

EXAMINING THE CHALLENGES IN THE TRADITIONAL ARTISAN BASED SUPPLY CHAIN: A QUALITATIVE DIAGNOSTIC STUDY

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Abstract

Indian handloom and handicraft industries, are one of the biggest sectors contributing significantly to the Indian economy. The study focuses on understanding traditional hand block printing supply chain of Jaipur and artisans' need in terms of technology advancement to fulfil the market demand. Through a qualitative study, the study observed that that the artisans are proficient in more than one craft are willing to explore technology in order to expand their business and eliminate middlemen/mediators. The study helps in gaining better understanding into the challenges of a traditional craft-based supply chain and explore possible solutions to overcome these challenges.

Keywords: Craft, Diagnostic, Qualitative, Supply Chain, Traditional.

Introduction

According to the annual report of Ministry of Textiles (2020-21), "Handloom sector is the country's second-largest sector after agriculture, employing 35.23 lakh weavers and allied employees directly and indirectly, and producing almost 15% of the country's textiles and 95% of the world's hand-woven fabrics. Whereas, the Indian handicraft sector contributes significantly to the country's economy through job creation and exports. The sector is anticipated to employ 68.86 lakh artisans, with 30.25 lakh male artisans and 38.61 lakh female artisans." Both the sectors employ a huge number of weavers and artisans in rural and semi-urban regions, generating significant foreign exchange for the country, and helping to preserve the country's cultural legacy. However, both have suffered by being unorganised, with additional constraints such as a lack of education, adequate capital, exposure to new technologies, lack of market information, and a poor institutional framework.

Rajasthan is one of the most prominent states in the country in terms of the handicraft sector, by giving several textile crafts to jewellery and manufacturing to woodcarving. According to Forth handloom Census 2019-20, a total of 8,687 handloom worker and 1403 allied workers are from rural and urban Rajasthan.

Kaya, Ö., & Öztürk, F. (2014) in their Research on the Applications of Supply Chain in Textile-Clothing Industry, described Textile Supply chain as the network of the organizations who are suppliers to each other which is formed in the process from cotton production to deliver the end product to customers. A strong supply chain should incorporate all factors such as information flow and transportation, leading to production performance and, ultimately, product quality. However, handloom and handicraft sector fall short in incorporating these factors due to being the largest unorganized sector leading to customer dissatisfaction. Knowledge and physical product

flow are important in this chain, which includes several procedures, suppliers, middleman and customers.

In a supply chain the role of manufacturers is crucial for the overall effectiveness of the supply chain because they have to build a direct relationship with suppliers and customers and manage both interfaces efficiently (Lee ,2000). Keeping this in mind, the study aims to examine the traditional supply chain of the hand block printing of Jaipur district, Rajasthan and find the supply chain management practises followed with special reference to Master printers, Artisans, SMEs, and cottage industry, as they are the ones who take care directly or indirectly of all the supply chain linkages and suggests how technology intervention can help to unify the fragmented chain.

Review of Literature

According to the annual report of Ministry of Textiles (2020-21), Handloom sector is the country's second-largest sector after agriculture, employing 35.23 lakh weavers and allied employees directly and indirectly, and producing almost 15% of the country's textiles and 95% of the world's hand-woven fabrics. India is the second largest exporter of handloom products in the world, with exports valued at US\$ 353.92 million in 2017- 18 and majorly exporting to the EU, USA, UAE, Japan and Australia. (Indian handloom industry: potential and prospects, EXIM Banks working paper 80, 2018). Major Handloom clusters in India: Varanasi, Godda, Shiva Sagar, Virudhunagar, Prakasam, Bhagalpur, Guntur and Trichy. (Nayyar, 2020).

Handicraft is India's national heritage, with over 3,000 craft types and artisans spread across the country, contributing significantly to the economy by generating foreign exchange and providing employment for an estimated 68.86 lakh artisans, including 30.25 lakh male artisans and 38.61 lakh female artisans, according to the Ministry of Textiles annual report 2019-20.

