

## Textiles & Garments: Productivity & Efficiency Benchmarking

In this section various parameters that are critical to achieve competitiveness in the manufacturing sector have been studied along with the progression of India vis-à-vis competing countries on the competitiveness protocol.

Most of the Indian firms in the Textiles & Garments Sector (Weaving/Knitting & Processing) are still in the Stage I of the competence protocol and targeting basic conveniences & cleaning up of operations to achieve competitiveness. Their efforts are made towards cost reduction (raw-material & logistics being the most prominent), increasing labour productivity, ensuring compliance to quality norms and engaging in continuous quality improvement efforts. Some of the aspects in Stage 1 like energy conservation, clean & safe working environment, etc. are still to be looked up as measures for competitiveness.

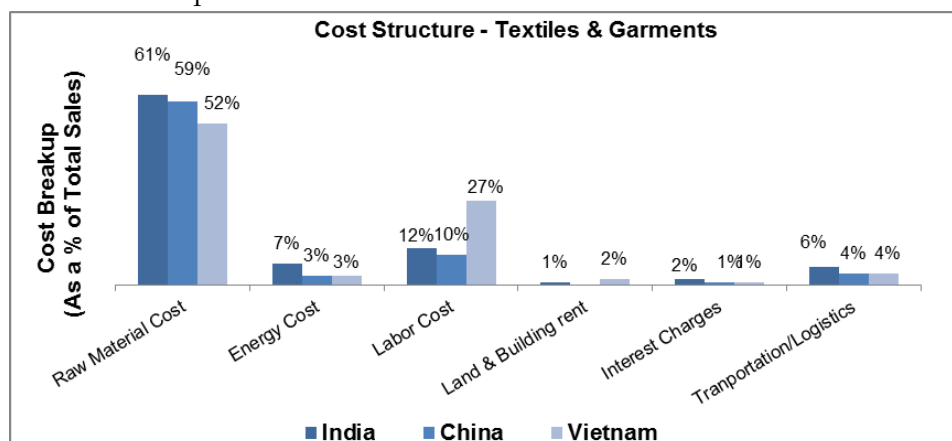
Amongst the competing countries, China has already crossed the first stage and has managed to fare well in the next stage as well with optimized capacity utilization and system improvements. Vietnam, although still in Stage I of the competency protocol has been able to tackle most of the issues like labour productivity, controlling costs, etc. The Italian & Japanese counterparts have already crossed the stage II and their focus is on total improvement in systems & business processes by achieving total quality enrichment.

Detailed benchmarking results are presented below:

### Cost Structure

Cost structure encompasses all the expenses that a firm must take into account when manufacturing and selling a product. Various types of costs that are benchmarked in this section are: Raw material costs, labour costs (including wages), Energy costs, Interest charges, distribution expenses (including transportation & logistics etc.)

Margins can be improved either by increasing sales prices, or by reducing costs. As prices in real terms for many of the industry's staple products have eroded over many years, the focus has long been on reducing costs. Competing countries' (China & Vietnam) competitive advantage vis-à-vis Indian in terms of costs is presented in the charts below:



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank, D&B Analysis

India stands poorly against China and Vietnam with respect to the raw material costs, energy costs, interest costs and logistics costs. However, India has an advantage over Vietnam in terms of the labour costs as evident from the chart.

The biggest problem faced by Indian firms is rising yarn rates (both for cotton and man-made fibre yarn). Costs for both cotton yarn and man-made fibre yarn have gone up by almost 50% in the last 3 years which has adversely impacted the margins of fabric manufacturers. Further, cotton yarn rates are very volatile and exhibit high fluctuation. This is primarily because of inconsistent policy on export of cotton yarn which leads to lots of speculations in the cotton market leading to price fluctuations. There are instances when price at which cotton yarn is sold in India is higher than the export price for the same which leads to cost disadvantage for India vis-à-vis competing countries who are importing cotton yarn from India like China, Vietnam etc.

As far as man-made & cellulose fibres are concerned, the market is dominated by very few big players who control the prices for the same. There is anti-dumping duty on man-made fibres and hence there is full dependence on Indian suppliers for the same. Further, exports incentives for man-made fibres in India sometimes results in shortage of supplies for the Indian market. As a result, man-made fabrics manufacturers keep high level of inventory (around 45-60 days) which puts additional working capital pressures on the firms. There have been reported issues with the quality of viscose yarn produced in India due to which many fabric exporters rely on import of high quality yarn from countries like Japan. Then there are specialized yarns like 'Cupro' yarn which is not manufactured in India and is imported from Japan. This also adds to costs as well as turnaround time of production.

Other critical inputs like chemical mixes used in dyeing, knitting machinery, etc. have very limited availability in India due to which weavers and processing units have to rely on imports of these inputs. This further adds to the cost burden of the Indian textile SMEs.

The costs of dyeing/processing are also on the rise in India because many dyeing units have been shut down due to potential environmental hazards. Around 700 dyeing units have been shut in the Tirupur cluster only. The remaining dyeing units have to maintain in-house ETP's which adds to their costs. Therefore overall cost of processed fabric has increased manifold in India.

Although, both India and China have very competitive labour costs, yet they have been rising in the recent years. Industry experts believe that labour costs in China are increasing, on a yearly basis, and according to China's "12th Five Year Plan" the salaries will continue increasing by 13% annually in order to stimulate domestic purchasing power. The rising labour costs in China therefore are expected to lower the competitiveness of Chinese Textile & Garments industry over time.

