ACHIEVING SUSTAINABLE GROWTH IN TEXTILE AND APPAREL INDUSTRY THROUGH MANUFACTURING EXCELLENCE

Friday, 6th October 2017, Mumbai
Foreword

Textile & apparel industry of India has established itself as a leading exporter and consumption base. Today, the combined market size of exports and domestic consumption of the industry stands at US$122 bn. With a growth of 9% in domestic market and 8% in exports, India could aspire to achieve US$ 400 bn. market by 2030. To attain such a high growth target, the industry will be required to reform, perform and transform its traditional functioning and outlook.

The leading factor which ensures the continuous growth of any industry is “manufacturing excellence”. Global manufacturing powerhouses such as China have reached their leading status by putting continuous focus on achieving large scale manufacturing set-ups producing good quality at low costs. Industries all across the world are striving to improve competitiveness by changing the ways they operate and by putting more focus on things which support the core activities. These changes bring a holistic improvement in the operations supporting achievement of manufacturing excellence.

To sustain the growth that Indian textile industry has experienced, it becomes imperative for the industry to incorporate certain structural changes in it. The major underlying issues of the textile and apparel industry of India are its unorganized structure and lack of requisite scale. This has resulted in the inability of Indian textile and apparel industry to reach its full potential. In the ever more cost competitive global textile industry, Indian textile sector has to take some steps to gain an edge over its competitors like China, Bangladesh, Vietnam etc. Achieving manufacturing excellence through sustainable development is the way forward for the Indian industry.

This conference aims to provide a common platform for various industry stakeholders and policy makers for having a detailed discussion on achieving manufacturing excellence while creating a sustainable and innovative future for the Indian textile industry. The discussions and deliberations in the conference will lead to the output of various ideas, recommendations, intervening measures which will benefit industry stakeholders across the value chain in the long run.

R D Udeshi
Conference Chairman & President - Polyester Chain Reliance Industries Ltd.

Shreekant Somany
Chairman, CII - Centre of Competitiveness for SMEs

Prashant Agarwal
Partner & Co-founder Wazir Advisors Pvt. Ltd. (Knowledge Partner)
CONTENTS

Chapter 1: The Vision for Industry Growth................................................................. 1

Chapter 2: Manufacturing Excellence: A Recipe to Achieve Vision........................ 8

Chapter 3: Roadmap to Manufacturing Excellence.................................................. 16

Chapter 4: Government Support Required................................................................ 21

About Confederation of Indian Industry (CII).......................................................... 24

About CII-Centre of Excellence for Competitiveness for SMEs.................................. 24

About Wazir Advisors.............................................................................................. 25
Chapter 1: The Vision for Industry Growth

The Indian textile and apparel sector plays a significant role in Indian economy, contributing approx. 5% to nation’s total GDP and 15% in the total exports earnings. The sector is the second largest employer after agriculture. It is estimated that approximately 45 million people are directly employed in the textile sector. Decentralized sub-sectors of textile employ a majority of this workforce.

The total market size of Indian textile industry is estimated at US$ 122 bn. which includes exports worth US$ 37 bn. and domestic apparel market worth US$ 63. bn., domestic home textiles market worth 6.5 bn. and domestic technical textiles market worth US$ 15 bn.

India’s textile and apparel manufacturing set-up is the second largest in the world, following China. Indian textile industry has an installed capacity of 512 lac spindles, 8.6 lac rotors, 0.68 lac looms in organized sector, 25.23 lac power looms and 23.77 lac handlooms.

From 2000-01 to 2016-17, there has been compounded annual growth rate of 2.4% in fibre & filament production, 3.7% in yarn production and 3% in fabric production in volume terms. India’s textile and apparel exports during the same period registered a compounded annual growth rate of 7.3%.

Table 1: Indian Textile and Apparel Sector- Key Statistics

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>2000-01</th>
<th>2016-17</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibre and filament</td>
<td>million kg</td>
<td>6,038</td>
<td>8,823</td>
<td>2.4%</td>
</tr>
<tr>
<td>production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spun yarn production</td>
<td>million kg</td>
<td>3,160</td>
<td>5,667</td>
<td>3.7%</td>
</tr>
<tr>
<td>Fabric production</td>
<td>million square meters</td>
<td>40,233</td>
<td>64,401</td>
<td>3.0%</td>
</tr>
<tr>
<td>Exports</td>
<td>US$ billion</td>
<td>12</td>
<td>37</td>
<td>7.3%</td>
</tr>
</tbody>
</table>

Data Source: Cotton Corporation of India (CCI), Official Indian Textile Statistics 2012-13, Office of Textile Commissioner and Office of Jute Commissioner
Global Trade Scenario Post Quota Phase Out

During the period from 1974 to 1995, Multi-Fibre Arrangement (MFA) governed the international trade of textile and apparel. MFA enabled major importers such as United States, Canada and European Union to restrict imports from developing countries through a system of quotas. Outcome of Uruguay Round (UR) of Multilateral Trade Negotiations (MTN) conducted under the framework of General Agreement on Tariffs and Trade (GATT), stipulated that the import quotas be eliminated in a four-stage process between the years from 1995 to 2005. Over that period textile and apparel quotas were gradually reduced and on 1st January, 2005 worldwide system of textile and apparel quotas came to an end.

