PRODUCT DIVERSIFICATION FOR SUSTAINABILITY INSPIRED BY TRADITIONAL ROGAN PRINTING OF GUJARAT

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ABSTRACT

The age-old artistic practice of rag painting, which is practiced in Gujarat, Peshawar, and Sindh. It involves using a stylus to expertly apply a thick paste made of vegetable colours and castor or linseed oil onto fabric. The Persian origin of the term "Rogan" means "oil-based," emphasizing the process of heating and forming castor oil in cold water to create a viscous material. This art form was once quite popular among the Muslim Khatris group in Gujarat, and it is historically credited to the Afridis, a community of Syrian descent. After the first impression, the cloth is carefully folded to create a mirrored design. The artists used their palms to apply body-temperature paint. Rogan painting, which is well-known for its rich colours and intricate designs that frequently incorporate floral themes, animals, and regional cultural features, has faced challenges due to low awareness and the rise of low-cost, automated textiles. However, there has been a resurgence in recent years, contributed to increased tourists, support from non-profits and local cooperatives, and the prestige of winning awards and recognition. This paper gave insights into the ideation of incorporating and being inspired by Rogan art motifs into product diversification with contemporary designs through embroidery for garment collections.

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1. INTRODUCTION

The Gujarat region of India is home to the ancient textile art style known as Rogan painting, which combines history, technique, and cultural importance compellingly. This traditional art form uses a unique paint made from castor oil and natural colours that are applied with a stylus to the fabric. The word "Rogan," which comes from the Persian word for "oil-based," refers to the glue that is made when castor oil is heated and then submerged in cold water. Rogan painting is a tribute to
the continuing ingenuity and craftsmanship of its practitioners, with a history spanning over four centuries. Rogan painting is one of the most significant historical examples of traditional textile arts that are still practiced in India. When it was first used on bed linens and bridal gowns, the Kutch community was primarily the target audience. However, the introduction of mass-produced textiles was a significant obstacle and led to a drop in the market for handcrafted Rogan art. Despite these challenges, there has been a resurgence of interest in Rogan paintings in recent years, driven by circumstances like more travelers and deliberate attempts to preserve and promote this rare kind of painting Balkiz (2021).

A complex tapestry of history and technique is revealed when one delves deeper into the details of Rogan paintings. The ability and artistry of its practitioners are reflected in its ornate designs, which are typified by mandalas and elaborate floral themes. Patience, accuracy, and a thorough grasp of materials are necessary for this methodical approach. Tradition and skill are infused into every stage, from the careful application of the specialty paint to the fabric preparation. Dedicated artists who uphold and develop this age-old craft are at the core of Rogan painting. Rogan art's legacy will live on, overcoming the obstacles of time and modernity thanks to their unrelenting dedication to perfection. Each product is imbued with artistic expression and cultural importance by their skillful and passionate rendering of intricate patterns and brilliant hues Jaiswal (2021).

2. REVIEW LITERATURE

2.1. ORIGINS OF ROGAN ART

Rogan painting initially known as "Rogan kaam" is a traditional art form with Persian roots that has its roots in Gujarat, India's Kutch area, and has been for more than 400 years. The word "Rogan," which comes from a Persian word that means "oil-based," accurately captures the spirit of this medium, in which castor oil is used primarily to make paint. As Islamic traders and travelers traversed the Silk Road routes, Rogan art found its way to Western India, particularly flourishing in the Kutch region among the Muslim Khatri community. Their countless efforts, which include planning exhibitions and spreading awareness, have drawn attention to this fascinating art form that has a strong cultural legacy Staff (2022).

Historical evidence reveals that Rogan art initially served as a means to enhance the garments of rural populations, especially for weddings and everyday wear within lower social classes. However, with the advent of mechanized manufacturing, the art form faced a decline in popularity, pushing it perilously close to extinction Shah (2021).

The mid-20th century brought economic challenges and dwindling appreciation, leading to a decline in the number of Rogan art practitioners. Despite these setbacks, a resurgence occurred, spearheaded by influential figures such as Abdul Gaffur Khatri. His unwavering commitment to preserving this ancestral skill, despite personal hardships, not only revitalized global interest in Rogan art but also increased its visibility and garnered crucial support, ensuring its continued existence. Today, Rogan painting stands as a testament to the resilience, cultural richness, and indomitable spirit of those dedicated to preserving artistic traditions Balkiz (2021).

