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Designing and development of textile products: A promising enterprise for entrepreneurship

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Abstract

Entrepreneurs are known for their creative skills, innovative ideas and new inventions. In a developing country like India, entrepreneurship has phenomenal scope. The problem of unemployment and under-employment is increasing day by day which can be dealt by encouraging women for entrepreneurship. Designing and development of textile products is one of the most promising fields which women folk can take up as an entrepreneurial activity. Product development in broad terms may be defined as the process of conceptualizing, designing, creating, producing, introducing and delivering new products and services to consumers. This process may be undertaken with a view to providing new designs, addressing demand of the consumers for newness, increasing customer base and market share as well as income generation for livelihood security. The study was aimed at designing home textile and utility articles using traditional Indian designs and varied surface enrichment techniques. The developed products were found acceptable as per market trend with good market potential (AWMS 4.33), surface enrichment techniques used for product designing were suitable as per product' (AWMS 4.29), the quality of workmanship was rated very good (AWMS 4.28), the developed products were found to be attractive and unique (AWMS 4.19) and the consumers were also ready to purchase these type of products (AWMS 4.24).

Keywords: Entrepreneurship, product, design, surface enrichment, colour ways, layout

Introduction

Although women make up half of the world's population, even today their participation in various activities is not the same as men's. Without the participation of women in the development process, society as a whole cannot be said to develop sufficiently. Nevertheless, due to gender discrimination, women tend to be granted an inferior status in nearly every aspect of life. The discrimination that they face is greater and more in developing countries than in developed countries Empowered women contribute to the health and productivity of families and communities and to improve prospects for next generation. Women also play a vital role in the socio-economic transformation of the country thus empowerment of women becomes necessary for the development of nation (Rafiqul, 2011) [8].

Through entrepreneurship development, a woman can not only generate income for herself but will also generate employment for other women in locality. In recent past government has placed special emphasis on economic empowerment of women. Several Government and non-government organizations are rendering their services for development of better earning capacity and promoting home based enterprises among the women with the objective to create sustainable and productive employment and safeguard their livelihoods support system. It is being increasingly realized that mobilizing women to take up entrepreneurial activities can ensure an economic change. Becoming an entrepreneur did rouse a little dilemma in many women who have the potentialities for becoming one. Women with high education view at entrepreneurship as a challenge, while for women with no educational background it is merely a means for earning money. Therefore, to empower and capacitate entrepreneurship amongst women has been a recent concern. Micro Enterprise Development is a proven way to strengthen viable, small business, resulting in increased household income and savings, and thus alleviating the crunch of economic poverty. This approach is very powerful in lifting communities from economic poverty, ultimately leading the community to be self-reliant (Purohit *et al.*, 2016; Garima and Gupta, 2019) [7, 3].

India is an agriculture-based country where in majority of the population still depends on agriculture as a source of livelihood and lives in rural areas. The development of country depends on the development of rural areas. In most Indian families stitching is inherent to the culture. Most women gain some experience of sewing from adolescence. Many women turn their traditional work of sewing into an income-generating pursuit. There is a need for establishing enterprises in the rural areas that utilize locally available resource and provide employment to the farm women. With this concept in mind for empowerment of rural women towards sustainable livelihood through trainings on designing and development of textile-based products for income generation was taken for the present study.

Methodology

Selection of products

Four products viz. pillow cover, cushion cover, apron and file folder were selected for development of products using selected designs and surface enrichment techniques.

Collection and selection of designs

90 designs were collected by exploring different secondary sources and out of collected 90 designs, 40 designs i.e. 10 designs for each selected product were screened by the investigators keeping in mind the suitability of design to the product. For selection of designs, preferences of thirty experts were obtained on five-point rating scale i.e. highly preferred; preferred, somewhat preferred, least preferred and not preferred scoring 5, 4, 3, 2, and 1, respectively. On the basis of experts' preferences the top ranked two designs were selected for each article, hence total 8 designs were finalized for embellishment of selected products.

Selection of surface enrichment techniques

For selection of surface enrichment techniques, preferential choice index was developed. A list of different surface enrichment techniques was prepared keeping in mind their suitability to selected products and designs. Top ranked surface enrichment technique for each product was selected on the basis of experts' preferences.