It was envisaged that China and India will emerge as the major winners post quota phase out by increasing their textile and apparel exports enormously. China has taken the maximum gain from this shift. The entry of China in WTO and with it establishing normal trade relations with the USA in 2001 further helped in the growth of China’s share in global production and trade. China has used its human resource, infrastructure and manufacturing competitiveness to emerge as the biggest manufacturing base for textile in the world and has remained the largest exporter of textile and apparel in the world, maintaining a dominant market share of approx. 40% since 2000s.

However, present scenario for India is far from anticipated. India, despite having inherent strengths has failed to capitalize on them. Today, India with apparel exports worth US$ 17 bn. has a share of 3.8% in the global apparel exports worth US$ 446 bn. While smaller exporters such as Vietnam and Bangladesh have been able to increase their apparel exports from nowhere to more that Indian apparel exports currently; India’s exports have stalled in recent years.
Bangladesh increased its exports from US$ 3 to 32 bn. during 1995 to 2016. Some of the key factors contributing to the growth of Bangladesh garment sector are: duty free market access to EU, low wage cost, large scale garment manufacturing set-ups, high labour productivity and simple export & import procedures. Vietnam has also emerged as the leading exporter of apparel. Its apparel exports have increased from US$ 1bn. in 1995 to US$ 25 bn. in 2016.

Key Strengths of Indian Textile & Apparel Sector

The Indian textile industry can capitalize on its strengths of extensive raw material base, large manufacturing infrastructure, availability of large workforce, presence in all levels of manufacturing value chain (from fibre to finished goods), etc. to achieve better growth rates than achieved in recent past.

a. Raw Material Availability

India is the largest producer of Cotton, 2nd largest producer of Polyester and Silk, 3rd largest producer of Viscose, 4th largest producer of Acrylic and Nylon in the world. This vast raw material base has adequately supported the development of downstream manufacturing value chain.
b. **Manpower Availability**

Textile manufacturing is a labour intensive industry and is cost competitive in terms of manpower. The wage cost is higher than Bangladesh but lower than China and Vietnam. With 62% of Indian population being in the working age group of 15 to 59 years, India possess the necessary precondition for this sector to thrive.

*Table 2: Average wage rates across manufacturing nations*

<table>
<thead>
<tr>
<th>Unit</th>
<th>India</th>
<th>China</th>
<th>Bangladesh</th>
<th>Vietnam</th>
<th>Cambodia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor cost</td>
<td>US$/ month</td>
<td>160-180</td>
<td>550-600</td>
<td>100-110</td>
<td>170-190</td>
</tr>
</tbody>
</table>

*Data Source: Industry Feedback*

c. **Presence of Complete Manufacturing Value Chain**

India is one of the few textile manufacturing countries in the world where all levels of textile value chain i.e. from fibre/ filament to garment manufacturing are present. In contrast countries like Bangladesh, Vietnam, Sri Lanka, Myanmar, Ethiopia and Cambodia have disjointed value chains; mostly focused on end-product and dependency on the other countries for fabric and yarn.

d. **Large Domestic Market**

In last decade, Indian domestic market has performed better than the largest consumption regions like US, EU and Japan, where depressed economic conditions led to lower demand growth. Beyond the increasing income of Indian consumers the market growth is led by following important drivers:

- Indian consumers shifting from need-based to aspiration-based buying
- 40% of the Indian population is expected to be in urban areas by 2030, up from 21% in 2011
- India is expected to become the world’s fastest growing e-commerce market
- Increasing participation of women in workforce
• Growing presence of international brands and retailers and emergence of new product categories

**e. Government Support**

Government is keen on expanding the Textile and Apparel sector to exploit the market opportunities. It has launched various support schemes to make Indian enterprises globally competitive. These include Scheme for Integrated Parks (SITP), Technology Up-gradation Fund Scheme (TUFS), Integrated Skill Development Scheme (ISDS), etc. all of which aim to enhance the technology, integration, skill, etc. of the manufacturing industry.

