

# 中—印医药外包比较

附两国前50强公司介绍

## **Comparison of Pharma Outsourcing between China and India**

**– With Company Profiles of Top 50 Best Outsourcing Service  
Providers in Each Country**

**By Jim J. Zhang, Ph.D.**

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## About Author

### **Jim J. Zhang, Ph. D.**

Jim J. Zhang currently is president and managing director of JZMed, Inc., a US-based, full scale pharmaceutical service company specializing in outsourcing to China. Before founding the company, Jim worked for nine years with Albany Molecular Research, Inc. (AMRI), a US-based and currently one of the world largest CROs. During his tenure at AMRI Jim was responsible for managing and overseeing multiple drug R&D projects that involved the international cooperation of AMRI's multiple sites (USA, Singapore and Hungary). He played key roles in helping numerous pharma and biotech companies discover and develop a series of drug candidates that later entered preclinical and clinical development including advanced clinical trials. He was also the key contributor to the development of chemical production process for several developmental drugs. Prior to pursuing his Ph.D. program in the US, Jim worked for six years in a China-based CMO as process engineer and developed production process for a number of pharma products.

In nearly twenty years practice Jim developed his expertise in chemical process research and development and in the therapeutic areas of viral infection, cancer, chronic obstructive pulmonary disease (COPD), and cystic fibrosis. Currently he holds 18 patents. He is also the principal author of 12 peer-reviewed research articles.

Jim has authored a series of industry reports about China pharmaceutical outsourcing. He was also invited by a number of market research firms to author/co-author industry reports.

Jim received his master's degree in Chemical Engineering from East China University of Science & Technology (Shanghai), and his Ph.D. degree in Synthetic Organic Chemistry from the University of Iowa. He also received additional trainings in Medicinal Chemistry through working at Research Triangle Institute (Research Triangle Park, North Carolina).

## Report Description

It has been well recognized that the global pharmaceutical industry is facing a number of challenges at present. The difficulties the industry is experiencing have forced all drug companies to change their current operation models. They are now forced to pursue more efficient, cost-effective and productive ways to conduct their operations, whether in R&D or manufacturing. The keys for them to make a quick turnaround are to get drug discovered quicker, developed faster, manufactured cheaper and marketed wider.

Outsourcing has been proven to be one of the effective solutions for drug companies to quickly turn the situation around as it provides them with the desired efficiency, flexibility and agility. Among all emerging countries for outsourcing, China and India have risen rapidly and become stars in the global pharmaceutical outsourcing arena as both countries possess the unique combination of low cost and quality service. The current global financial crisis has also greatly enhanced the importance of these two countries to many drug companies around the world who are vigorously seeking cost reduction.

However, China and India each also possess their own, unique features and characteristics, not only in the pharmaceutical-related industries but also in almost every aspect of social structure. To many companies who are interested in conducting outsourcing or investment in either country, it is always a challenge to decide which country best fits their investment goals.

The report, “**Comparison of Pharma Outsourcing between China and India**”, has conducted so far the most complete and comprehensive comparisons between China and India. It first time revealed the similarities and differences between these two countries in a broad rang of areas. It also revealed the advantages and disadvantages of each country in pharmaceutical outsourcing and the strengths and shortcomings of their service capabilities. Besides, the report also made in-depth comparisons of pharmaceutical and biotechnology industries between China and India including their R&D capabilities of innovative medicines.

The report provides a clear insight into the current development states of pharmaceutical outsourcing industries in each country including their market sizes and service capabilities in each technical area. In addition, it provides valuable advices to pharmaceutical and biotech companies who are interested in outsourcing to either country of how to appropriately evaluate each country and decide which one best fits their development goals and outsourcing strategies.

The report is a must-read book to all professionals in the industries of pharmaceutical, biotechnology, financial investment and outsourcing service that are interested in either one of these two countries. It is also a valuable reference book to drug regulatory agencies and other government agencies that are involved in strategic planning for development of pharmaceutical industry in their own countries.