2.2. TECHNIQUES AND PROCESS

Rogan art is a traditional Indian painting style that is identified by its procedures and approaches. The technique uses a unique paint made from
indigenous castor seeds; the oil is carefully cooked to create a colourful medium. This elaborate art form is a unique and uncommon technique that is only maintained and practiced by one family in Nirona. Renowned for its exquisite patterns and themes that are evocative of the embroidery worn by the indigenous populations in Pachcham and Banni, the Rogan painting occupies a unique place in the history of art. The revival of Rogan painting in India is a testament to the commitment to preserving traditional artistic expressions as well as the preservation of this age-old craft. It also highlights the painting’s artistic worth and cultural relevance.

Traditionally, artisans crafted their tools from organic materials, a practice now replaced by more affordable metal alternatives. The original ingredients for Rogan painting included castor oil, dyes, kerosene oil, and wood. The first step in the Rogan painting process is making its unique paint from locally grown castor seeds. The oil from the seeds is boiled for more than 12 hours while being constantly stirred. This careful boiling occurs in the forest because of the strong vapors released, which require an open space to dissipate. Because it’s such a difficult chore, the men in the household have often completed it. After that, the leftover oil residue referred to as "Rogan" for oil-based is cooled and combined with pigments. This produces a paint that is thick, colourful and has a unique consistency that the artist can work with remotely while working on the fabric Jauhari (2021).

In the past, getting dye required using organic materials like plants and stones. In their most basic versions, hues including blue [vadadi], green [leelo], orange, red [lal], and white [safed] were used. These colours came from different sources: powdered mica gave a silver hue, white lead produced white, red lead oxide kept in plastic containers produced red, orpiment gave rise to yellow, a mixture of orpiment and indigo produced green, silver and gold leaf produced metallic effects, and indigo gave rise to blue. Today’s artists also use easily accessible commercial pigments.

The Rogan colour paste requires highly skilled craftspeople to create. The kharal, a manual stone grinder used to mix the colour paste, is the main instrument used in this procedure. The components include water, white chalk powder, and naphthol. To avoid transferring old colours into the newly prepared mixture, the kharal must be well-cleaned before making the paste. Cleaning is followed by the colouring procedure, which involves adding water little by little until a smooth paste is achieved. Next, either the vegetable pigment dye pastes or the chalk colour pigment is mixed with a small amount of gelatinous Rogan paste until smooth, soft gelatinous paste forms. To keep its wetness, rogan paste is usually kept in plastic containers or earthen pots filled with water Jaiswal (2021).

Traditionally limited to thick cotton fabric or khaddar, Rogan now adorns cotton, silk, wool, polyester, and denim due to customer demand. The intricate painting process begins with the fabric spread on the ground. The artist blends colour with a suya rod, creating a thread-like structure. In painting without a sketch, the artist relies on imagination, and the complexity of designs varies based on customer preferences or artistic vision.

When multiple colours are involved, the artist finishes one colour before progressing to the next. The painting occurs on one side of the folded fabric, which is then precisely folded and pressed to create an identical impression. The final product is left to dry in sunlight for six to seven hours, concluding the laborious yet captivating process of Rogan painting Staff (2022).
2.3. SIGNIFICANCE AND MOTIFS

The introduction of fabrics manufactured by machines presented significant obstacles for the Rogan painting technique. But the Khatri family's coordinated efforts were crucial to its resurgence and to safeguarding this priceless legacy. They preserved Rogan art from the prospect of obscurity posed by contemporary industrialization through their unwavering passion and commitment. A remarkable cultural tradition is attested to by the Rogan picture, which perfectly captures the unmatched skill and craftsmanship passed down over the ages. Its elaborate designs and vivid colours not only catch the eye but also provide a glimpse into the cultural identity and artistic traditions of those who create it. Rogan paintings are an important part of cultural legacy, representing adaptability, resiliency, and the eternal creative spirit of people.

The efforts of the Khatri family not only prevented the Rogan painting from going extinct but also confirmed its importance as a fundamental component of cultural heritage. Their steadfast dedication not only protects a historic art style but also encourages a greater understanding of the creativity and talent that go into Rogan paintings. The Khatri family has made sure that upcoming generations will continue to be in awe of this beloved art form’s beauty and cultural significance through their restoration efforts Rooftop. (2023).

2.3.1. TRADITIONAL ELEMENTS

The artwork by Rogan features a diverse array of motifs that embody both tradition and contemporary. Encapsulating a perfect blend of natural elements and cultural importance, Rogan paintings are rooted in tradition and incorporate timeless symbols like Phool [flowers], Trikhani [three dots], Vesur [wavy border motif], and Jhad [trees]. The earthy core of these motifs reflects the artist's profound appreciation for nature and evokes a sense of connectedness to the environment Rogan (2022).