**Challenges**

The industry has its fair share of challenges too. Lack of organized & integrated manufacturing capacities, low focus on value addition, low level of technology, etc. are some of the key challenges faced by the industry.

a. **Fragmented Nature of Industry, Lacking Economies of Scale**

Indian textile industry is highly fragmented with dominance of unorganized sector especially in the fabric production, fabric processing and garment manufacturing. These segments suffer from lack of capacities and use old technologies. Capacity expansion or technology up-gradation is a big challenge for these small and medium scale units with limited resources because of higher risks perceived by lenders and also because of lack of awareness.

b. **Low Technology Level**

Though India has one of the largest installed production base in the world, most of the machinery uses old technology with low productivity and quality levels. A significant portion of this capacity is with the unorganized sector which lacks economies of scale. Apart from machinery, lack of an amalgamation between Information Technology and machinery, in this information age, also keeps India behind in technology focused countries. This poses a major challenge for India.
c. Lower efficiency

The overall productivity levels in this sector, especially in apparel manufacturing, are relatively low compared to its peers including China, Turkey, etc. The industry needs to improve its focus on training and skill development.

Figure 2: Apparel Factory Productivity Levels in Selected Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Productivity Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>40%-45%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>50%-55%</td>
</tr>
<tr>
<td>Turkey</td>
<td>60%-65%</td>
</tr>
<tr>
<td>China</td>
<td>60%-65%</td>
</tr>
</tbody>
</table>

Source: Industry Feedback

d. Low focus on product and process development

With increasing global competition and fast evolving fashion trends, it is must for textile and apparel manufacturers to be innovative. However, design and product development is a key area, which is yet to receive significant attention from the Indian textile & apparel industry. In general, spending on research & development is also typically very low and at odds with India’s aim to strengthen its position in technical textiles.
India’s Vision: 2030

In today’s scenario, Indian apparel industry stands a chance to gain in a big way from the global and domestic opportunities by exploiting the enabling business environment being developed in the nation. However, the industry has already lost a major opportunity in the year 2005 when the quotas were phased out. The projections of China vacating some space in global trade can be the biggest opportunity for Indian exporters provided they can match the capacities, product diversity and service levels desired by the large buyers.

By taking innovative measures and well informed decisions, India could aspire for a growth of 8% and reach US$ 400 bn. by 2030 from the present market size of US$ 122 bn. The export market to grow at CAGR of 9% thus, attaining US$ 100 bn. by 2030 from present exports worth US$ 37 bn. (2016). The domestic market to grow at a CAGR of 8% to reach US$ 300 bn. by 2030 from present size of US$ 90 bn.

During this period, Indian textile sector has to take some steps to gain an edge over its competitors like China, Bangladesh, Vietnam etc.

*Figure 3: Projected growth of T&A*

*Source: Wazir Analysis*
Chapter 2: Manufacturing Excellence: A Recipe to Achieve Vision

Achieving ‘The Vision’ of US$ 400 billion by 2030 is not going to be easy and is improbable with business-as-usual approach. To attain such growth target, the industry will be required to reform, perform and transform its traditional functioning and outlook.

In the changing global scenario, it is no longer enough to only upgrade technology to expand capacities but it is more essential to exploit the available resources to its fullest to achieve excellence. The leading factor which ensures the continuous growth of any industry is ‘manufacturing excellence’.

What is manufacturing excellence?

With fierce competition in the market, the requirement of low cost products has increased. Unfortunately, cheap labour is not the only requirement to achieve this goal. Cost advantage comes through superior product quality, innovative design, customization, on-time delivery, technology innovations and finally admirable after sales service. All these factors culminate to customer satisfaction. The ability to deliver on these parameters is what constitutes Manufacturing Excellence.

The main idea is to minimize waste, thereby creating more value for the customers. A company can reduce costs and keep prices low without adversely affecting profits or quality by controlling the amount of waste generated during production. The different type of wastes include over-production, waiting, transportation, over-processing, excess inventory, defects, excess people and underutilized people.
a. **Operational Excellence**

Globally, manufacturing companies are striving to improve their performance by developing innovative strategies that will continuously and effectively satisfy their customer needs in terms of design, quality, delivery and cost. The constituents of Operational Excellence include:

i. **Streamline manufacturing operations**

The requirement of streamlined manufacturing process stems from the need of high variety, low volume orders. These types of orders necessitate the responsiveness and flexibility in the production process. This priority setting attends to customer request just in time.

