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Brand or Clothing Function? Consumer Preference Analysis on Clothing Apparel Attributes and Design: A Conjoint Analysis Approach

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Abstract. The fashion industry has been continuously growing over the years, yet it is one of the industries that was greatly affected by the COVID-19 pandemic. The different clothing apparel has been seen to closed in some areas due to the strict lockdown implemented by the government and has shifted to e-commerce. However, there is still a decrease in the market due to the 'need for touch' before the consumers purchase apparel. The purpose of the study was to determine consumers' preference for clothing apparel attributes during the COVID-19 pandemic using conjoint analysis. There were 457 respondents who voluntarily participated and answered an online questionnaire which was distributed using convenience sampling approach. The results showed that brand was the most important attribute (43.582%), followed by clothing function (26.34%), assortment (14.523%), place of purchase (9.448%), and shopping intention (5.837%). In addition, the best combination was Uniqlo as the brand, clothing for comfort, garments, and non-garments as assortment, purchase at boutique, and for everyday use. The study suggests utilizing the findings of this study to promote marketing strategies and create market segmentation from the results. Finally, the innovative findings of the study could be applied and extended for evaluating fashion industry even in other countries.

Keywords: component, consumer behavior, fashion industry, COVID-19 pandemic, conjoint analysis, consumer preference

1. Introduction

The clothing apparel in the Philippines has been a growing market that has captured the attention of international brands. This brought the competition of both local and international brands [1]. With the projected increase in Compound Annual Growth Rate of 11% in 2022, the constant changes in marketing and strategies have contributed greatly towards the increased success of the fashion industry [2,3]. In addition, the current trend of the market has been seen to rely more on fashion items [4] and basic items – everyday use [5]. Moreover, the fashion items such as H&M and Zara are considered fast fashion that drove the success of fashionable products. This quickly gained the interests of people, leading to the increase of international and local products [4].

The rise of different brands promoted competition in the market and the preference of consumers would be a great way to create marketability and strategies to increase shopping intentions. In the Association of Southeast Asian Nations (ASEAN) region, there has been a constant increase in the textile and clothing industry especially in buying and manufacturing since 2012 [6]. People in this region has been inclined to compete internationally when it comes to production, manufacturing, and even consumer buying behavior.

Before the COVID-19 pandemic, consumer buying behavior relating to the fashion industry had been studied. Ridgway et al. [7] studied compulsive and impulsive buying behavior. Their study focused on how the buying behavior of consumers is affected by their personalities. In addition, Park et al. [8] dealt with the hedonic and utilitarian motives of people when buying apparel. Their study focused on impulse when buying online. In addition, Koca and Koc [9] demonstrated how gender affected purchasing behavior. It was seen that male consumers are more conscious of brands while females are more into the design and fashion sense

[9]. Finally, Laato et al. [10] considered the response of people and the change in buying behavior when purchasing during the COVID-19 pandemic.

During the COVID-19 pandemic, there was an evident unusual buying behavior among consumers in the clothing industry. This may have arisen from the fact that people are in lockdown, must stay indoors for safety, and even work and study at home [11]. There was even a stage of hoarding when the COVID-19 pandemic started [10]. Moreover, this COVID-19 pandemic condition is new to the current generation and affected their buying behavior. Now that the current pandemic created a new normal way of living, people are trying to adapt to the scenario. With that, there is a lack of literature available towards the buying behavior of consumers towards different products. Specifically, there have been no studies that dealt with the preference of Filipinos towards clothing apparel during the COVID-19 pandemic. One of the most widely utilized methods to determine this preference is conjoint analysis.

Conjoint analysis is a tool utilized to evaluate people's preferences. Different studies have utilized conjoint analysis for evaluating preference such as education settings from the Philippines [12,13], Korea [14,15], and Nepal [16]. Conjoint analysis has also been used to measure public e-services [17], vaccine preference [18], and even park preference [19,20]. It is a multivariate tool that has been widely utilized to measure the preference and to understand the attributes being considered based on evaluation among respondents [12, 21, 22]. Thus, this method can be utilized to determine the clothing apparel preference during the COVID-19 pandemic.

