

ORIGINAL ARTICLE**KANSEI EVALUATION OF HEADSCARF (HIJAB, TUDUNG) DESIGNS**

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ABSTRACT

Headscarf (*tudung* in Malay Language) has become one of the Muslimah fashion. Nowadays, there are massive brands and designs of *tudung* are available in the market. However, most of the designs are dependent on designers' artistic sensibility. Moreover, lack of proper consideration on user preferences may results in an unfit product that may minimize the potential profit. This study used Kansei evaluation to obtain user preferences on *tudung* in general, more specifically, on the design criteria of the *tudung* in Malaysian context. Twenty-five participants were involved in a semi-structured interview, and three designs of *tudung* were selected (namely Ariani, Naelofar, and Galeria), and ten Kansei words were obtained (trending, beautiful, quality fabric, non-transparent, cooling effect, comfortable, easy to wear, easy to shape, wrinkle free, and uncrowded design). These information were then converted into a Kansei Questionnaire, in which a respondent was asked to rate the three selected designs based on the ten Kansei words. 158 respondents were completed the questionnaire. In overall, Ariani scored the highest among the three designs ($M = 3.86$; $SD = 0.367$), follows closely by Galeria ($M = 3.85$; $SD = 0.321$), and the lowest was Naelofar ($M = 3.40$; $SD = 0.321$). The result also reveals that there is a significant difference between the three chosen designs at $p < 0.05$, [$F(2, 27) = 6.295$, $p = 0.006$]. The results from this study give an additional information regarding the user preferences on *tudung's* design in general, more specifically, recommends the preferable *tudung* design based on the design criteria, in which will optimized the fit between the design and user preferences.

Keywords: Kansei Evaluation, User Preferences, Headscarf Design, Hijab, Tudung

INTRODUCTION

Headscarf has become one of the Muslimah fashion. In South East Asian countries especially in Malaysia it is known as '*tudung*'. Nowadays, there are many brands, designs, colors, sizes, and qualities of *tudung* in Malaysia's market. Based on the statistics reported by the Intellectual Property Corporation of Malaysia (MyIPO), between the year 2010 to 2015, there are about 115 *tudung's* patterns were requested under the Industrial Design Act (Mat Zuki & Yusoff, 2016). In addition, MyIPO also stated that from the year 2013 to 2014, *tudung's* pattern request was increased more than 100%, in which twenty-two and forty-six *tudung's* patterns were requested in the year 2013 and 2014 respectively (Mat Zuki & Yusoff, 2016). Moreover, Muslimah fashion is predicted to grow rapidly as the number of women in Malaysia is always increase by the years (Ramle, 2014). These circumstances make the Muslimah fashion in general, more specifically, the *tudung* becomes one of the competitive market in Malaysia (Abd Wahab & Abu Hassan, 2015). Thus, to ensure a particular *tudung* becomes people's choice, it is important to understand what are user preferences - what do they want - regarding the *tudung* design in Malaysian context.

Traditionally, the success of a products design depends on the designers' artistic sensibilities,

which quite often did not meet with great acceptance in the market. Thus, many product design studies have been introduced to get a better insight on consumers' subjective perceptions (Yang, 2011). One of the methods available to investigate user preferences is Kansei evaluation in which may improve the product design from the users' emotional parameters perspective.

Currently, in Malaysia, there is no available qualitative data on the *tudung's* design preferences. In other words, design criteria of *tudung* are not based on a firm scientific research rather than only depends on designer's intuitions. Thus, this study was conducted in order to obtain information of the user preferences regarding *tudung* design criteria using the Kansei evaluation approach. The objective of the study is to evaluate the preferable *tudung* criteria among the users in Malaysia.

METHODS*Selection of Tudung designs*

Semi-structured interview was conducted to determine the famous and favourable *tudung* in the market. Twenty-five respondents - three sales persons and twenty-two users - were approached to get their insight on the best seller *tudungs* in general, more specifically, on the

desire design criteria of the *tudungs* in the current market. As the results, three *tudungs* were selected. They are: (i) Ariani - Tiara Soft Awning (Ariani Online, 2018); (ii) Naelofar Hijab - Lady Warda (Naelofarhijab, 2018); and (iii) Hijab Galeria - Bawal Bidang 60 (Hijabgaleria, 2018). To ease the writing of this study, the three selected design were named as (i) Ariani; (ii) Naelofar; and (iii) Galeria. Figure 1 illustrates the three *tudung* designs selected.