Extracting the best out of everything is what the organization must work for, which means cutting out the non-value added activities from the system. The biggest misconception of many organizations in the world is the difference between fixed and variable costs. While former includes all the cost irrespective of the activity level, the latter changes according the activities performed. Which head is placed under fixed/variable category defines the psychology of the organization towards cutting cost. Overheads are a part of fixed cost of the account statement that leaves no scope for improvement. However, world class manufacturing companies understand the opportunity of improvement in overheads too and bring down the same.
The problem arises when the sales, production and engineering teams are not in sync among one other. For example, if the sales team has procured an order which cannot be fulfilled due to lower capacity but still the engineering team tries to push it through the system then the production as a whole will suffer. Thus streamlining production means that each component governing it has to work in harmony.

Thus an ideal production process would be where throughput time is minimal, inventory is balanced, bottleneck operation is none, changeover time is negligible, defects are zero, and critical path is well defined.

ii. **Quality & Process Improvement**
Right First Time (RFT), Zero Defect (ZD), Quality Control (QC), etc. are concepts that point in the same direction- reduce variations and mishaps. The approach is:

- Identifying the defect and its influence on quality
- Classifying the source of defect
- Defining possible solutions to achieve Zero Defects
- Bring it into action plan

The process is a cycle which needs to be in continuous motion. According to Philip Crosby’s Cost of Quality- the cost of non-conformance sums up to 15-20% of the sales and it can be reduced to 2.5%. Quality can be quantified and measured to identify improvement areas and call for action plans.

iii. **Capacity Improvement**
Capacity improvement can not only be achieved by adding new machinery but also by improving on present capacity. The key here is- operators need to start taking ownership of their equipment and the processes need to be simplified. The best case scenario is when operators become technicians and cut downtime by 80%. This is achieved when 90% of the equipment is owned by focused team of operators. This brings a sense of responsibility and autonomy. The direct workers get involved in the problems associated with the process and attempt to improve it. This brings down the frequency of breakdowns.
iv. Information Systems for Operations and Control

Technology in manufacturing brings operational flexibility and process standardization. It enables other components by organizing the process flows. Information systems like Business Process Management (BPM) provide end to end solutions for any manufacturing unit. Today, softwares have integrated ERP, barcode scanning, part tracking and all the details of production and logistics management. This quantifies the qualitative data and also helps in controlling the root causes of delays to cut internal transaction and reporting.

b. Manpower

The textile industry faces the challenge of employment as employees find limited career opportunities in this sector. Furthermore, employees find career growth in the sector to be low as compared to other sectors because of the low remuneration by textile and apparel players. The shortage of talent calls for recruitment of right people and further retaining the talent to achieve maximum benefit.

Hence, it becomes important for the businesses to not only locate and recruit employees but also bring a change in the working environment as well for their successful retention. Employee involvement is one the key components of employee retention. Direct labour can be involved in jobs of indirect labour. For example, a supervisor’s job role includes data recording duties. Involving the supervisor in management duty or important discussion would be a giant leap forward towards employee involvement. Functional managers may have the feeling of losing control but the new age production processes demand employee involvement.

c. Market Intelligence

Globalization of the business environment has made it important for firms to look for market opportunities in order to gain and sustain competitive advantage. To adapt to the needs of the customers and to improve the performance with available resources and capacities, effective marketing strategies must be developed. Companies, therefore have to generate market intelligence to process relevant information on buyers, competitors and
other trade aspects and make that information available to the key personnel to enable strategic decision making.

The market environment is dynamic so there is a pressing need for market intelligence to keep up with the latest trends and new developments. Also, since every market is different, it is important for companies to develop a strong understanding of each market and how their product will fit to improve their chances of success. Entering into market without proper understanding may lead to financial loss, wastage of time and management frustration. Moreover, exploring the markets helps in analyzing global competition. Therefore, it is also important to consider an analysis of competitors.

Hence, in order to compete at global level, organizations need to embark on efficient and effective marketing intelligence. Accumulation of relevant market information and knowledge will enable the companies to know what, how, when and where to adapt their marketing mix according to each market, helping them to gain market shares by improving their positioning and international competitiveness. However many textile and apparel companies at large are yet to appreciate this aspect and establish such systems in-house.

d. Continuous Improvement Enablement

Creating and embracing continuous improvement of people, processes and product leads to achievement of excellence. To create an environment of continuous improvement, it is important to get employees committed to and involved in making the change. The organization can demonstrate its commitment by setting up of clear priorities, identifying the right team and continuously developing skills. Continuous improvement is all about leading by doing and empowering employees to make continuous improvement.
Case Study: Brandix Lanka Limited

Brandix Lanka Limited
It is one of the leading apparel manufacturer and exporter in Sri Lanka with over 40 manufacturing facilities in Sri Lanka, India, and Bangladesh. Incorporated in 1969, Brandix has diversified into numerous companies of its own specializing in fabric, thread, buttons and hangers, washing, dyeing, finishing, quality control and research and development. Currently the company’s revenue is US$ 750 mn. and employees over 48,000 people. Over the years, Brandix has achieved manufacturing excellence through continued focus on

- Training and Development of its staff, and
- Information Technology enhancement

Brandix has earned several awards and laurels for its sustained superior performance such as “Excellence in Performance Management”, “Talent Management”, “Learning & Development”, “Highest Employment Provider in the Export Industry”, etc.

