

Fusion of batik printing and screen printing on *Khadi* saree using geometrical motifs

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■ **ABSTRACT** : India has always been known as the land that port yard, cultural and traditional vibrancy through its conventional arts and crafts. Every region in India has its own style which is very ethnic and simple and yet colourful and vibrant enough to speaks volumes about the rich heritage. Colour design has been used to enhance the intrinsic beauty of textile from ancient time. It is believed that ornamentation by dyeing and printing developed earlier than the use of clothing itself. Design is the knowledgeable selection and application of the basic art element *i.e.* line, shape, colour and texture to produce a unified expressive visual statement. Screen printing is a versatile process for design applications on textiles. The present study was conducted to fusion of batik printing and screen printing on *Khadi* saree using geometrical motifs. 10 geometrical motifs were identified for application in sarees and create with self. Created motifs were got evaluated from 100 respondents and 4 top ranked motifs were selected. 4 designs were finally selected for application of saree which were placed with all possible variations. The final printed sarees were again shown in front of same respondents in the way of colour combination, placement of motifs, cost, purchasing preference and overall appearance. 5 point scale was used for grading. For saree no. 1 overall appearance (8.2) was most preferred followed by colour combination (3.8) and placement of design (1.6). for saree no. 2 colour combination (8) was most preferred followed by overall appearance (3.2).

■ **KEY WORDS**: Batik printing, Screen printing, Saree, *Khadi*

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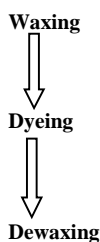
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The age old unique raft of Batik refers to a technique of printing on cloth using molten wax. Though the motifs traditionally used in batik have undergone a change over time, the method of printing remains the same. The word Batik has been derived from the Javanees words *Amba*, meaning to write and *TIK*, meaning dot of point. The Europeans were the first to

learn this art. They learnt it and introduce it in their own style and interpretation of this art. Indians started using these techniques to translate their own ideas when they realized the importance of this art form.

Performing the batik technique can be done in a factory for mass production, or in smaller quantities per yard; this is done by traditional way to batik print. The

art of batik is three stage processes.



These are also several sub processes like preparing the cloth, tracing the designs, stretching the cloth on the frame, waxing the area of the cloth that does not need dyeing, preparing the dye, dipping the cloth in dye, boiling the cloth to remove wax and washing the cloth in soap. The characteristics effect of batik are the fine cracks that appear in the wax, which allow small amount of the dye in seep in, proper usage of wax result into an impeccable batik work, 30 per cent bee wax and 70 per cent paraffin wax are generally applied. During application wax should not be overheated or it will catch fire. The common batik fabric that make for excellent batik prints are cambric, poplin, voiles and pure silk are used. Natural colours derived from barks of trees, leaves, flowers and minerals were used.

Screen printing is the printing technique where by a mesh is used to transfer ink onto a substrate, except in areas made impermeable to the ink by a blocking stencil. Screen printing is also a stencil method of print making in which a design is embossed on a screen of polyester or other fine mesh, with blank areas coated with an impermeable substance. Ink is forced into the mesh openings by the fill blade or squeeze and by wetting the substrate. One colour is printed at a time so several screens can be used to produce a multicolored image or design.

Earlier, screen printing was known as silk printing. In that, silk guage was being used as a screen for printing, so it was known as the silk printing. The design was engraved on the silk guage and then the colour was spread on that. The main benefit of screen printing is that is cost- effective and large- scale production is possible with it. Screen printing is more advantageous than dye sublimation and inkjet printing.

‘*Khaddar* is a part of warp and weft of India’ *Khadi* or *Khaddar* is a term for handspun and hand-woven cloth from India. Bangladesh and Pakistan mainly made out of cotton. This cloth is usually woven from cotton and

may also include silk, or wool, which are all spun into yarn on a spinning wheel called a CHARKHA. Gandhi wroth a swaraj without swadesi in a lifeless corpse and it swadeshi is the soul of swaraj. It is a versatile fabric, cool in summer and warm in winter. In order to improve the look, *Khadi/Khaddar* is sometime stretched to give it a widely accepted in fashion circles.

