

Impact of Digital Revolution of Khadi Industry on Strengthening Rural Economy Of India (A case study of Telangana State)

1 Dr. G. Balarangaiah, 2 Dr. Gopi Setty Hemalatha, 3 Dr. Preethi Priscila Singapogu,

Department of Management Science, Amity University, Hyderabad, Telangana State, India

Abstract.

India wants to stand among the world's fastest – growing economies, it has to achieve important targets for coming decades: a 5 trillion-dollar economy by 2027, 7 trillion by 2030 and a developed nation by 2047 which is in another way called as Viksit Bharat. It is essential that development is not confined to numerical achievements but also reflects its impact at the grassroots level. It requires the importance of indigenous of production – mediums that carry development to every citizen, ensuring inclusiveness and equality which can be done by indigenous medium of khadi Industry.

A digital revolution, India flagship program was launched in 2015, has changed the story of khadi industry. Earlier, it was confined to tradition, patriotism, swadeshi values, cotton fabric and historical symbolism. However, it has now expanded to include new experiments, innovations and achievements aligned with a modern and digital age. Khadi sales were around Rs 1000 crore in 2015. However, it increased to Rs 1.70 lakh crore in 2025.

The digital platforms broke the geographical barriers that had long restricted khadi to a few government -run stores in selected cities. Recognizing the rapid rise in smartphone usage across in India, the commission – launched a mobile app in 2018: understanding that the small handheld device was now shaping consumer behavior and market dynamics. Khadi digital transformation is not only confined to within India but also opened global mar. As a result, khadi exports increased from Rs 15 crore in 2015 to Rs 120 crore by 2023.

The digital efforts yielded significant results i.e. khadi production has grown to Rs 811 crore in 2013-14. However, it increased to Rs 3,700 crore in 2024-25 which helped to increase the level of four and a half times. The khadi industry providing employment to five lakh artisans, including spinners, weavers and other involved in garments production, conversion and marketing in which women consisting around 80 per cent. Digital technology has given khadi a larger market and global identity, keeping the tradition and heritage as original. Along with, it has connected khadi with new generation, new markets and new societies. On the other hand, it has strengthened rural livelihood, preserved traditional skills and contributed to environmental sustainability.

Keywords: Flagship Program, Swadeshi values, Historical Symbolism, KUIC, Digital Platforms.

Introduction: Mahatma Gandhi, father of nation, envisaged that khadi as a symbol of India's self -reliance and dignity of hard work. It is indication for solvation from slavery and reclaiming of the cherished independence. Every step of this glorious fabric reflects the cultural and ethnic diversity of our country. During freedom movement of India, khadi and the spinning wheel became a symbol of patriotism and economic independence. The production of khadi emerged as a path towards economic empowerment for families, self-reliance and swaraj movement. Khadi occupies a special place in our hearts through its diverse range of products. The khadi and village industries playing a vital role in creating lively- hoods for rural and urban communities in which spinners, weavers and artisans across the country. This industry providing employment opportunities including the supply of raw materials, entrepreneurs, markets and others who are often invisible in this value chain.

India wants to stand among the world's fastest growing economies, it has to set the important target for the coming decades: a 5 trillion-dollar economy by 2027, 7 trillion by 2030, 10 trillion by 2033 and developed countries by 2047 which is in another way called as Viksit Bharat. It is essential that development is not confined to numerical achievement alone but also reflects its impact at the grass roots level. It implies that the importance of indigenous refers to production mediums which carry development of every citizen, ensuring inclusiveness and equality which is one of indigenous medium of khadi industry. The digital revolution, flagship program was launched in 2015, changed the story of khadi industry. Earlier, it was confined to tradition, patriotism, swadeshi values, cotton fabric and historical symbolism but now expanded to new experiments such as innovations and achievements aligned with a modern digital age. Khadi sales were Rs 1000 crore in 2015. However, it increased to Rs 1,70 lakh crore by 2025. It is happening due to modernization of Khadi and village industries commission (KVIC) which was established in 1956. It is the result of adoption of new-age marketing strategies, the introduction of on-line sales platforms and innovative way of connecting with people.

