

# NAVIGATING THE SHIFT: TRANSITIONING MANUFACTURING FROM CHINA TO INDIA

## INSIGHTS FROM APPLE, FLEX AND SAMSUNG

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The global manufacturing landscape is rapidly changing as companies seek to diversify their supply chains and tap new markets. With China's rising wages and declining relationship with the West, India has emerged as a leading alternative to China for manufacturing. This article provides insights on how best to navigate the process of shifting manufacturing operations from China to India, drawing on three compelling case studies in the field of electronics: Samsung, Flex, and Apple. By examining the strategies and experiences of these industry leaders, we can extract valuable lessons on how to successfully transition manufacturing activities to India.

By way of background, my X-PM partners and I specialize in transition management: we help companies that need help in managing crises, discontinuities and transformations. We have been focusing our attention on the transition from manufacturing in China to manufacturing in other parts of

Asia, particularly India. One of the biggest challenges for companies in executing a manufacturing relocation is the fact that such transitions require enormous management bandwidth. To provide companies with additional management bandwidth on demand, we have built a talent pool of thousands of senior managers whom we can deploy for our clients on short notice.

In terms of the categories of transition management, my X-PM partners and I would describe the shifting of manufacturing from China to India as essentially a transformation process, though some aspects of it can be described as crises caused by trade restrictions and the recent COVID pandemic. These events caused severe supply chain problems for companies that suddenly found themselves over-dependent on China.

We focused our research on three companies have been shifting electronics production from China to India:

- 1. Apple:** To increase the reliability of its iPhone supply chain, Apple has been accelerating its "China plus one" strategy (i.e. diversification of its manufacturing sources), with India being the most well-known new iPhone production site. The company has partnered with vendors, such as Taiwan's Foxconn and India's Tata Group, to establish production capabilities in India. Apple's shifting of production has also allowed it to reduce the customs duties levied on the phones that it sells into India's large and growing consumer market.
- 2. Flex:** Flex, one of the world's largest electronics contract manufacturing companies, has expanded its operations in India as part of its strategy to diversify manufacturing away from China. Flex has been building capabilities in India since 2001. It now operates about a dozen factories in India, including two manufacturing facilities in Sriperumbudur, Tamil Nadu, where it makes desktops and workstations for HP. The company's decision to expand its presence in India was influenced by factors such as the incentives provided by the Indian government, the expected growth in the Indian manufacturing sector, and a desire to support existing customers who want to participate in the growth of the Indian domestic market.

- 3. Samsung Electronics:** Samsung, the South Korean electronics giant, has been gradually shifting its manufacturing operations from China to India. In 2018, Samsung inaugurated what it claimed was the world's largest mobile phone manufacturing facility in Noida, on the outskirts of New Delhi. This shift was driven by the Indian government's "Make in India" initiative and the attractiveness of the Indian domestic market. The Noida factory has played a crucial role in meeting the growing demand for Samsung smartphones in both the Indian market and global markets.

Our case studies of Apple, Flex, and Samsung demonstrate that shifting electronics manufacturing from China to India can be done successfully. Their decisions were driven by various factors, such as India's skilled workforce, cost advantages, supportive government initiatives, and the potential to tap into India's domestic consumer market.

Companies looking to follow in the footsteps of Apple, Flex and Samsung may want to consider adopting five key tactics that these industry leaders adopted:

- 1. Assess the Business Landscape:** Before embarking on the shift, it is important to evaluate the Indian manufacturing ecosystem and understand the potential benefits and challenges it presents. The basic idea is to do your homework ahead of time so that there are no surprises later on. Factors to consider include:
  - **Cost Efficiency:** Conduct a comprehensive cost analysis to compare the advantages and disadvantages of manufacturing in India, such as wages, infrastructure expenses, taxes, and subsidies. Scale is important in India to achieve efficiencies and to overcome high fixed costs (e.g. land, back-up infrastructure, imported equipment and regulatory compliance).
  - **Regulatory Environment:** Familiarize yourself with India's legal and regulatory frameworks, including trade policies, intellectual property protection, labor laws, and environmental regulations.
  - **Supply Chain Infrastructure:** Evaluate the reliability and efficiency of India's transportation, logistics, and supply chain networks to ensure smooth operations.

