Article

Evolving Trends and Patterns in the Indian Textile Industry: A Critical Evaluation

IIFT International Business and Management Review Journal
2023, 1(1) 65–78

DOI: 10.1177/jiift.231153458
ift.iift.ac.in

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Abstract

This perspective seeks to unearth the crucial trends and patterns of manufacturing, employment and exports in the socio-economically critical Indian textile industry. The period of analysis is broadly from 2000–01 to 2015–16, 2017–18 and 2020–21. Using available empirical and literary evidence, the viewpoint tries to elicit the causes, consequences and future policy implications of the study for the sector. All in all, given the stagnant and even declining trends on manufacturing, employment and export fronts, it is suggested that the industry stakeholders ranging from textile firm owners to policymakers adopt suitable and structurally superior digital technologies of production such as Artificial Intelligence, Internet of Things and 3D while also balancing with the prevalent welfarist objectives of employment and equity. The sector is vital for many other sections (such as women) and sectors (such as environment), which makes it all the more imperative to have suitable policies and incentive structures in place that could ensure a high growth and sustainable textile development pattern in the coming future.

Keywords

Indian textile industry, manufacturing, employment, environment, exports, women, digitalisation

Introduction

The Indian textile sector occupies a pre-eminent position within India's socio-economic landscape. It is one of the largest in the world with a huge raw material base and manufacturing strength across the value chain. To support the fact of

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importance of this sector for India, the textile industries contribute 2%–3% to India's gross domestic product (GDP) and accounts for 14%–15% of industrial production, 27% of the foreign exchange inflows and 13%–15% of the export earnings. Also, the sector is a major employment generator and is second only to the agricultural sector in terms of the same. It gives direct employment to 45 million people and most of these employees are women. As per several informed estimates, almost 60%–70% of the total workforce in this sector is accounted for by women, who with their knowledge of the traditional textile craftsmanship and dexterity of hands are more suited for employment in the textile industry. In line with the above argument, it is also to be mentioned that the textile industry, until recent years, has relied heavily upon traditional and labour-intensive production processes. Of late, thanks to the increasing weight attached to quality, the demand for skilled labour too has risen (Kanupriya, 2020a, 2021; Ministry of Textiles, n.d.). This raises the profile of the sector both in terms of its current contributions to the Indian socio-economic landscape as well as its future implications for the country, given its significance for employment, manufacturing, exports and by that very fact, GDP.

It is in this context that this article seeks to expound and critique the evolving trends and patterns within the Indian textile landscape. The primary objective of this perspective piece is, therefore, to elucidate on the dynamism of developments in the areas of textile manufacturing, employment and trade (both exports and imports) using both secondary data-dependent empirical tools as well as existent literature on the subject. Databases of the likes of the Annual Survey of Industries (ASI), National Accounts Statistics (NAS), Trade Map and the World Integrated Trade Solution (WITS) are used for the purpose of analysis in this article.

The article is divided into the following sections. The first section explains the purpose and methodology followed in this article, after giving a brief background to the theme. The second section seeks to illustrate the contributions, trends and patterns of the textile sector towards manufacturing, employment and trade in India using a review of the literature. The third section explores the existing literary evidence within a secondary data analysis framework using available databases. The next section seeks to explain the underlying causes, consequences and lessons drawn from these trends and patterns. The last but one section concludes the study. The final section educes the future policy implications of this analysis. The next segment reviews the existing literature on the significance of the Indian textile sector for the country's economy.

Significance of Textiles for the Indian Economy: A Review of the Literature

The textile industry contributes 2%–3% to India's GDP, 13%–14% to her export earnings, and as much towards her organised manufacturing GDP. Besides, the sector provides employment to an estimated 45–60 million people both directly as well as indirectly. A major proportion of these employees are women and by that

very fact, the sector holds primacy when it comes to its socio-economic pre-eminence in India, second only to agriculture (Kanupriya, 2021, 2022; Ministry of Textiles, n.d.; Oberoi, 2017; Papola, 2012).

