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A step towards preserving ritualistic stone carved designs of Jageshwar temple

Kalplata Pant and Sakshi

Abstract

Retailers now have to prioritise, adaptability, flexibility, high design quality, in quick time for market due to ever changing dynamics of fashion industry. The desire to "refresh" product lines in the fiercely competitive fashion market gave rise to tiny retail collections. Today's textile designers can draw inspiration from a variety of sources such as from our nation's rich traditional past, which spans worldwide. The famous Jageshwar temple complex is situated at about thirty kilometers from main Almora city of Uttarakhand state. The temple is constructed with large stones and these stones were carved. The stone carved designs of Jageshwar temple are unique these stone carved designs depicting various postures of lord Shiva and other Hindu deities. Many of the designs are broken due to various reasons. Stone designs of Jageshwar temple could get damaged in future, transferring them onto textile will preserve them for future. In this context a study has been carried out to develop new textile designs with technology to enrich the field of designing. In order to create designs, designs were collected from Jageshwar temple. Stone carved designs were selected from Jageshwar temple according to their suitability for textile products. Further designs were edited and adapted by CorelDRAW X8 software. The adapted designs were evaluated and designs repeat arrangements were developed from each selected design. Colour combinations were developed using Spring/Summer 2020 New York Fashion Week Colour Palette. T-shirt was selected as product in the study. Unisex t-shirts were prepared in medium size using sublimation printing technique. T-shirts were assessed on different parameters. It was revealed from results that all the designs were highly accepted by respondents.

Keywords: Carved designs, fashion industry, Jageshwar temple, sublimation printing, textile design

Introduction

India is always being known for the diversity in culture that portrays vibrancy through its conventional arts and traditions. The Hindu culture and traditions are rooted in ancient sculptures and pilgrimage sites. Hindu pilgrimage sites are one of those carriers of conventional art and traditions to the modern times. Pilgrimage in Hindu culture is the practice of visiting the sites where religious powers, knowledge and experiences are accessible. Every pilgrimage site has its own significance that made it exclusive for that particular area with regard to the architecture and rich heritage as architecture can convey the tradition. Most of these beautiful buildings have intricate structural designs that can be used to extract motifs for designing textiles for weaving as well as for printing. India 'the land of culture and heritage' is blessed with numerous historical buildings that reflect the breath-taking architecture and intricate architectural work of India. Introducing these designs in textiles can be a way to preserve the Indian culture and it will be an innovative mode of showcasing the uniqueness of Indian art on textiles [4]. Research was conducted to Elucidation of relationship between clothing silhouette and motifs with Indian Mughal architecture. Researcher find the connection between 'Fashion' and 'Architecture,' which can serve as fashion element for designers. Clothing Silhouette and motif were the two criteria on which the relationship was investigated. Indian Mughal architectural monuments were selected. The outcomes show that similar kind of motifs was used to ornament both textiles as well as walls of architectural monuments. Clothing silhouettes of that time were also inspired from the outer shape of the monument [6]. It is existed even in the prehistoric cave paintings as evident by designs appearing on costumes, tapestries and carpets etc. Gradually designing has become a more intellectual endeavor over a period of time. Textile designing is the most demanding and emerging field as it is full of scope and creativity. Any objects or things we see in our daily routine are possible design sources. These may include nature, temples, famous monuments, furniture, various folk arts and crafts such as wall paintings, floor paintings, sculptures, carvings etc [8].

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The designs of Jageshwar Temple are also unique stone carved designs and could be damage in future, transferring them onto textile articles will preserve them. Motifs can be transferred on fabric with some modification and could be used as value addition onto the fabric. Among various techniques used for fabric enrichment, printing is most efficient technique of colour application and practiced in textile sector for product diversification and value addition. In order to preserve these designs study was conducted with the aim of adaptation suitable motifs for developing design arrangements and apply selected design arrangements on fabric and their evaluation for consumer acceptance. Various postures of Lord Shiva and other deities such as *Vishu*, *Ganga*, *Durga*, *Surya* etc. were found carved on walls of the temple. Designs were selected on the basis of the source i.e., designs of lord Shiva, designs of other deities, incarnation and human designs. Total eighty-four designs were collected which comprised of twenty-four designs of Lord Shiva, thirty-eight designs of other deities, nine incarnated designs and thirteen human designs. Designs developed in the study are source of inspiration for textile designers to create religious and traditional designs in textile articles and other products. Small scale units of local area (Jageshwar temple) can produce products like wall paintings, hand craft items, wall hanging etc. using these designs. This will be helpful to provide employment to the people of local area and preserve temple designs. Such products can be kept in the museum for sale for visitors, this will be helpful for generating revenue for archaeological museum Jageshwar.

