Denim Casual Wear with Laser Cut Pucuk Rebung Motif

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Abstract —This study explored the use of laser cutting technology on denim casual wear inspired by the pucuk rebung motif. The objective of this study was to examine the suitability of laser cutting technique application on denim casual wear using pucuk rebung motif. Several experiementations of laser cutting applied on pucuk rebung motifs were conducted on various types of denim fabrics to identify strength, durability while maintaining the aesthetic of pucuk rebung motif on denim casual wear. Four denim casual wears were designed with the placement of the the motifs on different areas of the fabric. Pucuk rebung motifs were simplified to allow the application of the laset cutting on the motif. A post test was performed to verify which design that would preferred most by the target audience. All respondents agreed that the used of laser cutting on pucuk rebung motif applied on denim casual wear was appropriate and able to create an interesting surface design. Results from this study proved that traditional Malay motifs could be applied and enhanced into casual wear using laser cutting as an innovative way uplifting the traditional motif on contemporary design besides enhancing the unique Malaysian culture via fashion.

Keywords - Laser cutting, Casual wear, Pucuk Rebung motif

1. Introduction

Numerous efforts around the world had attempted to integrate the tradition with modern elements. One of them was to introduce ones‟ prominent motifs in fashion and textile to gain broader audience and recognition of one‟s traditional motifs. Fusing motifs between modern and contemporary fashion designs could help to bridge multiple races and cultures in Malaysia. This study is an attempt to incorporate one of the most known traditional Malay motif, the pucuk rebung into contemporary fashion design for youth. Pucuk rebung was a dominated motif on most traditional textiles particularly in batik sarong and songket for centuries. The characteristic of the motif is triangle shape, stylized from bamboo shoots. The motif was implemented into casual chic wear by using laser cut technique onto denim fabric which is a popular fabric among youth for its durability and comfortable factor.

2. Literarure Review

In general, youth wear casual clothing in their everyday life which are comfortable, usable and flexible. Casual clothing is an informal clothing that allow freedom of movement yet classic and in styles. (Witenberg, 2017). Incorporating traditional motifs into contemporary fashion will not only increase innovation, originality, and elegance but also increase awareness of traditional beauty and preserve national cultural heritage (Cho, 2010). It is thought that, in order to gain support and recognition among young people with traditional motifs is to rearrange them stylishly and incorporate it into modern clothes that update traditions (Kawasaki, 2015). Pucuk rebung motif was inspired from bamboo shoot that represents Gunung Sari or the universe in triangular shape. The motifs in pucuk rebung symbolized the beauty of the universe as they are derived from „something beautiful‟ (referring to the Divine Essence of God). The „universe‟ is depicted in a pyramid beliefs that is divided into four areas as shown in Figure 1 (Mohamad,1984).

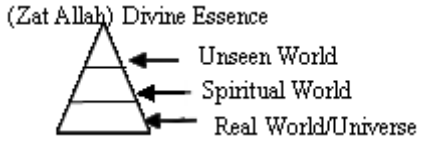

Figure 1: Pyramid beliefs in Pucuk Rebung Motifs

There were several versions of pucuk rebung colections from the Malay archipelago that were documented and Malaysia had its own styles (Syed Ahmad Jamal, 2010). Figure 2 show some examples of Pucuk Rebung by Tenas Effendy (n.d).

Pucuk Rebung Kuntum Dewa	*Pucuk Rebung Sekuntum*	*Pucuk Rebung Penuh*

Figure 2: Examples of Pucuk Rebung Variant (Source: http://www.malaycivilization.com.my)

The feature chosen in designing casual clothing was using laser cut technique on denim. Denim is generally a definitive "casual wear" fabric and that has wide age and socioeconomic appeal (Kumari & Khurana, 2016). Its durability, versatility and comfortable wear makes denim to be a very popular material used globally (Kumar,S et. al., 2016). Denim is traditionally made of cotton but through technology is also made with polyester to attain controlled denim character terms of wrinkles and shrinkage (Pakaj, 2017). Another appealing characteristics of denim are; easy to maintain, has good strength, durable and always available which made people love to wear it. (Hegarty, 2012). Gianni Versace created a sensation in 1984 by using laser cutting in his unique design (Loscek,I. 2009). Meanwhile as for others, like Marc Jacobs, LV"s followed suit in 2012 (William, J.A., 2014) by creating ready to wear laser cut collections. Laser cutting was famously used for cutting garment, denim fading and engraving leather (Nayak & Khandual, 2010). Furthermore, it is flexible, anti-counterfeiting and helps to reduce cost (Kovacs et al. 2006). Laser engraving give a unique nature for garment finishing that speed up the process of cutting with high precision, simple operation and other advantages. (Potluri and Atkinson, 2003). Fashion designers were adapting laser cutting into synthetic fabric to produce well finishing edges as it is able to fuse the edges (Petrak & Rogale, 2001; Nayak et.al.,2016). Recently, laser cutting is being used where a lot of contemporary objects were computerized into clothing (Bucci,2013).