In India, there are 744 handicraft clusters employing nearly 2,12,000 artisans producing over 35,000 products in the categories of metal ware, wooden artware, hand-printed textiles, embroidered and crocheted goods, and imitation jewellery, with exports of USD 3.5 million in 2019-20 to the EU, USA, UAE, Australia, Canada, and Japan. (Nayyar, 2020). Major Handicraft clusters: Surat, Bareilly, Varanasi, Agra, Hyderabad, Lucknow, Chennai, Ranipet, Mumbai, Kanpur, Farrukabad, Saharanpur, Etikoppaka, Jaipur, Asharikandi. (Nayyar, 2020).

Supply Chain Management is defined by the Council of Logistics Management as the process of planning, implementing, and controlling the efficient and cost-effective flow of materials, in-process inventory, finished goods, and related information from point-of-order to point-of-consumption in order to meet customer requirements.

A supply chain is a system of organisations, people, actions, information, and resources involved in supplying a product or service to a consumer. The activities include transforming natural resources, raw materials, and components into a finished product and distributing it to the ultimate

client. Suppliers in a supply chain are frequently ranked by "tier," with first-tier suppliers supplying directly to the client firm, second-tier suppliers supplying the first tier, and so on (Anumala, 2021).

Iqbal and Shalij in their study of Supply Chain Risk Assessment have viewed that the shorter product life cycles, rising demand, and intricate business strategies have resulted in the complexity of supply chain in global context.

Textiles contribute significantly to the garment industry by establishing vertical linkages and forming a supply chain. The textile supply chain is defined as the network of storage facilities, suppliers, distributors, transporters, retailers, and others engaged in the sale, delivery, and production of a certain product. (Berdine, Parrish, Cassill, Oxenham, & Jones, 2008)

In 2013, Giri & Rai in a study on Dynamics of garment supply chain stated that the Indian apparel industry is facing many supply chain issues like, visibility, lead time, inventory management, collaboration, technology and logistics.

Lam and Postle in 2006, examined the notion of supply chain management in Hong Kong textile and apparel supply chain management. They addressed the Hong Kong apparel & textile industry's strengths and challenges, and argued that the Hong Kong apparel industry is generally unaware of the concept of supply chain management & industrial benchmark for both manufacturing & retailing industries, and supply chain performance is below the world.

In 2003, Lee and Kincade examined the level of SCM activities and the relationship between selected company characteristics for a group of US apparel manufacturer companies, identifying six dimensions of SCM: partnership, operational flexibility, performance measurement, management commitment, information technology, and demand characterization. They stated that apparel manufacturers have partnership type relationship with their supply chain members.

Method

To achieve the research objective, a qualitative approach was employed to collect primary data from Rajasthan's hand-block printing master printers, artisans, SMEs, and Cottage industries

The focus region of the study is the district of Jaipur in Rajasthan. The study's population includes solely of hand block printing artisans from the Jaipur district of Rajasthan who are registered artisan on the Government of Rajasthan portal and have authorized artisan cards.

DATA SOURCES:

Secondary data: Secondary data is collected from various Internet sources, through means of Prior research publications, blogs, articles and presentations. Numerical data are collected from various government entities such as the Ministry of Textile, Government of Rajasthan, etc, and other nongovernmental but liable web sites.