There has been an improvement in the Indian textile exports and imports, employment and manufacturing output after the phase-out of the Multi-Fibre Agreement (MFA) framework phase. Thus, the post-2004–05 time period witnessed a non-uniform improvement in the textile industrial conditions. The reasons for this non-uniform improvement and not a secular increase are inadequate support in the form of unfavourable interest rates, untimely industrial packages, inopportune release of export incentives and inverted duty structures on textile inputs. Another reason has been the lack of adequate market access of Indian textile products in the developed country markets on account of India not being a least developed country but an emerging market economy, thereby it not being offered preferential tariff treatment unlike its competitors such as Bangladesh and Vietnam (Kanupriya, 2020b; Oberoi, 2017).

The next segment studies the contributions, trends and patterns of the Indian textile sector towards manufacturing, employment and trade in India using secondary databases.

Contributions of the Indian Textile Industry: Evolving Trends and Patterns

This section details the contributions, trends and patterns of the Indian textile industry towards the country's manufacturing, employment and trade. Table 1 presents the share of textiles in India's manufacturing GDP.

As evident from Table 1, the Indian textile sector contributed 11.69–13.87% towards India's manufacturing GDP between the period 2000–01 and 2015–16 as per the NAS data. It is to be noted that the method of calculating GDP is gross value added (GVA) at constant basic prices, for the base period 2011–12. This is a noteworthy contribution to the manufacturing of the country as almost one-tenth of the manufacturing is accounted for by the textile sector.

Total GVA for each year is calculated by summing up the contributions of agriculture, forestry and fishing; mining and quarrying; manufacturing; electricity, gas, water supply and other utility services; construction; trade, repair, hotels and restaurants; transport, storage, communication and services related to broadcasting; financial services; real estate, ownership of dwelling and professional services; public administration and defence; and other services in line with the value-added method of calculating GDP.

Table 2 presents the share of textiles in total industrial employment of the country.

As evident from Table 2, the textile sector accounts for anywhere between 15.25% and 20.83% of the total industrial employment.[1] This is almost one-fifth of the entire industrial employment in the organised sector, as measured by the ASI data.

Table 1. Share of Textiles in India's Manufacturing GDP.

Year	Textiles and Apparels GVA	Total Manufacturing GVA	Share of Textiles and Apparels in Total Manufacturing GVA (%)
2000–01	743,240.00	6,356,680.00	11.69%
2001–02	731,280.00	6,501,000.00	11.25%
2002–03	783,060.00	6,947,410.00	11.27%
2003–04	769,190.00	7,387,640.00	10.41%
2004–05	816,120.00	7,933,080.00	10.29%
2005–06	950,170.00	8,674,750.00	10.95%
2006–07	1,134,750.00	10,217,800.00	11.11%
2007–08	1,101,470.00	10,931,060.00	10.08%
2008–09	1,246,030.00	11,440,850.00	10.89%
2009–10	1,418,760.00	12,695,640.00	11.18%
2010–11	1,513,210.00	13,672,580.00	11.07%
2011–12	1,532,380.00	14,099,860.00	10.87%
2012–13	1,773,980.00	14,868,730.00	11.93%
2013–14	2,164,110.00	15,607,090.00	13.87%
2014–15	2,164,290.00	16,839,380.00	12.85%
2015–16	2,589,360.00	19,038,500.00	13.60%

Method: Gross value added at constant basic prices, base year 2011–12.

Source: National Accounts Statistics.

Table 2. Share of Textiles in Total Industrial Employment.

