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Indonesia consumer preferences on attributes of marketplace platform: a conjoint analysis approach

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ABSTRACT

The goal of this study is to find out what combination and number of features people prefer when selecting a marketplace platform. This study's target objects are marketplace platforms, which are among the top three most used by Indonesians. Conjoint analysis is used to assess consumer preferences using specified marketplace attributes. Platform view, promo, payment method, marketplace type, delivery services, and reviews are the stated attributes. Non-probability purposive sampling techniques were used to acquire data on early 2023 and 100 respondents were participated. This is accomplished by providing questionnaires using online forms to Indonesian students who utilize the marketplace platform. This last research will determine the combination and level of qualities that students desire when selecting a marketplace platform. The payment method attribute was discovered to be the most influential on student preferences. The second attribute is marketplace, followed by promotions, delivery services, reviews, and platform appearance. Several ideas and techniques were shared.

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1. Introduction

Advances in technology and information are accelerating in the contemporary globalization age, leading lifestyles to shift. The internet is strongly tied to technology and information. It is impossible to deny that improvements in information technology are accelerating due to electronic media. Using the marketplace platform allows consumers to perform online buying and selling transaction activities swiftly, easily, and practically. The convenience of online buying and selling attracts many people to do transactions. A marketplace is a business community forum that may be conducted interactively through electronic means and provides a market for enterprises to participate in e-commerce or other e-business activities (Graha, 2019). Another definition is that a marketplace is a location where vendors and buyers can conduct transactions for goods or services. There is a library of product sales, product stock, payment management, and information on buyers and sellers that is validated by management in the marketplace (Corrot & Nussenbaum, 2014). Sellers will offer their products on e-commerce booths with a marketplace idea. Thus, it is a matter of preferences that many consumers will decide.

Users select the preferred marketplace platform based on their preferences and requirements. Users will be concerned with the attributes offered on the market. Consumers might evaluate marketplace qualities such as platform appearance, promotions, payment options, marketplace type, delivery services, and reviews while deciding on a marketplace platform. With so many different marketplace platforms to

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pick, marketplace organizations must understand consumer behaviour and preferences in satisfying needs through current qualities. Using conjoint analysis, the present research examines consumers preferences in selecting the marketplace platform. Conjoint analysis is a multivariate technique for determining the combination of features of a product or service that consumers prefer to better understand consumer preferences for that product or service (Ihwah et al., 2020). Better product features can persuade people to acquire many products (Suhatman et al., 2020). Conjoint analysis is appropriate for researching consumer preferences for a product. The goal of conjoint analysis is to explain individual perceptions of items that have one or more elements. Conjoint analysis will yield quantitative measures of utility and relative relevance that compare an attribute to other attributes (Widyawati et al., 2014).

The present study's objective is to determine on consumers preferences in selecting a marketplace platform. Many research streams of conjoint analysis were conducted to answer the preference elicitation (Teichert & Shehu, 2010). The study contributes to describe the marketplace platform preferences on Indonesia case study, where Indonesia is the fourth largest populated country in the world and one of marketplace is a startup unicorn (Darsin, 2019). The findings of this study will be valuable for businesses in determining customer preferences when selecting a marketplace platform to satisfy their wants and needs. The frame of this research is divided into five parts, beginning from introduction, literature review, methodology, result, and conclusions. The research will bring benefits to theoretical and practical aspects of marketplace preferences research.

2. Literature review

A marketplace is an electronic market for sellers who want to provide products or services with buyers who want to buy these products or services who are connected via a type of e-commerce site (Tran et al., 2020). Another definition that defines a marketplace is as an interactive electronic business community which provides a market for companies to conduct business-to-business (B2B) e-commerce or other non-business activities (Graha, 2019). Sellers on the marketplace will send goods to buyers after receiving payment. Many prior studies focused on how the marketplace can be improved from many perspectives. The present study elaborates on how the consumer preferences related to marketplace attributes by using conjoint analysis. Specifically, the measured attributes were consisting of platform view, promo, payment method, marketplace, delivery service, and review.

The platform view serves as a meeting point for consumers and sellers. Consumers visit the platform to make purchases, and the display showcases a variety of product options to draw consumers' attention (Puspitaningrum & Setiawati, 2021). The platform view can be in form of simple display or in colourful mode. Promo is the attraction given by the seller related to buying process. The promo can be in form of free shipping or cashback (Afithoni et al., 2023; Lamis et al., 2022; Walga & Siregar, 2023). Payment methods facilitate consumers in selecting and purchasing things online without the need to wait in line, handle physical currency, or engage in traditional payment procedures. Various payment methods are available, including transfer, credit card, cash on delivery, and payment by merchant (Puspitaningrum & Setiawati, 2021). The marketplace is the organization who provide the service of marketplace. There are plenty of marketplace providers available in Indonesia, where the dominations are from the Green, Red, and Black providers (Supriyanto et al., 2023; Vega et al., 2021). Delivery service is the after-purchase process where the product will be delivered to consumer. There delivery service can be from third party providers or from the marketplace providers. The delivery service can be considered as the competitive aspect compared to traditional buying process (Nguyen et al., 2019). Review is a testimony given by consumer related to product and service offered by the seller. Testimony has strong influence on how the consumer decide to buy the products (Aminah, 2022). In giving the review, usually the consumers gave the ratings, comments, as well as figurative evidence like photos and videos.