The purpose of the study was to determine the preference of consumers in the Philippines towards clothing apparel during the COVID-19 pandemic. Specifically, this study evaluated different attributes such as assortments (garments or non-garments), brands, place of purchase, shopping intentions, and clothing functions simultaneously by utilizing conjoint analysis approach. The evaluated preference of the respondents of this study could be utilized to create marketing plans and strategies among clothing apparel industries. Moreover, the results and the attributes of this study could be considered and may pave a way in creating segmentation among clothing apparel during the COVID-19 pandemic, even in different countries.

2. Methodology

2.1. Participants

The study considered 457 (49% male and 51% female) respondents that have an interest in clothing apparel. Hair [21] discussed that the sampling size is enough to generalize the preference when utilizing conjoint analysis with orthogonal design. Following the suggestion of Sethuraman et al. [23], and due to the COVID-19 pandemic, the online distribution of questionnaires through social media would suffice the data collection process using convenience sampling approach. Moreover, Ong et al. [22] also considered convenience sampling utilizing social media platforms for self-administered questionnaire distribution due to the COVID-19 pandemic. Table 1 presents the descriptive statistics of the demographics.

TABLE I. DEMOGRAPHIC PROFILES OF THE RESPONDENTS (N: 457)

Category	N	%	
Gender	Male	224	49%
	Female	233	51%
Age	15-22	143	31%
	23-30	216	47%
	31-38	38	8%
	39-46	26	6%
	47-54	19	4%
	55-62	12	3%
	63-70	3	1%
Education Level	High School	63	14%
	Vocational	5	1%
	University/College	320	70%
	Graduate School	69	15%
Employment Status	Employed	224	49%
	Unemployed	37	8%
	Student	138	30%

	Self-Employed	53	12%
	Retired	5	1%

2.2. Research Conceptualization

Conjoint Analysis (CA) is one of the standard techniques of analyzing consumer preferences and buying decisions, which takes into account the choices taken by the participants and derives their preferences [22, 24, 25]. The attributes for this study were the most common attributes that the consumers encounter when shopping (Table 2). The brands including Bench, Penshoppe, H&M, and Uniqlo were chosen because of the consistent ranking in the Fashion Retailers index ranking in 2018 and 2019 [26], while the local brand was included since there has been continuously growing market interest in them. For the place of purchase, this was where the consumer would make the purchase and the shopping intention was used to determine the usual intention in purchasing with the given different scenarios. For assortments, this was classified into 3: Garments only indicated that the store has only clothing products available; non-Garments only indicates that the store has accessories and footwear products only. For Garments and Non-Garments, this indicated that the store carried all possible products. To be able to identify how the shopper would assess apparel with other selections, clothing function was included. Clothing function attributes were chosen from the items used by [27,28] that was composed of five attribute level: fashion (clothes are fashionable), comfort (clothes that are comfortable), camouflage (clothes that camouflage the figure problems), assurance (clothes which boost morale), and individuality (clothes that makes it distinctive).

TABLE II. INDEX RANKINGS: PHILIPPINES FASHION RETAILERS, 2018 AND 2019 [26]

Rank	Brand	2019 Score	2018 Score
1	Uniqlo	31.9	30.5
2	Bench	30.3	45.6
3	Penshoppe	28.7	34.6
4	Forever 21	23.2	22.8
5	H&M	20.7	31.2

Figure 1 presents the research conceptualization for this study. The preparation stage involved the brainstorming process, wherein the attributes and levels were considered. The consideration of attributes and levels were based on the availability of clothing apparel, shops, and the most popular brands in the Philippines. The generation of the orthogonal design utilized the SPSS 25, adapted from the study of Kuzmanovic et al. [29]. After generating the orthogonal design, the questionnaire was developed utilizing Google forms. A test run was done for the implementation stage. Following the study of Ong et al. [22], about 50 respondents were evaluated to determine the validity of the orthogonal design. The initial run had 0.856 Pearson's R-value. Hair [21] stated that Pearson's R-value greater than 0.70 would be considered acceptable. The final stage involved the questionnaire distribution, generation of results, and statistical analysis for interpretation.