Preparation and selection of colour ways

The preferred design placement of each selected design was simulated in five different colour ways with the help of CorelDRAW X5 software. Five colour schemes i.e. monochromatic, analogous, complementary, triad and split-complementary were used and a total of 40 colour ways were prepared. In order to know the preferences regarding developed colour ways, five points rating preferential choice index was developed. The colour ways were shown to thirty experts and their opinion were sought on five-point rating scale. On the basis of preferences obtained, the weighted mean scores were calculated and ranks were assigned to the developed colour ways. As per assigned ranks, top ranked colour way of each preferred design placement was selected for product development.

Development of products and their cost determination

The selected four products as per preferences of experts were pillow cover and cushion cover in home textiles category and apron and file folder in utility articles/ accessories category. Eight products of standard sizes i.e. two pillow covers (27"x18"), two sets of cushion covers (16"x16"); two file folders (14.5"x10.5") and two aprons (34" bust size) were developed using selected surface enrichment techniques viz. fabric painting, screen printing, hand embroidery and appliqué work. The actual cost of each developed product was worked out separately, including the cost of raw material, printing/ painting/hand embroidery/ appliqué work and finishing cost.

Assessment of developed products for consumers' Preferences

The opinion of the consumers regarding developed products was also sought in relation to appropriateness of designs, placement of designs, colour combinations, quality of workmanship, acceptability of products etc. Preferences of thirty consumers were obtained on five point rating scale i.e. highly suitable, suitable, somewhat suitable, least suitable and not suitable scoring 5, 4, 3, 2 and 1, respectively.

Results and Discussion

The selected eight designs along with their preferred embellishment techniques are presented in Plate 1.

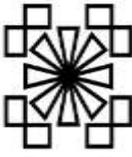
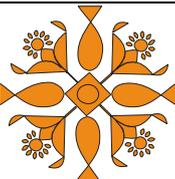
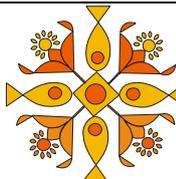
Pillow Cover	Cushion Cover	Apron	File Folder
			
Design I	Design I	Design I	Design I
Fabric Painting	Screen Printing	Fabric Painting	Screen Printing
			
Design II	Design II	Design II	Design II
Screen Printing	Hand Embroidery	Applique Work	Applique Work

Plate 1: Designs and embellishment techniques selected for product development

Table 1: Preferences of experts for colour ways for surface enrichment (n=30)

Design no.	Color Schemes				
	I Monochromatic	II Analogous	III Complementary	IV Triad	V Split- Complementary
Pillow Cover					
Design I					
	WMS 2.60	WMS 3.10	WMS 4.26	WMS 3.50	WMS 3.73
Design II					
	WMS 2.80	WMS 3.30	WMS 3.80	WMS 3.40	WMS 3.66
Cushion Cover					
Design I					
	WMS 3.63	WMS 3.30	WMS 3.60	WMS 3.60	WMS 2.63
Design II					
	WMS 2.80	WMS 3.33	WMS 3.70	WMS 4.10	WMS 3.63
Apron					
Design I					
	WMS 2.73	WMS 3.06	WMS 3.83	WMS 4.20	WMS 4.26
Design II					
	WMS 2.86	WMS 3.60	WMS 3.80	WMS 3.70	WMS 3.16
File Folder					
Design I					
	WMS 4.03	WMS 3.93	WMS 3.90	WMS 3.76	WMS 3.00

Design II					
	WMS 3.00	WMS 3.56	WMS 3.76	WMS 3.70	WMS 3.66

WMS: Weighted Mean Score; Highly preferred: 5.00-4.21; Preferred: 4.20-3.4; Somewhat preferred: 3.40-2.61; Least preferred: 2.60-1.81; Not preferred: 1.80-1.00

The data depicted in the Table 1 regarding the preferences of experts for colour ways of design I for pillow cover indicate that the most preferred colour way was complementary colour scheme scoring highest weighted mean score 4.26 followed by split- Complementary colour scheme (WMS 3.73), triad colour scheme (WMS 3.50), analogous colour scheme (WMS 3.10). The least preferred colour scheme was monochromatic with weighted mean score 2.60.

