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Perspective

Indian textile sector, competitiveness, gender and the digital circular economy: A critical perspective

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Abstract: This perspective is an attempt at describing the complex liaison between the Indian textile sector and the factors determining its export competitiveness. These dynamics range from logistics to the digital circular economy. In still greater detail, these could be listed as the geographical spread and the dynamism of exports, product combination and the level of specialization of exports, technical and skill levels across the industry as also efficiency, which in turn is influenced by the cost of production, delivery timetables, dependability of producers; and the image of the product brand and the exporter nation. Use of tools such as review of studies and Revealed Comparative Advantage (RCA) have been made so as to explain the theory of competitiveness in the Indian textile exports relative to its major competitors such as China, Vietnam, Bangladesh, Sri Lanka and Pakistan. The study addresses several important issues as to the competitiveness and challenges before the Indian textile sector as far as its export performance is concerned. It suggests some alternatives to the current logistics- centric competitiveness discourse, chiefly, sustainable and gendered aspects of trade. The main contention of this perspective is that if understood sincerely, a gender -friendly Digital Circular Economy could work wonders for one and all.

Keywords: circular economy; competitiveness; digital circular economy; exports; gender; Indian textile industry; revealed comparative advantage

JEL Codes: F10; F18; J16; L67; L86

1. Introduction

The textiles sector occupies a prominent place in the Indian economy in terms of its contribution to employment, exports and industrial output. The Indian textiles industry and its export competitiveness are the key points of discussion of this study within the context of a gendered circular economy.

The sector's contribution towards the nation's employment, exports and total industrial production is significant. The sector provides direct and indirect employment to the tune of 45 and 60 million people approximately in its various stages and processes. It contributes 12 to 13 per cent towards total industrial output and Rupees 2.55 billion towards the country's exports. Among the noteworthy export categories are those of cotton, natural and manmade fibres, silk-based textiles, knitted apparels and accessories. The country currently commands a share of about 6 per cent in the global exports of textiles, which pales in comparison to its major competitors such as China, Bangladesh, Vietnam, Sri Lanka and Pakistan. Among the major export destinations of the country's textiles exports are the European Union (EU), the USA and the Middle East (Kanupriya, 2021; PIB, 2020).

Table 1. Depicts some of these facts in a concise manner.

Year	Share of Textiles Industry in Total Industrial Output (in per cent)	Contribution to Total Exports (in Rupees Billion)
2016–17	12.65	2.65
2017–18	12.9	2.55

Source: PIB (2020)

As depicted in Table 1, the share of textiles industry in total industrial output is about 13 per cent from 2016–2018. From the same table it is evident that the sector contributes between 2.65 to 2.55 Billion Rupees for the period 2016–2018. After describing the output and employment contributions of the Indian textiles sector, it is imperative to discuss its performance on the front of exports.

