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Value addition techniques used for strengthening of bags

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Abstract
Value addition techniques are used on bags of old clothes and plastic sheets. Colour combination has been used to enhance the beauty from ancient time. It is believed that strength of bags by lining jute cloth and synthetic sheets were developed earlier than the use of bags itself, used value added materials is the knowledge, selection and application of the basic knowledge of durability of cloth. The present study was conducted to stitch bags that were suitable for value addition materials. Thirty value added bags were identified for application in old cloth and thick plastic works. Created works got evaluated from 100 respondents including both experts and consumers. 5 top ranked value added techniques used on bags were selected from each category.

Keywords: value addition, bags, plastic, pollution

Introduction
Plastic pollution is a problem all over the world. Each year at least 8 million tons of plastic find their way into the ocean. The problem is equivalent of dumping the contents of one garbage truck into the ocean every minute. Plastic shopping bags, carrier bags or plastic grocery bags are a types of plastic bag used as shopping bags and made from various kinds of plastic in use by consumers worldwide since the 1960; these bags are sometimes called single use bags, referring to carrying items from a store to home. Shopping bags are medium - sized bags typically ground 10-20 liters (2.5-5 gallons) in volume (though much longer version exist, especially for non-grocery shopping); that are used by shoppers to carry home, their purchases. Some are intended as single - use disposable products though people may reuse them for storage or as bin liners etc. Others are designed as reusable shopping bags. Reusable shopping bags are a kind of carrier bag, which are available for sale in super markets and apparel shops. In a 2011 study of 4.5 retail chain (Funded by a Pro - business group that opposes plastic bag bans), 23% of reusable bags were found to have levels of lead that were higher than the 100-ppm standard considered safe for product packaging though did not present a risk of contaminating food. Plastic consumption has become an integral part of our daily life. The complication in the existing reusable bag for shopping for a particular item along with its methodology is broadly discussed providing an ideal solution.
BYOB basically stands for “Bring your own Bag.” Thus, bringing one’s own bags to the grocery store, and having those bags visible while shopping could motivate more “green” choices by activating a broad goal to gain social approval or a goal to help the environment.
This makes a switch to alternatives like cloth bags, jute bags or eco-friendly bags made out of natural starches and vegetable wastes instead of plastic bag, whenever you visit the Kirana shop or a vegetable market. Stash away reusable bags in your house, care for it, is come handy without having any extra load on the health of mother earth. A company in Indonesia has created a plastic bag so ecofriendly you can eat it. It's made out of Cassava, the vegetable root which is a staple in the diets of many in Africa, Latin America and Asia, but which can also be used in manufacturing. The company Avani eco based in Bali has created a bag that they say looks and feels like plastic but is completely bio- degradable and compostable it also dissolves in water, so if animals eat it, it won't cause any harm. They say it’s so safe, in fact that humans could even swallow it. Bags are also a form of storing commodities and these complement the overall appearance of the storing capacity. The selection of above treatment mainly depends on functionality, color combination, designing attributes, embellishment technique, texture.

Research methods
Various value addition bags were stitched from different material. From the collected material,

suitable material and designs were taken for the development of value added for bags. The value-added material were taken out and stitching of the bags was done. Total 30 bags were prepared. Prepared bags were subjected to visual evaluation. The design of the value added bag were ranked in order of preference on selected parameters. The evaluation was done was by exhibition with a panel of 100 respondents including judges and consumer in Kumarganj Ayodhya and Barabanki city.

Research findings and Discussion

All value added bags were usually evaluated by hundred respondents including both experts and consumers. The responses from the respondents for the value addition stitched bags were ranked in order of preference. All the stitched value added bags were highly appreciated by all the judges. Acceptability of developed items through value addition techniques used was judged and acceptance was taken by respondents.