Innovative HR Practices: Recruitment and Training
Recruitment is carried at two different levels with different approaches, for workers and for management. Workers within the age bracket of 18 to 35 years do not require any prior work experience. The training period for the workers are divided into 3 major parts which is illustrated below:

![Figure 5: Training practices at Brandix]

Key Features of HR Practices

- **Strong fundamentals and Training:**
  - Training is provided at worker as well as management level with various programs for executive level cadres like emerging leaders, account management, etc.
  - Soft skills training is also provided which forms the basis of the strong fundamentals

- **Planning:**
  - Never overbook, deliver as you commit
  - No last minute pressure & cancellations as the orders are booked considering the capacities of the workers
  - No quality issues, orders are handled by the assigned staff only
Pay Structure:
- Consists of three components: Minimum wage, Service element & Incentives
- Service Element varies with the years the worker is associated with the organization i.e. for Year 1: ₹300, Year 2: ₹400
- Service element after reaching the level of Rs.1500 increases by Rs.100 for every next year
- Incentive ranges from Rs.800-Rs.1000/ month depending upon the quality and quantum of work

Benefits for workers:
- Work environment: No abuse, no tolerance policy
- Defined career path: Regular appraisals and promotion
- Scholarship for the children, financial aid, medical aid, annual picnics, sports meet
- Safety policies, Crèche facility, Sexual harassment policy, Sanitation facilities
- Focus on overall development

Benefits Reaped

Over the years, Brandix developed several innovative HR policies, which aided in achieving benefits such as maximum employee satisfaction. This served as a benchmark for many organizations, particularly in the service industry. Brandix’s employee-friendly policies resulted in very low turnover rate (<2% per month) as well as enhanced reputation of the company as an employee-friendly, service-oriented organization.

Enhancement in Information Technology

Brandix was facing various challenges due to its archaic IT system. Its intranet had inadequate collaboration and information-sharing capabilities. There was a need for an easier-to-manage IT system, where all product, marketing, financial, HR, and workflow information could be centrally accessed and updated by users. For this Brandix employed solutions from Microsoft, Accenture and Tukatech. Some of the major IT developments in Brandix, are as follows:

- Brandix rolled out Microsoft® Office SharePoint® Server 2007 and the InfoPath® Forms Services to boost information sharing. In 2007, the first portal Brandix Market Watch (BMW) was deployed. BMW contained the most current, up-to-date information on the market.
- Next, the financial information portal was rolled out, which offered financial information and dashboards for senior management.
- Soon after, Human Resource (HR) department set up another portal called Systematic Hiring of Internal Employees (SHINE) which was used to update
employees on internal job vacancies.

- Following this, Brandix Process Improvement Team started a portal to improve the cycle time and first pass yield of various processes. This portal could be used to track their projects, budgets, and savings. It was also a repository of process flow documents and enterprise maps.

- Brandix engaged Accenture Strategy to design an agile operating model to support strategic sourcing. Parameters such as demand forecasting and aggregation, stock rationalization, new supplier introduction, cost sheets and rate contracts were assigned. Additionally, a 7-step strategic sourcing methodology, category workbooks, cost models, supplier databases, benefit tracking, templates, value leakage monitoring were integrated into the model.

- To remain competitive in the global market, Brandix Denim engaged Tukatech in 2011 to improve their CAD systems. This aided in the reduction of conversion time of bulk and samples and their prices. The software had unique features like calculation of shrinkage in any pattern at any segment and designing better fitting garments at the first try without having to make a sample.

**Benefits Reaped**

Brandix dramatically improved information sharing by amalgamating relevant information into a central repository. These led to an overall savings of $200,000 annually. Some of the key benefits include:

- Improved Information Access
- Improved Productivity
- Better decision making
- Improved ease of use

Brandix management’s focus is not on cost alone. It was to provide speed and value to customers. Improvement in IT systems and creating new ones have resulted in better quality, more productivity, faster and easier sample approval, minimal sample rejections and better fabric utilization. Furthermore, Brandix’s people focus and innovative HR practices have contributed significantly to attain manufacturing excellence.
Chapter 3: Roadmap to Manufacturing Excellence

In order to remain competitive in the international market it is important to simultaneously improve quality and productivity on continual basis. “Manufacturing Excellence” thus is the need of the hour to sustain the growth that Indian textile industry has experienced. Indian textile sector has to take steps as indicated below to gain an edge over its competitors like China, Bangladesh, Vietnam etc.

a. Productivity Improvement Program

Competition has increased the demand for high value and low price product, driving strong need for productivity enhancement. Textile and Apparel industry in India is fragmented and lacks the ability to identify, analyze and resolve productivity related challenges. As already discussed, the garment units operate at lower productivity levels compared to their counterparts in China, Bangladesh, etc. Major reasons responsible for low productivity are fragmented nature of industry, management mindset, lack of best practices & technical knowhow and higher attrition rate.