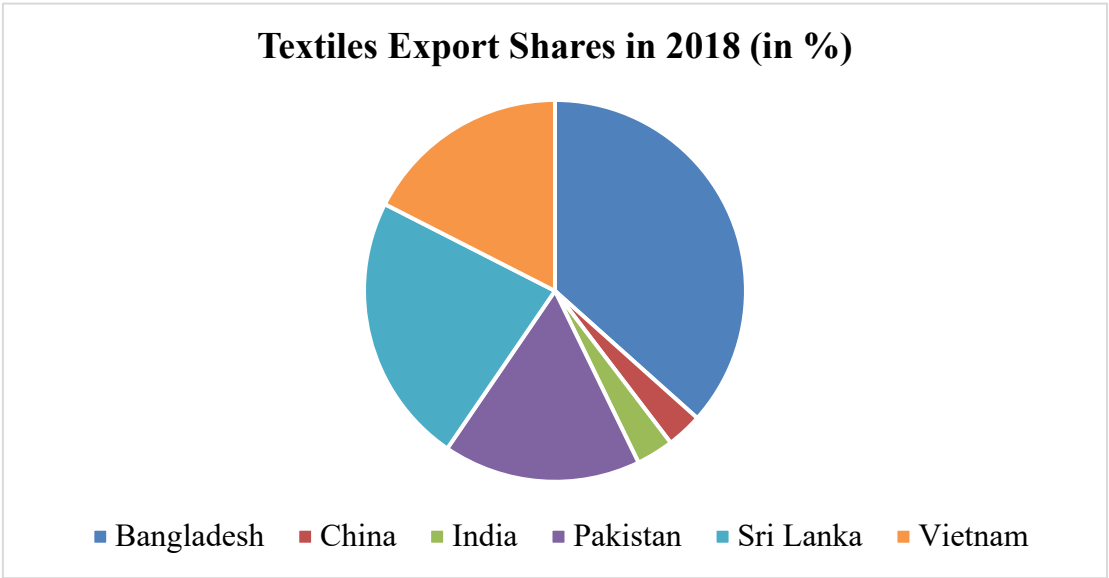

Figure 1. Textiles export shares (in %).
Source: Author's calculations based on World Integrated Trade Solutions (WITS).

As evident from Figure 1, India is a relative underperformer in global textiles exports, given its low shares in world trade. Its major competitors namely, Bangladesh, Vietnam, Pakistan, China and Sri Lanka seem to perform well in terms of their shares in the global textiles trade.

Clearly, it is evident from figure 1, the Indian textiles industry has scope for a lot of improvement when it comes to export performance and by implication, export competitiveness viz-a-viz its major competitors. The key research objective of this paper is therefore, to assess the factors determining export competitiveness of the Indian textiles sector. An attempt is made to read the competitiveness situation in the light of an alternative gender-friendly Digital Circular Economic framework. The need to digress from the conventional tools of determining export competitiveness stems from the relative inadequacy of the same in recent times. The oft-repeated methods recurrently fail at ensuring a sustained and ever-lasting viability of the Indian textiles export economy.

This paper is an attempt at sewing together the diverse concepts of sustainability, export competitiveness and a gender-friendly Digital Circular Economy in the context of the Indian textiles sector. With the help of same, a refreshingly different and novel perspective could be fused into the way humans perceive competitiveness. Far too often studies on the theme are focused on the logistical aspects of export competitiveness, there is a need to look at other more sustainable options. The main research objective of this paper is centred around highlighting this very 'alternative' aspect of export competitiveness.

The paper is divided as follows. The first section introduces the theme. The second describes the issues and challenges associated with competitiveness within the Indian textiles industry. The third elicits some of the main schemes and policies of the Government of India for this industry. The fourth section places the Indian textiles economy within a 'Circularity' framework. The fifth segment contextualizes the Indian textiles industry within a 'Digital Circular Economy'. The last but one section elicits the results and discussion of the the study. The final section concludes the paper and explains its future implications.

Given the immense importance of this industry in India's economic landscape, a brief description of the degree of competitiveness within the same is helpful to lend credence to this analysis.

2. Competitiveness within the Indian textiles industry: issues and challenges

Competitiveness as a principle, includes some myriad other concepts, chiefly geographical spread and dynamism of exports, product combination and level of specialization of exports, technical and skill levels across the industry as also efficiency, which in turn is influenced by the cost of production, delivery timetables, dependability of producers; and the image of the product brand and the exporter nation in the minds of importers. Jointly, these enabling factors explain the attractiveness of an export product category to compete in a free market economy (Verma, 2002 and World Bank, 2020).

Export competitiveness aids nations to boost their lax performance on the export front by improving those areas in which they lag than the rest.

In terms of export competitiveness in textiles products, India has a rather low Revealed Comparative Advantage (RCA) value when compared to its peers. The RCA has proved to be a useful measure of a country's export potential and concomitantly, its export competitiveness. It is defined as the share of the country's exports of the product group under consideration (Xij/Xit) divided by the share of global exports in that class (Xnj/Xnt). Here, Xij refers to the exports of a 'j' commodity/industry group, say the textiles sector commodity group of 'i' country, say India. Xit refers

to the total exports 't' of the country 'i', India. Similarly, Xnj refers to the global exports of the textiles industry where, 'n' denotes global and 'j' denotes the commodity group. Likewise, Xnt denotes total global exports, with 'n' denoting global and 't' denoting total exports of all the product categories. An export product category is revealed preferred if, the value of RCA thus calculated as defined in the formula in the preceding lines is more than one or unity. If the RCA value is less than one, then the country has a revealed comparative disadvantage in that product group or industry. The RCA value for India's textiles products is positive but significantly lower than its competitors. For 2016 (the year for which figures are available for all the competitors), it was around 2.8 as compared to 19 for Bangladesh, 13.7 for Pakistan, 3 for Vietnam and 2.5 for China, indicating an insistent need to augment the country's export attractiveness in textiles at par with its competitors (WITS, 2020; World Bank, 2014).

