

# Asian Resonance

## Design and Product Development : Digital Textile Printing Inspired by Gond Paintings of Madhya Pradesh



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### Abstract

More than seventy percent of the Madhya Pradesh state's population lives in rural areas, which is the heart of creativity. Painting is very primitive art in the state. The Gonds are the largest Adivasi Community in India and are of Dravidian origin. Digital textile printing is a flexible tool and a key acceptable to the vision of mass customization. It permits the user to evade the screen making process, offering the chance for quick changes to color or design elements prior to printing. This study is an effort to combine the folk art with technology to enrich the field of textile designing. Design research was the method used in this study. After designing, product in the form of dress material was developed. Acceptability index and market potentials were find out from the college going girls and market personnel. The out come of the study revealed that developed designs inspired by Gond paintings of Madhya Pradesh can be used for digital printing on dress materials as it has enough market potentials and great extent of acceptability among respondents.

**Keywords:** Digital Printing, Gond Paintings, Motif development, Acceptability, Market potential.

### Introduction

Digital textile printing technology is sparking a fundamental change in the textile and apparel industry. Traditionally, to create printable designs for fabric, color separations and screens or rollers had to be used for the transfer of designs to fabric. Digital textile printing is the process of creating printable designs for fabric on a computer, which can be sent directly for the computer to fabric printing machinery without the use of screens and color separations. This revolution in digital image processing has necessitated new ways of thinking about textile design and production. A large percentage of the research involving the digital printing of textiles has focused on how the technology will affect marketing and merchandising strategies in the textile and apparel industry.

Digital textile garment printing, and digital textile printing is a process of printing on textiles and garments using specialized or modified inkjet technology. Inkjet printing on fabric is also possible with an inkjet printer by using fabric sheets with a removable paper backing. Today major inkjet technology manufacturers can offer specialized products designed for direct printing on textiles, not only for sampling but also for bulk production.

The digital fabrics printing technology is existed since last decade, it emerged after 1994. It is a skill that prints the designs on fabric, immediately from your computer, without extra efforts just like printing and designing a paper. Digital textile printing is a flexible tool and a key acceptable to the vision of mass customization. It permits the user to evade the screen making process, offering the chance for quick changes to color or design elements prior to printing.

### Advantages of Digital Fabric Printing Over Traditional Printing Technology

Generally, textile printing has been operated through transferring media, such as screens and rollers. Each transferring media is designed and allocated for a specific color. A block printing and engraved copper printing are operating through these methods. A number of woodblocks that are designed in block printing give a number of co Digital printing methods have facilitated manufactures to make a digital sampling and have advantages of change in designs before engraving.

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The art of digital textile printing has influenced both the style and process of textile printing. digital textile printing has re-aligned conventional textile printing processes with innovation, and technological advancement.

Design has more meanings than one. Apart from being merely decorative it also influences our values and links the past with the future... In the present. Tribal art is living proof that a traditional or folk designer is as creative and imaginative as his modern urban counterpart.

## Madhya Pradesh

The largest state of India, with the highest tribal population, more than seventy percent of the state's population lives in rural areas, which is the heart of creativity. Culturally, the state can be divided into the regions of Malwa, Nimad, Bhagor, Gondwana. Inhabited by over thirty tribes such as Gond, Baiga, Kanwar, Nagesia, Pando, Korku. These regions have evolved into distinct cultural entities with their own rich styles.

## Objectives

1. To explore motifs from Gond Paintings of M.P for Digital Printing.
2. Study of different traditional art of Madhya Pradesh as an inspiration for textile designing.
3. To develop designs for digital textile printing inspired by traditional art of Madhya Pradesh.
4. Motif development for textile printing by using different motif placement, printing technique, based on element and principles of design. Printing on fabrics of similar structure, but differing fiber content.
5. To develop different products by using developed designs and digital textile printing.
6. To determine acceptance of developed product by the consumers.
7. To determine cost of the product and their marketability.

## Significance of the Study

1. Art and cultural heritage of Madhya Pradesh will be used in digital world to create different textiles/apparel designs.
2. Designs, which were thought to be impossible yesterday, are available today with limitless colors, and forms, digital textile printing meets individual fashion design concepts.
3. Novel techniques in textile printing create new opportunities in business.
4. Digital textile printing is an excellent reflection or original artworks with a right blend of classic and elegant view.
5. This process consumes less water, and dyes, thereby proving to be environmentally friendly.
6. Further studies can be carried out on various art and craft of different states by using digital textile printing.
7. Various folk and tribal art of Madhya Pradesh can be used to increase commercial potential.