3. Research Method

The research method in this study consisted of two parts. The first part was data collection from both qualitative and quantitative data. Qualitative data was collected through observation at a well-known shopping mall in Selangor. Three top ready to wear brands were chosen for the observation; ZARA, H&M, and MONKI. The observation was focused on three main aspects, which were aesthetic value, usability and technicality. The Spring/Summer season was particularly picked as it reflected well with Malaysian hot and humid weather. Quantitative data was collected by distributing questionnaires to 60 respondents aged between 18 to 35 years old in Klang Valley. The instrument used was mainly to obtain data on styles and trend preferences and the possibility of incorporating the pucuk rebung motif. Based on preliminary studies in the first part, the second part of the study involved the designing stages. At this stage, design ideations were developed on story board. Design experimentation for fabric testing by laser cut, development and arrangement of pucuk rebung motifs on clothing were done. Next, the designed pattern was cut and sewn. Adjustments were made for several times to meet the researcher"s satisfaction in order to ensure that the pattern and laser cut were in place. New trials were done if the pattern was found to be incorrect. The final design of the casual wear was tried by 10 respondents and qualitative feedback from respondents were obtained.

4. Finding and Discussions

4.1 Summary of Observation

Qualitative data collection through an observation on Spring/Summer season collections from three top clothing brands was conducted at Bandar Utama Shopping Mall, Petaling Jaya. The purpose of the observation was to identify styles and trends for casual wear. Based from the retail observations, the researcher found that casual wears‟ characteristics were comfortable, relaxed and easy. While the colors were more inclined to mild colors with ruffles, lace and embroidery. These observations were used as a source of information during the designing stage. A summary of the three aspects observed are as shown in Table 1. Table 2 shows the summary obtained from the analysis of the questionnaires. Both summaries were taken into consideration during the designing process.

Table 1: Summary of observation of the fashion forecast Spring/Summer 2018/19

Characteristic	Colour	Details	Materials
Comfortable	Cornflower	Aline	Light weight denim
Minimalist	Air Force	Ruffles	Polyster denim
Relaxed	Ultramarine blue	Embroidery	Cotton
Easy	Cyannie blue	Lace	Spandex
	Light brown		

Table 2: Summary from quantitative data

Characteristic	Colour	Details	Materials
Minimalists	Deep blue	Collar	Cotton
Maximalism	90‟s bleach	Button	Knitted
Comfort	Off white	Pocket	Denim
Relaxed		Gathers	
		Pleats	

4.2 Development of pucuk rebung for laser cutting

This process was crucial to determine the type of denim fabric which is suitable for laser cut and the appropriate final design of the motif that is suitable for the clothing design. Pucuk rebung motif are complex and intricate. The process pucuk rebung motif for laser cut involved the transferment of pucuk rebung motif from a sarong songket to stencil and before it can be used to trace out the motif with laser cutting. Two types of pucuk rebung were selected for the research. They were the pucuk rebung daun lalang and pucuk rebung tepi gigi yu. The transferring process of the motif for the above motifs are shown Figure 3 and Figure 4 respectively.

