

Analyzing Harmony of Batik and Woven Printing Fabric With 3d Sleeves Design in Party Dress

Lilik Masruroh Hidayah, Ferina Suci Adiningtyas



Abstract: Woven motifs are proof of the richness of Indonesian traditions. The woven motif emerged because of the art of weaving bamboo into craft items. Woven bamboo crafts will produce different results. All the motifs that appear depend on the shape of the bamboo weave. Batik is a handicraft made from white cloth on which the maker's desired pattern is drawn. Several special processes mean that batik cloth has various motifs and colors. On the other hand, pattern-making innovation is increasingly developing and follows designer inspiration. Inspired by the sea and the biodiversity it contains as for the sleeves, the author felt challenged to combine fabric with 3D woven motifs and batik with the addition of innovative shell sleeve patterns. This research aims to analyze how well the assessment of the feasibility of combining 3D patterned fabric, Yogyakarta batik, and the results of the innovation of sleeve patterns is assessed. The research method used is research and development, where the author will carry out several experiments and also test the feasibility of experts and population samples. From the results of the feasibility test, it was concluded that the independent variables had a simultaneous effect. Separately, the role of each variable is that the design variable has an influence of 17%, the color variable has an influence of 84.3%, the fabric placement variable has an influence of 3.6% and the fabric finishing variable has an influence of 11.1%.

Keywords: Innovation, Broken Patterns, 3d Woven, Batik, Cocktail Party Dress.

I. INTRODUCTION

Batik is one of Indonesia's cultural treasures which is designated as a non-tangible cultural heritage by UNESCO [1]. Thus, batik has become an Indonesian treasure that has been recognized by the world. Each region has its characteristics in producing motifs or the process of making batik which contains a philosophy and message. The manufacturing process, which has several methods that are now very easy with technological advances, is an example of the development of the fashion industry which is now in great demand by various groups, especially young people [2].

The uses of batik cloth are very diverse. One of them is by using batik cloth in party clothes. The choice of party clothing to be worn should take into account the time of wearing of the clothing, differences in the time of wearing

will greatly influence the model, material, and color of the appearance of the party clothing [3]. Many party outfits dare to feature a combination of batik and other fabrics as materials.

On the other hand, apart from batik, the archipelago is also famous for its woven art which is usually called woven craft. Woven crafts are a type of handicraft that is made by processing basic materials to form a certain pattern. The woven materials that are often used include rattan woven, bamboo woven, rope woven, pandan woven and others [4]. This weaving art is spread throughout the archipelago, which is then translated into various terms, motifs, and uses depending on geographical location.

Currently, the initial basic material for wicker, namely rattan or wood, requires special attention for its availability. Many innovations have been made, one of which is making woven material from woven fabric and applying it to clothing. When making woven cloth, you can use Shingo Sato's theory of pattern techniques. This theory can be applied to various kinds of fashion designs [5].

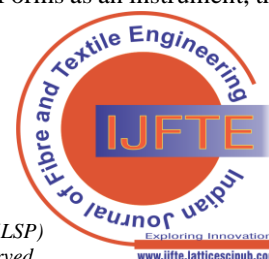
When designing clothes for women, not only pay attention to whether the clothes are comfortable and fit them but also pay attention to whether the design is attractive [6]. Circular sleeves are engineered patterns on the sleeves using circles as inspiration. A clothing sleeve is a clothing component that covers all or part of the arm. The appearance of the sleeve is determined by the position of the armhole and bottom seam of the sleeve, additions to all parts of the sleeve, as well as the sleeve seam or cuff. The appearance of the sleeves on a garment apart from functioning as arm protection from sunlight and cold air is decorative, meaning it can add to the aesthetic value of the garment itself and the wearer. As an appearance that is beautifying or decorating, various forms of sleeves on clothing can also be used to cover up flaws in the arms and overall body shape [7].

From this background, the author hopes to combine batik cloth, cloth with woven motifs, and other supporting fabrics into a design using circular sleeves as a 3D design application. So research regarding "Material Harmony Analysis Using 3D Sleeve Designs in Party Clothing" needs to be carried out.

II. RESEARCH METHODS OR PROBLEM-SOLVING ANALYSIS

A. Research Object

This research will be conducted on a population of batik users with an age range of 15-50 years and female. Because this research will use Google Forms as an instrument, the link will be distributed and obtained... respondents. Apart from using a questionnaire,



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an expert test was also carried out involving 1 lecturer with pattern construction sub-expertise, 1 lecturer with lecturer sub-expertise, and 1 designer as a practitioner.