The first major transformation that occurred in the journey of India's khadi industry came in 2016, when KVIC launched its offering e-commerce portal 'khadi Indian on line' which helps a customer who is staying in Bangalore can purchase authentic khadi woven by an artisan who is staying remote village of Bihar without the interference of middlemen. This system direct -to- customer (D2C) digital revolutionized both in the case of pricing and accessibility. Similarly, digital platforms broke the geographical barriers which were restricted khadi to a few government-run stores in selected cities. However, recognizing the rapid increase of smart-phone usage across India, KVIC launched mobile app in 2018 which is now shaping consumer behavior and market dynamics. In the same way, major e-commerce giants such as Amazon India and Flipkart helping millions of online shoppers who never visited khadi stores. The collaboration with Myntra, a platform popular among fashion – conscious youth, open doors for khadi products to enter the competitive world of fashion.

Digital payment systems have become popular for khadi purchasers. Along with UPI, KVIC took partnership with several digital payment gateways and wallets like Paytm, phone pe and Google pay, making payment easier. The international payments, digital methods, contributing significantly for the growth of exports of Khadi products. The digital transformation of khadi not only expanded business within India but also helped for global market which are beyond reach of our artisans and small entrepreneurs. However, whenever the partnership with major international platforms like Amazon Global gave identity for khadi products worldwide. As a result, khadi exports were Rs 15 crore in 2015 but increased to Rs 120 crore by 2023.

Review of Literature:

- 1) Balendu Sharma Dadhich (2025) 'Khadi's Digital Revolution' in which he said that the digital revolution since 2015 has transformed khadi from a symbol of tradition in to modern, tech-enabled global brand E-commerce platforms, mobile apps and social media expanded its reach to millions driving exception growth in both in sales and visibility.
- 2) Shishir Sinha (2025) 'Kahi Strengthening the rural economy" in which he says that khadi, an essential indigenous medium, is crucial for driving India's inclusive economic development and self-reliance. The khadi production increased from four and a half-time during period from 2015 to 2025.
- 3) Hena Naqvi (2025) 'Khadi's Journey from a Glorious past to A promising Future" in which he said that khadi remains a vital source of economic empowerment and livelihood for millions with government schemes promoting its growth and ensuring the entire family can contribute to the process.
- 4) Rishi Sharma (2025) 'Khadi: Innovations Crafting new Trends" in which he says that it has now re-emerged as a premium, eco-conscious textile embraced by designers, policy makers and consumers.
- 5) Dr. Nimish Kapoor (2025) 'Khadi Reinvented "in which he said that the vision of khadi centers on innovation, integration and internationalization aiming to strengthen rural livelihoods- particularly for women and establish India a global leader in ethical and sustainable fashion.
- 6) Satish Singh (2025) 'Banks Powering Khadi through Finance' in which banks contribute sustainability to village development, thereby strengthening both the local economy and broads economy landscape.

- 7) Satyam Saxena (2025) 'Khadi as a Drive of Sustainable Agriculture' in which he says that modernization digital platforms and market expansion enhance its relevance. Over all, khadi drives inclusive, eco-friendly and resilient rural economic transformation.
- 8) Akhil Kumar Mishar (2025) 'Eco-Friendly Khadi: A Fabric of Hope' in which he said that khadi teaches us that a cloth can be gentle on the environment, support artisans and still meet modern fashion needs. It is more than fabric. It is philosophy of harmony between nature, craft and community.
- 9) Rakesh Kumar Pal (2025) 'Khadi Empowering women' in which he says that for millions of women, khadi provides not just income but dignity, freedom and self-reliance.
- 10) Dalbir Singh (2025) 'Khadi: Preserving Cultural Heritage' in which he said that khadi reviews its cultural significance, the government frameworks enabling its growth and the key challenges that demand attention.

Period of Khadi Industry: A digital revolution, flagship program of India, was launched in 2015 which changed the scenario of khadi industry. KVIC launched mobile app in 2018 which is shaping consumer behavior and market dynamics. The period of study was taken in between 2015 to 2025.

Scenario of Digital Technology of khadi industry: The digital revolution of khadi industry since 2015 has transformed a symbol of tradition in to a modern, tech-enabled global band, mobile apps, E-commerce platforms and social media expanded reaching of millions of people in the form of production and sales. The innovations like as AI-driven tools and transparent of supply chains for further strengthening efficiency and consumer engagement. During the pandemic, khadi adoptability increased. On the whole, khadi's journey indicates how heritage and technology can work together to empower the artisans and sustain of livelihood of rural poor.

Impact of Digital Technology of Khadi: In the last 10 years, the whole world seeing towards the digital revolution that is occurring in khadi industry. Khadi maintains a sentimental value of Indians. It symbolizes the need and importance of indigenous manufacturing goods. To-day, it is not only boosting sales and employment opportunities for the artisans but also contributing GNP, promoting rural development.

