Development Of Customer Requirements and Design Criteria of Hijab Via Quality Function Deployment Among Female Muslim Students in the Faculty of Management at Universiti Teknologi Malaysia

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Abstract

As a university in a nation where Moslems make up the majority, fashion-related matters will spark its interest among students and entrepreneurs, including hijab. With a wide variety of specifications and selections, it is difficult for hijab manufacturers to accommodate a variety of customer requirements. Hence, to stay competitive, it is important for hijab manufacturers to comprehend customer requirements and transform them as design specifications for hijab. As such, this research aims to apply Quality Function Deployment (QFD) to identify the important customer's requirements of hijab for female Moslem students in the Faculty of Management (FM), Universiti Teknologi Malaysia (UTM), to determine the important design criteria for a new hijab for female Moslem students, and to assess the difference in hijab customers' requirements based on demographics. Five important attributes are identified from the literature review, which are type of hijab, material, colour selection, motif, and price. This study is quantitative based via survey questionnaire, with 216 female moslem students in FM responded. Kendall Coefficient test result revealed that the requirements ranking by the 216 respondents are consistent. Descriptive analysis results suggested that respondents viewed "colour selection" as the most important hijab requirement, followed by material, type of hijab, price and motif. Subsequently, a set of Hijab product specification is proposed based on frequency analysis. The proposed specification fulfilled a minimum of 70% of the customers requirement. Additionally, ANOVA analysis results suggested that customers' body weight and height made no difference on customers requirement ranking, but customer nationality does affect the ranking of motif requirement. The implication of the finding is perhaps to provide guidance to the hijab manufacturers or Small and Medium Enterprise by concentrating on the certain attribute of hijab to be able to meet the customers' requirements.

Keywords: *Hijab, Quality Function Deployment, Customer Requirements.*

INTRODUCTION

Hijab refers to a head covering that is objectively worn by Moslem females to prevent their hair and neck to be seen by an unrelated person. As a country with a majority Moslem more than 60% population in total, makes Malaysia a suitable market to sell Moslem attire including hijab. As a complementary attribute that must be used by Moslem females, due to differences in usage and preference, hijab is available with various choices according to the needs of its wearer. For hijab manufacturers, it is important to comprehend customer requirements and apply them to design specifications for hijab to maintain a competitive advantage among their competitors. Such a procedure required a structured, methodicalapproach to investigating customer requirements, namely the voice of the customer, and turning them into design specifications.

The underpinning theory in this study is the Assimilation Theory. According to [1], stating that after-purchase evaluation is a positive function of pre-purchase consumer expectations. Because the process is confirmed directly and psychologically uncomfortable to do, consumers tend to be perceptual and distort the difference between expectations and performance towards expectations beginning. In other words, deviations from

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expectations tend to be accepted by the consumer concerned.The Assimilation theory builds on the dissonance theory developed by Festinger. The dissonance theory suggests that customers tend to make mental comparisons between the perceived and the expected product performance [2]. In the assimilation theory, customers make an effort to avoid dissonance by adjusting their perceptions about the purchased products by shifting it upwards, to match their expectations. Also, customers bring down the tension resulting from any discrepancy between product performance and expectations by distorting their expectations. They are in line with the perceived performance by minimizing or underrating the relative importance of the disconfirmation reported [3].

With various possibilities to develop a hijab based on material, colour, pattern, shape, or type of hijab and others, it is difficult to keep up with the current market if the producer not meeting the customer requirement. This possibility is still expandable to bigger criteria, such as for material there are voal, satin, cotton, etc. The type of hijab, material, motif, colour selection, and price are the most important attributes in hijab design for the customers. Hence, it is important to identify customers' requirements of hijab [4]. As such, three objectives are developed for this research, which are:

RO1: To identify the important customer's requirements of hijab for female muslim students in the

Faculty of Management at UTM

RO2: To assess the difference in hijab customers' requirements based on demographic variables of female muslim students.