In case of design II, complementary colour scheme scored the highest weighted mean score 3.80 followed by split-Complementary colour scheme (WMS 3.66), triad colour scheme (WMS 3.40) and analogous colour scheme (WMS 3.30). The monochromatic colour scheme was least preferred obtaining lowest weighted mean score 2.80.

It is apparent from the data in Table 1 that for cushion cover, the complementary colour scheme was favoured most by the experts which scored highest weighted mean score 3.63 followed by monochromatic and triad colour schemes (WMS 3.60 each), analogous colour scheme (WMS 3.30). The split-Complementary colour scheme got lowest weighted mean score 2.63.

In case of design II, monochromatic colour scheme scored the highest weighted mean score 4.10 followed by complementary colour scheme (WMS 3.70), split-Complementary colour scheme (WMS 3.63) and analogous colour scheme (WMS 3.33). The triad colour scheme was least preferred obtaining lowest weighted mean score 2.80.

The data incorporated in Table 1 clearly indicate that on apron split- Complementary colour scheme of design I was highly preferred colour scheme with weighted mean score

4.26 followed by triad colour scheme (WMS 4.20), complementary colour scheme (WMS 3.83), analogous colour scheme (WMS 3.06). Whereas monochromatic colour scheme was least preferred with lowest weighted mean score 2.73.

As per preferences of experts, complementary colour scheme with weighted mean score 3.80 was adjudged the best colour scheme on apron of design II followed by triad colour scheme (WMS 3.70), complementary colour scheme (WMS 3.60), split-complementary colour scheme (WMS 3.16) and the least preferred was monochromatic colour scheme with weighted mean score 2.86.

The data depicted in Table 1 regarding the preferences of experts for colour ways of design I on file folder indicate that the most preferred colour way was monochromatic colour scheme scoring highest weighted mean score 4.03. It was followed by analogous colour scheme (WMS 3.93), complementary colour scheme (WMS 3.90), triad colour scheme (WMS 3.76). The split-complementary colour scheme with weighted mean score 3.00 was the least preferred colour scheme.

In case of design II, complementary colour scheme scored the highest weighted mean score 3.76 followed by triad colour scheme (WMS 3.70), split- complementary colour scheme (WMS 3.66) and analogous colour scheme (WMS 3.56). The least preferred colour way was monochromatic colour scheme obtaining lowest weighted mean score 3.00.

Development of products

Eight products viz. two sets of pillow covers, two sets of cushion covers, two apron and two file folders were developed using selected design placements in preferred colour ways and surface enrichment techniques. The developed products are presented in Plate 2.





Plate 2: Developed Products

Gupta and Saggu, 2015 ^[4] developed six textile products i.e. cushion cover, table mat, carry bag, wall hanging, stole muffler through crocheting, weaving and knitting technique using shoddy yarns.

Kushwaha and Swami, 2016 ^[6] developed high value-added

leather products i.e. cushion covers, table mats, holders and folders as home accessories and bags, wallets, yokes, collars, necklaces and earrings as fashion accessories out of leather scraps waste which was generated from the leather manufacturing units.