To achieve higher productivity India has to emphasize on all areas of manufacturing including manpower, material, machine and capital. The key components of productivity improvement programme are production planning and control, improvement in system and processes and increasing focus on information technology.

- **Planning**: Apparel manufacturing in India is highly dispersed. Even the major players do not have their production facilities at a single location but distributed across cities and states. Due to the innate nature of the industry the enterprises have to devise effective planning mechanisms. Effective planning involves activities such as:
  - Estimating next 6 months capacity so that orders can be allocated in advance
  - Allocating right order to the right factory
  - Production plans for tools and materials, supplier planning, manpower
  - Master Production Schedules (MPS)

While planning aspect of production is important it is also important that everything is well coordinated and harmonized. This is where the merchandising aspect of planning comes in. The activities include:
- On time customer approvals
- Effective material procurement
- Regular follow up on Time and Action (TNA) Calendar
- Coordination among factories

- **Systems and Processes:** Automated processes are easier to standardize and hence variations are minimal. Textile and Apparel Industry is labour intensive and when extensive labour is involved, it is difficult to standardize operations. India despite being the second largest manufacturer of Textile & Apparel lacks Standard Operating Procedures (SOPs). This has called for standardization of process throughout the industry to remove redundancy and ambiguity. This shortens the speed time to market throughout the supply chain.

The key goal of process improvement is making the operation efficient which only consists of value added processes. Traditional manufacturers work on conventional layouts which has high startup losses, slow learning curve, increased WIP, long throughput time, less optimum utilization of space etc.

To overcome the above problems operations re-engineering can be adopted which stresses on tools like High Performance Layout that reduces above gaps on the production floor, leading to high productivity levels with optimum space utilization. Similarly, Quick Changeover Module (QCO) is a method of analyzing and reducing the time needed to change a process from producing one good part to producing the next good part by using a team approach. Further, Quick Quality Response (QQR) involves quality check at needle point which empowers operators to become early warning system. Thus, these kind of Standard Operating Procedures (SOPs) bring in optimization of process flow and streamlines it.
• **IT focus**: IT has a significant role to play in the textile manufacturing which is currently missing in the industry. It can be used by small as well as large enterprises. IT tools like Management Information System and Enterprise Resource Planning (ERP) can be utilized for achieving efficiency and improving quality of production. It automates work flows and makes the process faster and traceable to identify delays.

b. **Continuous Research and Product Development**

Continuous focus has to be given to research and product development in order to gain competitive advantage. Bringing new ideas into action is of importance as it can lead to finding new manufacturing methods to improve performance, producing better quality and designs and streamlining of the entire process flow. A company must be able to understand the current and future needs of its customers, to develop innovative products and to get those products to the market place quickly.

c. **Skill Development and Up-gradation**

The Indian textile and apparel industry conventionally has been employing standard procedures of training, which involves recruiting unskilled persons who are trained through
basic procedures due to which they are unable to deliver efficiently. These procedures involve approximately 4 weeks of training in basic operations. Then, they are placed in the live production line where defects produced can cost more than cost of training.

In such a scenario, High Performance Training envisions skilling wherein 80% of the labour is multi-skilled and most of them can also be certified trainers. High Performance Training in Textile and Apparel industry is important as manpower involvement is more than any other industry. It includes components such as:

- **Foundation training**: Once the operator is selected through aptitude test he/she undergoes induction process where he/she is given awareness about basic machines. Machine training is given to achieve variable speed pedal control, loop exercise, control of machines in high/low speeds

- **Intermediate training module**: The training is customized based on operator performance in the foundation module and handling different products

- **Advanced module**: The trainee is prepared for real life industry situation through soft skill training and visual training. The new recruits have to be placed in real time production lines and need effective monitoring so that they are able to handle mass production

Apart from technical skills, it is important to provide operators with soft skills which includes motivation, health & hygiene, social security, group behavior, personal finance, self-management, time management, team management, etc. These skills instill them with organizational behavior that research suggests, affect company’s finance. Hence, the conformist mind set of Indian T&A industrialist of spending on training needs to be revised if the company has to achieve global competitiveness in all aspects.