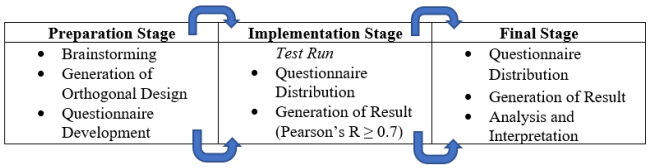

Fig. 1: Research conceptualization.

In order to get all the possible combinations, an orthogonal design was generated using IBM SPSS Statistics 25 [29]. The 25 stimuli were evaluated by the participants based on their expected liking of the different scenarios using a 7-point Likert scale labelled from 1 = 'would definitely not do it' to 7 ='would definitely do it [22, 30, 31], this procedure is referred as the conjoint task. The created orthogonal design is presented in Table 3, while Table 4 presents the 25 stimuli optimized by SPSS 25 for conjoint analysis.

TABLE III. ATTRIBUTES AND LEVELS

Attributes	Assortments	Brands	Place of Purchase	Shopping Intention	Clothing Function
Attribute Levels	Garments	Bench	Boutique	For Vacation	Fashion
	Non-Garments Only	Penshoppe	Department Store	For Everyday	Assurance
	Garments and Non-Garments	H&M	Pop-up Store	For School/Work	Camouflage
		Uniqlo	Online Store	For Going Out	Individuality
		Local Brand			Comfort

2.3. Statistical Analysis

After collecting all the responses from the conjoint task, the data collected were ran with the SPSS 25 [21,22]. The utility scores were determined for each attribute at each level, which indicates the preference values of individual attributes and levels corresponding to their standard errors. The higher utility is the indication of a higher preference of the consumer to that attribute level [21,22]. This determined which attributes and attribute levels were preferred by the consumers and which are the least preferred. Moreover, Hair [21] indicated that the correlation using Pearson's R would determine the relationship of the attributes considered by the respondents. A value close to 1.00 dictates a high correlation among the responses and provides an acceptable combination of attributes of this study. Moreover, Hair [21] discussed how the Kendall's Tau value would determine internal consistency with a value of $\geqslant 0.700$ with the inclusion of the Kendall's Tau Holdout value close to 1.00. Following Ong et al. [22], 2 holdouts were utilized to measure the consistency of the responses.

3. Results

Table 5 presents the result of this study. Based on this table, the brand had the highest importance value with 43.85% and the highest range utility due to the big gap in between the attribute levels. The utility estimates for brand attribute levels were the following: Uniqlo had the highest utility estimate with 0.536 followed by local brand with 0.103, while H&M, Penshoppe, and Bench had negative estimates with -0.120, -0.342, and -.467, respectively.

From the results, it was seen that the second-highest importance value was clothing function with 26.34% and 0.602 range utility with the following attribute levels: fashion with -0.059, assurance with -0.062, camouflage with -0.271, individuality with 0.061, and comfort with 0.331. The third highest importance value was product assortment with 14.52%, attribute levels were garments only, non-garments only, and garments and non-garments with 0.028, -0.180, and 0.152 estimates, respectively. In addition, place of purchase had 9.45% importance value that had 0.216 range utility while the attributes were 0.103 for boutique, 0.029 for a department store, while negative estimates for pop-up store and online store with -0.020 and -0.113, respectively. With the least important value, shopping intention has 5.84% with the attribute level estimates for every day with 0.57, for going out with 0.054, for vacation with 0.036, and for school/work with 0.076.