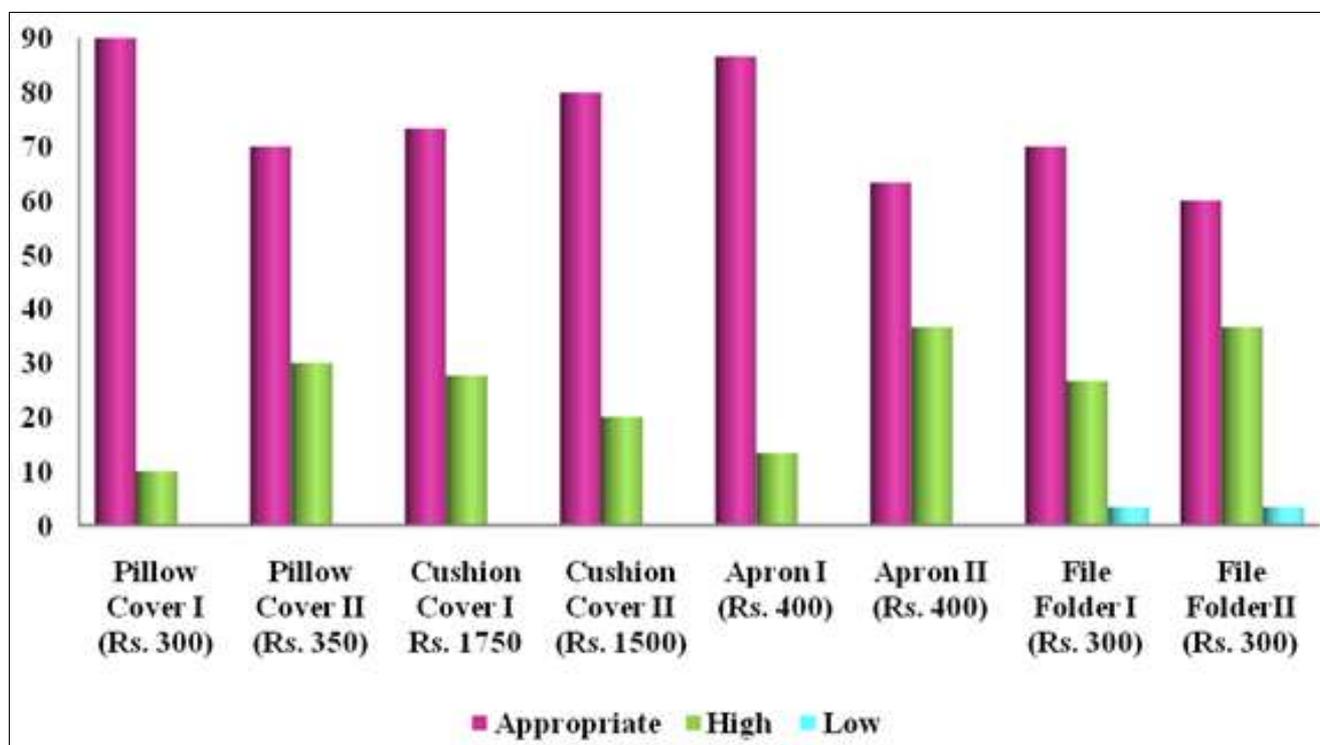


Fig 2: Opinion of consumers regarding the cost of developed products

It can be deduced from the Figure 2 that the total cost of pillow cover I and II was ₹ 300 and 350 respectively which was rated as appropriate by 90.00 and 70.00 percent

consumers respectively. Whereas cost of cushion cover I and II was ₹ 1750 and 1500 respectively for which 73.33 and 80.00 percent respondents opined as appropriate. The cost of

apron I and II was ₹ 400 each which was rated as appropriate by 86.66 and 63.33 percent respondents respectively. While actual cost of file folder I and II was ₹ 300 each and 70.00 and 60.00 percent respondents respectively found the cost as appropriate. Hence, it is concluded that actual cost of all the developed products was considered appropriate by majority of

the consumers.

Rani, 2019 developed stoles using screen printing and hand embroidery. The actual cost of developed products ranged from 1300/- to 1450/-. Cost of products depends upon the hand work, raw material and profit also.