## Key Findings of the Report

- ❖ In many aspects China and India are very similar. Both are located in Asia and the most populated countries in the world. Both are still developing countries with low wages for most workers in most industries. However, there are also significant differences between these two countries in the areas related to pharmaceutical industry. Each country possesses its own features and characteristics.
- ❖ In general, China is better equipped in industry infrastructure than India. Chinese pharmaceutical market is also much bigger than India's. However, the business operation style and philosophy in Indian companies are closer to the Westerner than in Chinese companies. Indian companies are also more familiar with the Western regulations than Chinese companies. They also have broader global presences than Chinese companies.
- ❖ China is better in education of biology than India. The biotechnology industry in China is also more advanced than in India. However, Indian pharmaceutical companies have invested more in R&D and have a much broader product scope than Chinese companies.
- ❖ In traditional pharmaceutical sector, Chinese companies are still limited to manufacturing of traditional products which are marketed in the limited number of countries. But, in the biotech sector, Chinese companies possess much stronger capabilities in R&D and manufacturing of macro compounds than Indian companies.
- ❖ In professional outsourcing service, the two countries provide close service scopes and possess close service capabilities. However, there are still differences in each service sector between these two countries. In discovery service, Chinese companies and Indian companies possess close skills and offer similar services and qualities. However, in target identification and validation as well as those related areas such as research in genomics and proteomics, Chinese companies possess stronger service capabilities than Indian companies; whereas in small molecule drug R&D, Indian companies are more capable than Chinese companies.
- ❖ In preclinical research service, Chinese CROs possess better service capabilities than Indian CROs; whereas in clinical research service, it is just opposite. In process R&D and scale-up synthesis, both countries possess similar capabilities. However, Indian companies possess better skills and capabilities than Chinese companies in formulation, manufacturing and marketing of generic drugs.
- ❖ Major pharma and biotech companies play different strategies in these two countries. In India, they more tend to form close collaborations such as risk-sharing outsourcing with an Indian company to co-develop drug candidates, but very few of them are willing to permanently set up a decent size of R&D center or manufacturing facility in the country. In stark contrast, almost all major pharma and biotech companies

have invested hundreds of millions of dollars in China to establish their wholly-owned R&D centers and large scale manufacturing and marketing facilities. Many of their China R&D centers have already reached decent sizes and gained strong capabilities. They are ready to conduct full-scale research independently.

- ❖ The outsourcing models between the Western companies and the Asian companies are also not limited to just straight outsourcing. Rather, it has extended to including all types of activities such as product marketing and drug candidate licensing. Also, the interesting outsourcing service providers are not just limited to those professional ones. Any pharma or biotech companies in any of these two countries could become outsourcing partners as long as they possess the desired capabilities.
- ❖ The pharma outsourcing industries in both countries have grown rapidly in the recent few years. They are currently valued at about \$1.42 B in China and \$1.77 B in India, respectively; each occupying only about 2% share in the global pharma outsourcing market. On the other hand, both markets are posed to still grow rapidly in the future as they are driven by a number of positive factors. However, China appears to have higher future growth potential than India as it has fewer growth resistors. It will very likely catch and even surpass India after 2010.
- ❖ At present, India is better than China in small molecule drug R&D and manufacturing. But China is superior over India in biotechnologies including the R&D and manufacturing of macro compounds. India offers better product quality but China has more cost reduction advantage. In terms of investment opportunities, China seems to present more attractions than India as its industry infrastructure and biotechnologies are more advanced.

## **Methodologies the Report Employed**

The report is written based on the in-depth investigations and studies of pharmaceutical outsourcing industries in both China and India. It first carefully selected, among a large pool of companies, top 50 best outsourcing service providers in each country. It then conducted detailed comparisons among these selected companies in more than twenty different areas.

The comparison is performed in four different ways:

- Head-to-head comparison of two countries including advantages and disadvantages of each country in pharmaceutical outsourcing;
- Head-to-head comparison of pharmaceutical outsourcing industries between the two countries including their development history and pattern, current market sizes and service capabilities, strengths and shortcomings, and future growth potentials including the growth drivers and resistors;
- Head-to-head comparison of top outsourcing service providers of each country;

- Head-to-head comparison of popular outsourcing models in each country.

The objective of the comparison is to provide readers an unbiased depiction of the pharmaceutical outsourcing industry in each country with the emphases on revealing each country's strengths, weakness, advantages and disadvantages in outsourcing.

## **Your Questions Are Answered**

The report provides detailed answers to a variety of questions every outsourcing and investment company is concerned about:

- ❖ What are the most concerned issues when drug companies choose an outsourcing destination? How to compare one country with another in pharma outsourcing?
- ❖ What advantages and disadvantages do China and India each possess? What are India's strengths in pharma-related industries? Does China have its own features?
- ❖ Why China not India is better suitable for some projects? Why India not China better fits other projects? What are the most popular outsourcing models in each country?
- ❖ What types of services do China and India each provide? Which country is better in what areas? How about the differences in service capabilities both in general and in each specific technical area?
- ❖ Who are those top players in each country? What are their current service capabilities? Who are the best players in each service sector of each country?
- ❖ What are the cost structures in each country? Which country provides more cost-reduction?
- ❖ What are the current market sizes of pharma outsourcing industries in China and India? How about the market sizes of each service sector? Where do they stand in the same sector of the global industry?
- ❖ Which country will have more potential for future growth? What are drivers and resistors of their future growths?