TABLE IV. CALCULATED UTILITY SCORES AND AVERAGE SCORE OF IMPORTANCE FOR EACH ATTRIBUTE AT EACH LEVEL

Utilities	Utility Estimate	Std. Error	AVE score of Importance	
Brand	Bench	-.467	.048	43.582
	Penshoppe	-.342	.048	
	H&M	-.120	.048	
	Uniqlo	.536	.048	
	Local Brand	.394	.048	
Place of Purchase	Boutique	.103	.036	9.448
	Department Store	.029	.045	
	Pop-up Store	-.020	.045	
	Online Store	-.113	.045	
Shopping Intention	For Vacation	-.036	.036	5.837
	For Everyday	.057	.045	
	For School/Work	-.076	.045	
	For Going Out	.054	.045	

Assortment	Garments Only	.028	.033	14.523
	Non-Garments Only	-.180	.033	
	Garments and Non-Garments	.152	.040	
Clothing Function	Fashion	-.059	.048	26.340
	Assurance	-.062	.048	
	Camouflage	-.271	.048	
	Individuality	.061	.048	
	Comfort	.331	.048	
(Constant)	4.047	.027		

Table 6 represents the utility scores for each scenario. Considering the utilities, the highest considered combination for consumer preference for clothing apparel considered Uniqlo as the brand, comfort for clothing function, garments and non-garment for the assortment, boutique as a place of purchase, and for everyday use with an average score utility of 1.208. In addition, ID 11 showed the most preferred combination among other combinations considered. On the other hand, the least preferred combination was with the Bench as the brand, camouflage as the clothing function, selling non-garments only, online store, and for school or work with an average utility score of -1.107. With that, ID 5 (See Table 6) was the least preferred combination among the respondents of this study.

TABLE V. CALCULATED UTILITY SCORES FOR EACH SCENARIO.

ID	Assortments	Brands	Place of Purchase	Shopping Intention	Clothing Function	Utility Estimates Total
1	Garments Only	Penshoppe	Department Store	For Vacation	Assurance	- 0.382
2	Garments Only	Local Brand	Boutique	For Everyday	Comfort	0.914
3	Non-Garments Only	H&M	Online Store	For Vacation	Fashion	-0.508
4	Garments and Non-Garments	Local Brand	Department Store	For Going Out	Fashion	0.570
5	Non-Garments Only	Bench	Boutique	For Vacation	Camouflage	- 0.850
6	Garments Only	Local Brand	Pop-Up Store	For Vacation	Individuality	0.427
7	Non-Garments Only	Penshoppe	Boutique	For Going Out	Individuality	-0.303
8	Non-Garments Only	H&M	Department Store	For School/Work	Comfort	-0.016
9	Garments Only	H&M	Boutique	For Everyday	Assurance	0.007
10	Garments Only	Bench	Boutique	For Vacation	Fashion	- 0.431
11	Garments and Non-Garments	Uniqlo	Boutique	For Vacation	Comfort	1.087
12	Garments Only	Uniqlo	Department Store	For Vacation	Camouflage	0.286
13	Garments Only	Penshoppe	Boutique	For School/Work	Fashion	-0.346
14	Garments Only	Bench	Online Store	For Going Out	Comfort	-0.166
15	Non-Garments Only	Local Brand	Boutique	For School/Work	Camouflage	-0.030
16	Garments Only	H&M	Pop-Up Store	For Going Out	Camouflage	- 0.328
17	Garments Only	Uniqlo	Online Store	For School/Work	Individuality	0.435
18	Garments and Non-Garments	Bench	Pop-Up Store	For School/Work	Assurance	-0.473
19	Garments and Non-Garments	H&M	Boutique	For Vacation	Individuality	0.160
20	Non-Garments Only	Bench	Department Store	For Everyday	Individuality	-0.501
21	Garments and Non-Garments	Penshoppe	Online Store	For Everyday	Camouflage	-0.516
22	Non-Garments Only	Uniqlo	Pop-Up Store	For Everyday	Fashion	0.334
23	Non-Garments Only	Penshoppe	Pop-Up Store	For Vacation	Comfort	- 0.245
24	Non-Garments Only	Local Brand	Online Store	For Vacation	Assurance	0.004
25	Non-Garments Only	Uniqlo	Boutique	For Going Out	Assurance	0.452

Table 7 represents the correlation results of the study. Based on the results, it was seen that Pearson's R had a high correlation between the group attributes. According to Hair [21], values close to 1.00 showed high

reliability among the attributes considered. In relation to the validity of the attributes and levels, it was seen that the Kendall's Tau had a value of 0.913. Following the suggestion of Hair [1], values greater than 0.70 showed internal consistency among the responses. Lastly, the Kendall's Tau for Holdout had a value of 1.00. Ong et al. [22] discussed how this showed the consistency among the responses of the data collected.