Figure 3: The pucuk rebung daun lalang

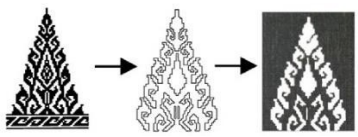

Figure 4: The pucuk rebung tepi gigi yu

Different types of denim were experimented for the laser cutting of the pucuk rebung motif. Table 3 shows the close up of various denims outcome after laser cutting.The higher the percentage of synthetic fibre used in the denim fabric, the better is the edging cut. Pure cotton denims tended to be more fragile for laser cut compared to polyester denim. The laser cut motifs on assorted denims and AJ Jeans that consisted of 96 percent cotton and 4 percent spandex were also found to be delicated as it caused the particular cut fabric to be ripped out and frayed. The other three types of denims; polyester denim, Leaslie Jeans and Bibi Jeans which consisted of 60 percent cotton and 40 percent polyester were successfully cut out by laser cutting. The laser cutting motif was then applied to the clothing design. The next step was to apply laser cut on synthetic denim. It was found that the laser cutting motifs part were too fragile at intricate junctions that it frayed easily. The researcher then adjusted the gaps between the motif"s outline so that the gap between the motifs were wider to strengthen the motif when applying on the denim fabrics.

Table 3: Results of using laser cutting based from various types of denim

Types of denim	Results	
Light weight denim (100% cotton)	tattered	
Polyester denim (60%polyester, 40% cotton)	perfect cut	
Leslie jeans Polyester denim (60%polyester, 40% cotton)	perfect cut	
AJ Jeans Ployester denim (60%polyester, 4% spandex)	perfect cut	
Bibi Jeans Polyester denim (60%polyester, 40% cotton)	perfect cut	

4.3 Development of pucuk rebung tepi gigi yu

The motif of the pucuk rebung was stylized on Adobe Illustration and tested on the synthetics denims using laser cut.

Table 4: Design process of pucuk rebung tepi gigi yu on denim using laser cutting

Stylization on Adobe Illustration		Result after laser cutting	
	First stylization of the motif		This motif outline was too curvaceous for laser cutting.
	The curvy part of motif had to be simplified.		T The results of the adjusted motif outline on stencil

	More spacing between the motifs needed.		Tested on fabric. Motif need to be simplified further.
	The separation on the side to obtain the same silhouette as the original motif.		Tested on the fabric but the middle part need to be reduced.
	Middle part was separated.		The authenticity of pucuk rebung was quite diluted.

4.4 Sketches process

Sketch processes were developed based on respondents‟ that answer “most important” in clothing categories. The most favourable clothing were ranked as follows: dress (40%), jeans (37%) and jacket (37%). The final sketches are as in Figure 5.

Figure 5: Final sketches

4.5 Final products

Figure 6(a) is toile for Design 1. The fabrics was light weight denim used as the base of the dress and polyester denim with laser cut motif on sleeve.

Figure 6 (a) Design 1; 6 (b) Design 2

Design 2(Figure 6(b)) was a pants, inspired by the 60‟s looks with the motif placed at the bottom of the pants. It was a straight cut pants with flared bos pleat bottom. Design 3 shows Figure 7(a) which was a jacket with an A-line silhouette and an off shoulder kimono characteristics. The laser cutting was at sleeve and at the bottom of the jackets. Design 3 and Design 4 are shown in Figure 7(a) and 7(b) respectively. These clotings were tried on by 10 respondents and interviews were done to analyse their feedback.

Figure 7(a) Design 3; (b) Design 4

75% respondents liked the design with the *pucuk rebung* The motif placements were also deemed as appropriate. They agreed that they would want the clothings in their collection as they found them to be comfortable, and it they are easy to be mixed and matched on daily basis. The only concern was the motif durability with multiple wearings.

5 Conclusion and Recommendations

This research had achieved its objectives to identity the types of casual wear preferences among Malaysian youths, to examine whether laser cut technique is suitable to be applied on denim casual wear and also creating a casual wear by implementation of pucuk rebung motifs design by using laser cutting techniques. Based on the analysis, the types of casual wear that were preferred by the respondents were trousers, dresses and jackets. Laser cut technique was found to be suitable to be done on denim as the experiment had. The pucuk rebung motifs was found to be suitable to be placed at borders or at the clothing edges. The motifs design must not be too intricate as the fabrics between the intricate designs could easily tattered. In the experiment, laser cut was found to be suitable on higher percentage of synthetic elements in the fabric. This is due to the nature of laser cut in which the high temperature of the laser beam will melts the fibre and coagulates the edges of the textile and noting that cotton does not melt, random fraying do occur. The intricate details of the pucuk rebung motifs do not goes too well for laser cut on denim as the fabric start to break in thin areas easily especially denims with high content of cotton. This study also found that the gap between the intricate motif designs should be about 0.5cm apart for synthetic denim. Further research should be done by exploring other types of traditional motifs which suit the motifs design could be further explored in the future.

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