



## **A STUDY ON SUSTAINABILITY OF TEXTILE UNITS IN VIRUDHUNAGAR DISTRICT**

Subasini, M.  
Assistant Professor of Commerce,  
V. V. Vanniaperumal College for Women,  
Virudhunagar, Tamilnadu, India.

Corresponding Author's mail ID: [subasini@vvvcollege.org](mailto:subasini@vvvcollege.org)

### **ABSTRACT**

The traditional handloom, handicrafts, wool, and silk items, as well as the organized textile industry in India, make up a large portion of the widely diversified Indian textile and apparel market. The organized textile sector in India, which encompasses spinning, weaving, processing, and garment production, is characterized by the employment of capital-intensive equipment for the mass production of textile items. Being the second-largest employer in India, the textile and garment sector employs 100 million people in supporting sectors in addition to 45 million workers directly. Technical textiles are useful materials that are used in a variety of fields, such as automotive, civil engineering, healthcare, agricultural, personal protection, and construction. The present study focuses on sustainability of textile units in Virudhunagar District.

**Keywords:** Spinning, Power loom, Yarning, Fabric Garments

### **INTRODUCTION**

Food, clothing and shelter are the basis needs of any human being. Maslow's hierarchy theory stated that the basic needs of a man belong to physiological needs among five levels of hierarchy. (Tripathi, 1982). The primitive men wore leaves in the

stone age era. Due to cultural evolution, the way of manufacturing thread, yarn and garment business developed. The British people traded clothes from their home country. Our father of the Nation Mahatma Gandhiji used handloom devices and

manufactured Khadar clothes (Rao Sundar, 1968). After independence, industrial revolution had been the boost for rise of industries. Technological innovations replaced handloom units into power loom units. Government understood that textile units are the largest source of employment opportunities, productivity and profitability. The State Textile Industry has a significant presence in the national economy also. Out of 2,049 large and medium textile mills in India, 893 mills are located in Tamil Nadu. Similarly, out of 996 small units in India, 792 are located in Tamil Nadu. The 893 large and medium textile mills include 18 Cooperative Spinning Mills, 17 National Textile Corporation Mills and 23 Composite Mills. (Manimaran, 2023).

Between 1960 and 1970, many spinning mills were established in Tamilnadu due to the ease of adopting technology and the willingness of banks to give finance support. In the year 1964, spinning units contributed 9.27 percent of Gross Domestic Product. (Asha Patkar, 2015). Textile units gave employment opportunities to large number of people. The unemployment problem was mostly eradicated in Erode and Thiruppur. The standard of living of the people was

increased and their per capita income also got higher. Increase in employment and improvement in standard of living is a yardstick for economic growth. (Bazeer Kirana, 2018).

Government of India insisted the significance of Khadhi and village industries. The labourers working in these sectors faced a recession in trade due to very low demand. In order to revamp these sectors, the Government procured their products and distributed via public welfare shops (Getcy Mariya, 2003). Both Central and State Government insisted new entrepreneurs to establish business units in backward areas. Special concession and subsidies were allotted to those who run their business in backward areas. The main aim of this work was to remove regional imbalances. It improved the infrastructure such as communication and transportation of those areas. (Yashini Devi 2017).

India is rich in its human capital. Many industries in Tamilnadu are labour intensive. The textile units are not an exception to this. It is suggested that safety measures are provided to the labourers to avoid respiratory problems. (Dusiyanth, 2020). Consumers' attitude towards fashion regarding dresses is changing from time to time. The dressing pattern of youth is keep

on changing over time as they are influenced by Cinema actors, models and celebrities. It is suggested that the textile units have to produce dresses as per the desires and expectations of the customers. (Silpa Sameer, 2018).

Erode is the second largest textile unit producer in Tamilnadu as its climate is suitable for spinning. Many garment units in Erode export their products to abroad. The garment products are also distributed across the nation. (Chitravanitha, 2011). Coimbatore is known as Manchester of India as the region is feasible for cotton units. Cotton is the main raw material for textile units and garments business.