2.3.2. CONTEMPORARY DESIGNS

Rogan painting doesn't just live in the past; it welcomes modern inspirations wholeheartedly. Along with the traditional repertory, artists add their unique flavour to their creations by combining contemporary designs, architectural features such as Jalis [screens], and circular patterns. By bridging the gap between tradition and modernity, this fusion not only gives the art form fresh vitality but also increases its appeal to a diverse audience Balkiz (2021).

2.3.3. ARTISTIC PROCESS

As fascinating as the motifs in Rogan paintings are the creative processes that led to them. Using tools made completely by hand, painters use styluses to create complex patterns with amazing accuracy. The painters work with incredible intuition and talent, painstakingly creating eye-catching symmetrical designs even in the lack of sketches or stencils. Every piece is a tribute to the artist's inventiveness and commitment because of their dependence on freehand technique, which not only demonstrates their skill but also gives each one a distinctive, organic feel Rooftop (2023).
2.4. CHALLENGES AND PRESERVATION

2.4.1. THREATS TO THE CONTINUITY OF RAGON TRADITION

The beloved Rogan heritage, an ancient fabric painting art form that originated in the picturesque Indian enclave of Kachchh, is in grave danger of disappearing due to the constant intrusion of machine-made textiles. Carefully tended to by two old families, the Rogan tradition thrived for many years as a symbol of cultural expression in the charming village of Nirona. However, the unrelenting advance of technology has obscured its enduring impact, as the appeal of inexpensive textiles produced by machines overrides the superb craftsmanship of handcrafted Rogan products. By doing this, these initiatives inadvertently support the maintenance of long-standing cultural customs such as the Rogan tradition, giving them fresh life despite the general chaos of the contemporary world.

Unfortunately, the once-vibrant tapestry of Rogan craftsmanship is now on the verge of disappearing, its tattered remnants a sobering reminder of how tradition is being lost in the face of modern convenience. The sacredness of the Rogan heritage languishes in oblivion, its former popularity sliding into obscurity as society leans towards adopting alternate textiles Rogan Painting. [n.d.].

2.4.2. GUARDIANS OF TRADITION

Abdul Gafur Khatri has led the Khatri family to prominence as defenders of Rogan art. Even in the face of financial hardships and limited resources, they are steadfast in their commitment to preserve this disappearing legacy. They successfully negotiate the difficult line between tradition and contemporary with unwavering dedication, guaranteeing the survival of Rogan art. The leadership of Abdul Gafur Khatri embodies their commitment, motivating future generations to treasure and uphold this priceless cultural heritage. Their unceasing efforts not only preserve a centuries-old custom but also act as a symbol of resiliency, demonstrating the strength of passion and perseverance in the face of difficulty Rogan Art of Nirona: Preserving the Heritage. Authindia. (2023).

2.4.3. REVIVAL AND RECOGNITION

When former Indian Prime Minister Narendra Modi gave a Rogan painting to US President Barack Obama in 2014, it was a momentous occasion that led to the revival and recognition of Rogan art. This unique art style gained worldwide attention as a result of its recognition on a global basis, which acted as a catalyst. As a result, it caused tourists and fans to become enthralled again, giving Rogan art new life.

2.4.4. EMPOWERING WOMEN

Additionally, by teaching women the Rogan art form, efforts have been made to empower them and break down deeply ingrained gender conventions in the Khatri culture. There are efforts underway to break down conventional barriers and allow young females the chance to study this complex profession. The objective of creating lessons specifically for women is to guarantee the survival of Rogan art while also increasing its accessibility to a wider range of people. These days, the craft is used to create wall pieces for displays, with the "Tree of Life" design serving as the primary motif Ghose (2022).
3. METHODOLOGY
3.1. RESEARCH DESIGN
This study used a mixed-methods approach, combining qualitative and quantitative research techniques to thoroughly investigate the traditional practice of Rogan painting and its contemporary applications. The research is divided into two phases: historical and contextual analysis and motif and design development.

3.2. PHASE 1: HISTORICAL AND CONTEXTUAL ANALYSIS
3.2.1. LITERATURE REVIEW
A comprehensive literature review was conducted to understand the historical background, cultural significance, and traditional techniques of Rogan painting. Sources included academic papers, historical texts, articles, and previous studies on Rogan art and related textile arts.

3.2.2. ARCHIVAL RESEARCH
Archival research involved examining old records, photographs, and documents related to Rogan painting. This helped to trace the origins, evolution, and geographical spread of this art form, particularly focusing on Gujarat, Peshawar, and Sindh regions.