LITERATURE REVIEW

Customers Requirement

Customer requirements play a significant role in the product development process, especially in the early design stage. According to [5] customer requirements is the customer's opinion about characteristics required or required by the customer. Customer needs regarding desires or things that customers pay attention to in assessing a product can use QFD analysis. Customer requirements really need to be considered so that the company can fulfill them consumer needs and wants [6]. When consumer needs are met, of course, consumers will assess the products provided by the company as a service that has high quality. Overall, customers' requirements are all the important aspects to build specific products or services in order to meet the customer's needs and wants [7].In this study, there will be five customer requirements aspects which are type of hijab, material, motif, colour selection, and price.

Type of Hijab

There are different types of hijab articles namely head scarf, Turban, Telekung, Mini Telekung, Selendang, Coats, Abaya and Niqab. Which caters to different needs and times of wearing such hijab articles. According to[8] with various choices of types of hijab available, users frequently adjust it for a certain occasion, simplicity of usage, mood, attire, compatibility with facial features, and other factors. Overall, the type of hijab can be defined as various selections of hijab provided in the market based on the shape and the design of the hijab itself [9]. In Southeast Asia, there are several famous types of hijab that can be found on the market such as square hijab, shawl hijab, slip-on, and others [10].

Material

A hijab is also identified as a dress or the second skin by the user itself. Thus, the proper material embodied for the hijab is important, since dress and body work simultaneously in two directions: when the body becomes dressed, the dress becomes embodied. The terms most relevant to the material were comfort, compact, look, casual, blend, functional, cotton, processing, metal, and functional by year [11]. In the news article, functional, comfort, sports, leather, casual, eco-friendly, classic, padding, culture, and high-quality showed high frequency. Functional was the only fashion material term derived every year for 10 years [12].

Motif

As time goes by, the Moslem fashion trend in Indonesia then turned into a simpler style, it accentuates the detail of cutting lines or motifs on the fabric. In Islamic law, figural motifs or motif that reveals human is prohibited motif. The alternative motif that is often used in Moslem fashion and becoming a trend in Indonesia is a floral motif that seemed romantic and girly [13]. In addition to floral motifs, other motifs such as geometric patterns and abstract motifs are also able to grow their own fans [14]. A motif is a visual that is affixed to a surface and is made up of a number of points or lines that together form an image or graph. The motif could be classified as the detail attached to the surface of the hijab to give an aesthetic accent. In general, motifs in hijab can be classified as geometry, floral, and plain [15].

Colour Selection

Color is one of the motif symbols captured by the eye, so it becomes one of the important motif factors in various activities. Aesthetic elements of color are widely utilized in various fields, especially the field of fashion. Color elements make the appearance more attractive and are able to create motif appeal [16]. Colors are believed to provide influence psychology, emotions as well as ways to act humanely. Color also becomes shapes non-verbal communication, so that it can express messages instantly and more meaningful [17]. Color is an important aesthetic, because it is through color that we can clearly distinguish the beauty of an object. Color can be defined subjectively/psychologically which is a direct understanding by the experience of our sense of sight and objectively/physically as the nature of the light emitted. She also adds that Color is necessary to add to the aesthetics of an object, both subjectively and objectively [18].

Price

According to [1], price is a monetary unit or another measure (including other goods and services) that is exchanged for the right to ownership or use of a good or service. This understanding is in line with the concept of exchange in marketing. Pricing strategies are very significant in providing value to consumers and influencing product image, as well as consumers' decisions to buy.   Price is also related to revenue and also affects supply or marketing channels. However, the most important thing is that the decision in pricing must be consistent with the overall marketing strategy [19]. Pricing methods can be approached by selecting the final price by adding factors including psychological pricing where consumers use prices as indicators of quality and company pricing policies with the aim of providing price quotas to salespeople to be given to consumers and for the profitability of the company. So it can be said that the price depends on the ability to negotiate on the part of the seller or buyer to obtain a strike price that suits the wishes of each party so that initially the seller will set a high price and the buyer will set an offer at the lowest price [20].