Objectives of khadi Industry:

- 1) To revive the traditional and inherent skills of rural artisans.
- 2) To renovate and modernize sales outlets.
- 3) To promote marketing and exports.
- 4) To increase production of khadi.
- 5) To increase the wages of khadi artisans.
- 6) To increase employment opportunities.

Hypothesis:

- 1) khadi- products are not increasing.
- 2) Innovations are not happening in khadi industry.
- 3) Employment opportunities are not increasing.

Opportunities and Challenges: Khadi products became global fashion one and contributing to extent of USD 1.3 trillion and employing around 300 million people globally. According to Mckinsey Fashions Scope, it reached USD 59,3 billion by 2022, making it the sixth- largest in the world.

Despite its advantages, Khadi is facing with several challenges. Even though khadi is consumer friendly and unique, it is facing widespread market and rapidly changing fashion designs, inadequate marketing and poor banding and lack of infrastructure facilities. In addition to this, the availability of cheap and machine-made fabrics poses stiff competition to khadi in terms of affordability and availability. The high cost of production and global competition are also one facing by this industry. Another big challenge for the artisans is the seasonal demand of khadi for only specific or festive periods. Hence, to address these challenges, the contiguous support of government and customers are required to promote sustainability.

Digital transformation of India has been rapid and path-breaking. India occupied third largest digital economy in the globe. It has made significant strides in empowering individual users and delivering services to large section of population in urban as well as rural areas. Government's digital India program laid the foundation for building the world's largest digital identity programs which can be seen from the following table.

Table-1
Global Ranking

Country	CHIPS Economy	CHIPE	CHIPS Combined
USA	68.5	61.4	64.5
CHN	62.5	52.0	56.1
IND	35.9	33.6	34.7
SNG	28.5	58.0	41.9
UK	26.4	48.1	36.1
SKO	25.4	53.8	39.6
FRA	24.9	41.1	32.9
GER	24.6	45.7	35.1
JAP	24.4	38.9	31.8
BRA	24.1	402	32.0

Source: ICRIER- Pros us Centre (IPCISE)

From the table-1, it is understood that USA occupied first place CHIPS 68.5, CHIPE 61.4 and CHIPS combined percentage of 64.5. which is followed by China CHIPS economy 62.5, CHIPE 52.0, CHIPS combined 56.1 percentage. India has CHIPS Economy 35.9, CHIPE 33.6, CHIPS combined percentage of 34.7. However, in the case of overall, India occupied eighth position in the global level.

Khadi offers a distinctive narrative rooted in craftsmanship, heritage and sustainability. Product diversification across womenswear, menswear, luxury, accessories and lifestyle segments presents vast untapped potential. Global awareness of environmental degradation has catalysed a shift towards sustainable fashion. Let us see the khadi production in the last 11 year through this table.

Table -2
Production value

Year	Total Value (Rs Crore)
1) 2014-15	879.98
2) 2020-22	1904.49
3) 2021-22	2558.31
4) 2022-23	2915.83
5) 2023-24	3206.34
6) 2024-25	3783.36
7) 2025-26 (up to 30-11-2025)	2305.65

Source: Ministry of Micro, Small and Medium Enterprises.

From the table-2, it is understood that khadi production in terms of monetary value, it was confined to Rs 879.36 crores during the period of 2014-15. However, it increased to the value of Rs 2915.83 crores by the year of 2022-243 which further increased to Rs 3783.36 by the year 2024-25.

Khadi has evolved into dynamic economic movement driven by start-us that merge traditional heritage with modern innovation and global sustainability. Let us see, how sales happening for the last 11 year which can be from the following table.

Table-3

Value of Sales

Years	Total Sales value (Rs crores)
1) 2014-15	1170.38
2) 2020-21	3527.71
3) 2021-22	5051.72
4) 2022.23	5942.93
5) 2023-24	6496.01
6) 2024-25	7145.61
7) 2025-26 (up to 30-11-2025)	5104.13

Source: Ministry of Micro, Small and Medium Enterprises.

From the table-3, it is understood that sales were 1170.38 crores during the year of 2014-15 which increased to the level of 5942.93 crore by the year 2022-23 which further increased to 7145.61 by the year 2024-25.

Khadi sector presently providing employment to the extent of 6,80,000 artisans in which 80 percent workforce are women which can be seen from the following table.