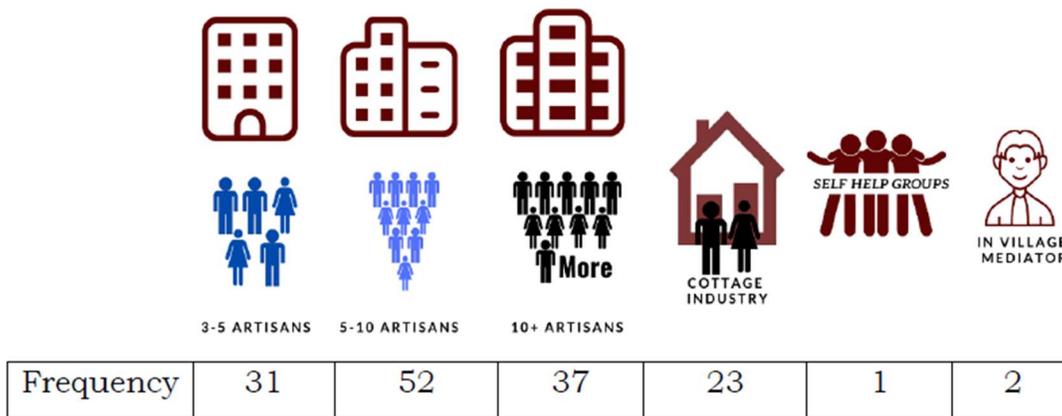
Primary data: Primary data is gathered through phone interviews with registered hand block printing artisans from the Jaipur district, Rajasthan who had authorised artisan cards and are registered Government of Rajasthan portal. Further the responses were collected on a Ms excel to make reading and analysing data easy. A total of 146 artisans were approached to collect the primary data.

Data Analysis and Findings

The data was collected using both primary and secondary data. Content and Thematic analysis methods were chosen to analyse and represent data, using NVivo software and MS. Excel. From the analysis, following themes have emerged:

Fragmented Workflow: To know more about the workforce, production time and to get an idea how many artisans are practicing hand block prints. The researcher has divided the workforce in groups as shown below. AC owner of Ana printer and an in-village mediator of Studio Bagru said,

“There are 400-500 family in Bagru practicing Dabu and Bagru, no specific work is done by a specific person, everybody does everything from washing, printing, making dyes to drying. Some of the families have their own printing units, some work as labour in bigger printing units, some take consignment work, locally called JOB WORK where the mediator, or master printer or a bigger SME provide washed fabric to the smaller SMEs, cottage industry and SHGs and pay them for printing and dyes used. Under me I have 60 units in Bagru, and have around 200 artisans in total. Labours keep changing unit it’s hard to keep track, that’s why I deal with units having more than 4 workers who can be family members or paid workers. Orders should be completed on time to get more orders.”



(Source: Researcher developed the model by analysing primary data)

With the growing popularity of the hand block printed textiles, a good number of micro, small and medium size enterprises have emerged and boosted by government. The sample consist of 118 SMEs which are further broken down as shown above.

One of the two in village mediator, Mr AC has his own unit and also work as the production manager of Studio Bagru. The other mediator Mr GPN is a Project leader of Project Utpal of Ladies Welfare Foundation of Nila House, and has 50 units under his under him.

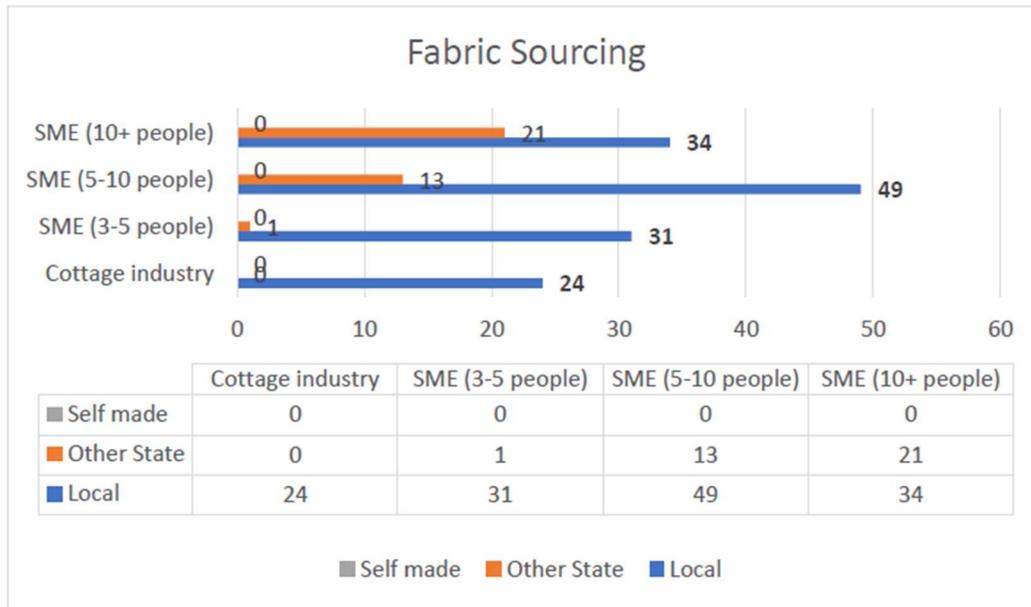
Upon asking more about his job and project he said,