Figure 1: The three selected *tudung* designs: Left: Ariani (Ariani Online, 2018); Middle: Naelofar (Naelofarhijab, 2018); and Right: Galeria (Hijabgaleria, 2018)

Selection of Kansei Words

The semi-structured interview conducted above was also determined the Kansei words for this study. The respondents were asked to list their concerns and preferences on the design criteria of the *tudungs*. The responds were then grouped accordingly, and the top ten words were chosen to be the Kansei words for this study. They are: trending, beautiful, quality fabric, non-transparent, cooling effect, comfortable, easy to wear, easy to shape, wrinkle-free, and uncrowded pattern as listed in Table 1.

Table 1: The ten selected Kansei words

Trending	Comfortable
Beautiful	Easy to Wear
Quality Fabric	Easy to Shape
Non-transparent	Wrinkle Free
Cooling Effect	Uncrowded Pattern

Development of Kansei Questionnaire Form

Kansei Questionnaire form was developed using the Google form. This option was chosen so that the study can be run through online in which will ease the process in getting respondents. The form developed contain four sections - study information, demographic, the questionnaire itself, and the thanking statement. In the study information section, an overview of the study was described so that a respondent is aware with the questionnaire that he or she is about to participate. The demographic part asked the norm questions regarding demographic of the respondents as practice in other human studies -

age, gender, and race. The questionnaire part contains the rating questionnaire in which a respondent was asked to rates the three designs based on the ten Kansei words. A five points Likert scale was used in this study which are 'strongly disagree', 'disagree', 'neutral', 'agree', and 'strongly agree'. Figure 2 illustrates the part of the Kansei Questionnaire form. The thanking part of the questionnaire was simply to address the thank you note to the respondents for their support in participating in the study. The language used in the Kansei Questionnaire form was Malay language so that it may minimize the confusion among the respondents regarding the meaning of the Kansei words.



Figure 2: Part of the Kansei Questionnaire form

Kansei Questionnaire

Participants, apparatus & stimuli, procedure, and dependent variable & hypothesis of the Kansei Questionnaire are described below.

Participants: 158 respondents were participated in this questionnaire. 84.8% (n=134) were females and 15.2% (n=24) were males. The age range of the respondents were between 17-52 years of age with the mean age of 26.73 years of age.

Apparatus & stimuli: The online Kansei Questionnaire form as described above was used in this study.

Procedure: The link to the Kansei Questionnaire was distributed through the social medias - e.g. Facebook, Instagram, and Twitter - that could attract the potential respondents. As in any other online questionnaire studies that employ the Google form, the input from the respondents was directly transferred to the excel file. The data collected was then transfer to the SPSS (version 23) and was analysed by utilized the One-way ANOVA model.

Dependent Variable & Hypothesis: The dependent variable is the mean of the rating score. The null hypothesis is that the mean score

among the three designs are same ($\mu_{\text{ariani}} = \mu_{\text{naelofar}} = \mu_{\text{galeria}}$). The alternative hypothesis is that at least one of the mean is differ from the other ($\mu_{\text{ariani}} \neq \mu_{\text{naelofar}} \neq \mu_{\text{galeria}}$).

RESULTS AND DISCUSSION

Overall

Figure 3 illustrates the overall mean score for the three designs being evaluated. In overall, Ariani scored the highest among the three designs ($M = 3.86$; $SD = 0.367$), follows closely by Galeria ($M = 3.85$; $SD = 0.321$), and the lowest was Naelofar ($M = 3.40$; $SD = 0.321$). This result suggests that, in overall, the *tudung* criteria considered in Ariani is the most preferred by the users based on the ten Kansei words. The data was then analyzed by utilized the One-way ANOVA model (SPSS Version 23) to compare the differences of the mean scores. It was found that, there is a significant difference between the three chosen designs at $p < 0.05$ level for the three conditions [$F(2, 27) = 6.295$, $p = 0.006$].