B. Research Methodology

This research uses the RND (Research and Development) method. It is a research method used to produce certain products and test the effectiveness of these products. This R&D method is described through several steps [8]. These steps are (1) Potential and Problems, the potential in this research is the potential for batik cloth, woven patterned cloth, other supporting cloth, and broken 3D sleeve patterns on sleeve patterns [9]. The problem faced is whether the combination of several fabrics and broken patterns can create an aesthetic and beautiful work. (2) Data Collection, the data in this research was collected using documentation and literature to document the fashion process [10]. Apart from that, data was also obtained from collecting questionnaires and feedback from experts [11].

The research carried out was survey research in the field using quantitative methods. To obtain research data, the author distributed questionnaires randomly. The questionnaire materials used in the research are based on indicators for each variable according to the existing operational definition, as below:

Table 1. Variable

Variable	Definition	Indicator	Scale
Batik Fabric (X1)	Fabric decorated using the batik method. In this case, stamped batik is used.	- Basic fabric color and motif color - Placing batik fabric - Finishing fabric cutting	Likert
Woven patterned fabric (X2)	Printing fabric that is printed with using woven motifs	- Motif color - Laying of printed fabric - Finishing of fabric cuts	Likert
Velvet Fabrics (X3)	The satin-like fabric in this design is blue	- Motif color - Laying of printed fabric - Finishing of fabric cuts	Likert
Ventino Fabrics (X4)	The structured fabric in this design is terracotta in color.	- Motif color - Laying of printed fabric - Finishing of fabric cuts	Likert
Pattern Making 3D (X5)	Break the pattern using the basic circle shape	- Suitability of the shirt design with the sleeve pattern break	Likert
Buying decision	The decision-making process in obtaining, using, evaluating, or ignoring batik products	- Design suitability - Price suitability - Potential product purchase - Giving recommendations to others	Likert

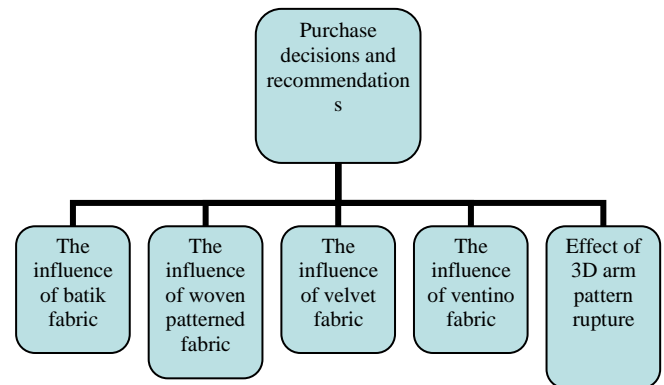
The formula used to calculate the minimum number of respondents in the questionnaire is the Lemeshow formula, with a maximum estimate of 10% and an error rate of 10%.

$$n = \frac{\left(z_{1-\frac{\alpha}{2}}\right)^2 x P(1-P)}{d^2}$$

$$= 34, 57 \approx 35$$

C. Equation 1. Minimum Respondent

The minimum number of samples that can be used by researchers is rounded to 35 respondents. The method used is using a Likert scale. The relationship between these variables can be described in the following framework:



[Diagram 1: Variable Relation]

III. RESULT AND DISCUSSION

The design that will be discussed this time is a dress to wear at a cocktail party.



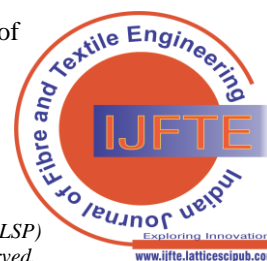
[Picture 1: Design]

The finished product results are:



Picture 2: The Product

The number of respondents obtained was 54 respondents. The profile data obtained from 54



respondents are as follows:

Pekerjaan
54 jawaban

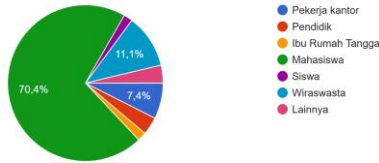


Diagram 2. Respondent Job Profile

Penghasilan / Pendapatan perbulan
52 jawaban

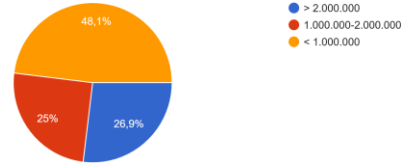


Diagram 3. Respondent Earning Profile

From the data obtained, a normality test (Shapiro Wilk), validity test, and reliability test were carried out first before carrying out other tests.

