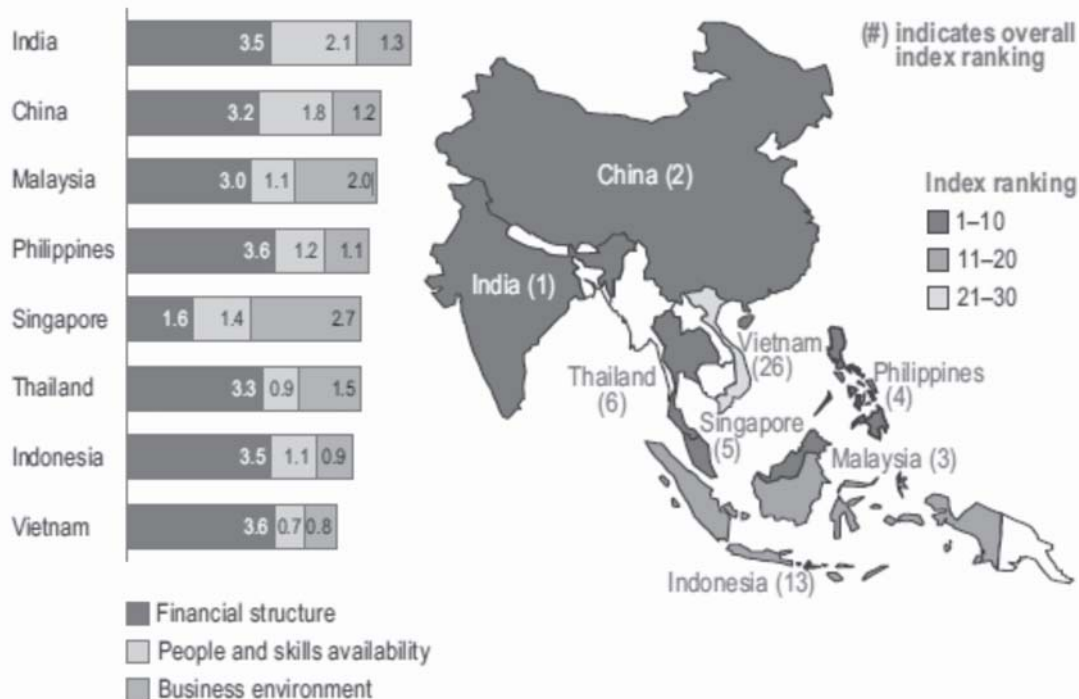
NEW COMPETITORS: FROM BANGALORE TO BEIJING

Our concern is that if outsourcing moved to India because of reasons like availability of cheap talent, then it has equal probability of moving out of India because of the same reasons. Various Hi-Tech companies like Dell, Motorola and Hewlett-Packard have set up centers in China during the last few years. Chinese Government's efforts to lower entry barriers, provide increased tax sops along with the availability of cheap labor have attracted many international companies to China lately.

IDC's new *Global Delivery Index* (GDI) ^[3] survey which compares 35 cities in the Asia/Pacific as potential offshore delivery centers predicted that Indian cities would be soon overtaken by their Chinese counterparts as top destinations for offshore global delivery.

Again going to the *A.T. Kearney's GSLI* study, we find that the importance of relative **cost advantage** of leading offshore destinations is declining and the importance for people skills and business environment is rising significantly. So, in order to maintain long-term competitiveness, we must push for skill-development, infrastructure investment and a regulatory environment rather than just attempting to control wages. Though India is better perceived as a country where 'Intellectual-Property' rights can be preserved, but in terms of other two factors, India faces tough competition from China.

Figure 6: South Asian Competition For Dominance In Outsourcing ^[6]



Chinese Universities turn out around 400,000 ^[5] technology graduates a year creating a resource base that will rival India in terms of both quality and service. India, on the other hand, is highly constrained in supply of talent. This is clearly visible in rising wages and high turnover amongst engineers.

China has been concentrating on building up its IT infrastructure at a much faster rate than in India. Building such an infrastructure from scratch, China can avoid the mistakes that India made in its early days. Moreover, China's new policies like zero Duty on IT-related products, tougher Penalties for Intellectual Property Rights, improvement of standards on core IT and Outbound Merger and Acquisition Activities etc. have been showcasing its determination to lead the game.