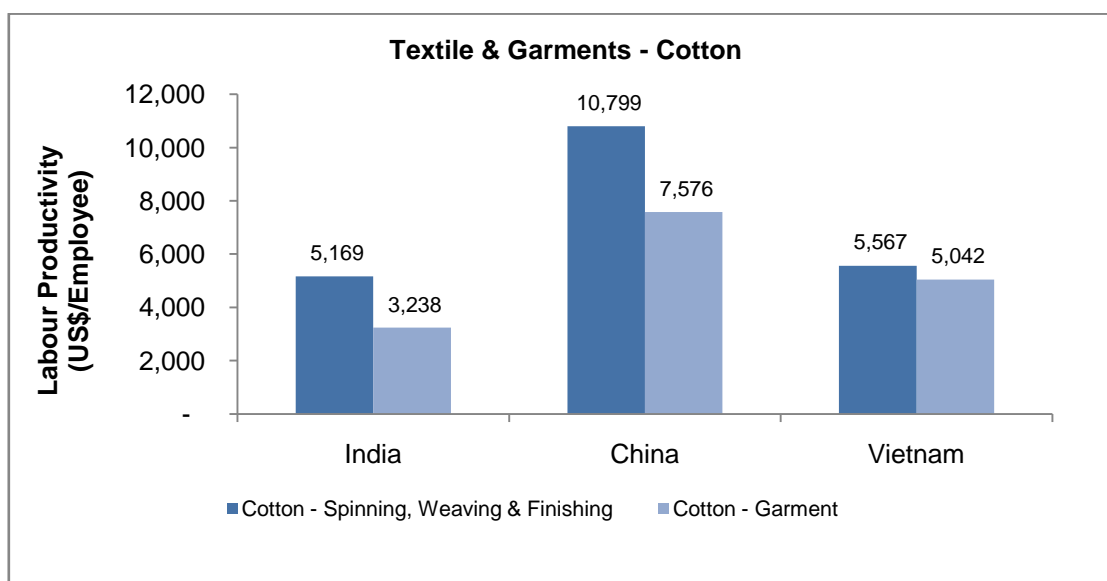
As far as logistics costs are concerned, they are much less in China as compared to India; China's infrastructure is ranked higher than India's infrastructure in all the sub-sectors (Electricity, Water, Roads and Ports) which helps in its development of trade. Chinese companies have access to technology owing to the foreign investments which also brought in the necessary technology. However India is more competitive in markets like Sri-Lanka and exports considerable volumes of cotton fabrics from southern part of India because of lower logistics & transportation costs owing to the close geographical proximity.

## Productivity

Labour Productivity is the measure taken for benchmarking the productivity of Indian textile & garment industry vis-à-vis competing countries. Labour productivity has been estimated as a ratio of Gross value added (GVA) to the number of workers.

Higher labour productivity of competing countries (China & Vietnam for Cotton and Japan for man-made fibre) is one of the sources of competitive advantage over India, as shown in the charts below:

### 1. Cotton



Source: UNIDO

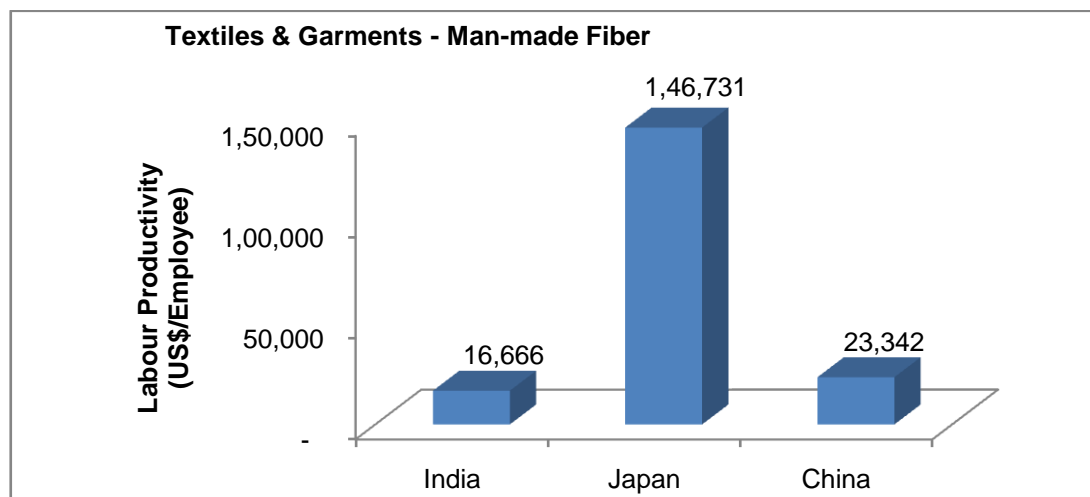
China is emerging as the leader in labour productivity in Cotton textiles & garments with labour productivity almost double that of India & Vietnam. China, in spite of having almost four times labour force than India has higher labour productivity owing to higher gross value added (which is almost eight times that of India. India has been able to match up with Vietnam in Cotton spinning, weaving & finishing process but is lagging behind in garments.