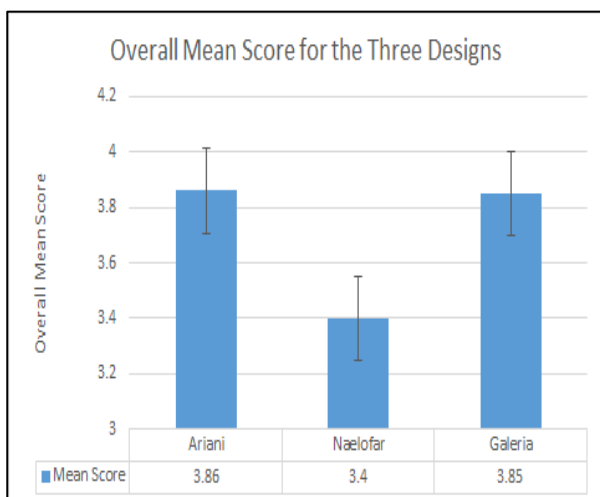


Figure 3: Overall mean score for the three designs

By Kansei Word

Table 2 lists the mean scores for the three designs by the ten Kansei words. As can be seen from Table 2, Ariani (which scored the highest average mean score), scored highest in three of the ten Kansei words being evaluated - easy to wear, easy to shape, and wrinkle free. Galeria scored highest in seven of the ten Kansei words - trending, beautiful, quality fabric, non-transparent, cooling effect, comfortable, and uncrowded pattern. On the other hand, Naelofar did not scored the highest in any of the ten Kansei words.

Trending: Galeria scored the highest in this category of the Kansei words ($M = 3.92$), follows by Naelofar ($M = 3.58$) and Ariani ($M = 3.37$). This result suggests that, from the users' perspective, Galeria is the most trending *tudung* design. This is perhaps because, while incorporating a fashion in the *tudung* design, Galeria also considering

the element of the Islamic value in design, which is to cover most part of the body (i.e. trailing scarf or *tudung labuh* in Malay). This suggests that consideration of Islamic value in the *tudung* fashion is getting attention from the users and becoming the new trend.

Table 2: Mean scores by the Kansei words

Kansei Word	Mean Score		
	Ariani	Naelofar	Galeria
Trending	3.37	3.58	3.92
Beautiful	3.31	3.32	4.15
Quality Fabric	3.72	3.68	3.97
Non-Transparent	3.95	2.97	4.17
Cooling Effect	3.72	3.42	3.78
Comfortable	3.80	3.26	3.92
Easy to wear	4.42	3.05	3.59
Easy to shape	4.31	3.47	3.61
Wrinkle Free	4.18	3.19	3.22
Uncrowded pattern	3.86	4.06	4.20
Average Mean Score	3.86	3.40	3.85

Beautiful: Galeria scored the highest in this category of the Kansei words ($M = 4.15$), follows by Naelofar ($M = 3.32$) and Ariani ($M = 3.31$). This result suggests that, from the users' perspective, Galeria is the most beautiful *tudung* design. 'Beautiful' is a very subjective matter, thus, this rating perhaps associate with the trending of the *tudung* design.

Quality Fabric: Galeria scored the highest in this category of the Kansei words ($M = 3.97$), follows by Ariani ($M = 3.72$) and Naelofar ($M = 3.68$). This result suggests that, from the users' perspective, the fabric uses in Galeria is most preferable and acknowledge as a quality fabric.

Non-transparent: Galeria scored the highest in this category of the Kansei words ($M = 4.17$), follows by Ariani ($M = 3.95$) and Naelofar ($M = 2.97$). This result suggests that, from the users' perspective, Galeria is the most non-transparent *tudung*. This criterion is associate with the fabric used, thus, perhaps the fabric used in Galeria is thicker rather than the other two designs.

Cooling Effect: Galeria scored the highest in this category of the Kansei words ($M = 3.78$), follows by Ariani ($M = 3.72$) and Naelofar ($M = 3.42$). This result suggests that, from the users' perspective, Galeria has the most cooling effect. This criterion also is associate with the fabric used in the product. Thus, as Malaysia is considered as a warm climate country, it is perhaps that the fabric used in the Galeria giving the most cooling effect to the users.