2. **Evaluate and Select Multiple Locations:** Assess various regions in India based on factors such as infrastructure, workforce availability, supplier networks, and government support to determine more than one location for manufacturing operations. A multi-location production strategy within India enables companies to compare their experiences among states, and to increase their bargaining power with respect to any particular state. Apple, Flex and Samsung recognized that India is not a monolithic state, and while they all received support from the central Indian government, they had to develop relationships with the people on the ground in each state.
3. **Leverage Government Initiatives:** Stay abreast of government policies and initiatives aimed at promoting local manufacturing. Capitalize on incentives, tax benefits, and support programs to enhance competitiveness and accelerate the transition. India has launched a number of initiatives to attract manufacturers:
  - The Phased Manufacturing Program (PMP) was designed to promote a robust local mobile phone manufacturing ecosystem and offer benefits to every stakeholder in the value chain.
  - India has also attracted new investment through the production linked incentive (PLI) policy and other incentives targeting IT and electronics manufacturing.
4. **Indigenize Components Cautiously:** Despite Apple, Flex and Samsung making large investments in India, most of their manufacturing in India is still assembly work. Localization of production has not progressed much beyond packaging, chargers and cables, but Samsung has started production of mobile display panels at its Noida/New Delhi factory. While India still imports many high-end electronic components from Korea, Taiwan, Japan and the USA., over time we expect that to change as the brands' existing component manufacturers set up operations in India, and as the brands develop and approve new local component suppliers.
5. **Invest in Workforce and Skill Development:** Prioritize skill development initiatives to build a highly skilled and capable workforce. Collaborate with

educational institutions, vocational training centers, and industry bodies to bridge skill gaps and align training programs with manufacturing requirements. The availability of a skilled workforce is crucial for the successful transition of manufacturing operations. Consider the following initiatives:

- **Training and Development:** Collaborate with local educational institutions and vocational training centers to bridge any skills gaps and develop a capable workforce. Invest in training programs to align the skills of existing employees with the requirements of the manufacturing processes.
- **Talent Acquisition:** X-PM is particularly focused on this issue, as the war for talent in India is fierce, especially for senior management who have experience in manufacturing, sourcing, vendor development, logistics and R&D. To build our talent pool, we are constantly looking for experienced managers, both Indian business leaders and foreign experts, who are available on short notice to embed themselves in companies to carry out specific missions.

## **Conclusion:**

Rising costs and trade tensions are forcing major companies such as Apple to rebalance their investments in Asia. However, shifting electronic manufacturing operations from China to India is a complex undertaking that requires careful planning and execution. The case studies prepared by X-PM highlight several successful strategies employed by companies to shift manufacturing operations from China to India, and interim executives are available to help companies execute those strategies. Organizations can learn valuable lessons from our case studies to reduce their exposure to China, and reap the benefits of manufacturing in India while minimizing the risks associated with such transitions.

## Summaries of Case Studies

### Case Study 1: Apple's Strategic Transition of iPhone Assembly to India

Apple, one of America's leading technology companies, has been caught in the middle of trade friction between the USA and China. To reduce their supply chain risk, Apple's leadership decided to shift a significant portion of its iPhone assembly from China to India. This transition has also enabled Apple to be more competitive in India's large and growing mobile phone market. JP Morgan has projected that India will account for approximately 25% of all iPhone production by 2025, up from around 7% today. Today about 63,000 workers are directly involved in iPhone production in India. Here's an overview of Apple's approach:

- **Decentralized Manufacturing Facilities:** Apple subcontracted its production in India to multiple vendors, such as Foxconn and the Tata Group, to establish production facilities in India. These collaborations ensured that Apple's stringent quality standards were upheld while leveraging India's cost advantages and skilled workforce. Working with multiple vendors in multiple locations enabled Apple to identify best practices in each location and to accelerate the process of learning how to succeed in India. One of Apple's vendors, Taiwan-based Wistron, was unable to manage its Indian workforce and decided to sell their Indian operation to the Tata Group after facing worker unrest. While Wistron failed, Apple succeeded because they had diversified their sources within India -- a fail safe solution.
- **Phased Localization of Components:** Apple appears to be going slow on sourcing components in India, preferring to focus first on assembly. The iPhone's display, for example, is made by either Samsung or LG in South Korea. The flash memory and DRAM come from Kioxia in Japan. Corning's factories in the USA, Taiwan and Japan supply the Gorilla Glass that protects the screen. Now that the iPhone assembly process has scaled up successfully, Apple is encouraging its component suppliers, including those based in China, to set up operations in India.
- **Government Incentives and Support:** Apple leveraged the Indian government's initiatives and incentives for electronics manufacturing. These included schemes such as the Production-Linked Incentive (PLI) scheme, which provided financial incentives to boost local production. The government's support played a crucial role in facilitating Apple's transition and accelerating its manufacturing operations in India. Acknowledging the depth of the relationship between the Indian government and Apple, Commerce and Industry Minister Piyush Goyal stated, "We are in regular touch with them.... We hand-hold them because, in a way, the eyes of the whole world are fixed on Apple."
- **Workforce Development:** "Manpower training" and "youth skilling" were two of the key topics that Apple CEO Tim Cook discussed with India's Prime Minister Narendra Modi when they met in April 2023. The Indian government has offered to support Apple's training requirements by using the Gati Shakti University approach (i.e. creating a hub for training and skilling) to disseminate skills through Apple's own courses and training programs.