TABLE VI. CORRELATION

	Value	Significance
Pearson's R	0.990	0.000
Kendall's Tau	0.913	0.000
Kendall's Tau for Holdouts	1.000	

For the conjoint analysis, the best and least attribute level was identified by the utility estimates, while the range utility showed the variability between the level of attributes. The brand was seen to have the most important attribute for the consumers. This result is the same in previous literature which highlighted brands as a way of differentiation and competitive advantage among retailers [30,31]. Moreover, according to Liljander et al. [32] brand is found to significantly help the consumers in taking financial risks thus strongly influence the willingness to purchase. Consumers' purchases are often focused on the brand's performance than their emotional attachment [33]. This shows the impact of brand image on the consumer's buying behavior. Just like Uniqlo who has the highest utility estimate among brand level attributes and being the brand for the best scenario reflects its actual performance in the retail scene, it is recognized as one of the top brands in the Philippines [33].

Aside from brand preferences, individual clothing preferences are important due to various drivers of lifestyles of a consumer [34]. Based on the results, clothing function is the second most important attribute for Filipino consumers; wherein it is topped by comfort (clothes that are comfortable) with 0.331 utility estimates, followed by individuality (clothes that make it distinctive). This is in line with the results of Tigemann and Andrew [35], wherein comfort was seen to be the highly rated functions, followed by fashion and individuality. However, this contradicts the findings of Tiggemann et al. [36]. Tiggemann et al. [36] showed that seeking comfortable clothes negatively affects the consumer's choice of clothing while camouflage is important which turns out to be the least important attribute in the current study. As stated by Koca and Koc [9], gender plays a crucial role in the fashion industry. From the demographics, it could be seen that there are mostly equal amounts of male and female respondents. This may result in comfort and individuality preference.

The third attribute is assortment. A store's product assortment definitely influences the consumer's buying behavior this is proven by previous studies [37,38]. However, it is not always easy for retailers to be able to identify the correct category/assortment a store should carry with the right depth and time[39]. The findings of the current study suggest which product assortment is preferred by consumers in consideration of other attributes. This result will help businesses/brands to identify which assortment to focus on certain scenarios. With the different scenarios, ID 2 from Table 6 was seen to be the preferred combination by the consumers with "for garments only" assortment. The consumers prefer comfortable local brand garment that is for everyday use and prefers purchasing it in a boutique rather than other place of purchase. This scenario is seen to be driven by brand (local brand utilities = 0.394) and clothing function (comfort utilities = 0.331). This shows how a consumer prefers to prioritize brand name than clothing function especially if it is for everyday use.

In addition, the place of purchase for the scenario can be connected to the importance of 'need of touch' in securing comfortable clothes. An individual is persuaded by the feeling of the item in order to identify its point of purchase sign [40]. On the other hand, for non-garments items, consumers preferred ID 25, wherein brand (UNIQLO utility =0.536), place of purchase (boutique utility = 0.103) and shopping intention (for going out utility =0.054) were the important attributes. This indicates the importance of brand as a product attribute among consumers [41]. Brands could signal consumers status which can be related to the shopping intention of the scenario which is for going out [42]. Lastly, for garments and non-garments assortment, ID 11 is seen to be driven by brand (UNIQLO utility =0.536) and clothing function (comfort utility = 0.331),

while shopping intention (vacation utility = -0.036) draws negative utility for the scenario in which can be assumed as the least priority in this type of assortment.

The least important attributes are the place of purchase and shopping intention. For the place of purchase, the findings showed boutique and department stores were the level considered as preferred by the consumers. This means that consumers still prefer going to actual stores. Thus, they still prefer having 'need for touch' when shopping despite the continuous growth of retail fashion in e-commerce [40,43]. For shopping intention, the findings indicate that the consumer's purchasing behavior is driven to purchase for everyday use and recreational without immediate purchase intention [44].