“I am a project leader of Project Utpal of Ladies Welfare Foundation of Nila House. Traditionally only a community used to hand block printing, but now we have around 500 Household in Bagru practicing this craft. Everybody has opened his own SMEs but have very few orders and have to rely on mediators or bigger units to get Job Work, with very

less profit margin. The demand is there in the market which has led so many mediators to budge in and get most of the profit. The competition within the village has led in scarcity of orders, labour, and increasing demand of screen prints. If these SMEs with very less workforce join hand and become a Self-Help Group or a co-operative society, many problems can be solved like, good profit, direct raw material sourcing from the supplier, big and regular orders, elimination of mediators, good production to fulfil the demands. As a Project leader am handling 50 units under me, trying join them into a SHG or a co-operative society and manage production to assure on time order fulfilment and production quality.”

This bifurcation of organizations on the basis of types and workforce has been used to know understand the sourcing pattern of raw material.

Impact of workforce on raw material sourcing: Sourcing raw material is the first step in any production. In hand block printing mainly three raw materials are sourced i.e., raw fabric, carved wooden blocks, and dye materials. The graph showcases trend of sourcing raw material as per the size of the organization or manpower



(Source: Researcher developed the model by analysing primary data)

The majority of respondents stated that they source fabric based on the buyer’s and order requirements. As per the graph, the majority of SMEs, regardless of size or manpower, source fabric locally from wholesalers/vendors/agents. Only SMEs with 5 to 10artisans and more than 10 people are sourcing from other states. Revealing that only enterprises with a large workforce are able to get fabric directly from manufacturers in significant quantities for large orders.

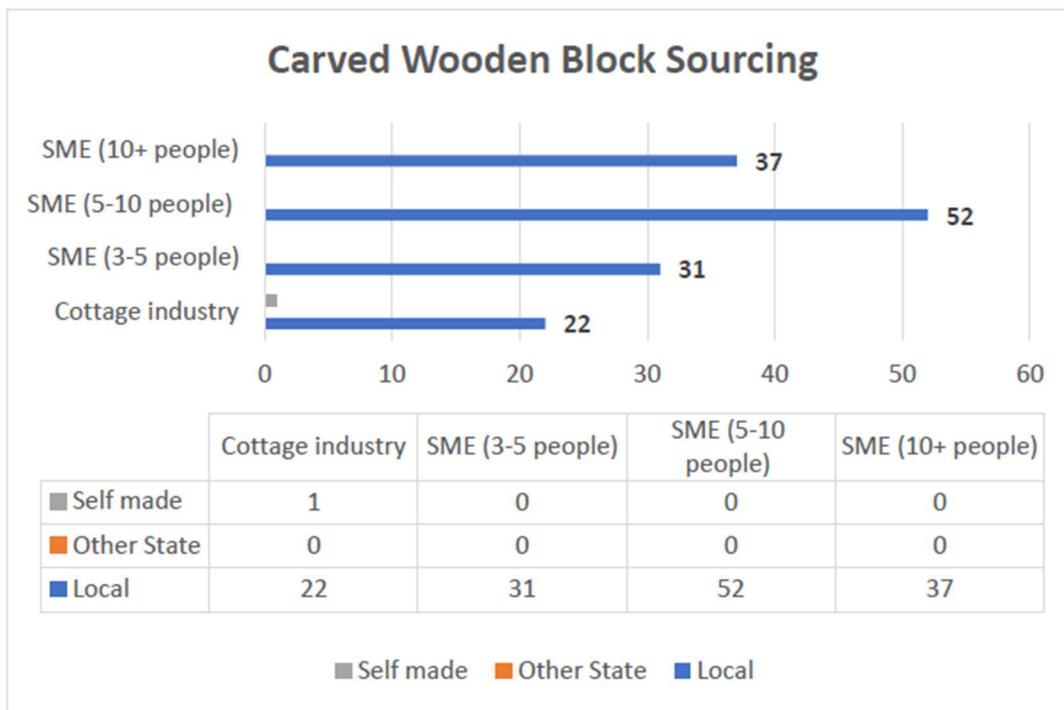
As per some of the interviews taken, the reason for sourcing fabric locally was the relationship they have with their local vendor/agents, who is a call or some kilometres away from them to resolve their issues related to quality and payment.