Year	Total Direct Employment	Textiles Direct Employment	Share of Textiles Employment in Total Industrial Employment
2000–01	4,882,143	994,683	20.37%
2001–02	4,660,496	915,327	19.64%
2002–03	4,739,339	897,820	18.94%
2003–04	4,591,237	908,135	19.78%
2004–05	4,851,233	950,306	19.59%
2005–06	5,099,750	998,503	19.58%
2006–07	5,516,703	1,149,108	20.83%
2007–08	5,659,750	1,075,035	18.99%
2008–09	5,977,328	1,011,886	16.93%
2009–10	6,153,723	1,004,819	16.33%
2010–11	6,541,222	1,052,353	16.09%
2011–12	6,828,309	1,052,522	15.41%
2012–13	6,608,207	1,030,555	15.60%
2013–14	6,934,221	1,057,405	15.25%
2014–15	6,953,177	1,109,598	15.96%
2015–16	7,177,708	1,121,290	15.62%
2016–17	7,463,498	1,127,894	15.11%
2017–18	7,777,197	1,213,136	15.60%

Source: ASI-based calculations.

Continuing with the description of the employment conditions in the Indian textile sector viz-a-viz the entire Indian economy, Table 3 gives the employment elasticities of textile output as computed from the ASI data and comparable with the entire organised industrial sector.

Table 3 depicts the employment generation potential in the Indian textile sector with regard to all the industries. The computations are done for the period 2000–01 to 2017–18 on the double logarithmic form of direct employment and output for both the textile and the overall organised industrial sectors. This gives the employment elasticities with regard to output in the Indian textile and the overall industrial sectors.

As evident from this table, the employment elasticity of the Indian textile sector is 0.14, viz., for a percentage point increase in textiles output, employment

Table 3. Employment Elasticities in the Organised Sector.

Sector	Employment Elasticity Coefficients
Textiles	0.14
All industries[2]	0.22

Source: ASI-based calculations.

Table 4. Employment Coefficients in the Organised Sector.

Year	Employment Coefficients for All Industries (Employment/Output)	Employment Coefficients for the Textile Sector (Employment/Output)
2000–01	0.53	1.42
2001–02	0.48	1.44
2002–03	0.42	1.34
2003–04	0.36	1.25
2004–05	0.29	1.14
2005–06	0.27	1.04
2006–07	0.23	1.07
2007–08	0.20	0.87
2008–09	0.18	0.81
2009–10	0.16	0.70
2010–11	0.14	0.53
2011–12	0.12	0.49
2012–13	0.11	0.45
2013–14	0.11	0.40
2014–15	0.10	0.40
2015–16	0.10	0.42
2016–17	0.07	0.43
2017–18	0.06	0.43

Source: ASI-based calculations.

in the sector goes up by 0.14 percentage points. This can be compared to all the industries. As far as the employment elasticity for the entire industrial sector is concerned, it is 0.22, viz., for a percentage point increase in the overall industrial output, total industrial employment goes up by 0.22 percentage points in the organised sector (Arora, 2015; Papola, 2012).

Thus, the employment-generating potential for the Indian textile sector is comfortable when placed within the overall industrial economy.

Continuing with the description of the employment conditions in the Indian textile sector viz-a-viz the entire Indian economy, Table 4 gives the employment coefficients of textiles and the overall industrial economy as computed from the ASI data.

Table 4 gives another measure of employment generating potential for the Indian textile sector viz-a-viz the entire industrial economy. Employment coefficients are defined as the ratio of total employment generated per unit of output.

As evident from the calculations, the employment coefficients for the entire industrial economy hover between 0.06 and 0.53 for the period under study. At the same time, those for the Indian textiles sector are much higher at 0.40 to 1.44, implying that total employment generated per unit of textiles output is more than the employment generated per unit of total industrial output (Arora, 2015; Papola, 2012).

This places the Indian textile sector in a commanding position as far as its contribution to employment generation in the Indian organised industrial sector is concerned.

Table 5 describes the employment scenario in the unorganised textile sector as placed within the overall industrial segment using the National Sample Survey Organisation (NSSO) data.

Table 5 studies the employment scenario in the unorganised textile sector within the overall industrial economy. In this regard, the concepts of principal status (PS) and subsidiary status (SS) are important to be noted. First, PS employment refers to the status of activity on which a person has spent a relatively longer time of the preceding 365 days prior to the date of the survey. Second, SS employment refers to the status of activity on which a person has spent a minor period of not less than 30 days prior to the date of the survey (Oberoi, 2017).