The technological innovation will give highest production in the year 2030 as the trend line is positive and significant. (Harshitha Vel, 2012). In Trichi, the number of spinning units is 208 in the year 2011. In the year 2021, it is increased to 301. It indicates 24.58 percent growth as per Compound Growth Rate (CGR). There is a constant and growing demand for garment products. (Sujana, 2016). By considering the above review of previous studies, the major objective of the present study is to examine the factors which influence the sustainability of textile units.

## **RESEARCH METHODOLOGY**

The present study is based on both primary and secondary data. The primary data was gathered from 25 textile unit owners belonging to Virudhunagar District. The secondary data was gathered from books, journals and websites. In Virudhunagar District, 58 textile units are functioning successfully. Out of which 25 units are taken for analysis by applying convenience sampling technique. Mean score analysis, Structured Equation Modelling (SEM) analysis and Path analysis were used to analyse the primary data. Mean score analysis was used to analyse the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of textile industry. Cronbach Alpha test was applied to find out the validity of the questionnaire. The Cronbach Alpha value of the questionnaire is 0.9143 which denotes that the responses given by the respondents are excellent. From strength and weaknesses, it is possible to understand the internal plus points and from opportunities and threats, it is possible to understand the external plus points.

## **RESULTS AND DISCUSSION**

In this section, SWOT analysis of textile industry and factors influencing the sustainability of textile units are taken into account.

**Table 1: Opinion of the textile unit owners towards strengths of textile industry**

Strengths	Strongly Agree	Agree	No opinion	Disagree	Strongly disagree	Mean score
More number of Spinning mills to meet demand and supply	14	5	1	1	4	3.96
Better infrastructure facilities	13	10	1	1	0	4.44
Supportive engineering industries	8	12	2	2	1	3.96
Sufficient labour supply	9	8	3	3	2	3.76
Adequate processing facility	11	9	3	1	1	4.12

**Source: Primary data**

Among the five statements analyzed, ‘Better infrastructure facilities’ ranked first with a mean score of 4.44, followed by ‘Adequate processing facility’ with a mean score of 4.12. Sathees (2011) highlighted that the equilibrium between demand and supply is a significant strength of the textile industry. This study similarly notes that

establishing a greater number of spinning mills to balance demand and supply holds a pivotal role, ranking third. However, despite the establishment of more mills, the study emphasizes that adequate and efficient infrastructure facilities remain critical to sustaining the strength and competitiveness of the textile industry.

**Table 2: Opinion of the textile unit owners towards weaknesses of textile industry**

Weaknesses	Strongly Agree	Agree	No opinion	Disagree	Strongly disagree	Mean score
Over-dependence on hand processors and traditional items	7	11	1	2	2	3.52
Insufficient capital back-up.	9	8	4	1	3	3.76
Disadvantage in the form of increased power tariff, fuel cost	12	10	1	1	1	4.24
Insignificant product diversification due to lack of technology	11	6	2	3	3	3.76
Dichotomy in production pattern	10	5	7	2	1	3.84

**Source: Primary data**

Among the five statements analyzed, disadvantage in the form of increased power tariff and fuel cost ranked first with a mean score of 4.24, followed by Dichotomy in production pattern with a mean score of 3.84. Ramraj (2009) identified a shortage of capital as a major weakness in the textile

industry. However, in recent times, special financial institutions and banks have provided sufficient financial support to business units, effectively addressing capital-related issues. Despite this progress, this study highlights that high power tariffs and rising fuel costs significantly increase

production expenses, making them the primary weakness of the textile industry. To address this challenge, the government must take proactive measures to reduce power

tariffs, thereby enabling the textile industry to better manage its costs and remain competitive.