AC an artisan said,

“I source my fabric from mediators/agents in Jaipur who gets it from the manufacturer of other state. The problem is we can’t directly get in contact with them as we don’t know them and trust is also a factor. Plus, we don’t have that much money in hand to buy fabric in such a large amount. Buying at 1-2% increased cost fabric is better because if there would be any defects with fabric, we can directly call the seller and tell him and discuss in person, rather than doing distance business with some misunderstandings.”

CN an artisan said,

“We have been sourcing fabric from our trusted suppliers, as they offered to sell us on credit even in the pandemic and after, though they have changed credit days from 90 days to 45 days but if there are any quality issues, it’s is sorted by talking. We have a trust on each other.”



(Source: Researcher developed the model by analysing primary data)

The above graph shows the trend of sourcing Craved Wooden blocks as per the size of the organization or manpower. It can be seen in the graph that most of the enterprise irrespective of

its size or manpower, sources wooden blocks for printing locally from other artisans in Jaipur District, Rajasthan.

Problems in raw material sourcing:



(Source: Researcher developed the model by analysing primary data)

The above word cloud represents the most faced problems by the artisans while sourcing raw materials. Most of the respondents stated increasing price of the fabric and dyes, increasing adulteration in dyes using chemical on natural dyes and in fabrics especially cotton. the industry is still recovering from the pandemic and will take some time to adjust and accept the changed payment modes, and will be a problem till a fixed payment mode is set throughout the supply chain.

Sales Channel for artisans:



The majority of respondents give their products to mediators/agents/middlemen, implying that the vast majority of artisans acquire work from them. Whereas, some also take direct orders from

companies (brand and export houses), indicating that a significant number of direct orders are fulfilled directly by artisans.

Online sales through various modes such as e-marketplaces, social media platforms, and own website are made during the pandemic and still some are selling online as well revealing that artisans and their families are aware of the expanding Indian online market and would be comfortable selling online in the future.

Findings

- 43.15% of the sample are well skilled more than one craft, as to get more orders.
- Internal competition due to presence of multiple SMEs ranging from 3 to 10 and more artisans working in them, which creates a labor and order scarcity, allowing a middleman or agency to enter and take benefits.
- Presence of many in village and out village mediators or agents from getting orders to procuring raw material.
- Less chances for less workforce SMEs to get direct orders and raw materials from the supplier and buyers.
- Buyers often employ middlemen or agents to ensure quality and manage production from numerous production channels in order to meet demand, while these mediators or agents end up benefiting more than the artisans.
- The rising demand for hand block printed items, along with a tight labor market, has driven up production costs, prompting artists to shift to screen printing.
- The rising cost of raw materials has led in a surge in adulteration and the availability of low-priced, low-quality products.
- Due to Covid-19 and continued lockdown, the entire industry has experienced economic collapse, with artisans and suppliers sitting on the deadstock of products, fabrics and inventory with many dues on head. This resulted in changed payment methods (advance payment/cash payment/reduced due days) in sourcing raw materials and delayed payment from buyers, forcing artisans to take losses for purchasing raw materials and rely on mediators/agents or larger SMEs to get orders as to make a living while making little profits.
- The majority of respondents are willing to explore more technological solutions in order to eliminate mediators or agents and directly source raw materials from suppliers as well as receive orders from buyers, thereby making it profitable for both parties and overcoming various challenges related to payments, sourcing, production, and market linkage

References

BLIOGRAPHY

- Anand, N. (2020). Bagru - Rajasthan's Block Printing Technique | City On Pedals. City On Pedals. Retrieved 16 February 2022, from <https://cityonpedals.com/blog/bagru-rajasthans-ancient-textile-village>.