## Review of Literature

### Art and Craft of Madhya Pradesh

Madhya Pradesh M.P. literally ("Central Province is a state in central India. Its capital is Bhopal, and the largest city is Indore. Nicknamed the "heart of India" due to its geographical location in India, Madhya Pradesh is the second largest state in the country by area. With over 75 million inhabitants, it is the sixth largest state in India by population. It borders the states of Uttar Pradesh to the northeast, Chhattisgarh to the southeast, Maharashtra to the south, Gujarat to the west, and Rajasthan to the northwest.

Madhya Pradesh is home to a large tribal population, who have been largely cut-off from the mainstream development. Thousands of Adivasi youth have migrated to the cities in search of a livelihood and many are becoming disconnected from their tradition, while their children are cut off from their heritage. Some Adivasi communities have been able to keep their children rooted in their traditions and generate interest in others about their way of life.

### The Gond Paintings of Madhya Pradesh

The Gonds, the largest Adivasi Community in India are of Dravidian origin and can be traced to the pre-Aryan era. The word Gond comes from Kond, which means green mountains in the dravidian idiom. The Gond called themselves Koi or Koiture, but others called them Gond since they lived in the green mountains.

The Gonds or the Koiture are a heterogeneous group spreading over large areas from the Godavari gorges in the south to the Vindhya Mountains in the north. In Madhya Pradesh, they inhabited the dense forests of the Vindhyas, Satpura and Mandla in the Narmada region of the Amarkantak range for centuries. The central province was called Gondwana since the Gonds reigned here. As many as four separate Gond Kingdoms – situated in the northern, central and southern parts – are mentioned in the Ain-I-Akbari.

Gond paintings are freehand expression of the Gond tribe in Madhya Pradesh. Highly creative and imaginative, this community drives positive energy by surrounding itself with color and art inspired from nature and everyday living. Characteristically these paintings are reflections of the tribe's fantasies towards nature, forest and trees. Use of stripes, dots or any other geometric pattern to fill up various forms, is another character typical to this style of freehand art. Most of these paintings have multiple but very contrasting uses of bright and lively colours.

### History of Gond Paintings

The Gonds are a heterogeneous group spreading over large areas from the Godavari gorges in the south to the Vindhya Mountains in the north. The central province was called Gondwana since the Gonds reigned here. As many as four separate Gond Kingdoms – situated in the northern, central and southern parts – are mentioned in the Ain-I-Akbari. Over time they were gradually deprived of their

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kingdoms and their land and their survival was threatened.

The people are accustomed to decorating their main doors and walls with Geru, Pili-mitti (yellow clay) and black clay patterns. The angan (lobby) of a Gond or Pradhan house is bordered with motifs of God and Goddesses. The craft council M.P.

## Methodology

Design research is foundational to creating products, services, and systems that respond to human needs. In the public and international development sectors, understanding and meeting human needs are critical for improved livelihoods and better governance.

An organized course of action was followed the sections as under-

1. Locale of the study
2. Selection of the sample
3. Development of the tool
4. Procedure of data collection
5. Analysis of data

## Locale of the study

Proposed study is limited to Madhya Pradesh State only.

## Region wise Selection of the Painting

Gond paintings of Gondwana region

## Selection of Sample

1. Desired information regarding paintings was collected from 20 artisans solely devoted to the Gond painting of MP. Other secondary sources of information were

1. Samples displayed at museums
2. Literature
3. Public Libraries
4. Internet

2. A panel of 5 judges from Department of clothing & textile was constituted for the selection and evaluation of motifs, placement arrangements and color combinations.

3. Randomly 50 College going girls of Sarojini Naidu Girls College, Bhopal was selected to study the acceptability of prepared products. 50 market personnel to study the market potentials.

## Development of Tool

## Rating Scales

Four types of rating scales was developed for-

1. Selection of motifs
2. Evaluation of motif placement
3. Acceptability of developed digitally printed dress materials
4. Assessment of market potentials.

## Procedure of Data Collection

The study was conducted in 2 phases

1. Collection of motifs and their adaptation for Digital Printing through Cad
2. Assessment of acceptability and market potential.

## Analysis of Data

To achieve the objectives of the study the data were transferred on the table and tally sheets and coded, tabulated and analyzed statistically.

## Statistical Measures

### 1. Frequency and percentage

Frequency and percentage were used to analyze the data on the basis of information regarding different motifs, raw material etc. used in both paintings.

### 2. Percentage

The rating score obtained by developed design of each category was converted in to percentage.

### 3. Ranking

Opinion of the respondents about developed designs (panel of judges from Home Science Department) was recorded on separate Rating Performa.

Total score obtained by each dress material made from developed designs was ranked in order of acceptance.