**Table 3: Opinion of the textile unit owners towards opportunities of textile industry**

Opportunities	Strongly Agree	Agree	No opinion	Disagree	Strongly disagree	Mean score
Grey fabric export is continuing to grow	3	8	11	1	2	3.36
Value added products will have greater demand	7	11	3	2	2	3.76
Greater market share for niche products in made-ups and garments	8	10	4	2	1	3.88
Expansion of powerloom industry with Government support	6	6	3	5	5	3.12

**Source: Primary data**

Among the four statements analyzed, Greater market share for niche products in made-ups and garments ranked first with a mean score of 3.88, followed by Value-added products will have greater demand with a mean score of 3.76. Kesavan (2005)

emphasized that government support is the most significant opportunity for the textile industry. In addition to government backing, the coordination among textile units is also identified as a key opportunity that can drive growth and strengthen the industry.

**Table 4: Opinion of the textile unit owners towards threats of textile industry**

Threats	Strongly Agree	Agree	No opinion	Disagree	Strongly disagree	Mean score
Abolition of quota system	12	7	4	1	1	4.12
Marketing will be the most problematic area	17	2	2	2	2	4.2
Increasing competition from other states/centres (like Surat)	10	6	5	2	2	3.8
Eroding the traditional markets for powerloom and handloom products	8	7	1	4	5	3.36

**Source: Primary data**

Among the four statements analyzed, marketing will be the most problematic area ranked first with a mean score of 4.2, followed by increasing competition from other states/centres (like Surat) with a mean

score of 3.8. Shyamala (2015) highlighted that traditional production methods pose a significant threat to the textile industry in the current changing scenario. Replacing traditional methods with modern production

techniques can improve product quality and enhance the industry's ability to face growing competition. To explore the factors influencing the sustainability of textile units in Virudhunagar District, Structured

Equation Modelling (SEM) analysis was employed, incorporating both endogenous and exogenous variables to construct the model.

**Table 5: Test of Goodness of Fit Indices**

Fit indices	Standard value	Test results	Support
Chi Square Minimum (CMIN)	--	2853	Yes
Chi-Square test	$P \leq 0.05$	1.246	Yes
Goodness of Fit Index (GFI)	$\geq 0.90$	0.993	Yes
Adjusted Goodness of Fit Index (AGFI)	$> 0.90$	0.981	Yes
Comparative Fit Index (CFI)	$> 0.90$	0.853	Yes
Root Mean square Residual (RMR)	$\geq 0.90$	0.901	Yes
Root Mean Square Error of Approximation (RMSEA)	$\leq 0.01$	0.001	Yes

**Source: Norman M. Bardburn, Seymour Sudman and Brian Wansink, San Francisco: Jossey Bass**

Table 5 indicates that the Normed Chi-Square test value is 1.246 which shows that the path analysis model belongs to good fit. The CFI value is 0.853 which also indicates that the path analysis model belongs to good fit. A value close to 1 indicates a perfect fit. The Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) values are 0.993 and 0.981 which also indicates that the path analysis model belongs to perfect fit. The Root Mean Square Error of Approximation (RMSEA) value is 0.01 which points out that the path analysis is a close fit of the model.

Textile selection, garment manufacturing, inventory management, logistics and distribution and customer care are the dominant factors influencing the

sustainability of textile units. The five observed variables are known as endogenous variables. By analyzing the endogenous variables under Path method, three exogenous variables - productivity, expansion and sustainability were extracted. Aswathaman (2015) highlighted that in SEM analysis, sufficiency of labourers, adequate technology, Government support and growth opportunities are the exogenous variables that determine the success of textile units. Profitability, performance and productivity are the three endogenous variables extracted. In this study, five variables are exogenous and three are endogenous and their co-efficient values are given in Table 6.