Comfortable: Galeria scored the highest in this category of the Kansei words ($M = 3.92$), follows by Ariani ($M = 3.80$) and Naelofar ($M = 3.26$). This result suggests that, from the users' perspective, Galeria is the most comfortable *tudung*. This criterion is associate with the fabric used in the product and the cooling effect which is also resulting from the fabric used in a product.

Easy to Wear: Ariani scored the highest in this category of the Kansei words ($M = 4.42$), follows by Galeria ($M = 3.59$) and Naelofar ($M = 3.05$). This result suggests that, from the users' perspective, Ariani design concept is the easiest *tudung* to wear. This is perhaps because the criterion of 'easy to wear' is one of the main objective of Ariani design when they launched their first design that is known as '*Tudung Awning*' or more popular as '*Tudung Ekin*' in which to fulfil the demand from users who desire for such *tudung* that is easy to wear (Ibrahim, 2017). Moreover, the ready-made awning (Ariani Online, 2018) concept also perhaps makes this type of *tudung* is easier to be wore by users. Beside, Ariani design also comes with the 'easy to wear' concept because they believe it would attract new *tudung* users who is believe to looks for the simple and easy to wear *tudung* as for started (Ariani Fashion, 2011).

Easy to Shape: Ariani scored the highest in this category of the Kansei words ($M = 4.31$), follows by Naelofar ($M = 3.61$) and Galeria ($M = 3.47$). This result suggests that, from the users' perspective, Ariani is the easiest *tudung* to shape. This criterion is closely associate with the easy to wear criteria, thus, the similar discussion as discussed in 'easy to wear' section would apply.

Wrinkle Free: Ariani scored the highest in this category of the Kansei words ($M = 4.18$), follows by Naelofar ($M = 3.22$) and Galeria ($M = 3.19$). This result suggests that, from the users' perspective, Ariani is the most wrinkle free *tudung* design.

Uncrowded Pattern: Galeria scored the highest in this category of the Kansei words ($M = 4.20$), follows by Ariani ($M = 4.06$) and Naelofar ($M = 3.86$). This result suggests that, from the users' perspective, Galeria is the most uncrowded pattern.

CONCLUSION

From the semi-structured interview, three designs of *tudung* were selected (namely Ariani, Naelofar, and Galeria), and ten Kansei words were obtained (trending, beautiful, quality fabric, non-transparent, cooling effect, comfortable, easy to wear, easy to shape, wrinkle free, and uncrowded design). These information was then converted into a Kansei Questionnaire, in which a respondent was asked

to rates the three selected designs based on the ten Kansei words. 158 respondents were completed the questionnaire. In overall, Ariani scored the highest among the three designs ($M = 3.86$; $SD = 0.367$), follows closely by Galeria ($M = 3.85$; $SD = 0.321$), and the lowest was Naelofar ($M = 3.40$; $SD = 0.321$). The result also reveals that there is a significant difference between the three chosen designs at $p < 0.05$, [$F(2, 27) = 6.295$, $p = 0.006$]. The results from this study give an additional information regarding the user preferences on *tudung's* design in general, more specifically, recommends the preferable *tudung* design based on the design criteria, in which will optimized the fit between the design and user preferences.

LIMITATION AND RECOMMENDATION

Online questionnaire: This study was conducted through an online questionnaire. Thus, there is possibility that a particular user does not has any experience in wearing the three *tudungs* being evaluated and was rating the designs by guessing and assumptions. In person evaluation would be prefer, but was not done due to the budget constraint in recruiting the participants.

Number of respondents: 158 respondents were completed the study. A large number of respondents is needed for a more solid finding, yet, was not done due to the budget constraint.

DISCLAIMER

It is important to note that, this study is not to evaluate and compare a particular brand of *tudung*, but rather to evaluate user preferences on the *tudung* design criteria in general, based on the Kansei words. Thus, the results and discussion of this study should not reflect a particular brand of *tudung*.

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