By shifting a significant portion of iPhone assembly to India, Apple not only diversified its manufacturing base but also tapped into India's vast consumer market. This move showcased the company's commitment to local manufacturing, training, and the domestic consumer market.

## Summaries of Case Studies

### Case Study 2: Flex's Strategic Approach to Electronics Manufacturing in India

Flex (formerly Flextronics), an American electronics manufacturing services provider, has shifted part of its manufacturing operations from China to India. The company recognized India's potential as a manufacturing hub and made strategic investments to tap into the Indian market. Flex has several facilities spread across India, including Chennai, Bengaluru, Pune, Hyderabad, Gurgaon and Vishakhapatnam. Here's an overview of their approach:

- **Decentralized Manufacturing Facilities:** Flex expanded its manufacturing footprint in India by establishing multiple production facilities across the country over the past 20 years. These facilities encompass electronics, electrical, and electromechanical design and manufacturing capabilities, catering to various industries, including automotive, telecommunications, and healthcare. Having operations in different states enabled Flex to see how different states operate, and it increased its bargaining power against any particular state.
- **Phased Localization of Components:** To support its manufacturing operations in India, Flex focused on localization efforts and collaborated with local suppliers. This strategy allowed Flex to optimize costs, reduce lead times, and enhance supply chain efficiency by leveraging the capabilities of Indian suppliers. Flex recognizes the need to focus on electronic components and the supplier ecosystem. They aim to reduce the volume of the imported components, believing that once the right building blocks are provided to develop the base for electronic manufacturing, they will be able to ramp up localization.
- **Government Support:** Government incentives were a factor in Flex's recent expansion in India, as they reduced the cost associated with migrating some of their production from China to India.
- **Workforce Development:** India's skilled workforce played a vital role in Flex's decision to expand manufacturing operations in the country. Flex has been able to attract and hire the kind of workforce they need for their production process. They also recognized that India has an abundance of engineering talent, enabling them to scale up in terms of automation.

Flex has many years of experience in both India and China, and focuses on contract manufacturing for global brands. They are in India to serve their global clients, and not because of their interest in India's large and growing domestic market. For Flex, government incentives have been a very important factor in their decision to shift part of their operations to India. Based on the comments of their senior management, their approach to workforce development appears to focus more on talent acquisition than on training.

## Summaries of Case Studies

### Case Study 3: Samsung's Successful Transition of Electronics Manufacturing to India

Samsung, the South Korean electronics giant, made a strategic decision to shift a significant portion of its electronics manufacturing operations from China to India. This transition allowed Samsung to tap into India's favourable business environment and growing market. Here's an overview of their approach:

- **Decentralized Manufacturing Facilities:** Samsung expanded its manufacturing facilities in India to establish a strong production base. The company set up one of the world's largest mobile phone factories in Noida (near New Delhi) and Chennai, as well as a consumer electronics manufacturing plant in Tirupati (in South India). These facilities allowed Samsung to cater to both the domestic and export markets. Having factories in multiple states enabled Samsung to compare the operating environment in each state, and it increased its bargaining power when negotiating with any single state.
- **Phased Localization of Components:** While many of the components of Samsung's India-made smartphones are globally sourced, Samsung has already started production of mobile display panels at its Noida/New Delhi factory and now sources many of the plastic parts from Indian vendors. These steps have significantly increased the portion of locally sourced components in the company's smartphone devices.
- **Government Support:** Samsung leveraged the Indian government's initiatives to promote local manufacturing, such as the "Make in India" campaign and the Production-Linked Incentive (PLI) scheme. These initiatives provided financial incentives and other support to boost local production and attracted Samsung to shift its manufacturing operations to India.
- **Workforce Development:** Samsung's transition to India led to a number of skill development initiatives with the Electronics Sector Skills Council of India (ESSCI) and its training and education partners. For example, Samsung trained 3,000 less-privileged students, selected through a pre-course assessment, in artificial intelligence, the internet of things (IoT), coding, and programming. The training is being conducted via eight educational institutions in the country under the company's corporate social responsibility program, "Samsung Innovation Campus". Samsung has also partnered with the Department of Collegiate and Technical Education, Government of Karnataka to advance technology education in rural parts of that state.

As in the case of Apple, by shifting a significant portion of smartphone assembly to India, Samsung not only diversified its manufacturing base but also tapped into India's vast consumer market.