The Indian saree is one of the most versatile garments available in human of varieties; the saree can be tied in a number of styles. Different region of India specialized in the production of different variety of sires. Similarly, people from different regions adopt different style of tying the saree. Normally, a saree has a length of 5-6 yards. the saree is usually worn over a petticoat in marathi lahanga or lehenga in the north; pavada in tamil; pavada in malayalam, kannada and telugu, chaniyo, parkar, ghaghra, or ghagaro in the west; with a fitted upper garment commonly called a blouse. The blouse has short sleeves and is usually cropped at the midriff. The saree is associated with grace and is widely regraded as a symbol of grace in cultures of the indian subcontinent.

Mr. Gebhard alprecht stated the area of screen printing now a day’s more than ever before. The possibilities offered by screen printing have allowed the requirements of designers and consumers to increase. This article therefore places special emphasis on engraving and printing techniques, as these are used as the essential basis for a good print.

Goel and Jain (2015) says that *Khadi* the hand woven cloth gained much prominence when it was institutional design by Mahatma Gandhi as a symbol swadeshi to fight against the british rule. After independence the *Khadi* and village industries commission was established to strengthen *Khadi* as means of strengthening the rural economy. However, *Khadi* has not been successful in penetrating the masses as a consumer product. Its use has been limited to politicians and devoted followers of Gandhi. This short paper makes an attempt to capture the reason behind limited growth of the *Khadi* as an industry. The workings of *Khadi* and village industries commission and Rajasthan *Khadi* and village industries board are reviewed for the current marketing strategies subsequently, demand and supply side problems have been identified based on a literature review and recommendations have been made to tackle these issues.

Rani *et al.* (2013) find her research that colour and design have been used to enhance the intrinsic beauty of textiles from ancient time. It is believed that ornamentation by dyeing and printing developed earlier than the use of clothing itself. Design is the knowledgeable selection and application of the basic art element *i.e.* line, shape, colour and texture unified expressive visual statement. Screen printing is a versatile process for design applications on textiles. The present study was conducted to develop design for saree suitable for screen printing. Thirty one Chinese motifs were identified for application in textiles comprising of 11 geometrical, 12 floral and 8 animal/ birds motifs and created on computer using software coral draw a created motifs were got evaluated from 30 experts and 5 top ranked motifs were selected from each category. Selected motifs were used for development of 22 designs suitable for application on saree- blouse through screen printing. Out of 22 designs, 6 designs were finally selected for application on saree which were placed with all possible variations. These design arrangements were again shown to the experts to seek their preferences. Placement of saree border with scattered motifs (4.60) was preferred most followed by overall placement (3.96) and border placement (3.94).

The main objectives of the research are-

- To collect the various motifs of geometrical design.
- To develop the saree of batik printing and screen printing using geometrical design.
- To evaluate the saree on five point scale.

■ RESEARCH METHODS

Research methodology is a way to systemically solve the research problem. The various steps that are generally adopted by a research in studying his research problem with the logic behind them.

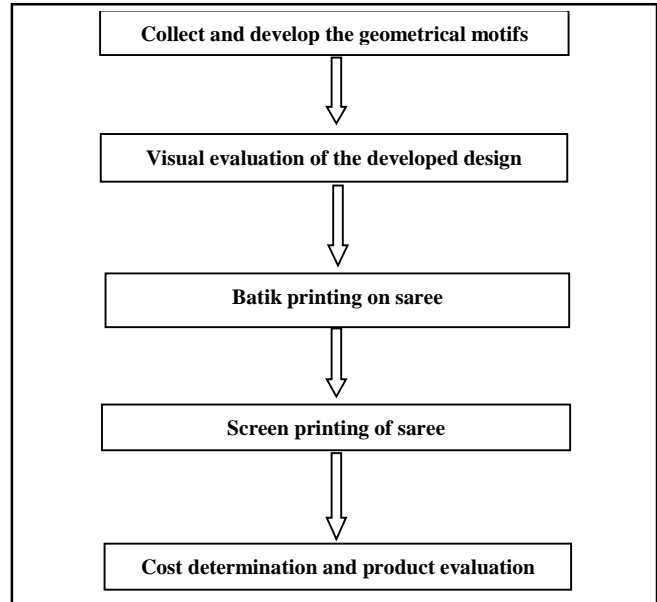
Research method understood all there method techniques that are used for conduction of research.