Materials and Methods

Collection of Designs

Researcher collected the designs from Jageshwar Temple of Almora district, Uttarakhand by visiting the place. Designs present on walls of temple and museum were collected. Some images of sculptures which were available in official website of ASI were taken.

Selection of Designs

After collection of designs, it was observed that face and half body designs were very less in comparison to full body designs. Thus, 100% of half body and face designs were used for selection for application on textiles and 35% of full body designs which were found suitable for textile designing were selected.

Adaptation of Designs and development of Design Arrangements and Their Evaluation

The adaptation of designs was carried out by using designing software Corel DRAW X8. Designs were simplified and modified in such a way that they could be easily adapted for printing on fabric. Selected five designs were repeated in different design repeat sequences namely block, half drop, brick, diamond, stripe, $\frac{3}{4}$ drop and random repeat. In each design arrangement, one arrangement which has scored highest WMS was selected. Out of thirty-five arrangements, five arrangements were selected.

Development of Colourways for Designs and Their Evaluation

In the present study, the Spring/Summer 2020 New York Fashion Week Colour Palette Report by Pantone Color Institute color experts was used. In colour palette there were 16 colours including four warm colours, seven cool colours and five neutral colours. Three colour combinations for each selected design were developed. Total fifteen colour

combinations were developed.

Selection of Garment

T shirt was selected as product for college going students. Polyester fabric was selected for printing and sublimation transfer printing was done with disperse dyes. As disperse dyes are most suitable for polyester fabrics and has good affinity towards polyester. 100% polyester fabric was used in the study. Light colour fabric was used for base fabric so that designs can be seen clearly against the background.

Printing Process

Sublimation printing method was used to transfer design in the fabric. Prepared designs were transferred to high quality sublimation transfer paper so that it can transfer dye particles onto the fabric through the application of heat press. Fabric was spread on the board of heat transfer machine and transfer paper was placed over it. temperature and time were set to 200 degrees Celsius for 60 seconds. After the printing process fabric was stitched by simple stitching machine and T-shirts were prepared.

Evaluation of Printed garment

The printed garments were evaluated by eighty college going students on various parameters like appropriateness of design according to the product, placement of motifs, appropriateness of motif size according to design arrangement, selection of colours for motifs, selection of colours for base fabric, colour combination of designs with base fabric, newness in design, quality of printing, neatness and clarity and overall appearance of garment.

Statistical Analysis of Data

The collected data were tabulated and analyzed according to the objectives of the study. The statistical measures used for analysis were weighted mean score, rank and percentage.

Results and Discussion

Collection and Categorization of Designs

The designs of Jageshwar temple were collected by researcher by visiting the place. Temple complex comprised of many small clusters of temple. The researcher also visited museum established by Archeological Survey of India in the temple complex. Every wall of temple had designs carved onto them. In this study designs of God and goddesses present on walls of temple and sculptures preserved in the museum. Total eighty-four designs were collected and categorized systematically for study. Collected designs were classified under three categories namely half body, face and full body designs. Further categorization of designs present on wall of temple and designs present in museum was also done in three categories as God and goddesses, incarnation, and human inspired designs. Fifty-five designs were collected from museum which included sculptures and twenty-nine designs were collected from walls of temples. Table 1 shows categorization of collected designs based on structure and source of design. Similar type of study was done on the architectural designs of famous Jama Masjid (Fatehpur Sikri) for application on Kurtis through screen printing technique, in order to preserve the decorative motifs of monuments. The motifs were collected from the site and were used for apparel designing. All the designs were highly accepted by the respondents and researcher recommended that other monuments could be used as source of inspiration create textile designs^[7].

