



Cost Effectiveness of Developed Accessories from Reusable Knitwear Waste

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ABSTRACT

The present investigation on cost effectiveness of developed accessories from reusable knitwear waste was carried out in Ludhiana city. An interview schedule was prepared and data were collected from 90 respondents falling in the age group of 17-27 yr through purposive random sampling technique from three colleges of Ludhiana city. The results from the first interview schedule of the study revealed that majority of the respondents were 17-22 yr of age and were higher secondary, belonged to nuclear families and had monthly family income between Rs.51,000 to Rs. 75,000/-. Seventy one per cent of the respondents were aware of accessories prepared from reusable knitwear waste. All the accessories prepared were highly appreciated on the basis of suitability of design, utility and overall impact. Majority of the respondents rated all the accessories as very good. The quoted prices of the accessories were found to be adequate and 11.0 to 81.9 per cent profit can be earned by making accessories.

Key Words: Accessories, Cost effectiveness, Knitwear, Reusable waste.

INTRODUCTION

The process for recycling wool is very similar to the process for recycling cotton. Recycled wool is a natural fiber reusing pre-consumer (post-industrial) or post-consumer waste. Pre-consumer waste comes from any excess material created during the steps of material and product manufacturing, e.g. selvaige from weaving, fabric from factory cutting rooms, or excess production/unsold items that would normally be disposed of as waste. Post-consumer waste comes from household resources e.g. used apparel or home textile products (Anonymous, 2013).

To counter the problem of waste produced, many efforts are undertaken to reduce its negative contribution towards environment. One of such measures is textile recycling- the reuse as well as reproduction of new products and accessories. This importance of reuse of waste does not just lie in the

fact that it is reusable waste but in its usefulness to reduce the human sufferings. Hence, the study was undertaken to develop accessories made from reusable knitwear waste with the objective to assess consumer acceptance and cost effectiveness of these developed accessories.

MATERIALS AND METHODS

This investigation was conducted in Ludhiana city. Three colleges of the city namely Government College for Girls, Civil lines; Guru Nanak Girls College, Model Town and College of Home Science, Punjab Agricultural University, Ludhiana were selected for studying the preferences for different accessories. Thirty respondents were selected from each college. The total samples of 90 colleges going girls between the age group 17-27 years were selected purposively as the respondents from this particular age group were more receptive towards

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new trends in fashion. An interview schedule was framed for collection of data regarding preferences of the respondents for development of designs for different accessories from reusable knitwear waste. The opinion of the respondents regarding the prepared accessories was taken on the basis of three categories; very good, good, and fair. On the basis of information collected from the respondents regarding the development of various accessories, two designs for each of the ten most preferred accessories were developed. The most preferred ten designs were used to prepare different accessories by using reusable knitwear waste. All respondents were again asked to collect the response regarding cost effectiveness and consumer acceptability for developed accessories.

RESULTS AND DISCUSSION

Opinion regarding developed accessories

Data (Table 1) revealed that 48.9 per cent of respondents rated the mobile cover A_2 as good, 43.3 per cent as very good 7.8 per cent as fair. Likewise, cap B_2 was considered very good (52.2%), good (43.3%) and fair (4.5%) ; C_2 belt was considered very good (64.4%), good (27.8%) and fair (7.8%); footwear D_2 was very good (70.0%), good (23.3%) and fair (6.7%) ; accessory E_2 (fingerless gloves) was very good (46.7%), good (47.8%) and fair

(5.5%); F_2 (head accessory) was very good (61.1%), good (31.1%) and fair (7.8%); accessory G_1 (file cover) was very good (50.0%), good (40.0%) and fair (10.0%); H_2 (cowl) was very good (60.0%), good (34.4%) and fair (5.6%); I_2 (clutch) was very good (70.0%), good (23.3%) and fair (6.7%) and accessory J_2 (handbag) was very good (56.7%), good (31.1%) and fair (12.2%) by the respondents.

In all the cases more than 50 per cent of the respondents considered all the accessories as very good expect in case of mobile cover it was 43.3 per cent and 46.7 per cent in case of fingerless gloves. Naik (1992) and Barua and Gogoi (1997) found that respondents liked the prepared articles which were unique, creative and attractive. According to Seema and Phadke (1995), the respondents appreciated the prepared article as the work done was found to be very innovative.