Table-4

Employment in the khadi sector

(as of March 31, 2024)

State/ Union Territory	Total Employment	State/ Union Territory	Total employment
1) Adhara Pradesh	9,092	18) Madhya Pradesh	3,707
2) Assam	5,125	19) Mizoram	12
3) Arunachal Pradesh	31	20) Rajasthan	30, 651
4) Andaman and Nicobar Islands	00	21) Telangana	2,347
5) Bihar	72,755	22) Uttarakhand	18,078
6) Chandigarh	54	23) Uttara Pradesh	13,7149
7) Chhattisgarh	6,179	24) Madhya Pradesh	3,707
8) Delhi	1,180	25) Sikkim	28
9) Gujarat	18,964	26) Nagaland	295
10) Goa	00	27) Tamila Nadu	20,464
11) Himachal Pradesh	2,278	28) Punjab	5, 191
12) Haryana	5,6085	29) West Bengal	32,831
13) Jharkhand	1,875	30) Tripura	25
14) Jammu & Kashmir	21,921	31) Meghalaya	59
15) Karnataka	27,708	32) Odisha	5,347
16) Kerala	14,339	33) Puducherry	465
17) Manipur	168	34) Maharashtra	3,091
Total	23,7724= 00	Total	44,4447= 00
	Grand Total		68,2071= 00

Source: Rajya Sabha Questions and Answers.

From the table-4, it is understood that Khadi Industry providing employment to the extent of 68,2,071 people in which Uttara Pradesh providing opportunities to 1,37,149 people followed by Bihar and West Benga 72,725 and 32,831 respectively. The least opportunities provided by Tripura and Mizoram 25 and 12 respectively whereas Goa and Andaman and Nicobar Islands providing zero rate of employment. This is the information of 33 states and Andaman and Nicobar Islands.

Khadi is one of the most environmentally responsible textiles in the world. In the olden days, sustainable fashion became a global conversation, India artisans producing cloth that used minimal resources. Khadi stands out as a natural in the case of tradition and innovation.

Table-5
Eco-Friendly Khadi

1) Low carbon footprint	Hand-spun and handwoven, khadi has Zero electricity usage.
2) Natural Fibres	Made from cotton, wool and silk. Khadi is biodegradable.
3) Zero waste production	Scraps repurposed into bags, paper and Accessories.
4) Sustainable Rural Livelihoods.	Khadi provides dignified work to millions Especially women.
5) Global Conscious Fashion Trend.	Designers and eco-conscious brands Are embracing khadi.

Source: ADBM, 2025

From the table-5, it is understood that low carbon footprints which is hand spun and hand woven do not require electricity. Khadi is a natural fibre which is indication for made from cotton, wool and silk which is biodegradable. Similarly, khadi has zero waste production from which whatever scraps comes using with, it can be made into bags, paper and accessories. In the same way, sustainable rural livelihoods which helps for providing work for millions particularly for women. To-day, khadi became Global conscious fashion trend which is helping designers and eco-conscious bands.

Government policies and Institutional Support:

Identifying the importance of KVIC, the Ministry of MSME and State Khadi Boards implementing flagship schemes integrating khadi with rural livelihoods which is as follows.

Journey of Khadi

Cotton picking > Carding > Spinning on Charkha > Winding > Warping

>

Handloom Weaving > Finished Khadi fabric.

SFURTI scheme (Scheme of Fund for Regeneration of Traditional Industries) strengthens khadi clusters through infrastructure, marketing and skill development improvements

Case Studies:

- To attain modern retail trends, Khadi commission is expanding its outreach through 24 centres nationwide and more showrooms. Its prime outlet was established at Cannaught place, New Delhi which is being transformed into first khadi Mall of India. It was spread over 20,000 square feet which is shaving of Artificial intelligence model where suitable clothing colours and customers-based styles are available
- Shri Manoj Kumar, chairman of KVIC, embodied the vision of Mahatma Gandhi and prime minister Shri Narendra Modi, stated outlet at the place of Cannaught and achieved annual turnover to the extent of Rs 100 crore.
- The chairman of KVIC signed an agreement with Ahmedabad based Arvind Mills Ltd to trade khadi den in fabric globally under American fashion brand of Patagonia which placed orders repeatedly starting with 30,000 metres worth of Rs 1.08 crore received up to Rs 80,000 per artisan.