Table 1: Categorization of collected designs based on structure and source of design

S. No.	Source of Design	Structure of Design						Total
		Half body		Face		Full body		
		Wall of Temple	Museum	Wall of Temple	Museum	Wall of temple	Museum	
1.	Human	01	-	-	-	12	-	13
2.	Incarnation	-	-	-	-	05	04	09
3.	God & goddess	01	02	04	02	06	47	62
Total		02	02	04	02	23	51	84

Selection of Designs for Adaptation

Selection of designs was done on the basis of categorization of collected designs. It was evident from the collected designs that face and half body design were less in number as compared to full body designs hence hundred percent of half body and face designs were used for selection of designs for adaptation and thirty-five percent of the full body designs were selected based on suitability for use in printing on textiles. It comprised of four half body designs which included one human and three design of god and goddess, six face designs of god and goddess and amid full body designs five human designs, four incarnation designs and nineteen designs of god and goddess were used for selection of designs for adaptation. Table 2 shows distribution of collected designs for design selection.

Table 2: Table for selection of designs

S. No.	Motifs	Half body	Head	Full body
1.	Human	01 (100%)	-	5 (35%)
2.	Incarnation	-	-	4 (35%)
3.	God and Goddesses	03 (100%)	06 (100%)	19 (35%)
Total		04	06	28

Evaluation of Adapted Designs and their Selection

The selected designs were modified and edited to adapted form with CorelDRAW X8 software using different tools. Adapted designs were evaluated by a panel of thirty members using five-point rating scale. Weighted mean score and rank for each adapted design was calculated individually. Weighted mean score obtained by adapted designs is given in Table 3.

Table 3: Weighted mean score obtained by adapted designs

S. No.	Design code	Weighted mean score	Rank
1.	HbG2	2.5	XIV
2.	HbH4	2.6	XII
3.	FdG7*	4.7	I
4.	FdG8*	4.7	I
5.	FdG9	2.8	XI
6.	FdG10*	4.6	III
7.	FbG15*	4.1	IV
8.	FbG26	3.4	VIII
9.	FbG33	3.2	IX
10.	FbG39	2.6	XII
11.	FbG41	3.8	VI
12.	FbG53	3.0	X
13.	FbI76*	4	V
14.	FbI79	3.7	VII

*Selected adapted designs

Motifs of *Gond* painting of Madhya Pradesh were adapted for printing on apparels. Different motifs were selected from Gond painting and were adapted using Corel DRAW. Adapted motifs were transferred on apparel using screen printing method¹. In another study motifs of warli tribal art were adapted and used for development of kurties, salwar suits and sarees with block printing by developed articles were highly appreciated by the judges¹⁹.

Development and Evaluation of Design Arrangements

Seven design arrangements using block, half drop, brick, diamond, stripe, ¾ drop and random repeat were developed from each selected design. Design arrangements were evaluated by thirty judges. Table 4 shows weighted mean score obtained by design arrangements. Similar study was conducted to developed digital prints from the architectural designs of Padmanabhapuran palace of Kerala by using Corel DRAW X3 software. Fifteen designs were adapted as symmetrical motifs and asymmetrical motifs after evaluation four combination were selected in both categories. Combination was used in developing design arrangement for

kurti, palazzo and half saree¹².

Table 4: Weighted mean score obtained by design arrangements

S. No.	Name of design repeat	Design code				
		FdG7	FdG8	FdG10	FbG15	FbI76
1.	Block	2.2	3.1	2.2	2.7	2.6
2.	Stripe*	3.8	3.3	3.8	4.2	3.3
3.	Half drop*	4.8	2.7	2.8	2.6	3.5
4.	Brick*	4.2	3.9	4.7	2.8	2.5
5.	Diamond*	2.6	4.0	4.2	3.6	3.2
6.	¾ drop	3.2	3.7	3.0	2.4	2.9
7.	Random*	2.8	2.6	2.6	3.6	4.1
Average		3.37	3.32	3.32	3.12	3.15

* Design arrangement selected

Evaluation and Selection of Colour Ways for Designs and Base Fabric

The Spring/Summer 2020 New York Fashion Week (NYFW) Color Palette Report by Pantone Color Institute color experts was used. Colours used in each colour combination for design codes along with RGB values is given in Table 5.