As evident from Table 5, employment in the unorganised segment of the industrial economy for the Indian textile sector is high to the tune of 9.7, 8.4 and 9.2 million for the years 2004–05, 2009–10 and 2011–12 as per the NSSO data. As a share of manufacturing in the unorganised sector, this accounts for 17.99%, 16.57% and 15.38%, respectively (Mehrotra et al., 2014).

Furthermore, some of the employment figures from Oberoi (2017) help to supplement this trend even better and also explicate the duration and nature (PS or SS) of employment in the sector.

As Table 6 depicts, there is an unclear trend of declining usual status employment for the Indian textile and garment sectors (combined) from 1999–2000 to 2009–10. For the years 1999–2000, the usual status employment in the Indian textile and garment sectors (combined) stood at 51.17 lakhs. This number

Table 5. Employment (PS + SS) in the Unorganised Manufacturing Sector.

Manufacturing Sector	2004–05	2009–10	2011–12
Food products and beverages	5.5	5.5	6.4
Tobacco products	4.7	4.1	4.9
Textiles	9.7	8.4	9.2
Wearing apparel	7.2	7.3	9.6
Leather products	1.3	0.9	1.3
Wood and wood products	5.2	3.6	3.9
Paper and printing, etc.	1.5	1.6	1.1
Rubber and petroleum products	0.9	0.8	1.3
Chemical products	2	1.7	2
Non-metallic mineral products	4.5	4.3	5
Machinery and metal products	6	6.6	6.9
Transport equipment	1	1.5	1.5
Furniture manufacturing	4.4	4.3	6.6
Unorganised manufacturing (total)	53.9	50.7	59.8

Source: Adapted from Mehrotra et al. (2014).

Table 6. Usual Status Employment in the Textile and Garment Sectors (Combined).

Years	Principal Status (PS)	Subsidiary Status (SS)	Usual Status (PS + SS)
1999–2000	29.25	2.01	31.26
2004–05	29.54	2.63	32.17
2009–10	26.58	1.95	28.55

Source: Adapted from Oberoi (2017).

Table 7. Average Male-to-Female Employment Ratios by Industry and its Size.

Industry	Small Scale	Medium Scale	Large Scale
Textiles	2.3	3.9	27.6
Apparels	4.0	6.4	5.2
All other industries	2.7	5.6	19.5

Source: Adapted from World Bank calculations in Lopez-Acevedo and Robertson (2016).

saw successive, yet asymmetrical patterns of decline over the next few years. For the period 2004–05 and 2009–10, these figures become 60.56 and 41.95 lakhs, respectively. Also, as depicted in the table, the share of PS employment is higher than the share of SS employment, implying that the status of activity on which a person has spent a relatively longer time of the preceding 365 days prior to the date of the survey or the PS employment is higher than the SS employment as defined by the workers having worked for a minor period of not less than 30 days. It could thus be safely stated that long-duration employment in the sector outshines shorter period employment for the time period under study (Oberoi, 2017).

Table 7 educes the male-to-female employment ratio using the ASI data to gauge the female-intensive nature of textile employment.

Table 7 elicits the male-to-female employment ratios for the Indian textile sector to gauge whether or not the sector is female-labour intensive compared to apparel and all other industrial categories. This links the selection of the textile sector in the thesis topic owing to its role in providing employment to women over any other labour-intensive sector.

Clearly, the male-to-female employment ratios are favourable for females in the Indian textile sector for both small and medium-scale sectors, as compared to the other industrial categories. As the majority of firms in the sector are of medium and small-scale nature, these results are quite telling (Lopez-Acevedo & Robertson, 2016).

Thus, the importance of the industry for the female employment generation cannot be overlooked.

The ratios are calculated using ASI establishment-level data for 2000–01 to 2014–15 by the World Bank in Lopez-Acevedo and Robertson (2016).

Next, Figures 1–3 assess the trade performance of the Indian textile sector within the overall Indian economy.

Given the centrality of trade (exports and imports) in the thesis topic, it is prudent to assess the relative importance of the textile sector in the country's overall trade scenario.