As far as the performance in the Indian textiles industry in terms of competitiveness is concerned, it is to be mentioned that the sector lags on the parameters of supply chain efficiency, especially in the wake of its fragmented nature on factor and raw material fronts. The other major constraint pertains to the conversion efficiency in the sector, which is relatively low owing to lack of significant technological upgradation. For example, the level of technology employed in the weaving segment of the country's textiles industry is not upto date as compared to global standards (Swanson et al., 2017; Verma, 2002).

The other major factor for the relative underperformance on the export competitiveness front pertains to the mismanaged organization of functions and tasks or OFT in the Indian textiles sector as compared to its peers. Studies on the buyers' opinion of India as an export seller disclosed that while India was viewed satisfactorily on factors like charges, attributes, know-how, tractability and order capacity, it was viewed unfavourably on delivery timeliness, receptiveness, customer-seller interface, dependence and ethical criteria. Most essentially, there is a need to improve the country's rank in important global competitiveness indices such as the Global Competitiveness Index, released by the World Economic Forum annually. As per the latest available rank for 2017–2018, India stands at 68th position out of 141 countries in the index. Areas needing major policy attention are health and primary education, macro-economic environment, labour and goods market efficiency, technological readiness and infrastructure. The main argument is that exports have a significant impact on the competitiveness of manufacturing firms. From a policy perspective, it is important for the government to increase the pace of export promotion policies to boost productivity and competitiveness of the Indian manufacturing (read: textile) sector (Sahoo et al., 2022).

While these factors may not be completely related to the Indian textiles industry, performance on their front does impact the overall scenario in the sector in terms of its competitiveness, since, several of these concerns see an overlap with those experienced by the Indian textiles industry (The Economic Times, 2019).

With relatively upgraded technologies in the powerlooms, better integration of the labour and factor markets, better organization of functions and tasks and improving performance on the various competitiveness indices, as also greater access to export markets brought about by the implementation of different Regional Trade Agreements (RTAs), the performance of India's export competitors is at best superior, especially of China, Bangladesh and Vietnam. The next section elicits some of the major schemes and policies of the Government of India for the Indian textile industry and her export.

3. Schemes and policies of the government of India for the Indian textiles industry

The Indian Textiles sector has time and again attracted the attention of the Government of India, given its pre-eminence for the country's employment, output and export potential. Some of the major policies announced for the sector recently could be listed and explained as below:

- Amended Technology Upgradation Fund Scheme (ATUFS) that aims at modernization of obsolete technology of the Indian Textiles industry and create further employment in the same (Ministry of Textiles, Government of India, 2020).
- Scheme of Integrated Textiles Parks (SITP) aims at providing subsidy to establish Textiles Parks for generating infrastructure and employment opportunities (ibid).
- Scheme for the development of Knitting and knitwear sectors to increase production and employment in the same (ibid).
- Samarth or The Scheme for Capacity Building aims at imparting skills and training to the Indian youth. The scheme targets a National Skill Qualification Framework (NSQF) compliant skilling course and curriculum. It is hoped that this would help in upgrading the technical know-how of the employees in the organized textiles sector (ibid).
- National Handloom Development Programme (NHDP) aims at the all round development of the handloom sector in the country by leveraging both input and output linkages in the same (ibid).
- National Handicrafts Development Programme (NHDP) aims at all-inclusive development of the handicrafts sector through a combined effort by providing both product development and marketing incentives (ibid).
- PowerTex India aims at securing cheap credit and infrastructural development of the Indian textiles sector by way of investments in loom upgradation (ibid).
- Silk Samagra has been launched with an exclusive focus on the silk sector, with an eye on the North-Eastern region of India (ibid).
- Jute ICARE has been launched for improving the socio-economic conditions in the Indian jute sector (ibid).
- Integrated Wool Development Programme (IWDP) aims at comprehensive development of the Indian woollen industry (ibid).
- North East Region Textiles Promotion Scheme (NERTPS) targets at comprehensive development of the textiles sector in the North East in terms of credit access, product development and market access (ibid).
- Apart from the above schemes, the Government has been taking various other initiatives for increasing the competitiveness and exports of the Indian textiles sector including for the knitwear and handloom segments. Some of these schemes could be listed. The Special Package for garments and made-ups sectors, namely, Rebate of State Levies (RoSL), additional incentives under Amended Technology Upgradation Fund Scheme ATUFS, labour law reforms and relaxation of Section 80JJAA of the Income Tax Act. The RoSL scheme has been replaced by the new RoSCTL (Rebate of State and Central Taxes and Levies) scheme (ibid).
- The Merchandize Exports from India Scheme (MEIS), the Market Access Initiative (MAI) Scheme and the Benefits of Interest Equalization Scheme (BIES) are some of the other pro-textiles manufacturer-exporter schemes. Also, to reduce the costs of the garment industry, GST rates on manmade fibre yarns have been reduced from 18 to 12 per cent (ibid).
- All in all, there is a special focus of the Government of India on the traditional handloom and

handicraft sectors including silk, wool and jute industries given their importance for employment and exports (ibid).

However, it must be noted that the Indian government has decided to remove the benefits of the MEIS or the Merchandize Exports from India Scheme on exports of made-ups and garments with retrospective effect, viz. from March 2019, thereby, proving detrimental to the prospects of the Indian textiles industry. Meanwhile, India's competitor countries like Pakistan, Bangladesh, Vietnam and Turkey are enjoying the benefits of the Generalized System of Preferences or GSP with the developed countries like the United States of America, providing a challenge to the growth of Indian exports. Thus, India's exports of made-ups and garments that became beneficial only because of incentives like the MEIS, have now taken a hit. Add to that other challenges in the offing, viz. the Coronavirus-led global demand contraction and the repercussions of the US-China trade war. Another very important challenge before the Indian textiles sector is the presence of high import duties in the developed country markets that put its textiles products at a disadvantage when compared to its major competitors (Chauhan, 2020).

Notwithstanding the multiplicity of government schemes pertaining to the Indian textiles industry and its exports, it is pertinent to take note of their effectiveness for the sector. As elicited in different sources, the textiles industry could be divided into major export groups, namely, cotton -based textiles; apparels (knitted and woven); made-up textiles articles; vegetable fibres; man-made filament and fibre-based textiles; yarn and fabric; and carpets and floor covering for the purpose of any further explanation. Some of the major challenges being faced by these industry segments despite Government schemes and policies, would be lack of continuous innovation in terms of new blending and design and little attempt on part of the textiles firms to improve their position in the global value chain by way of establishing contacts with prominent global brands or improving images of Indian brands in the global markets. Also, lack of improvement in the supply of raw materials, less control on prices, lack of technological modernization, lack of market and product variation and expansion and lack of effective compliance with the rules and regulations of the export destinations are some of the other challenges being faced by a typical Indian textiles exporter today. While many of the country's competitors may not be faring well on all these parameters, yet, it is imperative for the Government and the textiles exporters themselves to account for these factors when assessing their performance in the global textiles markets (Chauhan, 2020; Ramaswamy & Gereffi, 2007).