### 4. Acceptability Index

To assess the percentage acceptability of the developed designs on dress materials an acceptability index is formed

$$A.I = \frac{\text{Total scores of each dress material}}{\text{Maximum Score}} \times 100$$

## Results and Discussion

50 Motifs from the Gond Paintings were collected from-

1. Painting exhibited in Bharat Bhavan museum of Bhopal
2. Available literature Books & Catalogs.
3. Internet
4. Tribal Museum of Bhopal

20 motifs were selected on the basis of the scores given by panel of judges for digital printing. Each motif were rated according to there appropriateness for its size, style, colour combination, and background colour. 5 point rating scale was formed as excellent, very good, good, average and not acceptable.

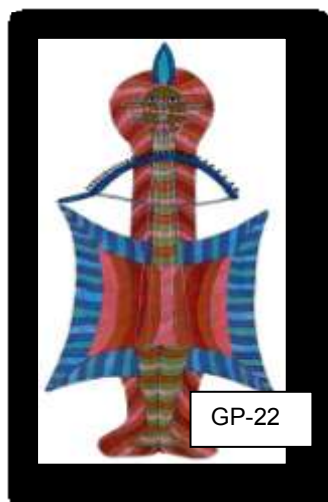
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**Table-1 : 20 Selected Motifs With Highest Scores for Digital Printing.**

S.No	Motif code	Judge-1 (20)	Judge- 2 (20)	Judge- 3 (20)	Judge- 4 (20)	Judge-5 (20)	Total Score (100)
1	GP-3	15	15	17	17	16	80
2	GP-4	15	15	14	15	15	74
3	GP-6	15	15	15	15	15	75
4	GP-7	17	17	17	17	17	85
5	GP-10	17	18	16	19	18	88
6	GP-12	19	19	19	19	19	95
7	GP-22	19	20	20	19	19	97
8	GP-25	16	18	17	18	16	85
9	GP-28	17	18	18	18	17	88
10	GP-31	18	18	18	17	18	89
11	GP-34	19	18	18	18	18	91
12	GP-35	19	19	19	18	19	94
13	GP-38	16	15	15	15	15	76
14	GP-39	16	16	15	16	15	78
15	GP-40	20	19	19	19	19	96
16	GP-42	17	18	17	18	16	86
17	GP-43	18	18	17	18	17	88
18	GP-45	18	18	18	18	18	90
19	GP-48	17	17	18	17	16	85
20	GP-50	18	17	18	18	18	89



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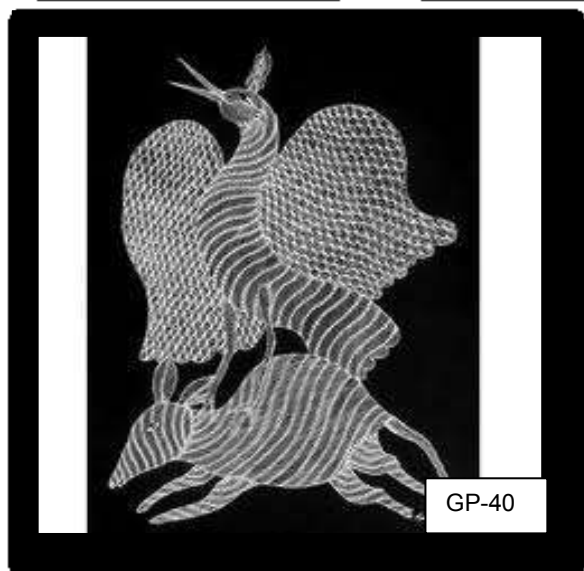
GP-22



GP-35



GP-45



GP-40

## Acceptability Index

**Table 3: Evaluation of Final Product by College Girls for Acceptability**

Aspect	Dg1	Dg2	Dg3	Dg4	Dg5
Motif Placement	105	102	112	110	106
Motif Colour	104	101	111	105	108
Ground Colour	103	102	117	102	102
Uniformity of Colour	105	101	109	110	112
Sharpness of lines	104	98	113	111	108
Over all appearance	109	106	113	114	104
<b>Total</b>	<b>630</b>	<b>610</b>	<b>675</b>	<b>652</b>	<b>640</b>
Acceptability Index (%)	84	81.3	90	86.9	85.3

Considering all the attributes it was found that dress material- (DG-3) was highly accepted by college going girls (90%) with total score 675 out of 750. Dress material-DG-1, DG-2, DG-4, DG-5 were also accepted by college girls .

## Conclusion

1. Digital printing technique was used to print the selected designs on dress materials. These 5 digitally printed materials were used to find out acceptability and market potentials of the prepared products. A rating Performa was given to 30 students of the Home Science Department to assess the acceptability. Market potential was assess through rating Performa given to 20 students and 20 market personnel.
2. The out come of the study revealed that developed designs inspired by Gond paintings of Madhya Pradesh can be used for digital printing on dress materials as it has enough market potentials and great extent of acceptability among respondents.

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