Collect and develop the geometrical motifs:

The geometrical motifs was collect through internet, books and magazines and total ten designs for two saree were developed by hand.

Visual valuation of the developed designs :

Assessment were done to select the developed



design by displaying all the 10 sheets in front of the 100 respondents and sheets were graded.

The percentage score was calculates for each design. Highest mean score should the highest acceptability while lowest score indicate the least acceptable designs. Top 4 selected designs were used for saree.

Batik printing on saree:

The saree was print with batik colours. Firstly waxing on saree then dye with batik colours on saree.

Screen printing of saree :

Sarees printed using fabric colour. Printing paste was prepared by taking fabric color in a bowl; a binder medium was then added in this paste. The saree was spread on the printing table and the screen was placed on the desired area of the saree were the design is required. The paste was poured on the screen and spread towards the printer with the help of squeeze by applying the pressure downward at an angle of 40-65. The squeeze was then taken to the opposite side in the same manner. After printing sarees were dried in shade and steamed in order to fix the colour.

Cost determination and product evaluation:

The cost of all printed sarees was calculated separately. The cost was calculate on the basis of money spent for raw materials, screen and other essential items,

25 per cent labour charges used for preparation of screens and printing of sarees. Each printed article was shown to same panel of judges to assess their acceptability. The attribute of judgment were colour combination, placement of design, cost, purchasing preference and overall appearance. Five point scale developed by Premrata (1991) evaluation of the products.

Excellent	5
Very good	4
Good	3
Fair	2
Poor	1

RESEARCH FINDINGS AND DISCUSSION

The findings of the present study as well as relevant discussion have been presented under following heads :

Visual evaluation:

All the developed designs were visually evaluated and result are shown in Fig. 1 and 2.

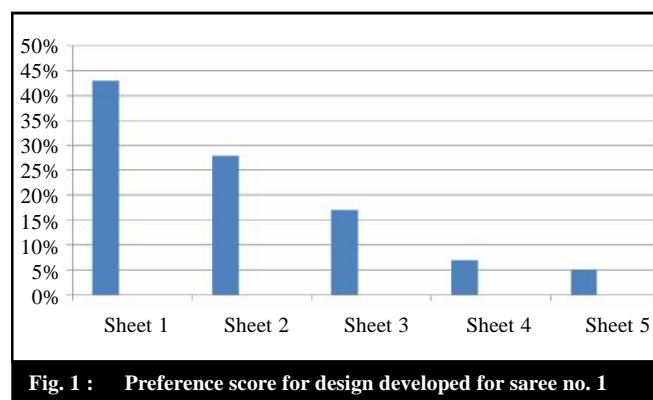


Fig. 1 : Preference score for design developed for saree no. 1

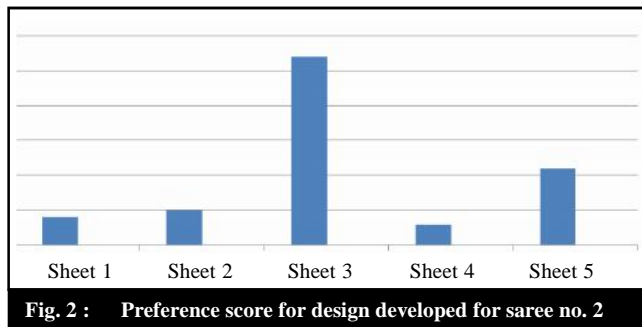


Fig. 2 : Preference score for design developed for saree no. 2

For saree no. 1 sheet no. 1 have got highest score then sheet no. 2 got highest score so these 2 sheets choose for orienting the saree. For saree no. 2 sheet 3 and sheet 5 got highest score so investigator chooses these 2 sheets for printing the saree.