Suitability of the quoted price

Data (Table 2) showed that the quoted prices for all the accessories were considered adequate by more than 50.0 per cent of the respondents. However less than 30 per cent of the respondent felt that the quoted prices for accessories were high for most of the accessories while less than 20 per cent of the respondents felt that the quoted prices for all the accessories were low. The quoted

Table 1. Opinion of the respondents regarding developed accessories.

Accessories	Frequency		
	Very good	Good	Fair
(Mobile cover) A_2	39 (43.3)	44 (48.9)	7(7.8)
(Cap) B_2	47 (52.2)	39 (43.3)	4(4.5)
(Belt) C_2	58 (64.4)	25 (27.8)	7(7.8)
(Footwear) D_2	63 (70.0)	21 (23.3)	6(6.7)
(Fingerless gloves) E_2	42 (46.7)	43(47.8)	5(5.5)
(Head accessory) F_2	55 (61.1)	28 (31.1)	7(7.8)
(File cover) G_1	45 (50.0)	36 (40.0)	9(10.0)
(Cowl) H_2	54 (60.0)	31 (34.4)	5(5.6)
(Clutch) I_2	63 (70.0)	21(23.3)	6(6.7)
(Handbag) J_2	51 (56.7)	28 (31.1)	11(12.2)

Figures in parentheses indicate percentage

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Table 2. Opinion of respondents regarding the suitability of quoted price.

Accessories	Frequency			
	Quoted price of accessories in rupees	High	Adequate	Low
(Mobile cover) A ₂	50	6(6.7)	66(73.3)	18(20.00)
(Cap) B ₂	170	23(25.6)	63(70.0)	4(4.4)
(Belt) C ₂	460	27(30.0)	54(60.0)	9(10.0)
(Footwear) D ₂	605	27(30.0)	56(62.2)	7(7.8)
(Fingerless gloves) E ₂	75	9(10.0)	66(73.3)	15(16.7)
(Head accessory) F ₂	135	22(24.4)	52(57.8)	16(17.8)
(File cover) G ₁	235	26(28.9)	50(55.6)	14(15.5)
(Cowl) H ₂	260	15(16.7)	57(63.3)	18(20.0)
(Clutch) I ₂	585	25(27.8)	55(61.1)	10(11.1)
(Handbag) J ₂	315	24(26.7)	53(58.9)	13(14.4)

Figures in parentheses indicates percentage.

price of the articles prepared by finger weaving technique was found to be adequate. The study by Kaur and Kaur (2015a) also revealed that prices of the prepared eco-fashion accessories developed from different left over fabrics were found to be adequate by the respondents.

Kaur and Kaur (2015b) revealed that the high acceptability and profit margins of the *Kasuti* embroidery motifs in knitted *kurties* showed that these are commercially viable. When these articles would be manufactured commercially, then the cost of production will reduce and profit margins will increase. Similarly, Kaur (2016) also observed that respondents found the prices of the innovative jewelry from left over and solid waste to be adequate.

Assessment of cost effectiveness

It was evident from the results that the profit margins in different accessories vary from accessory to accessory. Depending on the design, type of accessories and embellishment used, 11.00 to 81.92 per cent profit can be earned by preparing these accessories (Table 3).

There was significant difference between cost price and average selling price (average selling

prices were significantly more). The prepared eco-fashion accessories were acceptable and even the consumers were ready to pay more than the expected selling price. Thus, the hypothesis that the eco-fashion accessories developed from reusable knitwear waste were cost effective and accepted by all the respondents.

The high acceptability and profit margins of the accessories made with reusable knitwear waste showed that these are commercially viable. When these accessories would be manufactured commercially, then the cost of production will reduce and profit margins will increase, so if the calculated per cent profit is positive and ranged between 11.0 to 81.9 per cent than the developed accessories are said to be commercially viable.

Kaur (2011) revealed that it was possible to earn 20.7 to 50 .0per cent and 21.2 to 66.8 per cent profit, respectively by making articles based on preferences of consumers. Barua and Gogoi (1997) also concluded that consumers are ready to pay more than the estimated cost. The cost effectiveness of the prepared articles showed that it was possible to earn 20-30 per cent profit through the use of finger weaving technique.