Quality Function Deployment (QFD)

Quality Function Deployment (QFD) is a structured approach to defining customer needs or requirements and translating them into specific plans to produce products to meet those needs. The "voice of the customer" is the term to describe these stated and unstated customer needs or requirements [21]. By knowing all the parts of hijab, listening to the voice of customers, and implementing it into Quality Function Deployment (QFD), a hijab producer would be able to meet or exceed the customer requirement for hijab products. Hence, by using Quality Function Deployment (QFD) to identify customer requirements, the Hijab production company would be able to know which attribute is important to the customer [22].

Table 1: Summary of Hijab Customers Requirements based on Prior Scholar

	Chairunnisa (2016)	Hapsari (2018)	Budiman et al.(2018)	Anwar (2015)	Fikry and Ahmad (2019)
Type of Hijab	✓	✓			✓
Material	✓	✓	✓	✓	

motif	✓	✓	✓		✓
Colour Selection	✓	✓			✓
Price	✓		✓	✓	

Research Framework

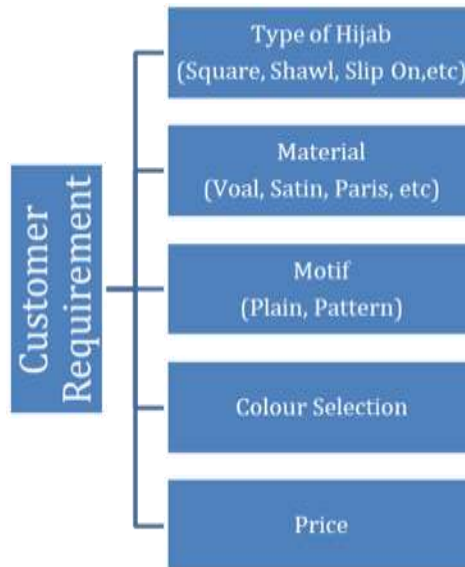**Figure 1:** Research Framework

Figure 1 shows the research framework. The study examines the relationships between customer requirement as the dependent variable and type of hijab, material, motif, colour selection, and price as the independent variables. Additionally, three hypotheses are developed for RO2based on the research framework, which are:

H1: There is a difference on hijab customers' requirements based on body height

H2: There is a difference on hijab customers' requirements based on body weight

H3: There is a difference on hijab customers' requirements based on nationality

RESEARCH METHODS

This research is focused on the quantitative research instrument which is a questionnaire as a tool that used to collect, measure and analyze data related to research interests. The questionnaire consists of 3 Parts which are Part A, Part B, and Part C. Part A consists of 8 questions, Part B and C consists of each 5 questions. Part A is used to collect the demographic information of respondents, meanwhile Part B and Part C are adoptedare used to collect the Customer Requirement Assessment for Hijab based on rank in Part B, and collect Hijab Product Assessment Based on Requirements Aspects in Part C. The targeted respondents for this research are Female Moslem Students in the Faculty of Management at UTM with a population of 491. The sample size is selected based on Krejie and Morgan table which has a population of 491 people and the target sample size is 216 students [23]. Samples are selected based on stratified sampling method.

RESULTS AND DISCUSSION

Kendall Coefficient Analysis

The data collected from Part B of the questionnaire are analysed via Kendall Coefficient Analysis. The result of the test shows that the p-value or Asymp. Sig is less than 0.05 which means the feedback from respondents are consistent and for Kendall W is 0.165 which means there is low agreement among the respondents. Since the rank is consistent, the set of data could proceed for further analysis in the descriptive test and Anova [24].

Table 2: Kendall Coefficient test

Test Statistics	
N	216
Kendall W	0.165
Chi-Square	142.87
df	4
Asymp. Sig	0

Descriptive Analysis on Customer Requirement Rank of Hijab Attributes

Descriptive analysis has been used to address the Research Objective 1 and it analyse the data of rank that collected from Section B of the questionnaire. The five hijab attributes are ranked to classify the level of these factors based on the respondent's perception of the importance of hijab attributes. Therefore, the mean of each item of the factors has been totalled up to justify whether it is important or not among the respondents by using the rank. Referring to Table 3, the rank of customer requirement assessment for hijab respectively would be colour selection as the most important factor followed by material, type of hijab, price, and motif for the last rank. This rank has been validated for its level of consistency through Kendall Coefficient Test in the previous part [25].