Despite various Government schemes and policies to boost textiles exports, the industry is facing a tough contest from foreign textiles competitors including the neighbouring countries in the South Asian region like Bangladesh, Pakistan and Sri Lanka. These countries are taking full advantage of unilateral tariff preference schemes granted by the developed countries to the developing nations. India, which was also a beneficiary of the European Union (EU) and the United States (US) Generalized System of Preferences (GSP) policy has graduated out of the GSP for textiles and some other products, on the basis of trade shares of the Indian exports to these countries. Hence, the Indian textiles exporters have to pay the normal customs duties on the textiles products being sent to the EU and the US. The Indian textiles competitors on the other hand, have zero or very low duty access for textiles products into the EU and the US markets. The case of China, another neighbouring country, is also interesting. China's manufacturing base in textiles is much more sophisticated than India's, both in terms of material and fibre, thereby, affording greater opportunities for textiles manufacturing and exports. Besides, China has a large and sound infrastructural framework to meet the global demands of the product effectively, despite its own challenge of rising labour costs at home (Chauhan, 2020). The next section explains the circular economy as a solution to the challenges before the Indian textiles economy.

4. Circular economy as a solution to challenges of the Indian textile sector

The Indian textiles industry is a major source of pollution and waste, despite being socio-economically important. It's characterized by overproduction of low-cost clothes, often produced under poor working conditions and ending up in landfills. A transition to an ecologically sensitive textiles economy could therefore, be the way forward. As per an ILO study, the overall effect of a sustainability transition is expected to be helpful for the traditional employment economy, with 18 million additional jobs to be generated by 2030. An OECD review study in 2020 backs these judicious assessments and estimates net employment gains in the range of 0%–2% by 2030, thanks to the transition to a Circular Textiles Economy (Gladek, 2018; Pachini, 2021; Tsai, 2018).

The 'Circular Economy' concept is increasingly gaining ground globally to achieve the necessary makeover into a resource-efficient economy. This is the only way to achieve climate neutrality by 2050. In a Circular Economy, resources are utilised, but not used up. In other words, they are not exhausted but used sustainably and efficiently (European Commission, 2015; Geissdoerfer et al., 2017; Murray et al., 2017). By applying suitable approaches to products and materials during use and after the end of a product lifecycle, firms must keep resources within the system itself (Lee et al., 2017). A Circular Economy ensures that the world can and should move to a resource-efficient and cost-effective global modern economy and continue the economic growth that has moved billions of people out of poverty (European Commission, 2015; Murray et al., 2017). It is imperative that the world set itself on the path of mitigating and ultimately eliminating, linear production practices that start with materials extraction to manufacturing, use, ignition and landfill; thereby putting tremendous strain on the local and global natural resource systems (Ghisellini et al., 2015; Patrizia et al., 2018; Yuan et al., 2006).

Transforming textiles into a Circular Economy can have a tremendous socio-economic impact in the world. A Circular Textiles Economy improves the resilience of textiles value and supply chains by connecting its production and disposal ends sustainably (Ellen MacArthur Foundation, 2015; Lee et al., 2017).

It has been estimated by UNCTAD that the resulting expansion in circularity, through reprocessing or recycling reduces carbon dioxide emissions entrenched in the textile production process by 33%. It could also help lessen the concomitant air, soil and land pollution. The study also found 'Circularity' being positively associated with 'Formality' within the textiles production chain, thereby having a benign outcome for the vast majority of informal sector workforce, especially females in the developing parts of the world including India and Bangladesh (Pachini, 2021; Pagoropoulos et al., 2017; Tsai, 2018).

It is in this milieu that one must locate the competitiveness obsessed textiles economy. It would be fair to profess that if India, or for that matter any country in the world, focuses on a Circular Economic—driven exports strategy, with women having a prominent say in it (not at the cost of men, though), the outcomes shall be different not just for the present times but also for all times to come. In other words, a Circular Economic framework ensures exports competitiveness for times to come and just for the present era. There are several ways in which this can be achieved. One, to reprocess textile waste by recycling the used materials and altering them back into their original form (Tsai, 2018). Lessening the usage of raw materials may reduce the textile industry's pressure on the environment. Material reuse is therefore, a great strategy to transform into a Circular Textiles Economy. Second, material experimentation in the production of yarn, fabric and synergizing between textile product design and materials (Lieder and Rashid, 2016). Ensuring zero carbon footprint through digital printers

focused on waterless and waste less printing solutions could be the way forward as done by several firms across Europe and China. Third, the buyers on their part, need to recognize the worth of eco-friendly and socially responsible textile labels. They must show enthusiasm for buying these products as against ecologically and gender-insensitive clothing brands. The growing share of ecologically-sensitive textile products and brands has shown considerable progress in this direction, with them ranking fourth in terms of global market shares (Bressanelli et al., 2018; Ghisellini et al., 2015; Pachini, 2021; Prieto-Sandoval, 2018).