Table 2. Normality Test

One-Sample Kolmogorov-Smirnov Test							
		Desain sama	Warna	Peletakan	Penyelesaian	Potensi	
N		55	55	55	55	55	
Normal Parameters ^{a,b}	Mean	2,82	6,67	11,51	11,60	7,49	
	Std. Deviation	0,389	2,855	1,052	1,132	1,275	
Most Extreme Differences	Absolute	0,498	0,338	0,461	0,511	0,201	
	Positive	0,320	0,246	0,320	0,362	0,118	
	Negative	-0,498	-0,338	-0,461	-0,511	-0,201	
Test Statistic		0,498	0,338	0,461	0,511	0,201	
Asymp. Sig. (2-tailed) ^c		0,000	0,000	0,000	0,000	0,000	
Monte Carlo Sig. (2-tailed) ^d	Sig.		0,000	0,000	0,000	0,000	
	99% Confidence Interval	Lower Bound	0,000	0,000	0,000	0,000	0,000
		Upper Bound	0,000	0,000	0,000	0,000	0,000

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

Table 3. Validity Test

Correlations						
		Desain sama	Warna	Peletakan	Penyelesaian	Potensi
Desain sama	Pearson Correlation	1	-0,105	,411**	,294*	,370**
	Sig. (2-tailed)		0,448	0,002	0,029	0,005
	N	55	55	55	55	55
Warna	Pearson Correlation	-0,105	1	-0,042	-0,036	-0,016
	Sig. (2-tailed)	0,448		0,760	0,797	0,907
	N	55	55	55	55	55
Peletakan	Pearson Correlation	,411**	-0,042	1	,485**	,487**
	Sig. (2-tailed)	0,002	0,760		0,000	0,000
	N	55	55	55	55	55
Penyelesaian	Pearson Correlation	,294*	-0,036	,485**	1	,421**
	Sig. (2-tailed)	0,029	0,797	0,000		0,001
	N	55	55	55	55	55
Potensi	Pearson Correlation	,370**	-0,016	,487**	,421**	1
	Sig. (2-tailed)	0,005	0,907	0,000	0,001	
	N	55	55	55	55	55

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Table 4. Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0,295	5

When the data has been confirmed to be normal, valid, and reliable, the T-test and F-test will be carried out to see the relationship between variables.

Table 5. F Test

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27,072	4	6,768	5,577	,001 ^b
	Residual	60,674	50	1,213		
	Total	87,745	54			

a. Dependent Variable: Potensi
b. Predictors: (Constant), Penyelesaian, Warna, Desain sama, Peletakan

Table 6. T Test

Model		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,401	1,943		-0,721	0,474
	Desain sama	0,595	0,427	0,182	1,391	0,170
	Warna	0,011	0,053	0,024	0,200	0,843
	Peletakan	0,372	0,172	0,307	2,160	0,036
	Penyelesaian	0,247	0,153	0,220	1,621	0,111

a. Dependent Variable: Potensi

From the results of the T Test and F Test, it can be concluded that the independent variables have a simultaneous effect. Separately, the role of each variable is as follows:

- Design variable has a 17% effect
- Color variable has an 84.3% effect
- Fabric placement variable has a 3.6% effect
- Fabric finishing variable has an 11.1% effect

For expert testing, testing was carried out with experts, and the following input was obtained:

1. Mrs. Anita Volentina.Pd, M.Pd as a pattern construction expert and lecturer in Fashion Design, Yogyakarta State University.

Judging from the results, it is not as expected. This could be due to the choice of materials used. It is better to weave tightly and lightly. It could be that the circle is not round enough ... and strings can be added to the ends of the circle to make it look sturdy.

2. Mr. Afif Ghurub Bestari, S.Pd, M.Pd as a design expert. Lecturer in Fashion Design, Yogyakarta State University.

It would be better if the silhouette of the clothes was not too straight per part or in other words, each outer side of the part was widened like the design. Layering should be made clearer with a more contrasting difference in size per layer of approximately 15 cm.

3. Mr. Kusminarko Warno, S.Pd, M.Pd, is a designer practitioner in Yogyakarta.

In my opinion, the design and the finished product are appropriate, but what is still not quite right in my opinion is the finishing of the bottom using embroidery that looks old-fashioned, so it still needs adjustments to make it look more modern.

IV. CONCLUSION

This study concludes that all variables have a good influence when they are fulfilled together in a fashion product. However, if reviewed separately, the aspect of fabric placement and neatness are the main factors that make consumers interested in buying or recommending a product. The author believes that many other variables still need to be studied for further research. Pattern exploration can also be further developed by considering several expert suggestions and criticisms.

DECLARATION STATEMENT

After aggregating input from all authors, I must verify the accuracy of the following information as the article's author.

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