For the purpose, Figure 1 graphs trade in textiles as a share of India's total trade for the period 2000–18 using data from WITS.

As evident from Figure 1, textile exports as a share of India's total exports hover between 12.97% and 4.69% for the period under study, indicating significance of the sector for India's exports. Also, the sector's imports account for 0.75% to 1.60% of its total imports for the period under study. Clearly, exports are more pronounced for the sector as compared to imports in their trade composition.

Figure 1. Textile Trade as Share of India's Total Trade.

Source: WITS.

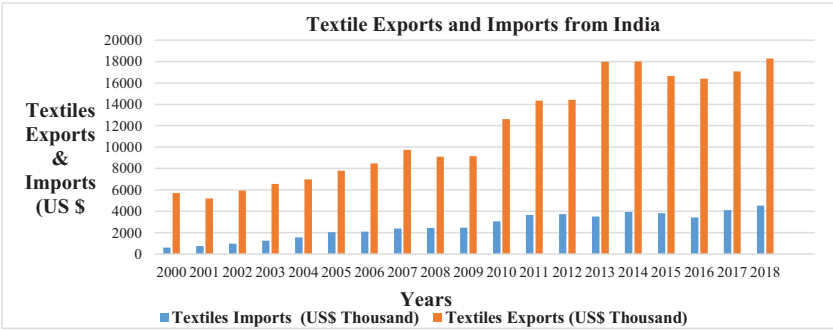

Figure 2. Textile Exports and Imports from India.

Source: WITS.

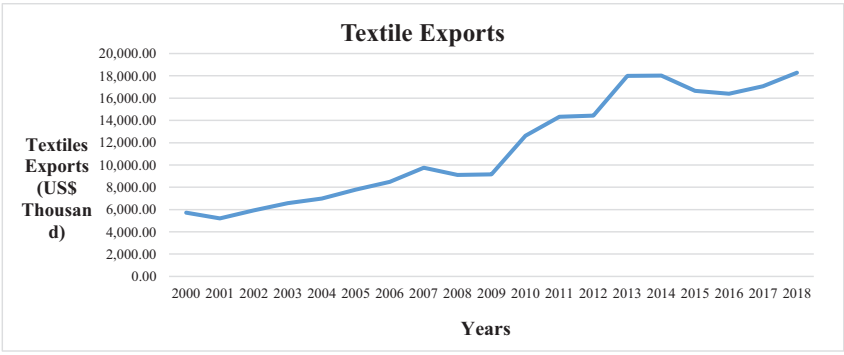

Figure 3. Textile Exports from India.

Source: WITS.

Given the centrality of trade in the subject matter of this article and to have an understanding of the trade scenario in the Indian textile industry, a graphical description (Figure 2) of exports and imports of the Indian textile sector is given on the basis of WITS database for the period 2000–2018 with their values having been expressed in US$ thousands.

As Figure 2 depicts, the value of textile exports from India witnesses an upward trend for most of the years under study, especially after the post-MFA period from 2004–05 onwards. The imports too, see an increasing trend over the period under study, albeit at a pace slower than the value of exports. This corroborates the trends of Figure 1 such that textile exports corner a more prominent position than imports in the Indian trade scenario.

To further gauge the trade conditions in the Indian textile sector, a disaggregated analysis of exports and imports of the Indian textile industry is depicted in Figure 3.

As Figure 3 depicts, the average value of textiles exports from India records a rising trend for the period under study till 2013–14, especially after the post-MFA period from 2004–05 onwards. The period from 2013–14 onwards witnesses a declining trend in textiles exports owing to the industry not receiving adequate support in the form of favourable interest rates, timely industrial support and opportune release of export incentives.

In general, though exports see an uptrend for the period under study.

Figure 4 depicts the trend for the value of textile imports for the period under evaluation.

As per the depictions, in general, the values of textile imports witness an uptrend for the period 2000–2018, especially after the post-MFA period from 2004–05 onwards.