Table 5: Colours used in each colour combination for design codes along with RGB values

S. No.	Design Code	Colour Combination I		Colour Combination II		Colour Combination III	
1	FdG7	Colour code: A		Colour code: B		Colour code: C	
		Grape compote	107:88:118	Saffron	244:196:48	Coral pink	232:167:152
		Coral pink	232:167:152	Orange peel	254:125:49	Classic blue	0: 0: 255
		Saffron	244:196:48	Sunlight	237:213:138	Biscay green	85:198:169
Sunlight	237:213:138	Flame scarlet	255:36:0				
2	FdG8	Colour code: D		Colour code: E		Colour code: F	
		Navy blazer	40:45:60	Coral pink	232:167:152	Orange peel	254:125:49
		Coral pink	232:167:152	Biscay green	85:198:169	Sunlight	237:213:138
		Biscay green	85:198:169	Sunlight	237:213:138	Biscay green	85:198:169
		Saffron	244:196:48	Navy blazer	40:45:60		
		Cinnamon stick	155:71:34				
		Colour code: G		Colour code: H		Colour code: I	
3	FdG10	Saffron	244:196:48	Saffron	244:196:48	Sunlight	237:213:138
		Sunlight	237:213:138	Sunlight	237:213:138	Orange peel	254:125:49
		Flame scarlet	255:36:0	Flame scarlet	255:36:0	Saffron	244:196:48
						Navy blazer	40:45:60
4	FbG15	Colour code: J		Colour code: K		Colour code: L	
		Saffron	244:196:48	Coral pink	232:167:152	Lark	184: 155:114
		Sunlight	237:213:138	Flame scarlet	255:36:0	Flame scarlet	255:36:0
		Classic blue	0: 0: 255	Orange peel	254:125:49	Biscay green	85:198:169
		Coral pink	232:167:152				
5	FbI76	Colour code: M		Colour code: N		Colour code: O	
		Orange peel	254:125:49	Saffron	244:196:48	Saffron	244:196:48
		Saffron	244:196:48	Orange peel	254:125:49	Orange peel	254:125:49
		Ash	190:186:167	Cinnamon stick	155:71:34	Cinnamon stick	155:71:34
				Flame scarlet	255:36:0	Chive	74: 83: 53

There were 16 colours in colour palette including four warm colours, seven cool colours and five neutral colours. Colour palette along with name and RGB value of the colour. RGB values were used to find colours in CorelDRAW software. A

colour palette of sixteen colours was created in the CorelDRAW software to fill colours in adapted designs and weighted mean score calculated for colourways of designs is shown in Table 6.

Table 6: Weighted mean score for colourways of designs

S. No.	Design code									
	FdG7		FdG8		FdG10		FbG15		FbI76	
	Colour combination	WMS	Colour combination	WMS	Colour combination	WMS	Colour combination	WMS	Colour combination	WMS
1.	A1	3.6	D1	3.8	G1	4.0	J1	2.6	M1	2.2
2.	A2	2.8	D2	3.2	G2	2.8	J2	4.7*	M2	3.5
3.	A3	4.4*	D3	2.4	G3	3.6	J3	2.8	M3	3.0
4.	A4	3.8	D4	2.2	G4	3.4	J4	2.5	M4	2.8
5.	B1	2.6	E1	4.1	H1	4.8*	K1	3.2	N1	4.0
6.	B2	3.4	E2	3.0	H2	4.4	K2	3.7	N2	4.2
7.	B3	4.0	E3	2.5	H3	3.8	K3	2.6	N3	4.6*
8.	B4	3.4	E4	4.2*	H4	4.2	K4	2.0	N4	3.8
9.	C1	2.2	F1	3.4	I1	2.1	L1	2.6	O1	2.4
10.	C2	3.7	F2	3.8	I2	3.8	L2	3.6	O2	2.4
11.	C3	2.4	F3	2.6	I3	2.4	L3	2.2	O3	3.8
12.	C4	3.9	F4	3.8	I4	3.2	L4	3.7	O4	3.7

Numerical code (1 to 4) represents colour of base fabric and an alphabetic code represents developed colour combination for each design

*selected colour combination

Printing of Product

T- shirt was selected as product to be printed in present study. T-shirts are most preferred casual garment among males and female of college going age. Unisex t-shirts of medium size were made in polyester fabric as polyester fabric is wrinkle resistant, durable, good wicking quality, stain resistant and less affected by frequent wearing and washing which makes it suitable for casual wear. Table 7 shows Printed designs using sublimation printing technique. Sublimation transfer printing was done because sublimation printing can only be done on polyester and polyester blend fabric with disperse dyes. Front

part of T-shirt was printed with selected design repeat and back was printed with single motif using sublimation printing technique. similar efforts were done in designing variety of elegant diwan sets, viz. block, crazy, log cabin, mosaic and tucked patch worked bed linens made of traditional hand woven khana material embellished with tribal hand embroideries, which is from rural parts of northern Karnataka and [6].