Keeping in view the benefits of 'Circularity' for the Indian textiles economy, it is prudent to discuss the probable role played by digitalization in the same. The next section elucidates the role that a Digital Circular Economy can play in achieving the goal of 'Circularity of the Indian Textiles Economy'.

5. Visualizing a digital circular economy: How it could benefit the Indian textile sector?

The process of Digitalization is boosting the transition towards circular economies by harmonizing the analyses of enormous data on products during their lifecycle right from the design till the recycle stages. A close cooperation between the textiles industry, customers and the policy makers on the need for having precise data on collecting waste materials using digital technologies is required. Digitalization could aid in selling second-hand products on digital platforms and make them more attractive for prospect buyers. The role played by Internet of Things (IoT) is bound to increase the opportunities of textile waste collection and take the textiles economy towards higher circular value chains (Happonen et al., 2020; Kanupriya, 2020b; Kirchherr et al., 2017; Nobre and Tavares, 2017). Textile dyeing and printing process is one such that can benefit from the digitalized transformation. It even helps in reducing pollution from this crucial component of the textiles production process (Shafiq et al., 2015).

Digitalization also aids in better integration across textiles production and value chains. It even ensures less wastage through fewer design samples and overall accuracy and precision in the manufacturing chain (Dalenogare et al., 2018; Kirchherr et al., 2017; Satvilkar, 2020; Stock and Seliger, 2016). Besides, it eliminates time and aero fuel wastage by cutting on client field trips associated with textile production process, thanks to internet-induced connectivity (Vijaykumar et al, 2015).

Due to greater accuracy and precision, it facilitates on-demand manufacturing and therefore, reduces materials wastage. Digital or e-commerce further reduces the carbon footprint by a seamless connection between producers and customers in the textiles value chain (Bressanelli et al., 2018; Circular Apparel Innovation Factory, 2021; Dalenogare et al., 2018; Kirchherr et al., 2017; Moreno and Charnley, 2016).

More importantly, a digital circular economy also serves the grander objective of women empowerment by giving them a greater chance at increasing their access to textile business markets through e-commerce platforms (Holmström et al., 2016; Lieder and Rashid, 2016). It also assists them in reducing their physical efforts in the production process and enhances their productivity and overall work efficiency, which leaves them for some quality recreation time with their near and dear ones. Thus, the benefits of the Digital Circular Economy for women as customers and producers/sellers have been explicated in this section (Kanupriya, 2020b; Lieder and Rashid, 2016; Pagoropoulos et al., 2017). The next section explicates the methodology for analysis adopted in this paper.

6. Methodology

This perspective paper studies the issue of intersectionality of export competitiveness, gender and the digital circular economy within the Indian textiles sector. Extensive use of scholarly studies is done for the purpose, employing websites such as Google Scholar and Research Gate. Being an issue focused viewpoint paper, the study relies on a thematic division of topics. Competitiveness within the Indian textiles industry, government measures for the sector, circular economy as a solution to the competitiveness challenges and the benefits of a digital circular economy are the themes discussed in detail in this paper. Such wide-ranging review of studies aids in forming an informed opinion of the topic being discussed. The next section describes the key results and their meaning and limitations.

7. Results and discussion

Having discussed the important aspects of the relationship between textiles and its export competitiveness, it would be prudent to place it within a critical framework. Undoubtedly, the importance of logistical-induced competitiveness for exports (read: textiles) can not be wished away. The nation must keep striving towards improvement of its key logistical parameters such as the cost of raw materials, human and physical infrastructure, delivery schedules and technological upgradation.

Challenges apart, the country continues to be a major player in the arena of global textiles exports. This study is an attempt to arouse interest in the minds of readers, students and practitioners on the link between Competitiveness and Exports in the Indian textiles industry within a 'Circular Economic' context. By now, certain questions must have arisen in their minds. Does conventional competitiveness play any definitive role in boosting textiles exports? Do other factors like the overall environmental and gender norms of the trading nations too have a role to play? Is the trade policy adopted in the export markets more important for determining the export flows than factor competitiveness within the domestic textiles industry? Are all textiles sub-sectors on an even keel when it comes to export competitiveness? These are some of the pertinent questions that should spark debate and discussion as a result of this study.