India lags behind the competing countries because of very strict labour laws as compared to countries like China, which in turn impacts overall labour productivity. China's labour policies are perceived as more employer friendly than India's labour policies. As a result, there are reported issues of long absenteeism from work, lower levels of efficiency in work, and other issues which impact overall productivity of the labour force. Further, there is an ageing labour in Indian leather textile industry and dearth of new skilled people joining the industry which is another reason for lower productivity of Indian firms. On skills side also, Indian workers are lagging behind competing countries. Although, imported machinery is available with Indian firms, there is unavailability of technical manpower for effectively running of such machinery. For instance, there is dearth of people with appropriate programming skills (e.g. Letter typing, vertical stripes patterns, full Jacquard designs programmers are not present).

Another reason lies in the composition of Indian workforce viz.-a-viz. competing countries. Most of the cotton weaving clusters of India like Ludhiana, Tirupur has a very high percentage of male labour force as compared to women labour, while same is not the trend in China & Vietnam. Women workforce, being more productive gives competing countries an advantage over India in labour

productivity. Strict laws which stop women labour to work for late hours in the night even if they are willing to do so, further hits the productivity since the overall working hours of the factory are cut short.

## 2. Man-made fibre



Source: UNIDO

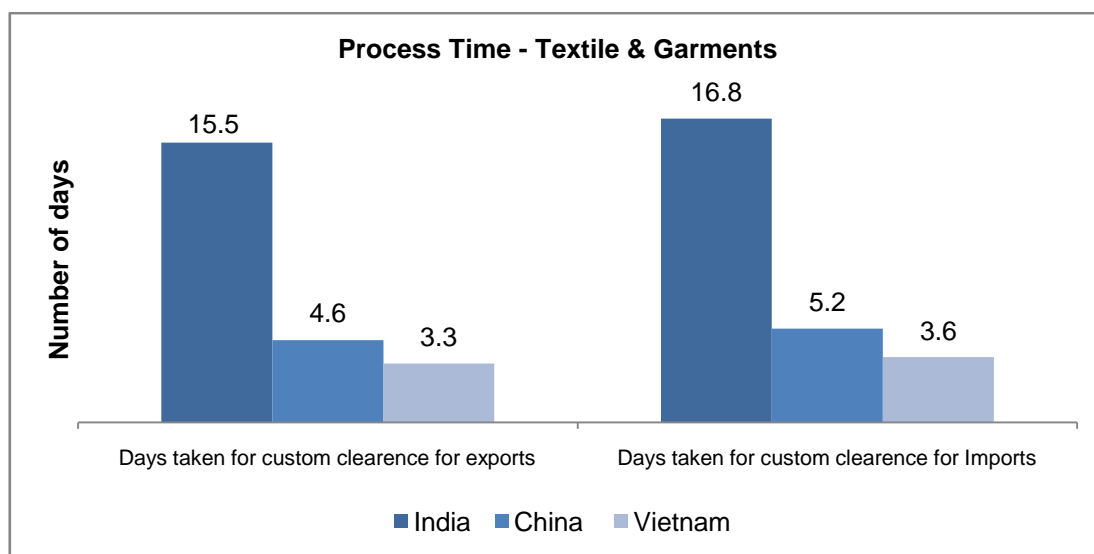
Indian is lagging behind Japan by a huge margin with Japan managing labour productivity of almost nine times that of India. Japan has been able to achieve higher gross value added to the tune of five times that of India with half the labour force. This is mainly due to availability of most updated machinery in Japan. Latest air-jet & rapier looms are available in Japan which makes Japanese man-made fibre industry more productive than the competing countries.

The reason for India's disadvantage in labour productivity for man-made fibre segment is similar to that of cotton segment.

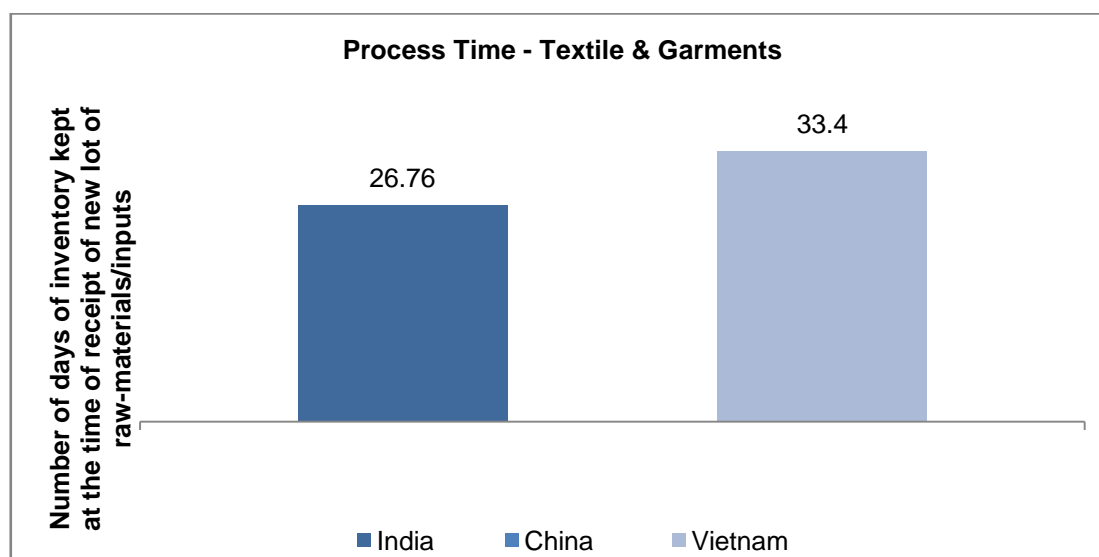
## Process Time Reduction

Process time is a very important parameter for competitiveness as it is indicative of the overall time a firm uses for production and reach to the target market. Countries which are able to achieve faster turnaround time and have quicker time to market will enjoy competitive advantage in the market. Various parameters which are considered for comparison in this section are: Average time taken for exports/imports clearance and Average stock in hand (average inventory held by a firm in terms of number of production days)