3.1. Practical Implication

The result of the study is particularly useful for retail brand management. Since the study could determine the purchasing behavior of consumers by preference during unprecedented times of the COVID-19 pandemic. This study was able to identify which attributes to focus on in order to achieve consumer's trust and preference. The framework and findings of the study could be used as guides by the management and start-up businesses in identifying the positioning and differentiation that the market prefers. This is due to the unique research setting which identified not only the important attributes that consumers prefer, but also the relationship between factors in reaching actual purchase.

The conjoint analysis showed which attributes consumers prefer to focus on. Brand name topped the most important attribute to the consumers. This shows how companies should invest in getting the word out and building a brand image. Surprisingly, the consumer's buying behavior shows no significance on the marketing mix but shows significance on factors that represents the current state of the consumer's behavior. Thus, shows how brands/companies should approach the consumers and be able to easily learn how to adapt to the new normal using this study.

Furthermore, market innovations and technological advancements are needed for companies to stay competitive. Businesses must look for efficient ways to adapt to changing customer needs in order to remain competitive and to be able to recover from the effects of the pandemic. One way to adapt to a dynamic environment is through open innovation. Open innovation suggests that beneficial innovations can come from inside or outside the organization and the use of strategic inflows and outflows of information can be used to accelerate internal innovation and broaden its market [45]. Organizations could collaborate with a variety of experts and organizations that could provide innovative solutions to the company's needs. This could help companies learn from the experiments of others and be encouraged to share ideas that could address each other's needs. With the identification of the buying behavior of consumers during the COVID-19 pandemic and the attributes that are important to the consumers, the study has provided important points to develop innovation activities.

Open innovation in the fashion retail industry can help recovery from the pandemic. The different studies using open innovation [46,47] and external company's innovation activities could help the industry in developing a system that would help different businesses or organizations to simultaneously share their knowledge and experiences that could help businesses to grow together. Since good ideas can be found everywhere, transparency is essential during unprecedented times. Opening up will enhance the company's internal innovation process and will allow the company to benefit from the knowledge of others (from the outside in perspective), while also allowing others to benefit from the company's knowledge in their business (inside out perspective) [48,49,50].

Fashion retail companies could shift to different COVID-19 responses into converting some of their products to the current needs of the market, such as from making perfumes to hand sanitizers or alcohol products and towel to face masks. These are just some of the products that could help the company to catch up with the current needs and preferences of consumers. Based on the findings of the study, consumers still prefer going to actual stores. In order to encourage them to try the online platform, companies could offer additional options or benefits after purchasing such as exchange and return of items due to acceptable reasons and create easy-to-follow steps for these. This could help consumers to feel at ease when purchasing online and be encouraged to try different platforms of the company.

4. Conclusion

The global fashion industry is one of the industries that has continuously grown every year. Since 2012, the market of both local and international fashion industries has been competing in different countries. The ASEAN was seen to highly contribute to this market as brandings and manufacturing industries have emerged. However, there are limited studies that discuss consumer's preferences and associated them with the consumers buying behavior.

The study considered 457 respondents that voluntarily participated and answered the online questionnaires that were analyzed by conjoint analysis. The conjoint analysis, results show how important brand, clothing function, and assortment to consumers are, while the place of purchase and shopping intention as the least important. The results also showed the best and least scenarios that a consumer prefers while shopping. The findings in the study could help retailers identify which attributes to strengthen in order to become the consumer's preference.

The result of this study could be utilized by different brands in the fashion industry to promote their products. The attributes and levels seen from the result could be used for marketing strategies and market segmentation among different consumers. The COVID-19 pandemic led to unusual buying behavior [49,50]; thus, this study is a great contribution to determine the behavior of different consumers during the unprecedented time. Lastly, the market can take advantage of the results of this study to build from the consumer's preferences like the 'need for touch' and branding in the current trend of conversion to e-commerce.

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