Another study was carried on Manipuri motifs they developed a range of life style products using Manipuri motifs through surface enrichment by heat transfer printing. Manipuri designs

from both textile and architectural sources were collected and documented. Fifty collected designs were adapted using Corel DRAW software to make them suitable for heat transfer printing on textile products. The selected design arrangements

were printed on finished life style products using heat transfer printing. Polyester and polyester blend fabric was used for construction of life style products and sublimation heat transfer technique was used [3].

Table 7: Printed designs using sublimation printing technique

S. No.	Design	Code	Adapted designs	Developed Product	
1.		FdG7			
2.		FdG8			
3.		FdG10			
4.		FbG15			
5.		FbI76			

Evaluation of Printed T Shirt

Evaluation of printed T-shirts were done by eighty college going students. Forty female and forty male college going student were selected. Evaluation was done on the basis of different parameters. Each parameter was evaluated on five-point rating scale and weighted mean score was calculated. Figure 1 shows comparison of consumer preferences on the basis of average weighted mean score obtained by each product. Also average of weighted mean score was calculated to draw comparison between the preferences of male and female respondents. the comparison of average weighted mean score of printed T-shirts with different designs by done

female and male respondents. female respondents gave maximum score for T shirt with design FdG7 which resulted in maximum average weighted mean i.e., 4.2 With respect to male respondents maximum average WMS was obtained by design FbG15 was 4. Therefore, it can be concluded due to difference in design details respondents had different preferences as female respondents preferred design FdG7 because it was face design with ornamented details like ear rings, necklace with coral pink base fabric whereas male respondents gave preference to design FbG15 which was full body design of lord *Shiva* and *Parvati* with saffron base colour.

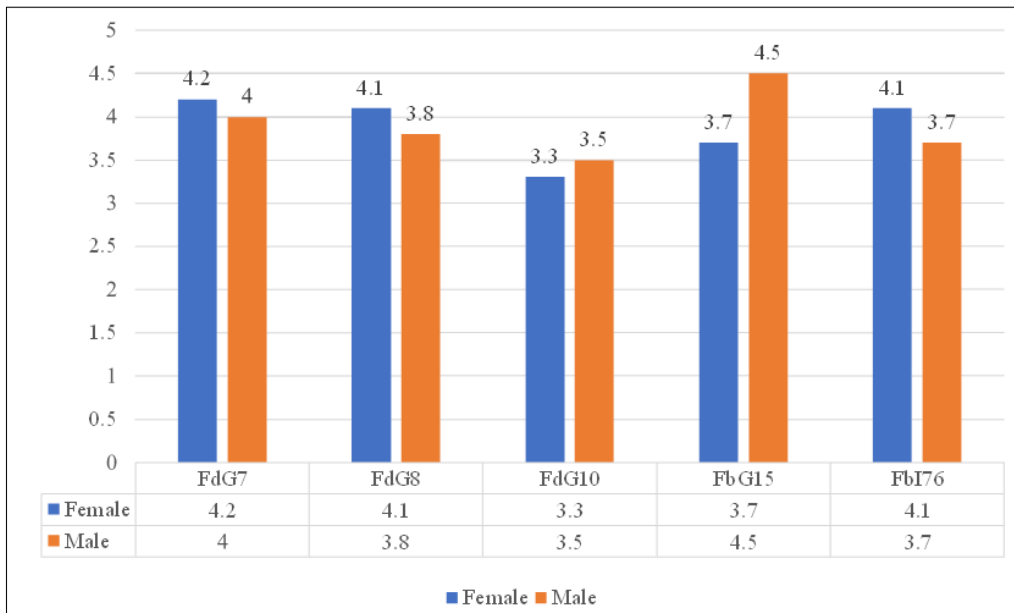


Fig 1: Comparison of consumer preferences

Comparison among different parameters also drawn from results. Figure 2 shows Comparison of preferences of both female and male respondents for different parameters used in assessment. Female respondents gave maximum WMS to overall appearance of product and suitability of cost i.e., 4.1 followed by selection of colours for design which obtained 4.0 WMS irrespective of designs printed on T-shirts. It can be concluded that garment was preferred by the female respondents and cost was also suitable according to product as they rated high the overall appearance of garment and

suitability of cost. The male respondents rated maximum to colour combination of designs with base fabric colour with 4.2 WMS followed by overall appearance of the product which obtained 4.1 WMS irrespective of designs printed on T shirts. In case of male respondents colours selected for designs with base fabric was preferred as they gave highest WMS to colour combination of designs with base fabric colour. Hence it can be inferred that the respondents had different preferences as they rated the product high on distinct parameters.