India stands at clear point of disadvantage as compared to competing countries (China & Vietnam) because of higher process time as depicted in the charts below:



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

The average time taken for custom clearances for exports of finished goods and imports of raw materials in India is much higher as compared to China & Vietnam, with Vietnam being the clear leader in clearance time for both imports and exports. Indian stands at a point of disadvantage in

terms of average time to production as well as average time to market as compared to the competing countries. The former is higher because of several reasons like: less working hours in India, inconsistency in raw material availability, lower labour productivity, and inconsistent power supply.

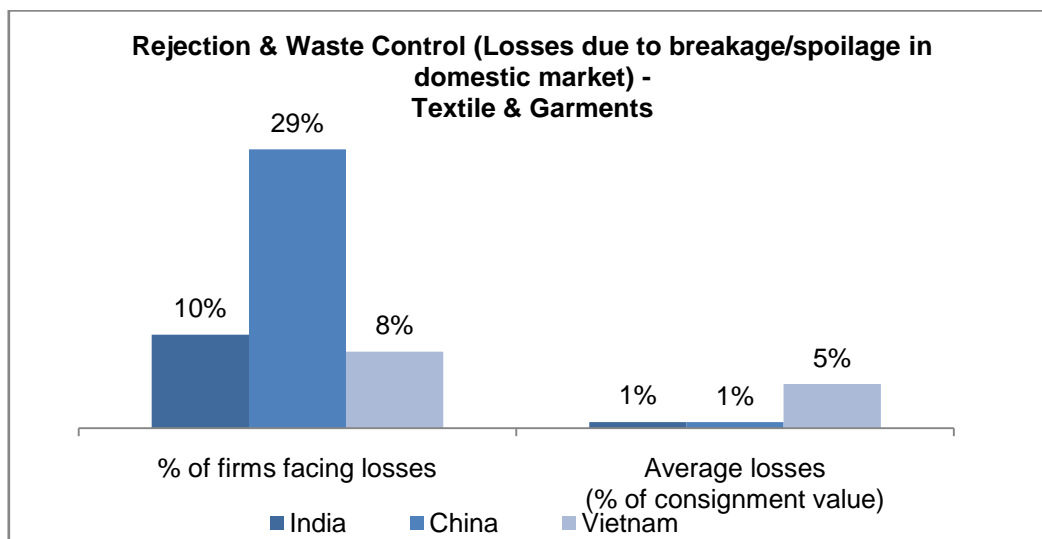
Average time to market is higher because of delay in customer clearance of exports and documents preparation. Further, land locked areas have to ship the materials to port which is then further sent for exports, which adds few extra days.

The overall time to market is further more in man-made fibre segment, because there are issues with raw material availability time and again. Dependence on high quality viscose and other specialized yarns from countries like Japan further adds to the overall process time and in turn the time to market for Indian enterprises.

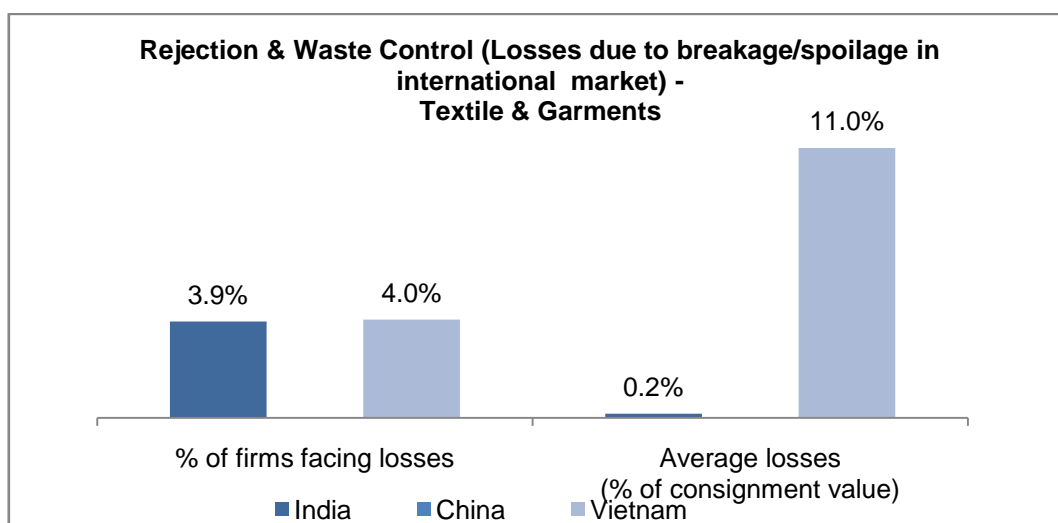
India's disadvantage implies that, the delivery of imported raw material to the factory is delayed which could delay the entire production process. Further, delay in custom clearance of exports means that the delivery to the overseas market is delayed by a fair margin which means delivery with tight schedules would have to suffer and markets would look for other supplier countries for such kind of products.