PROVING RICARDIAN THEORY WRONG: INDIA'S FUTURE IN OUTSOURCING

In the 1960s^[6], Americans held the common logic held that Japanese manufacturers had a "comparative advantage" in small and inexpensive cars, while the America's Big-Three specialized in large and powerful cars. But by the 1990s, it was clear that any comparative advantages Detroit had imagined were gone with the wind. Japan was exporting everything –small and inexpensive cars, large and luxurious cars, SUVs, and even sports cars. The whole Ricardian model turned wrong.

Ricardo had based his theory on natural endowments. Spain exported wine to England because it had sun and England didn't — and that wasn't going to change soon^[6]. But Japan groomed its skill-set so wonderfully, that in one decade, it not only retained its cost advantages, but also built advantages in quality and capacity.

Similarly, Indian companies have staggering cost advantages over their international competitors, but that doesn't mean they can't also compete at design and innovation. India can attempt to reinvent the rules of the game. The Ricardian logic can fail here also.

NEXT WAVE OUTSOURCING

As wages increase in India and international competition starts killing prospects for back-end operations, outsourcing must take a new twist. Our future does not lie in receiving calls in call-centers at Bangalore but opening our own offices on Main Street, USA.

The first wave of outsourcing consisted primarily of labor intensive goods such as the footwear and high tech niche markets such as consumer electronics. However, the next wave of outsourcing would come when Indian and Chinese companies would start competing with western manufacturing firms in areas that US or EU traditionally dominated. Specifically, these include skill-intensive sectors like auto components, advanced machinery, pharmaceuticals and telecom equipment.

MEDICAL RESEARCH AND INDUSTRIAL R&D

As the baby boomers age in America, the world sees an increased demand for better medical attention. Since the baby boomers are flushed with cash, it may open a new wave of outsourcing in the area of biomedical engineering. Cardiovascular engineering, genetic engineering, medical imaging software and biotechnology are the name of the game in the next several years.

Also, because of outsourcing of the low skill jobs from engineering sectors, the wage distribution in US has become highly skewed in favor of the 'skilled' workforce. This means higher wages and production costs. So if countries like India can offer highly skilled individuals along with improved infrastructure, we can see a lot of high paying professional jobs moving towards India.

CONCLUSIONS

Suppose there was a Hi-Tech firm in Silicon Valley, called ABC Inc. For years it was doing well, but the onset of 2001 recession clubbed with fall in international prices due to competition challenged the future of this firm. It was forced to make layoffs in US and offshore jobs (particularly low-end) to India. But even then the company could not make profits and was forced to make a further workforce cut of 20%.

At such a stage, cutting down on work-force or ceasing the operations is not a good option. In fact, the company can shift some design or engineering work to a team in India. By having U.S. and Indian designers collaborate 24 hours, the firm can slash development costs and time and compete better for winning orders it previously missed due to constraints. So outsourcing could help in not only creating jobs offshore, but also maintaining American jobs as well^[7].

Outsourcing, if properly conceived, can be highly successful even when the resources are hired locally to the market being targeted; meaning without relying on exchange rate differences nor differences in global payscales. Some companies are successful because by concentrating expertise, adopting best practices, innovating and

reusing work, they have found efficiencies that add up to more than their direct costs of services delivery + overhead (meaning that profit model has nothing to do with currency or wage geography).

APPENDIX

Figure 7: Hourly Wages In US ^[1] Vs. Wages In India.

Occupation	India (Hourly Wages)	USA (Hourly Wages)
Telephone Operator	\$1.00	\$12.57
Health record transcriber	\$1.5 to \$2.00	\$13.27
Payroll Clerk	\$1.50 to \$2.00	\$15.27
Legal Assistant	\$6.00 to \$8.00	\$17.86
Accountant	\$6.00 to \$15.00	\$23.35
Financial Analyst	\$6.00 to \$15.00	\$33.00 to \$35.00

Figure 8: Major Countries Providing Outsourcing Services

India	Full Spectrum services.
Ukraine	Programming and R&D.
Brazil	Web & Software Programming, Game Development, IT Support, Network Solutions.
Argentina	Programming, Data Entry, Customer Support.
Indonesia	Customer Support, IT Support, Programming, Animation, Transcription.
China	Transaction Processing, Manufacturing, low-end Software Development and Maintenance.
Philippines	Web design, customer support, animation and medicine.
Canada	Software Development and Maintenance, call center, Tech Support and Telecom.

Figure 9: Outsourcing Players



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