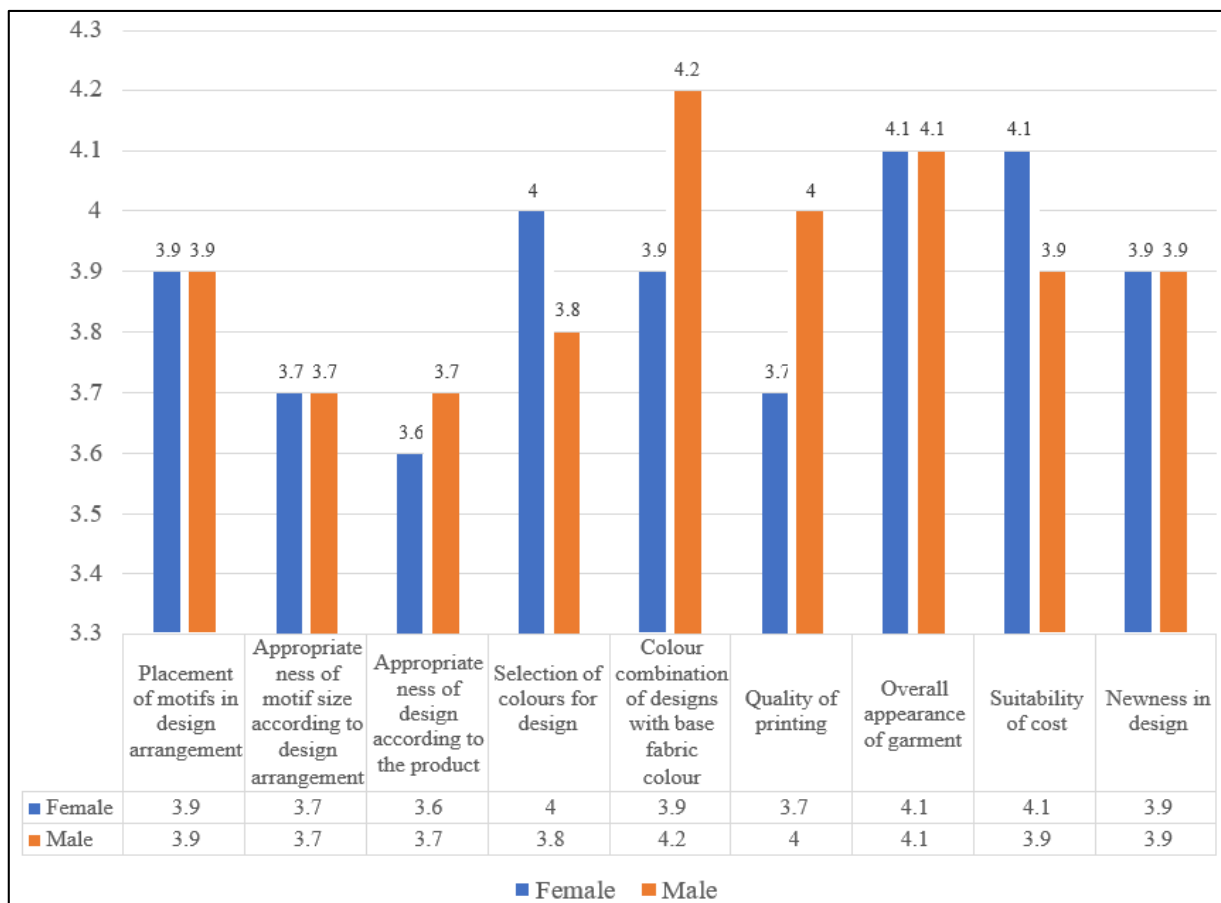


Fig 2: Comparison of preferences of both female and male respondents for different parameters used in assessment

Conclusion

Products fashioned with such inspiration have an imperative role in preserving the Indian cultural heritage as well as to maintain the value of inimitable Indian textiles. The carved designs prepared by CAD were successfully applied on textile using sublimation heat transfer printing. All the prepared t-shirts were highly appreciated and well accepted with regards to design arrangement and cost effectiveness. The present study was an initial step in direction of creating temple designs using CAD technology which can open the avenues for the designers to fulfill the ever-changing demands of consumers who are looking for change and innovativeness in their attire.

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