## Rejection & Waste Control

In this section, wastage/losses due to breakage or spoilage have been analysed for India vis-à-vis competing countries. The companies constantly strive to keep the rejection and waste to the minimum as it is an extra overhead cost for a firm. The charts below depict India's comparative advantage against competing countries in rejection & waste control process.



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

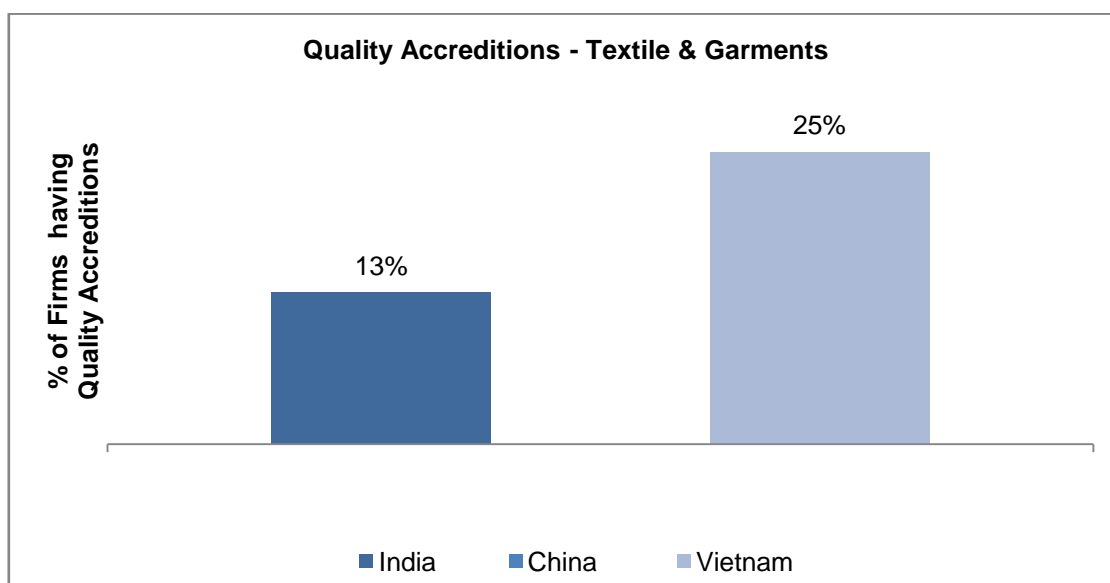


Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

As is evident from the above charts, India's performance is comparable to Vietnam in terms of number of firms facing losses due to breakage/spoilage for the finished product in domestic as well as international market. In terms of value of losses though, Indian firms have fared better with lowest losses among the competing countries.

## Quality Accreditation

Quality accreditation is an important parameter for competitive advantage as it enables a firm to increase its market reach. Most of the buyers use quality accreditation as a parameter to evaluate a supplier. Often, there is a mandate to buy only from firms with desired accreditation. Further, quality accreditation has direct impact on productivity as it requires tightening up of processes and giving away inefficiencies. India's comparison on quality accreditations with competing countries is depicted in the graph below:



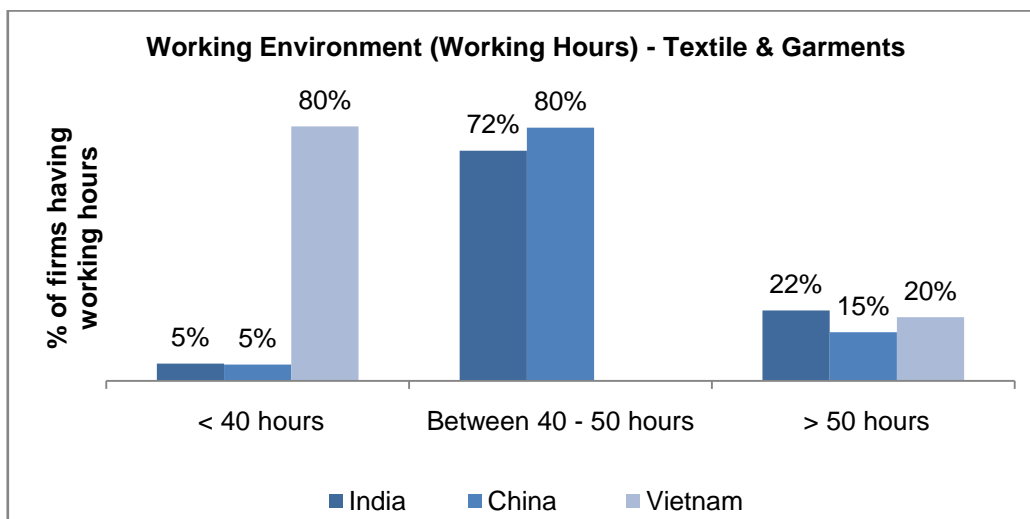
Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

Vietnam is doing much better than India in quality accreditations with more number of firms complying with ISO, IVN, OE standards, etc. India is very much at par and even ahead of China in some segments as far as quality of the basic fabric is concerned. However, gap exists in the quality of processing done by the Indian enterprises which is not at par with global benchmarks set by Japan, Italy, etc. Hence, the level of value addition is still far behind the desired state.