Table 1: Parameters used in value added bags

Parameters / Bags	Suitability	Functionality	Colour and combination	Designing	Embellishment techniques	Texture	Overall appearance	Cost	Quality of workmanship
A1	75	26	84	70	71	46	81	71	87
A2	75	70	81	76	76	52	79	72	77
A3	80	76	64	66	62	55	61	77	74
A4	63	68	68	56	54	86	83	74	45
A5	71	40	70	64	63	66	71	55	75
A6	54	41	51	60	72	58	70	60	81
A7	71	55	61	89	75	38	58	65	70
A8	42	10	12	5	0	12	10	29	0
A9	71	50	72	75	60	72	72	75	72
A10	81	82	65	88	58	68	65	85	81
A11	70	73	88	72	81	69	72	38	85
A12	79	59	64	68	58	55	81	58	87
A13	77	68	68	91	65	65	87	59	74
A14	72	72	70	90	44	75	66	60	87
A15	68	68	73	95	56	80	55	35	75
A16	62	75	82	75	59	54	44	41	45
A17	55	35	57	71	45	38	26	50	44
A18	65	70	73	70	38	46	81	71	87
A19	63	76	70	74	39	52	79	74	77
A20	54	68	55	68	63	86	83	88	38
A21	63	63	88	91	62	66	58	58	66
A22	80	58	73	94	71	58	72	72	87
A23	75	59	51	95	62	38	66	88	75
A24	75	45	68	88	54	72	85	48	38
A25	54	41	64	74	63	46	55	55	45
A26	42	42	81	73	72	52	83	65	77
A27	58	68	75	48	92	58	88	72	72
A28	88	72	45	68	92	55	88	72	72
A29	85	65	58	72	94	64	84	64	81
A30	75	58	78	86	83	48	65	55	58

With the perusal of results in table 1 it can be concluded that all the bags ranging from A_1 to A_{30} were found to be acceptable on almost all the parameters. A_1 bag scored highest in quality of workmanship. The color combination of A_2 was highly appreciated. The bag A_5 and A_6 scored a bit low i.e. 40% and 41% in functionality. Similarly, bag A_8 scored only 10% in functionality and hence was not found to be acceptable in this parameter. In terms of designing attributes bag A_{13} scored 99%, A_{15} scored 95% and A_{14} scored 90%. The texture of A_{14} was liked by most of the respondents, with a score of 80%. Bag A_1 was found to top the list in overall appearance with 81% score.

Fig 1: Five top ranked value added bags

S. No.	Bags
1	A27 

2	A28 
3	A1 
4	A23 
5	A29 

Table 2: Raw materials used in value added bags

S. No.	Materials	Percentage
1	Plastic strips with cotton cloth lining	90%
2	Cotton cloth with buckrum lining	80%
3	Thin cloth with jeans cloth	90%
4	Jute cloth with old cloth lining	70%
5	Cotton cloth with fine cloth lining	70%
6	Quilting work with form	80%
7	Synthetic cloth with non-woven spun bonded plain shopping bags	70%
8	Wool with lining of jute	50%
9	Bamboo strips with cloth	100%
10	Jute cloth with jeans cloth lining	95%

11	Jeorget cloth with cotton lining	65%
12	Satin cloth with tricot lining	70%
13	Jeans bags	55%
14	Brown thick paper with thin buckram lining	60%
15	Trousers cloth with thin buckrum lining	70%
16	Jute cloth with synthetic cloth lining	65%
17	Quilting bag with towel cloth lining	70%
18	Synthetic cloth with plastic bori	85%
19	Jute weaving bags with satin cloth lining	80%
20	Quilting bags with statin cloth lining	55%
21	Curtain cloth with buckrum lining	75%
22	Satin cloth with bags cloth lining	70%
23	Synthetic cloth with non-woven spun bonded plain shopping cloths bags	75%
24	Tricot cloth with thick decorative border	65%
25	Jute cloth with tricot cloth border	85%
26	Pant cloth with thick polyester border	90%
27	Plastic straps with non-woven spun bombed plain shopping bags	60%
28	Tripal cloth bag with synthetic border	75%
29	Plastic bori with thick decorative cloth	50%
30	Handmade paper with chart paper lining	65%

Table 2 depicts the acceptance given by respondents for material utilized in making of value added bags. It was observed from the data in table no 2 that almost all the materials were accepted by the respondents as none of these received an acceptance below 50%. The highest acceptance was reported to be 95% for jute cloth with jeans cloth lining. Three materials received the acceptance level of 90% and ranked second. These were plastic strips with cotton cloth lining, thin cloth with jeans, cloth and pant cloth with thick polyester border. Synthetic cloth with plastic bori and jute cloth with tericot border ware ranked third with an acceptance level of 85%.

Conclusion

It was concluded that bags prepared through value added materials were highly accepted by all the respondents. It was also observed that all value added materials of jute, paper, old clothes, plastic sheets were found to be acceptable to such an extent that these may mark their identify superior to plastic bags in the years to come. These bags will help on saving the environment by double check approach. As these not only work as a strong substitute to plastic bags but also, they do not let the textile materials enter the landfills. It may be also be differed from this study that value addition of bags gave them a strength thus increasing their shelf life which acted as a positive factor in their acceptance by the respondents.

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