3.3. PHASE 2: MOTIF AND DESIGN DEVELOPMENT
3.3.1. ANALYSIS OF COLLECTED DATA
Data from secondary sources were analyzed to identify common themes and motifs in traditional Rogan art. Patterns, colours, and design elements were documented and categorized.

3.3.2. IDEATION AND CONCEPT DEVELOPMENT
Based on the analyzed secondary data, brainstorming sessions were held to ideate contemporary design concepts incorporating traditional Rogan motifs. Sketches and digital illustrations were created to visualize these concepts.

3.3.3. RAW MATERIAL AND PROTOTYPE DEVELOPMENT
Selected design concepts were developed into prototypes. Traditional Rogan motifs were created using embroidery with anchor thread on the cotton-blend fabric, blending traditional motifs with contemporary design elements. Raw materials are sourced from the local market of Hyderabad, India.

3.3.4. FEEDBACK AND REFINEMENT
Prototypes were presented to designers and potential consumers for feedback. Based on the feedback, designs were refined and improved to meet aesthetic and functional standards.
4. RESULT

4.1. MOTIFS DEVELOPMENT

The Rogan tree and tree of life motifs were carefully developed from secondary literature and subtly incorporated into final garments to enhance their visual appeal, which is significant for this research. These carefully chosen motifs give the clothes personality and depth, enhancing the overall look and style and The Tree of Life represents the afterlife and the connection between the earth and heaven.

Table 1

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<thead>
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<th>Table 1 Motifs Development</th>
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4.2. DESIGN DEVELOPMENT

A collection of Indo-western silhouettes is created by reinterpreting modern elegance and fusing traditional components with exquisite lines and flowing curves. Every design is detailed to exude adaptability and sophistication, which is the essence of the current style. The collection strikes a harmonic balance between history and innovation by fusing classic characteristics with sleek outlines, providing a novel take on Indo-Western fashion. Every piece in the collection, which focuses on versatility and refinement, captures the essence of modern sophistication and appeals to the discriminating preferences of today's fashion-conscious people.
Figure 1

Figure 1 Garment 1 – Design Development

Figure 2

Figure 2 Garment 2 – Design Development
Figure 3
Garment 3 – Design Development

Figure 4
Garment 4 – Design Development
4.3. DESIGN RENDERING AND FINAL GARMENT

Figure 5 and Figure 6 showed digital illustrations based on the analyzed secondary data, brainstorming sessions were held to ideate contemporary design concepts incorporating traditional Rogan motifs.

The finished garment is developed using Rogan-inspired motifs, embroidery, and Indo-Western silhouettes that embody the spirit of the collection. With careful attention to detail, the presentation comes together to represent the intended aesthetic and style direction.

Figure 5

![Figure 5 Garment 5 – Design Development](image)

Figure 6

![Figure 6 Final Design Rendering Incorporated Rogan Inspired Motifs](image)
Figure 7

Final Garment (Incorporating and Being Inspired by Rogan Art Motifs Through the Embroidery on the Final Garment)

Figure 8

Closer Look of Final Garment (Rogan Painting Inspired Motifs Developed by Embroidery)

5. CONCLUSION

This study explored the traditional art of Rogan painting and its potential for contemporary application through a rigorous mixed-methods approach. The historical and contextual analysis phase provided a deep understanding of the origins, cultural significance, and evolution of Rogan painting, highlighting its rich heritage in Gujarat, Peshawar, and Sindh. The literature review and archival research traced the intricate techniques and unique materials that define this art form.

The motif and design development phase interpret these traditional elements into contemporary design concepts. By analyzing collected data, common themes and motifs in Rogan art were documented and categorized, forming the basis for ideation and concept development. The development of prototypes using traditional Rogan motifs by embroidering cotton blend fabrics demonstrated the feasibility of integrating this ancient art into modern fashion and textile design.
Feedback from designers and potential consumers was benefitted by refining the prototypes, ensuring they met contemporary aesthetic and functional standards. This process underscored the potential for Rogan art to be revitalized through thoughtful product diversification and modern design integration.

This research highlights the importance of preserving traditional crafts like Rogan painting while adapting them for modern contexts. The findings suggest that with increased awareness, support from local communities, and innovative design approaches, Rogan art can enjoy a resurgence and continue to fulfilled in the contemporary market. This study contributes to the academic understanding of Rogan painting and offers practical insights for designers and artisans aiming to sustain this unique cultural heritage.

**CONFLICT OF INTERESTS**

None.

**ACKNOWLEDGMENTS**

None.

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