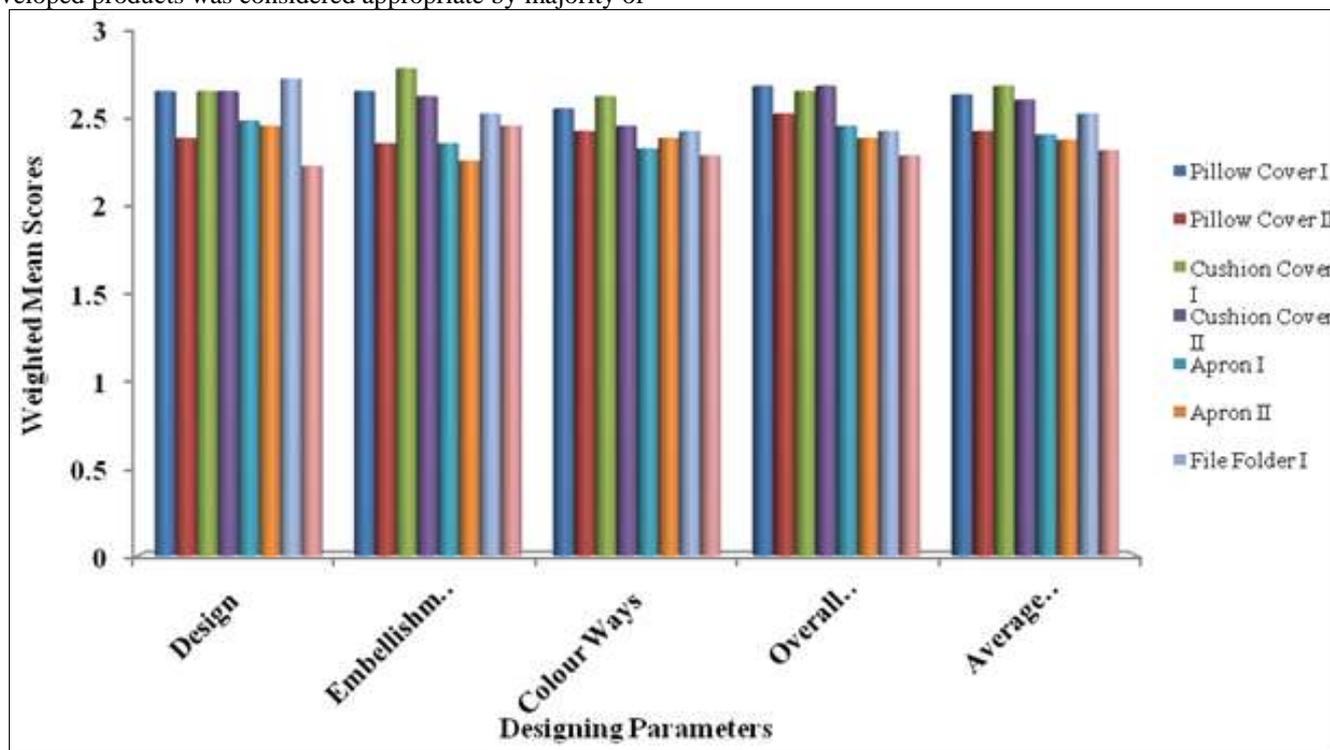


Fig 3: Assessment of developed products on different parameters

Designs

It is apparent from the data furnished in Figure 3 that on the basis of designs used, file folder I was found very appealing as it scored highest weighted mean score 2.74 and obtained I rank followed by pillow cover I and cushion cover I & II scoring weighted mean score 2.67 each and ranked II, apron I ranked V (WMS 2.50), apron II ranked VI (WMS 2.47), pillow cover II ranked VII (WMS 2.40) and file folder II ranked VIII with weighted mean score 2.24.

Embellishment techniques

The figure elucidates that amongst the developed products cushion cover I was found to be very appealing by the consumers in terms of embellishment techniques used as it scored highest weighted mean score 2.80 and ranked I followed by pillow cover I which was ranked II with weighted mean score 2.67 and cushion cover II ranked III (WMS 2.64). The other developed products in descending order as per consumers' acceptance in relation to embellishment techniques were file folder I (WMS 2.54) ranked IV, file folder II ranked V (WMS 2.47), pillow cover II and apron I ranked VI (WMS 2.37 each). The apron II was found to be the least appealing product as it obtained VIII rank (WMS 2.27) in terms of embellishment techniques used.

Colour ways

The data furnished in Figure 3 further indicate that colour combination of cushion cover I was adjudged the best by the consumers as depicted by its highest weighted mean score

2.64 and ranked I followed by pillow cover I at rank II (WMS 2.57) and cushion cover II at rank III (WMS 2.47). The descending order of developed products in terms of appeal characters for colour combination was pillow cover II and file folder I at rank IV (WMS 2.44 each), apron II at rank VI (WMS 2.40), apron I at rank VII (WMS 2.34). The file folder II was assessed as the least appealing by the consumers in terms of colour combination used for product designing and development indicated by lowest weighted mean score of 2.30.

Overall appearance

The developed products were also got evaluated by the consumers for their overall appearance. The descending order of preference for overall appearance of developed products was cushion cover II and pillow cover I ranked I (WMS 2.70 each), cushion cover I ranked III (WMS 2.67), pillow cover II ranked IV (WMS 2.54), apron I ranked V (WMS 2.47), file folder ranked VI (WMS 2.44), apron II (WMS 2.40) and file folder II ranked VIII (WMS 2.30). The average weighted mean scores for overall appearance of developed products furnished in figure 3 depict that all the developed products were found highly preferred by the consumers as indicated by weighted mean scores above 2.33.