Figure 4. Textile Imports from India.

Source: WITS.

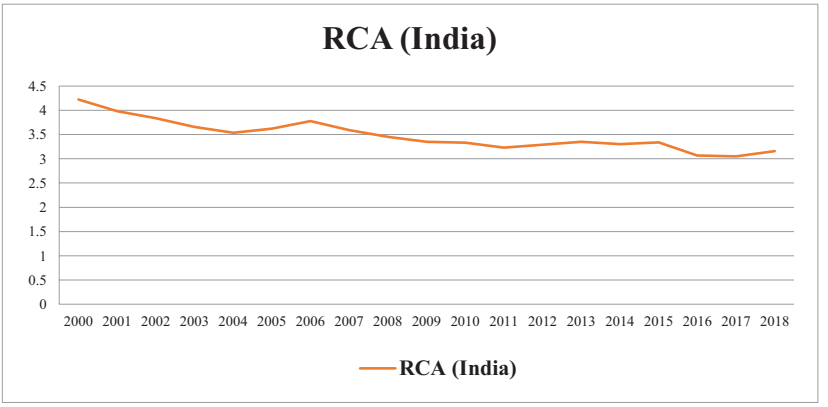

Figure 5. Revealed Comparative Advantage of the Indian Textile Sector.

Source: WITS.

The following depiction of revealed comparative advantage (RCA) expounds the desirability and suitability of Indian textile exports in the global markets.

As evident from Figure 5, the RCA as defined by Balassa and Noland (1989) relates to the relative advantage or disadvantage of a certain country in a certain class of goods or services as evidenced by trade flows. It is based on the Ricardian concept of comparative advantage. For RCA values more than unity or 1, the nation has an RCA in the concerned class of goods, in other words, that economy should continue to export that class of goods to the rest of the world. Henceforth, that economy shall continue to export those goods and services in which it has a RCA. The class of goods for which the value is less than unity should be discontinued as exports. Since the WITS database contains values only till 2018, the chart too depicts the trend up to 2018.

Deducing from the chart, the RCA values for the textile sector for the years 2000–2018 lie between 3.05 (the value for 2017) and 4.22 (the value for 2000). Also, using Trade Map, the values for 2019, 2020 and 2021 come to be 2.03, 2.50 and 2.14, respectively—values not pointing towards competitiveness in the Indian textile sector.

There is, thus, a declining RCA for the Indian textile sector for the period under study. It could imply that India is ceding its textile exports' space to other competitors in the world, on account of their better exports performance viz-à-viz India.

Similar results are obtained for another vital trade index, namely the export similarity index for India viz-a-viz her top textile export competitors (Kanupriya, 2020b).

Based on the results and trends arrived in this section, the next segment discusses the causes, consequences and lessons derived from the same.

Causes, Consequences and Lessons for the Indian Textile Industry

As described in the preceding section, despite the centrality of textiles in the Indian socio-economic landscape, the same cannot be thought of as a 'top performer' within the Indian economy, when it comes to its shares, contributions and relative competitiveness in terms of manufacturing, employment (mainly organised sector employment) and trade.

There are a number of causes that could be offered as an explanation of the lack of meritorious performance by the Indian textile industry. Corruption and leakages at the foreign borders (Kanupriya, 2020b; Kapoor, 2019), high costs and delays caused by domestic transportation, burdensome customs procedures, problems in meeting quality/quantity requirements of buyers (both domestic and foreign), challenges in accurate identification of the potential buyers and markets, lack of access to imported inputs at competitive prices, lack of easy access to output and trade finance, lack of seamless transportation (both domestic and international), tough technical requirements and standards abroad, tariff barriers abroad, lack of

appropriateness of the production technology and skills, Rules of Origin (RoOs) abroad, lack of availability of cheaper production inputs like skilled labour, capital, land, and so on (Kanupriya, 2020b; Kapoor, 2019).

There is, thus, a pressing need to enhance textile production, employment and export competitiveness by way of successful negotiation of ongoing preferential trade agreements and improving the logistical performance of the Indian textile industry, as also reaping the benefits of scale economies through technological upgradation of small and medium enterprises (Kanupriya, 2020b).