- Anumala, K. (2021). Examining the Relationship Between Supply Chain Management Practices and Production Performance in Indian Handloom Industry [Ebook] (p. 21). Retrieved 4 February 2022, from https://www.researchgate.net/publication/350495633_Examining_the_Relationship_Between_Supply_Chain_Management_Practices_and_Production_Performance_in_Indian_Handloom_Industry.
- Berdine, Parrish, Cassill, Oxenham, & Jones. (2008). Analysis of supply chain strategies used by the united states textile and apparel industries. *Research Journal of Textile and Apparel*, 12(3), 1-17. Retrieved from www.rjta.org/download.php?paper=1&paper_id=08_3_01
- Export-Import Bank of India. (2017, March). PROMOTING EXPORTS FROM RAJASTHAN: INSIGHTS AND POLICY PERSPECTIVES. Retrieved from <https://www.eximbankindia.in/Assets/pdf/research-on-states/Rajasthan.pdf>
- Giri, S., & Rai, S. S. (2013). Dynamics of garment supply chain. *International Journal of Managing Value and Supply Chains*, 4(4), 29–42. doi:10.5121/ijmvsc.2013.4403
- India's Handicraft Crafts: A Sector Gaining Momentum | IBEF. (2021). Retrieved 7 March 2022, from <https://www.ibef.org/blogs/india-s-handicraft-crafts-a-sector-gaining-momentum>
- Iqbal, M. C. (2019). Supply Chain Risk Assessment in the Ornamental Fish Supply Chain. *International Journal of System Dynamics Applications (IJSDA)*.
- Jain. N. (2019). Export potential in Rajasthan: Strength of Rajasthan in ... wtcmumbai.org. Retrieved February 12, 2022, from <https://www.inspirajournals.com/uploads/Issues/108872769.pdf>
- Kaya, Ö., & Öztürk, F. (2014). A Research on the Applications of Supply Chain in Textile-Clothing Industry. *International Journal of Innovation, Management and Technology*, 5(5), 334–338. doi:10.7763/IJIMT.2014.V5.536
- Lam, J. K., & Postle, R. (2006). Textile and apparel supply chain management in Hong Kong. *International Journal of Clothing Science and Technology*, 18(4), 265–277. doi:10.1108/09556220610668491
- Lee, Y. (2000). Study of Relationships between Apparel Manufacturers' Supply Chain Management, Company Characteristics, and Inventory Performance. Virginia Polytechnic Institute and State University.
- Lee, Y., & Kincade, D. H. (2003). US apparel manufacturers' company characteristic differences based on SCM activities. *Journal of Fashion Marketing and Management*, 7(1), 31–48. doi:10.1108/13612020310464359
- Nayyar. M. (2020). Textile & Apparel Industry: The Change Agent of India. Retrieved 10 April 2022, from https://static.investindia.gov.in/2020-07/Invest%20India%20Textiles%20Report_1.pdf

- Pagaria, P., & Sharma, S. (2020). Value chain study of handicraft in Barmer district of Rajasthan. *AGRICULTURE UPDATE*, 15(1 and 2), 118–124. <https://doi.org/10.15740/has/au/15.1and2/118-124>
- Rathod, J. (2020). Use of Mobile/Smart Phone For E-Commerce In India: An Empirical Investigation. *Journal of Management Information and Decision Sciences*, 23(4), 304-316.
- Rathod, J., & Kumar, R. (2021). Analyzing the impact of big data and business analytics in enhancing demanddriven forecasting in retailing. *International Journal of Entrepreneurship*, 25(2), 1-8.