According to Komal, 2012^[5] and Gangwar, 2015^[2] the quoted price of prepared articles made from waste hosiery fabric were found to be adequate. The cushion covers prepared with a combination of patchwork design and kantha embroidery were rated very appealing and creative.

Table 2: Opinion of the consumers regarding developed products

Opinion statements	Developed Products								AWMS
	Pillow cover I	Pillow cover II	Cushion cover I	Cushion cover II	Apron I	Apron II	File Folder I	File Folder II	
	WMS	WMS	WMS	WMS	WMS	WMS	WMS	WMS	
The designs are unique and appropriate for the products	4.37	4.24	4.17	4.04	3.97	4.07	4.14	3.90	4.11
Developed design is suitable as per surface enrichment techniques	4.37	4.34	4.27	3.94	4.07	4.00	4.24	3.97	4.15
Colour combination of design with base colour is appropriate	4.54	4.47	4.34	4.34	4.07	3.90	4.07	3.87	4.20
Size, shape, placement and colour way of design has created harmony	4.44	4.37	4.34	4.30	4.10	4.07	4.14	4.04	4.23
Surface enrichment techniques is suitable for products	4.47	4.44	4.47	4.37	4.27	4.07	4.17	4.04	4.29
The developed product is attractive and unique	4.60	4.27	4.24	4.17	4.00	4.10	4.27	3.84	4.19
The quality of workmanship is very good	4.70	4.57	4.37	4.14	4.17	4.14	4.17	3.97	4.28
The developed product is acceptable as per market trend and has good market potential	4.57	4.47	4.40	4.24	4.14	4.24	4.40	4.14	4.33
I would like to purchase this type of product	4.70	4.40	4.30	4.17	4.24	4.07	4.10	3.97	4.24
AWMS	4.53	4.40	4.33	4.18	4.11	4.07	4.19	4.00	4.23

Strongly agree: 5.00-4.21; Agree: 4.20-3.41; Somewhat agree: 3.40-2.61; Least agree: 2.60-1.81 and disagree: 1.80-1.00

The data furnished in Table 2 clearly highlight that the consumers had very high opinion regarding the developed home textile products and utility articles in terms of 'the developed product is acceptable as per market trend and has good market potential' (AWMS 4.33), 'surface enrichment techniques is suitable for products' (AWMS 4.29), 'the quality of workmanship is very good' (AWMS 4.28), 'the consumers were also ready to purchase these type of products' (AWMS 4.24), 'size, shape, placement and colour way of design has created harmony' (AWMS 4.23), 'colour combination of design with base colour is appropriate' (AWMS 4.20), 'the developed product is attractive and unique' (AWMS 4.19), 'developed design is suitable as per surface enrichment technique' (AWMS 4.15) and 'the designs are unique and appropriate for the products' (AWMS 4.11).

It is thus concluded that the consumers had very high opinion about developed products as weighted mean scores were above 4.21 indicating that consumers strongly agreed for each parameter of assessment and very little difference was observed between weighted mean scores of each opinion statement. The average weighted mean score of opinion statements for all the products ranged between 4.07 to 4.53 highlighting that all the developed products were very well accepted by the consumers.

Babal *et. al.*, 2013^[1] developed sari by use of Mewar painting motifs. The developed saris were evaluated for their acceptability and market potential, suitability to selected fabric, selected designs, placements on product, suitability of embroidery designs, colour combination used for product development, workmanship quality etc. on the basis of experts preferences. It was concluded that the developed designs were obtained from Mewar painting were highly accepted by consumer for their market potential.

Conclusion

The developed products were very much accepted by the consumers in terms of designing (WMS 2.24-2.74) and embellishments techniques used (WMS 2.27-2.84). The design II of cushion cover was most liked by the consumers (AWMS 2.76). The majority of the consumers adjudged the developed product to be acceptable as per market trend and has good market potential (AWMS 4.33) and the surface enrichment techniques used for embellishment of products were found suitable (AWMS 4.29). The majority of the

consumers were willing to buy these products (AWMS 4.24) which indicated good market potential.

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