The only noteworthy consequences of a less than remarkable performance of the Indian textile sector are the lagging of the sector in terms of its manufacturing and exports competitiveness while also not being able to catch up with an ever-rising labour force, thereby being a letdown in terms of its demographic dividend potential for India's youth.

As an upshot of the discussion thus far, the only feasible option for the Indian textile industry is to upgrade itself structurally in terms of the latest technologies of production, better adherence to production targets and standards, reducing corruption, procuring cheaper inputs of production and adopting digital technologies as part of the Industry 4.0 initiatives. Not only would it act as the saviour for the distressed sector but also ensure that the future generations do not bear the consequences of the human action today, for textiles is one of the most polluting sectors, especially the colouring and dyeing businesses (Kanupriya, 2022). For effecting this transformation, both the private and the public sectors must work together. Only then can a truly lasting and sustainable 'digital circular' transformation be realised for this sector (Kanupriya, 2022).

Conclusion

The article educes major contributions, trends and patterns in the Indian textile industry in terms of manufacturing, employment and trade. The same points at a worrying trend of stagnant and even declining textile relevance and competitiveness when it comes to its contributions to manufacturing, employment and trade. That the trend must be immediately arrested and major course corrections should be done have been emphasised. The study advocates undertaking drastic structural transformations in order to keep the industry competitive, both domestically as well as globally. The last section lists the future policy implications of this perspective.

Future Policy Implications

This perspective is an attempt at summarising and analysing the dynamic trends and patterns of manufacturing, employment and trade in the Indian textile sector. Studies and opinion pieces on the Indian textile industry often overlook the dynamics of the changes in the country's textile landscape both in the present and in the years to come.

As elucidated in this article, while it is all too important for the industry managers and practitioners to transform themselves structurally for survival, embracing new currents in textile technology in line with Industry 4.0 is imperative for any future welfarist manager/textile producer. This is especially so in a sector that employs several marginalised communities, including women and can take the initiative to introduce new techniques and processes to bring them within the fold of a productive and competitive textile economy (Kanupriya, 2020a, 2022). The ecological ramifications for a digital circular textiles economy too are profound, as discussed in the previous sections of this article.

Adopting the latest digital technologies such as 3D, Internet of Things and Artificial Intelligence and simultaneously reskilling and upskilling the existent and incoming workforce in the sector shall almost uncover new insights about not just their consumers but also of their internal business models, competitors and demand–supply dynamics (Kanupriya, 2020a). In line with the same, digitalisation could be a game-changer for the Indian textile sector, if implemented with sufficient pro-poor checks and balances.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author received no financial support for the research, authorship and/or publication of this article.

Notes

1. The industries included in the data are crop and animal production, hunting and related service activities, other mining and quarrying, manufacture of food products, manufacture of beverages, manufacture of tobacco products, manufacture of textiles, manufacture of wearing apparel, manufacture of leather and related products, manufacture of wood & wood products, manufacture of paper and paper products, printing and reproduction of recorded media (excluding publishing activities, manufacture of coke and refined petroleum products, manufacture of chemical and chemical products, manufacture of pharmaceuticals, medicinal chemical and botanical products, manufacture of rubber and plastic products, manufacture of other non-metallic mineral products, manufacture of basic metals, manufacture of fabricated metal products, manufacture of computer, electronic and optical products, manufacture of electrical equipment, manufacture of machinery and equipment n.e.s., manufacture of motor vehicles, trailers and semi-trailers, manufacture of other transport equipment, manufacture of furniture, manufacture of other manufacturing, repair and installation of machinery and equipment, electricity, gas, steam and air-condition supply, waste collection, treatment and disposal activities; materials recovery, wholesale and retail trade and repair of motor vehicles and motorcycles, warehousing and support activities for transportation, publishing activities, repair of computers and personal and household goods, and others.
2. All industries are as specified in the first footnote of this article.

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