**Table 6: Co-efficient Value of Variables**

Variables	Direction	Extraction	Standard Co-efficient	Unstandard co-efficient	Standard Error	p value
Textile selection	→	Productivity and Expansion	0.214	0.818	0.001	0.000
Garment manufacturing	→	Productivity and Expansion	0.526	0.903	0.015	0.000
Inventory management	→	Productivity and Expansion	0.722	0.873	0.023	0.000
Logistics and distribution	→	Productivity and Expansion	0.618	0.791	0.017	0.000
Customer care	→	Productivity and Expansion	0.507	0.955	0.006	0.000
Sustainability	←	Productivity and Expansion	0.440	0.901	0.018	0.000

Source: Primary data

From the Table (6), it is noted that the five endogenous variables textile selection, garment manufacturing, inventory management, logistics and distribution and customer care lead to productivity and expansion (exogenous variables). It results in sustainability (exogenous variable).

The un-standardized values of these variables are statistically significant at 5% level and have the tendency to associate between productivity, expansion and sustainability. Among the five variables, customer care is the most influencing factor which enhance the sustainability of textile industry. Garment manufacturing process (Zero defects and quality maintenance) is the second influencing factor which determines the growth of textile units in Virudhunagar District.

The textile spinning mills in Virudhunagar District are vital components of

the textile industry, converting raw fibers into high-quality yarns. They play a significant role in job creation, economic growth, and product diversification. The Textile Industry in the private sector has a crucial role to play in the Industrial field, with regard to employment potential, overall economic and commercial activities. When selecting a spinning mill, it is significant to assess their capacity, quality standards, technological advancements, customer support and sustainability practices. By partnering with the right spinning mill, businesses can secure a reliable supply of superior yarns to meet their manufacturing needs and customer needs.

## REFERENCE

1. Asha Patkar C (2015). Textile Units: Boom for Our Nation, *Journal of Entrepreneurship and Innovation in Emerging Economies*, 7(2):15-26.

2. Aswathaman D (2015). Success of textile units in Thiruppur, *Journal of Science and Research*, 9(1):114-129.
3. Bazeer Kirana K (2018). Textile Units and Economic Growth, *Economia*, 2(5):30-42.
4. Chitravanitha R (2011). A study on production of garments in Erode, *Indian Economic Review*, 10(8):75-89.
5. Dusiyanth C (2020). Opinion about textile unit owners towards human resource management practices, *International Journal of Management and Network Economics*, 3(5):18-30.
6. Getcy Mariya Z (2003). Management of Khadhi village industries, prajan: *Journal of Management and Social Sciences*, 4 (11):102-113.
7. Harshitha Vel (2012). Future of garment business in Coimbatore, *The Indian Economic Journal*, 6(5):70-87.
8. Kesavan J (2005). Textile industry – PEST analysis, *Journal of Advanced Research*, 8(5):117-130.
9. Manimaran (2023). Textile units – A bird's eye view, *Journal Handlooms*, 17(2):16-25.
10. Norman M, Bardburn, Seymour Sudman, Brian Wansink, San Francisco and Jossey Bass (2008). Asking questions: The definite guide to questionnaire design for market research, United Kingdom: Daha Publishers, 448p.
11. Ramraj (2009). Pitfalls of garments industry, *Journal of Garments and Hand Looms*, 2(7):29-40.
12. Rao Sundar (1968). Cottage units and Khadhi units in India, *Report of Industrial Revolution*.114-120.
13. Sathees L (2011). Positive aspects of textile industry – An overview, *Journal of Foundational Research*, 4 (iii):78-85.
14. Silpa Sameer D (2018). Textile units - An overview, *Harvard Journal of Asiatic Studies*, 11(3):52-69.
15. Shyamala F (2015). Hand loom and handloom industry, *Journal of Indian Industries*, 13(5):235-248.
16. Sujana G (2016). Growth and evolution of spinning industries in Trichi, Sameeksha Sociology *Research Journal*, 5(12):33-45.
17. Tripathi PC (1982). Human Resource Management Practices, New Delhi: Prentice Hall of India. III Edition.
18. Yashini Devi T (2017). Spinning units - A way to remove regional imbalances, *Indian Journal of Public Administration*, 2(5):15:27.