Table 3. Opinion regarding the suitability of quoted cost price and expected selling price of the accessory

Accessories	Cost price (Rs.)	Average selling price	Z-value	Percentage Profit
(Mobile cover) A ₂	37.5	68.2	6.00*	81.9
(Cap) B ₂	131.0	162.1	10.29*	23.7
(Belt) C ₂	355.0	410.8	7.14*	15.7
(Footwear) D ₂	465.0	569.7	11.38*	22.5
(Fingerless gloves) E ₂	56.2	88.7	6.02*	57.6
(Head accessory) F ₂	105.0	128.6	6.81*	22.4
(File cover) G ₁	180.0	222.0	9.91*	23.3
(Cowl) H ₂	200.0	267.0	13.45*	33.5
(Clutch) I ₂	450.0	499.5	4.14*	11.0
(Handbag) J ₂	240.0	320.5	12.28*	33.5

*Significant at 5 per cent

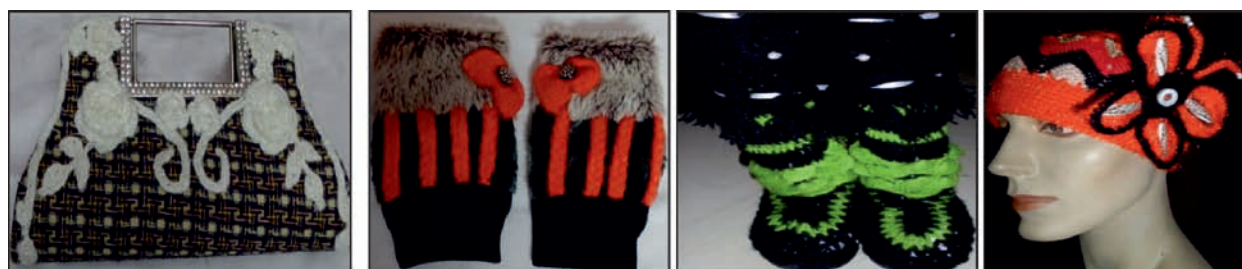


Plate I: Design I₂ Clutch, Plate II: Design E₂ Fingerless gloves Plate III: Design D₂ Footwear Plate IV: Design B₂ Cap



Plate V: Design F₂ Head accessory Plate VI: Design J₂ Handbag Plate VII: Design C₂ Belt



Plate VIII: Design G₁ File cover Plate IX: Design H₂ Cowl Plate X: Design A₂ Mobile Cover

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CONCLUSION

It is concluded that development of different accessories from reusable knitwear waste, would provide entrepreneurs a new idea for making use of different waste fabrics/yarns to produce new products along with different embellishments to start with very less investments. The results related to design development and colour combinations would be beneficial to the housewife's to utilize the waste fabrics at home. Majority of the respondents rated all the accessories as very good. Average selling price of all the ten developed accessories ranged between 68.2 to 569.7 and was accepted by majority of the consumers. Profit margin ranged between 11.0 to 81.9 per cent which is quite good earning. Findings of good profits were favorable to start an entrepreneur with very less investment having skill of developing knit wear products out of waste.

REFERENCES

- Anonymous (2013). Environment friendly. http://en.wikipedia.org/wiki/Environmentally_friendly.
- Barua N B and Gogoi A (1997). A study on handloom fabrics. *Ind Tex J* **37**: 30-31.
- Kaur Baljit and Kaur D (2015a). An economic analysis of eco-fashion accessories developed from different left over fabrics. *Indian J Econ Dev* **3**:767-72.
- Kaur G, Kaur D and Gandotra V(2016). Economic analysis of jewelry from left over and solid waste. *J Krishi Vigyan* **4** (2):16-21.
- Kaur K and Kaur D (2015b). Revival of *Kasuti* embroidery motifs in knitted *kurties* through Computer Aided Designs *J Krishi Vigyan* **3** (special issue): 84-88.
- Kaur R (2011). *Development of decorative articles using card weaving technique*. M.Sc. thesis, Punjab Agricultural University, Ludhiana, India.
- Naik M R (1992). *An experimental study to create relief appearance using needle weaving and embroidery*. M S University, Baroda, India.
- Seema and Phadke S M (1995). A study on card weaving. *Ind Tex J* **105**:14-22.

Received on 27/06/2016 Accepted on 08/09/2016