Table 3: Customer Requirement important ranking of Hijab Attributes

Ranking	Attributes	N	Mean	Std Deviation
1	Colour Selection	216	3.67	1.301
2	Material	216	3.31	1.25
3	Type of Hijab	216	3.19	1.385
4	Price	216	2.88	1.367
5	Motif	216	1.97	1.159

ANOVA Analysis in Hijab Customers' Requirements based on Demographics.

Data collected from questionnaire Part A (Demographic) and Part B (Customer Requirement Assessment for Hijab) are analysed via ANOVA to address the Research Objective 2. By using the ANOVA test, it could test is there has any statistically significant difference in the Customer Requirement Assessment for Hijab based on demographics. [26] The demographic variables used in this study are Body Height, Body Weight, and Nationality.

Based on Table 4, the significant values for the difference on the Hijab Customers Requirement based on Body Height (H1), and Body Weight (H2) are still higher than 0.05 (P-value > 0.05) and the hypothesis are rejected. However, the difference on the Hijab Customers' Requirement based on Nationality shows significant value

lower than 0.05 (P-value < 0.05). Hence, the hypothesis for this research (H2) is accepted. Thus, the difference in customers' requirement rank on the motif of hijab based on Nationality are significant.

Table 5 shows the differences in motif based on nationality.

Table 4: Summary of ANOVA for the Difference in the Hijab Customers' Requirement Based on Demographics

ANOVA				
Body Heights				
Hypothesis	Attributes	Sig.	Result of Hypothesis	Difference
H1	Type of Hijab	0.085	Rejected	Not Significant
	Material	0.983	Rejected	Not Significant
	Motif	0.845	Rejected	Not Significant
	Colour Selection	0.147	Rejected	Not Significant
	Price	0.572	Rejected	Not Significant
Body Weights				
Hypothesis	Attributes	Sig.	Result of Hypothesis	Difference
H2	Type of Hijab	0.164	Rejected	Not Significant
	Material	0.83	Rejected	Not Significant
	Motif	0.214	Rejected	Not Significant
	Colour Selection	0.766	Rejected	Not Significant
	Price	0.614	Rejected	Not Significant
Nationality				
Hypothesis	Attributes	Sig.	Result of Hypothesis	Difference
H3	Type of Hijab	0.091	Rejected	Not Significant
	Material	0.154	Rejected	Not Significant
	Motif	0.003	Accepted	Significant
	Colour Selection	0.829	Rejected	Not Significant

Price	0.498	Rejected	Not Significant

Table 5: Descriptives table in motif based on Nationality.

Descriptives						
Nationality	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Indonesian	44	1.5	0.876	0.132	1	4
Malaysian	172	2.09	1.194	0.091	1	5
Total	216	1.97	1.159	0.79		

CONCLUSION

According to Table 3, colour selection was ranked as 1 with the highest mean score. This is followed by the material and type of hijab as the second and third. This indicates that the most important attributes based on customer requirements of Female Moslem Students in the Faculty of Management at UTM respectively are colour selection, material, type of hijab, price, and price. Understanding the important attributes of hijab products could help Hijab manufacturers to develop much better products and to be able to meet customers satisfaction [27] . According to Table 4, Finding from this study reveal that demographic in term of body weight and height of customer has no impact on the requirement ranking. However. If the manufacturer is targeted to go beyond local (Malaysia) market, the manufacturer need to detail the specification for different market segment/nation due to analysis result of H2 suggested that nationality made difference on motif. The implication of the finding is perhaps to provide guidance to the hijab manufacturers or Small and Medium Enterprise by concentrating on the certain attribute of hijab to be able to meet the customers' requirements.

Acknowledgements

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