Scenario of khadi industry in Telangana:

Telangana has for long been a centre of hand looms. Every corner of Telangana has district hand loom culture. Most of these have been handed down through generations, adding along on the ways some elements of modernity and change but for most part retaining their age-old ways and specialities. Andhra Pradesh and Telangana too have their own regional specialities in hand loom. This presentation is an attempt to give an idea of what constitutes 'hand looms. It also lists out the various hand looms from Telangana state like Pocha pally and Gadwal. A more detailed description of khadi cloth from Telangana lands specially the ponduru khaddar is also given. It is said that even Mahatma Gandhi had great founders from khadi from ponduru.

Research Methodology: In India, Telangana State was taken for case study in which 180 respondents were selected consisting of 80 artisans, 60 spinners and 40 weavers, spreading over Two districts of Pocha pally and Gadwal. Out of 180 respondents, 50 percent were women workforce. As per the survey, data was collected and analysis made on the basis of '7' point Likert scale system which can be seen from the following table.

Table-6

Likert Scale System

Response	Points
Strongly disagree	1
Disagree	2
Disagree to some extent	3
Undecided	4
Agree to some extent	5
Agree	6
Strong agree	7

Source: Author technique.

As per table-6, khadi stands at the intersection of culture, livelihood and nation-building. In the case of Indian freedom movement and strengthened by generations of artisans. It preserves indigenous craft practices while supporting sustainable rural economies which can be seen from the following table.

Table -7
Growth of Khadi Industry

Category	Response for 100%
1) Artisans	99
2) Spinners	98
3) Weavers	96

Source: survey

From the table-7, it is understood that survey conducted from the various people who are working in khadi industry i.e artisans, spinners and weavers. Their opinions are going against the hypothesis that are kept in the survey. Artisans of 99 percent revealing that khadi products and designs are going on increasing. Similarly, in the case of spinners are revealing that innovations are going on increasing in khadi industry. In the same way, weavers are revealing that employment opportunities are increasing in khadi industry.

Conclusion:

As per analysis, it is found that first hypothesis is not accepted by respondents who revealed that Khadi industry helping to increase the production as well as designs. Similarly, second hypothesis is not accepted by them who are revealing that innovations are happening in khadi industry. In the case of third hypothesis also, respondents did not accept, they are revealing that employment opportunities are increasing.

Emerging technologies indicate that transformation is happening in the case of Virtual Reality (VR), Augmented Reality (AR), AI – based chatbots and multilingual web services will further expand khadi's reach in the coming years. While technology has given khadi a larger market and a global reorganization, tradition and heritage have kept it authentic and original. On the one hand, khadi has helped to connect with new generations, new markets and new societies. On the other hand, it has strengthened rural livelihoods, preserved traditional skills and contributed to environmental sustainability.

References:

Books:

- 1) Dr. Santosh & Dr. Ratan Kiran (2025) 'Terraforming Agriculture' Himalaya Publishing House.
- 2) Himanshu Mittal (2025) 'Smart Computing and emerging Technology'
- 3) Afrique Islam & Bradford Sharman (2025) 'Cover crops and Sustainable Agriculture.
- 4) Shishido Roo (2024) 'Advanced Digital System: A Practical guide To verily based FPGA and ASIC Implementation.
- 5) Choudhary Narendra Sing Rathore & Naver (2022) 'Transforming Agriculture, Publishing house.

Articles:

- 1) Menasha Raj & M. Plashed Sharan (2025) 'Discovery Applied Science.
- 2) Dr. Subh Shree Pande (2025) 'Discovery Applied Science
- 3) Sanjeeva Khan & Nitesh (2025) 'Digital Agriculture: Transforming Modern Farming with Next Generation Technology: A review.
- 4) Roheet Bhat naga & Nitin Kumar (2022) 'the digital Agriculture Revolution: Innovation and Challenges in Agriculture Through Technology disruptions.

- 5) Dr. Amit Sigh rathole, Mr. Mohit Pant and Mr. Chetan Sharma (2021) 'Emerging trends in digital Marketing in Inda "International conference On Innovative Research in - science technology and Management.
- 6) D.K. Gnaneshwar (2019) 'Pro and cons 'of Internet Market- Research Paper in Turban University.
- 7) Sharad Madhukar Deshpande (2019) 'A study of the Growth of Internet Markets in India Scenario 'tilak Maharat Vidyapeeth.
- 8) Vladyslav Yurovsky (2018) 'Pro and cons of Internet market - Research Paper in Turba University.