**d. Keeping an Update on the Market Trends and Global Practices**

Keeping an update on the market trends and global practices is very essential for the companies to take decisions on taking the right move like entering into a new market, expanding an existing business, establish a distinctive identity or marketing around customer needs.
It helps the companies in:

- Identification and understanding of market dynamics
- Understanding consumer trends and how their products can fulfill or create a need
- Choosing the correct way of diversifying business
- Getting insights into competitors’ strategies, operations, strengths and weaknesses
- Finding out the key success factors to play and win in that specific market
Support of government to achieve manufacturing & sustainability goals will also be essential along with the efforts that are required from industry. Central government and various state governments have been proactively focusing on the development of textile industry of India owing to its potential of generating large scale employment and its significant share in India’s GDP and export. Various schemes like Technological Up gradation Fund Scheme (TUFS), Scheme for Integrated Textile Parks (SITP), Integrated Skill Development Scheme and others have been launched for promoting investments in the textile industry, upgrading technology and setting up integrated manufacturing setups. Apart from Central Government schemes, several State Governments have also launched their textile policies under which several incentives are provided for investments in textile sector. The announcement of ₹6,000 Cr. garment package last year came as a very positive boost for the garment industry of the country. All this support from government has helped the industry to grow over the years and become more competitive in manufacturing and exports. This support has to be continuously enhanced and focused on the target areas by creating a catalyst scheme to develop an ecosystem for enhancing manufacturing competiveness in order to provide a strong base for the future development of the Indian industry. With the aim of supporting Indian textile and apparel industry achieve its deserved state, it is important that State and Central Government agencies provide special thrust in specific areas, as mentioned below:

a. R&D Support
Manufacturing needs to be supported by continuous research and product development in order to gain a competitive edge. The Indian textile and apparel sector is known for its traditional products but very limited innovation has taken place in the sector so far. Even for several home grown technologies and process, commercial acceptability and adoption is not there in the sector. There is a need to provide impetus to innovation and R&D which can help in developing products with high commercial acceptability.
Also, when compared to other competing countries, the efficiency and productivity levels of Indian textile sector is quite low. To improve this, the sector needs to be supported for deploying state-of-the-art modern technologies and adopting processes which are more efficient than the traditional ones.

The government can have a R&D fund, which could be used to finance Research and Development projects for specific needs identified by industry. The fund can be utilized for both individual R&D projects and also to assist private firms in acquiring technologies on cost sharing basis.

b. Credible mechanisms for assessing levels of quality and productivity

There is a need for credible mechanisms for assessing levels of quality and productivity in segments of the supply chain as well as in individual enterprises. Government should develop a credible mechanism for assessing and tracking improvements in quality and productivity levels in the sector. Government should work together with the Quality Council of India and the National Productivity Council for achieving this objective.

c. Attracting Foreign Direct Investment (FDI)

Several global textile economies have developed via FDI route in their initial phase of growth like China, Vietnam, Bangladesh, Cambodia, etc.

Owing to various initiatives taken by the Government, the FDI in textile sector has increased considerably. In the fiscal year 2016-17, the sector received an FDI of US$ 619 million. However, this is not enough to get the desired technical know-how, and marketing network required to produce and sell high-end products competitively. Hence, Indian textile industry needs to focus on investing in latest technologies and developing world-class manufacturing infrastructure. There is a need to attract FDI in segments of synthetic textiles, high-end fabric and technical textiles. Also, in order to manufacture state-of-the-art machinery in the country in line with Prime Minister’s vision of ‘Make in India’, there is a need to attract FDI in textile machinery manufacturing.
d. Attracting Large Scale Investment

The textile and apparel sector of India is highly fragmented and dominated by MSME sector. The fragmentation does not allow them to compete at a global level. In India, a garment factory with 250 sewing machines may be considered as a good sized one, whereas in China and Bangladesh factories with 2000+ machines is not uncommon. To be globally competitive, it is required to specifically promote large scale manufacturing set-ups. These set-ups will gain an edge because of economies of scale and will also be able to cater to large buyers.

For attracting investments in the sector, it is required that good incentives should be given to investors. Incentives focused on technology up-gradation, capacity addition and long term development of the sector are crucial at this point of time. The incentives need to be attractive enough for Indian as well as international investors. Improved investment environment will stimulate investments, provide technical know-how and develop state-of-the-art set-ups required for the sustainable development of the sector.
The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes. CII is a non-government, not-for-profit, industry-led and industry-managed organization, playing a proactive role in India’s development process. Founded in 1895, India’s premier business association has over 8,500 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 200,000 enterprises from around 250 national and regional sectoral industry bodies. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues. Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, healthcare, education, livelihood, diversity management, skill development, empowerment of women, and water, to name a few. The CII theme for 2017-18, India Together: Inclusive. Ahead. Responsible emphasizes Industry's role in partnering Government to accelerate India’s growth and development. The focus will be on key enablers such as job creation; skill development and training; affirmative action; women parity; new models of development; sustainability; corporate social responsibility, governance and transparency. With 67 offices, including 9 Centres of Excellence, in India, and 11 overseas offices in Australia, Bahrain, China, Egypt, France, Germany, Iran, Singapore, South Africa, UK, and USA, as well as institutional partnerships with 344 counterpart organizations in 129 countries, CII serves as a reference point for Indian industry and the international business community.