## Working Environment

The work environment has huge effect on the performance of employees which in turn impacts the overall productivity of the firm. The type of work environment in which employees operate determines the way in which such enterprises prosper. In this section, India's work environment has been compared to competing countries (China & Vietnam) by evaluating the working hours in firms within these countries:



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

Most of the countries exhibiting higher productivity have strong labour laws and maintain average working hours of below 50 hours per week. India has the biggest chunk of firms where workforce is working for more than 50 hours per week. In Vietnam, in 80% of firms workforce works for less than 40 hours.



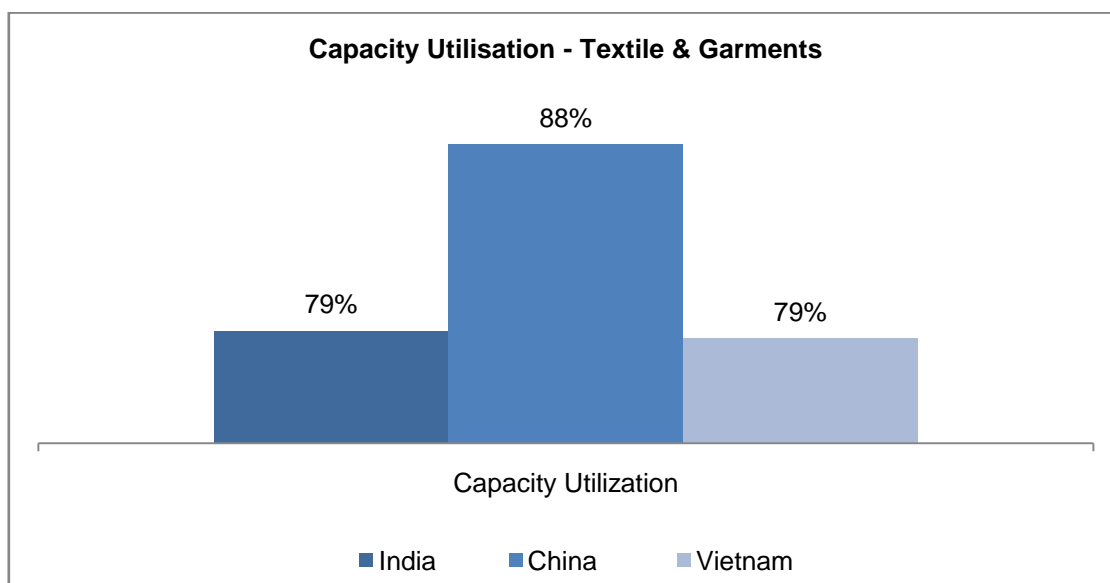
Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

While India fares much better than Vietnam when compared on number of employees leaving the firm due to sickness or death, both the countries are comparable when days of productions hampered due to employee health.

## Capacity Utilisation

Capacity utilization is a metric used to measure the rate at which potential output levels are being met or used. Displayed as a percentage, capacity utilization levels give insight into the overall slack in the economy or a firm at a given point in time and refer to the extent to which an enterprise or a nation actually uses its installed productive capacity. Thus, it refers to the relationship between actual output that 'is' produced with the installed equipment and the potential output which 'could' be produced with it, if capacity was fully used.

The capacity utilisation in India vis-a-vis competing countries (China & Vietnam) is shown in the graph below:



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

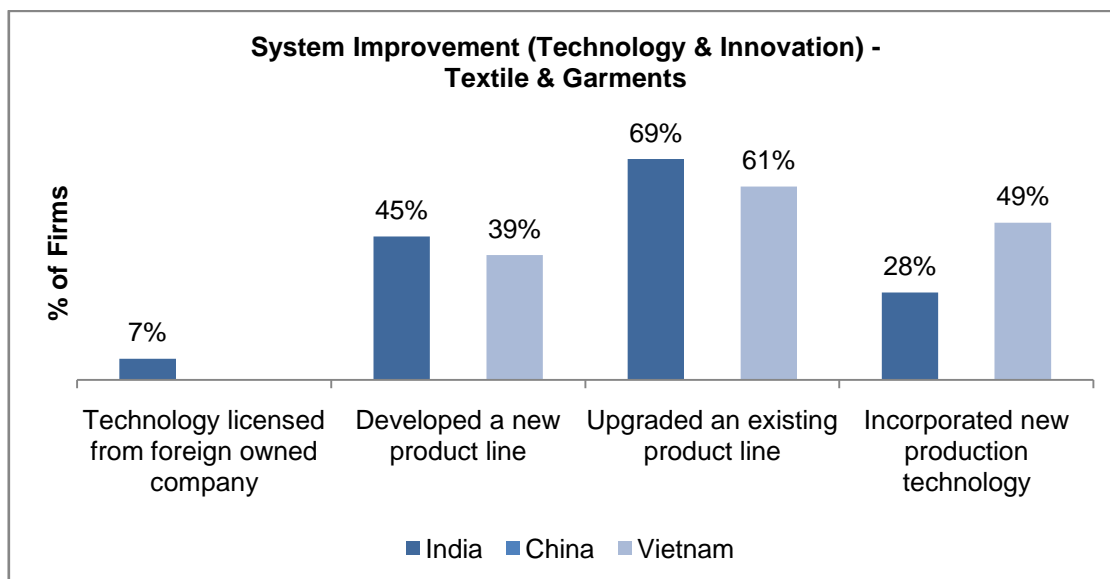
The main reason for lower capacity utilization in India as against China is primarily because of inconsistency of export orders, especially in the light of current recession. India's exports to Europe & US have been adversely affected.