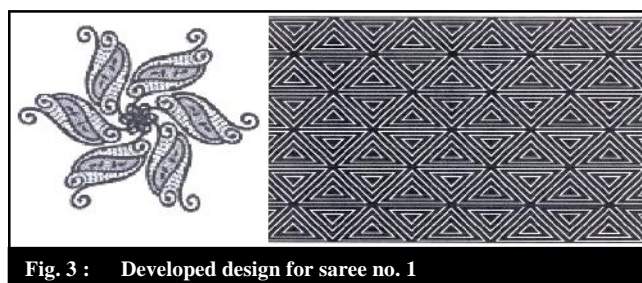


Fig. 3 : Developed design for saree no. 1

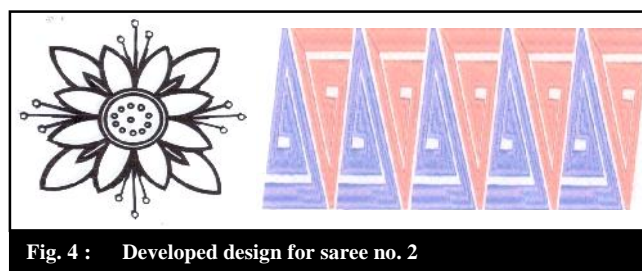


Fig. 4 : Developed design for saree no. 2

Table 1 : Cost of printing products

Items	Saree no. 1			Saree no. 2		
	Consumption	Rate (Rs.)	Value (Rs.)	Consumption	Rate (Rs.)	Value (Rs.)
Plain Saree (<i>Khadi</i>)	1	2500	2500	1	2500	2500
Screen cost	3	70 Rs.	210Rs.	2	70 Rs.	140 Rs.
Colours	8 Colour10 ml.	80 ml.	160 Rs.	8 colour 10 ml.	80 ml.	160 Rs.
Cost of raw material	-	-	100 Rs.	-	-	100 Rs.
Actual cost	-	-	2970 Rs.	-	-	2810 Rs.
25% profit	-	-	742.50 Rs.	-	-	702.50 Rs.
Sale price	-	-	3712.50 Rs.	-	-	3512.50 Rs.

Table 2 : Acceptability of the developed products

Articles	Colour combination	Placement of motifs	Cost	Purchasing preference	Overall appearance
Saree no. 1	3.8	1.6	1.4	5	8.2
Saree no. 2	8	1.8	1	6	3.2



Printed Saree no. 1



Printed Saree no. 2

Cost of printed products:

The cost of printing two sarees was calculated separately and the result are reported in Table 1. That the cost of saree no. 2 was higher (Rs. 3512) then the cost of saree no. 1 *i.e.* Rs.3712 Due to the use of expensive *Khadi* saree, screens and consumption of more colours.

Acceptability of developed products :

The prepared printed saree were subjected for visual evaluation to assess the acceptability of the products and the result are given in Table 2.

It is clear from the table that among the printed sarees, the saree no. 1 was given first preference (score 8.2) *i.e.* overall appearance and saree no. 2 colour

combination (8) got highest score.

Conclusion :

The fusion design preferred by screen were successfully applied on various apparels items using digital printing and the prepared articles were highly appreciated. The present study was an initial steps in direction of creating fusion design of two printing (batik and screen printing). Screen printing is a fast method of producing designs, does not required expensive equipment, save time and energy and is not laborious. The study may prove to be beneficial for those women who want to start an enterprise as they can follow up these guidelines for designing, preparation of screens and printing procedure.

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