Established in 2004, today Chandigarh based CII - Centre of Excellence for Competitiveness for SMEs is a single point of reference for meeting the needs of small and medium enterprises for enhancing SME competitiveness. With a pan India approach, the Centre plays role of a guide and mentor for SMEs by its 'Cluster Approach', which enables SMEs to learn through sharing of knowledge with other Cluster companies. Best Practices and s detailed road map for enhancing productivity and efficiency of Cluster companies is charted and implemented by the seasoned counselors of the Centre. The Centre works exclusively to enhance the competitiveness of MSMEs, through interventions in areas such as Manufacturing Excellence, Energy Efficiency, Cost Management, Total Employee Involvement, Corrosion Management etc. Our Pro-active International Engagements ensure that we are in tune with the cutting edge of global Competitiveness in order to transmit the same to the Indian SMEs. More than 220 training programmes have been held in the last 3 years, benefiting more than 3500 delegates.

The centre offers services in the following areas: Manufacturing Excellence | Energy Audits and Management | Corrosion Management | Human Resource Management | Total Cost Management
Wazir Advisors is a management consulting firm with a special focus on textile value chain assisting clients in strategy formulation and implementation, forming alliances and joint ventures, investments, market understanding, sector analysis and due diligence – thereby providing end to end solution spanning the complete business cycle in textile sector.

Having worked with leading national and international companies, public sector organizations, Government departments, development agencies, trade bodies etc., Wazir has a deep understanding of business dynamics and right connect with people in the sector.

Wazir’s team of sector experts possess experience across functions – projects, operations, sourcing and marketing. The team members have worked on strategy and implementation assignments in all major textile and apparel manufacturing and consumption bases across the globe.

Wazir leverages its body of knowledge, contacts and combined expertise of its team to deliver value to the clients. Wazir offer services in following areas:

<table>
<thead>
<tr>
<th>Strategic Advisory Services</th>
<th>Support for investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Corporate strategy</td>
<td>• Supply chain optimization</td>
</tr>
<tr>
<td>• Business performance enhancement</td>
<td>• Training for operators, supervisors and middle management</td>
</tr>
<tr>
<td>strategy</td>
<td></td>
</tr>
<tr>
<td>• Market entry strategy</td>
<td></td>
</tr>
<tr>
<td>• Marketing and distribution strategy</td>
<td></td>
</tr>
<tr>
<td><strong>Market research</strong></td>
<td></td>
</tr>
<tr>
<td>• Consumer surveys</td>
<td><strong>Support for investments</strong></td>
</tr>
<tr>
<td>• Trade research</td>
<td>• Cross border investments</td>
</tr>
<tr>
<td>• Market intelligence</td>
<td>• Company due-diligence</td>
</tr>
<tr>
<td>• Customer feedback &amp; relationship</td>
<td>• Location analysis</td>
</tr>
<tr>
<td>management</td>
<td>• Partner search - M&amp;A and JV, other forms of business</td>
</tr>
<tr>
<td></td>
<td>partnerships</td>
</tr>
<tr>
<td><strong>Services for Govt. and Development</strong></td>
<td><strong>Feasibility studies and bankable Detailed Project Report</strong></td>
</tr>
<tr>
<td>Agencies</td>
<td>(DPR) preparation</td>
</tr>
<tr>
<td>• Sector growth strategy</td>
<td></td>
</tr>
<tr>
<td>• Export and trade promotion</td>
<td><strong>Thought leadership</strong></td>
</tr>
<tr>
<td>• Policy formulation</td>
<td>• Conference Knowledge partner</td>
</tr>
<tr>
<td>• Policy evaluation</td>
<td>• Sector whitepapers</td>
</tr>
<tr>
<td>• Establishment of industry support</td>
<td></td>
</tr>
<tr>
<td>centers Implementation Assistance</td>
<td></td>
</tr>
<tr>
<td>• Apparel factory re-engineering</td>
<td></td>
</tr>
<tr>
<td>• Productivity improvement for apparel factories</td>
<td></td>
</tr>
</tbody>
</table>