Another reason for underutilization of capacity is frequent breakdown of machinery. Average age of machinery used by Indian firms is more than 10 years; hence chances of breakdown are more. Availability of electricians, technicians is also an issue which hampers production in case of machine breakdown. Inconsistent power supply, inconsistent raw material supply and labour availability are some other factors responsible for capacity under-utilization of Indian firms.

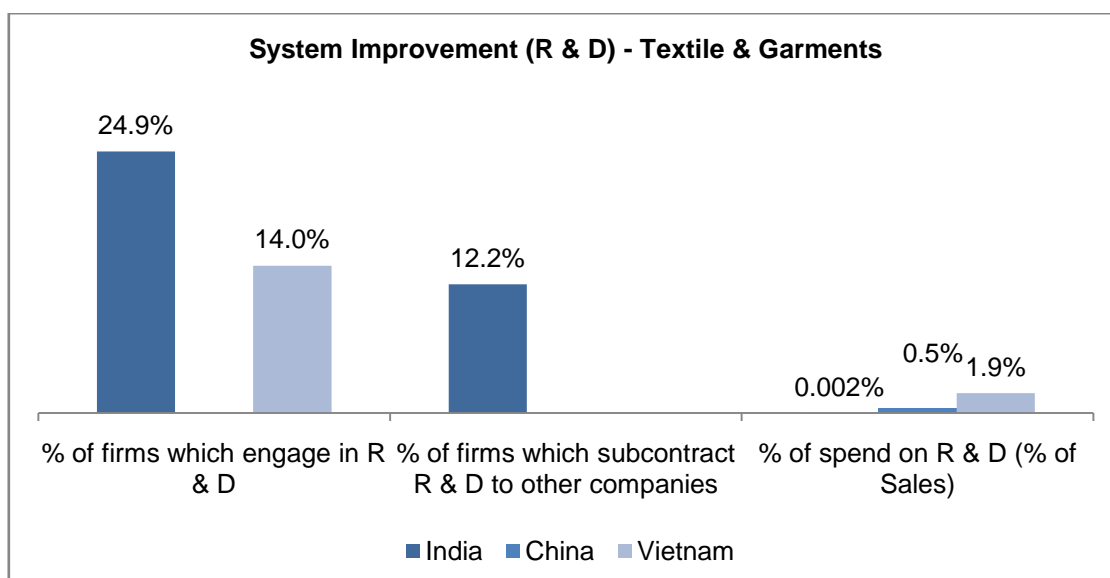
## System Improvement

This section examines the extent of innovation and technology being employed by the firms that leads to overall improvement in production systems and has direct impact on productivity and ensures sustainability of the same in long run. Various parameters that have been compared in this section are: Development/Up gradation in product line or production technology, Investment in research & development and investment in training & development of employees.

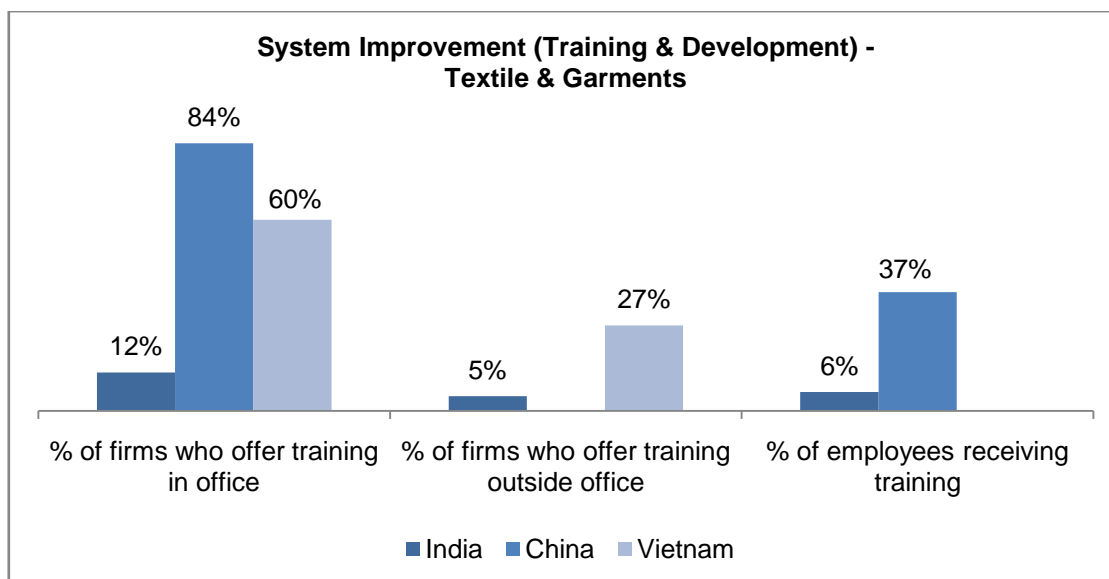
India leads Vietnam in most of the parameters except incorporation of new production technology as depicted in the charts below:



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

While India has the biggest chunk of firms engaged in R&D, Indian firms on an average spend negligible amount on R&D.