The Indian textile sector, as this paper opines, could benefit from the adoption of a gender-friendly digital circular economy. In a marked deviation from the usual logistics obsessed competitiveness framework, the Indian textile economy should espouse the cause of sustainable production networks, egged on by a gender-sensitive digital circular economy. Only then can it expect the best of results on the competitiveness front (Ellen MacArthur Foundation, 2015; Rußmann et al., 2015).

Notwithstanding the benefits of adoption of a digital circular economy, there is a need to know of its limitations as a long-term strategy. Some of these are being listed as follows. First, in the absence of a viable digital infrastructure, any attempt at adoption of a digital circular economy may go waste (Esposito et al., 2018; Lewandowski, 2016; Ormazabal et al., 2018; Ritzén and Sandström, 2017; Sauvé et al., 2015; Van Buren et al., 2016). Second, there is a need to constantly upgrade the existing digital infrastructure to get the best results (UNIDO, 2017; Van Buren et al., 2016). Third, need for widespread digital literacy too can not be wished away (Geng and Doberstein, 2008). Addressing these concerns could enhance the effectiveness of the digital circular framework.

The last section concludes this study and elicits some of its key future implications.

8. Conclusion and future implications of the study

This study seeks to place the issue of textile export competitiveness within a gender-friendly digital circular economy framework. Given the large-scale adoption and implementation of competitiveness enhancing measures by the Government and the industry, it is vital to give consideration to some other aspects that could alter the landscape of Indian textile exports.

First, exports could be affected by sustainability (viz., ecological) issues in the years to come. The recent Covid-19 pandemic is a testimony to this, wherein, the global exports of all product categories have declined drastically and would resume normal demand-supply patterns only once the supply chains are restored post- the pandemic (Kanupriya, 2020a, 2021). Also, depletion of non-renewable sources of energy and inputs like coal, minerals and fibre could have a major role to play in the export patterns and schedules of the coming years. With the depletion of some vital raw material, say, textiles fibre, the countries that were once major exporters of textiles and clothing would have to alter their export patterns in favour of abundantly available inputs (Blomsma and Brennan, 2017).

Second, gender composition too may have a key role in the coming times when it comes to export patterns and performance (Blomsma and Brennan, 2017; Lewandowski, 2016; Thompson Klein, 2004). While some importer nations might place stricter 'work standards trade policies' so as to promote the noble cause of gender equality at workplace, others, may on their own improve their own policies so as to make their factories more women friendly and flexible as far as work schedules are concerned. It must be noted that these factors also affect the hard core competitiveness factors like human skills and timely availability of raw materials. If women workforce is more skilled and healthier, then the exporters could see their output productivity increasing; similar is the case for opportune availability of raw materials, that enables timely production patterns and low costs of inputs—all factors directly responsible for raising competitive efficiency of exports (Thompson Klein, 2004).

The vital role played by the Digital Circular Economy in this context needs a brief recapitulation. First, a Digital Circular Economy aids in technological upgradation, a requisite for the obsolete machinery-laden Indian textiles sector (Wang et al., 2015). Second, ecologically sustainable production process can be wrought only by a Digital Circular Economy (Lopes de Sousa Jabbour et al., 2018; Wang et al., 2015). Third, 'circularity' also ensures a rightful place for women, both as consumers and producers in the textiles economy (ibid). Thus, with a single shot, three pressing challenges of the Indian textiles economy could be resolved.

While it would be difficult to ascertain the exact nature and repercussions of such measures in the immediate future, the long term may see a pivot towards these topics as an alternative to logistical competitiveness-centric discourse. So, while it is quite important not to forget competitiveness as a factor in boosting exports, it is all too important to pay heed to other aspects as well. Only then could we hope to achieve the desired textile export performance and match up our top competitors in the long run.

Conflict of interest

The author declares no conflicts of interest in this paper.

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