India is again lagging behind China & Vietnam on training & development parameters by a huge margin. While nearly 84% of Chinese firms offer training in office, in India only 12% of firms offer similar facility. In India, only 6% of employees receive formal training as compared to 37% in China. This impacts the overall productivity as well as quality of the output.

In India most of the cotton textile mills are working with old and obsolete machinery. According to one estimate, in India over 60 per cent of the spindles are more than 25 years old. The automatic looms account for only 18 per cent of the total number of looms in the country as against the world average of 62 per cent and 100 per cent in the United States. Obsolete machinery leads to low output and poor quality of goods as a result of which Indian textile goods are not able to face competition in the international market. Modernization in looms has been slow and Indian industry still lags behind US, China, Europe, Taiwan, etc. Most of the looms in India are shuttle-less. There are less than 15,000 modern looms, whereas traditional looms are in large numbers. The technological obsolescence thus makes it difficult for Indian fabric manufacturers to do much value addition and adhere to customer's requirements.

Shuttleless weaving looms are up to three times more efficient than shuttle looms, but the penetration of modern shuttle-less looms is very low. The proportion of shuttle-less looms in Indian is dismal 2% while same stands at around 7% in China and even higher at around 16% in Japan. New & efficient technologies like Air-jet looms, rapier machines also have very limited penetration in Indian market. Further, competing countries like China have lots of CFC's (Common Facility Centres) for processing the grey fabric which enables value addition at a large level. Same is at very nascent stage in India as of now.

For European counterparts, design and creativity, quality fashion products and technical goods of high value-added have been identified as major competitive advantages of the textile and clothing industry. In a framework of global competition, research and innovation are crucial elements to further develop the knowledge base of the sector and to provide fresh impetus to the industrial growth for ensuring a sustainable and competitive industry. The European textile sector is active in the development of innovative products, in particular, technical textiles or new application fields for

textile-based materials. In addition, the sector has an active commitment within the Lead Market initiative that aims at providing appropriate measures for boosting the market of protective textiles.

Among the European nations, Italy has been particularly known for its technology & system development efforts. The Italians are more innovative in all aspects of the business – yarns, fabrics, and machines. Equipment that was designed for one type of fabric had been adapted for another. The best Italian mills gain advantages in production by engaging in machinery design and adapting machinery to their own needs. On the other hand, India has very little indigenous production of textile machinery hence they need to rely on imported machinery which is not custom made for Indian enterprises.

Another critical area of improvement for Indian enterprises is technical textiles. Technical textiles are high-tech textiles which represent a multi-disciplinary field with numerous end use applications. The manufacture of technical textiles is a major activity in industrialized countries like Italy, China, and Japan etc. In India, technical textiles is still a nascent industry, but with huge potential for growth. So far, the contribution of Indian textile industry towards technical textiles is limited to products of low-end technologies and less sophisticated items like tarpaulin, industrial filter cloth, bolting cloth, textiles for luggage, decatizing fabrics, tyre cords, belting etc. Another area of notable contribution of the Indian textile industry, particularly the de-centralized sector is textiles for strategic application and national security. For example, parachute canopy fabrics used for man-dropping, supply dropping, brake parachute application, etc. have been largely indigenized and even exported to other countries, even if in small quantities. Indigenized aerospace textiles have contributed to the success of aviation, space and missile programmes.

The importance of technical textiles sector can be understood from the fact that it has got special attention in the union budget 2012. There are key sectors like geo-tech, Agri-tech, Medi-tech, etc. which have been covered as the priority sectors for growth. Basic customs duty has been reduced on raw materials for manufacturing of adult diapers from 10 and 7.5 per cent to 5 per cent with countervailing duty of 6 per cent and special countervailing duty has been withdrawn. The imports of aramid yarn and fabric used in the manufacturing of bulletproof helmets have been exempted from the custom duty. There is an announcement of Rs 50 billion worth of India opportunity venture fund, which will help the fast-paced development of the small and medium companies in technical textile sector. Even then, following issues need to be addressed in order to make it globally competitive:

- Lack of awareness on how to make finished or converted technical textile products.
- Marketing know-how to sell and trade technical textile products
- Environmental legislation for the use of geotextiles and geomembrances in waste containment for disposal of hazardous wastes as well as for industrial and municipal effluent treatment facilities.
- More research is required in the field of bio-medical textiles as medical industry is growing at a very rapid pace. China is particularly doing well in this segment and is one of the major exporters to the world.

## Business Leadership

Effective business leadership is a critical element in any organization and impacts the overall organizational culture and plays a part in productivity of the organization. Various parameters that have been compared in this section to measure business leadership are: Proficiency of top managers (measured by educational capabilities) and Experience of the top management.



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

While 86% of top managers in Chinese firms are at least graduates, in large chunk of Indian firms (63%) the top managers are not even graduates.



Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank

India and China clearly have a fairly inexperienced top management as compared to other competing countries with 95% or more firms have their top management with less than 20 years of experience.