3. Methodology

When researching the preferences of consumers for a product, conjoint analysis is an appropriate method to use. The purpose of conjoint analysis is to provide an explanation for the individual perceptions of things that contain one or more attributes (Bo-Hyun, 2023; Wedowati et al., 2020). According to Widyawati

et al. (2014), conjoint analysis will produce quantitative measures of utility and relative importance that compare one characteristic to other attributes. The current study's purpose is to determine the preferences of customers when it comes to picking a marketplace platform. According to Teichert and Shehu (2010), numerous research streams of conjoint analysis were carried out in order to answer the preference elicitation. Due to the fact that Indonesia is the fourth most populous country in the world, the study makes a contribution to the description of the preferences of marketplace platforms on the Indonesia case study.

There are three stages that needs to be performed in this research. The three stages are the design stage, the work stage, the analysis and discussion stage. In the first stage, where problems are identified, literature studies are carried out. The method used is the Conjoint Analysis method. The second stage is the work stage, which consist of identification of attributes, formation of stimuli, determination of the number of respondent samples, creation, and preparation of a questionnaire design. The questionnaire will be used for data collection, processing data, and testing validity, and reliability. The questionnaire will be distributed to the marketplace platform consumers in Indonesia. The final stage is the analysis and discussion stage, where the data obtained from the questionnaire is analysed, the results are formulated, and conclusions and suggestions are made.

In identifying attributes, the attributes used come from the existing attributes on the marketplace platform used in the research. The attributes used will be described into attribute levels. The attributes that will be used include platform appearance, promos, payment methods, marketplace, delivery services, and reviews. Table 1 shows the identification of attributes presented in the research:

The method used is stimuli generation by factorial design. The factorial approach is an evaluation from respondents' answers by combinations of stimuli that appear. However, if there are too many attributes and attribute levels, the attributes become impractical. The combination of attributes determined in this research produces a total of $2 \times 2 \times 4 \times 3 \times 2 \times 2 = 192$ stimuli. This number of combinations makes it difficult for respondents to carry out evaluations so that combinations can be reduced using an orthogonal array design. In general, a partial factorial design will produce several possible combinations. Orthogonality considerations need to be made from the results of each existing combination. Orthogonal references can create combination designs sourced from published sources or with computer programs (Sumargo & Wardoyo, 2008). Platform display attributes, promos, payment methods, delivery services, and reviews are stimuli that can be formed into 16 stimuli generated scenarios. Orthogonal design was used to ensure a reasonable number of stimuli for evaluation by respondents (Belmonte et al., 2022; Ong et al., 2023). Previous various conjoint analysis research studies were using orthogonal design as the basis of stimuli generation (Altes et al., 2023; Armea et al., 2022; Chan et al., 2022; Ong et al., 2023; Pineda et al., 2022; Prasetyo et al., 2024; Rebualos et al., 2022; Santos et al., 2022; Tan et al., 2022).

In determining the sample, the respondents taken from consumers who had made transactions on marketplace platforms such as Green Marketplace, Red Marketplace, and Black Marketplace. The sampling technique used in this research is non-probability purposive sampling method. The criterion of eligible

Table 1. Attributes identification.

Attribute	Level of attributes	Category
Platform view	Simple platform display	1
	Colourful and illustrated platform displays	2
Promo	Free shipping with a certain minimum purchase amount	1
	Cashback on product purchases with a certain minimum purchase amount	2
Payment method	Transfer via bank	1
	Credit Card/Paylater	2
	Cash on delivery	3
	Pay via merchant	4
Marketplace	Green Marketplace	1
	Red Marketplace	2
	Black Marketplace	3
Delivery service	Expedition services	1
	Marketplace delivery service	2
Review	Product reviews are in the form of ratings and comments	1
	Product reviews in the form of photos and videos	2

respondent is anyone who is using the marketplace for transaction for three marketplace platform (Green, Red, Black). Purposive sampling method was also used by many conjoint research studies (Batavio et al., 2017; Gumasing et al., 2022; Verma & Chandra, 2018). Determining the sample used for this final research project uses the Indonesian population size as the highest assumption that uses the marketplace platform consumers in Indonesia. Therefore, the present research utilized the Taro Yamane sampling size formula with 10 percent of error from 275 million (Yamane, 1973). Based on existing calculations, it is known that the minimum number of samples that will be used for this final research project is 100 samples. Previous studies also shown that the number of 100 to 300 respondents were performed in plenty of research cases (Green & Srinivasan, 1978; Hanis et al., 2013; Marshall et al., 2010). The sampling was performed in early 2023 by using online Google form. The information on Google form was posted by using social media.

The research was approved by Research Ethics Committees of School of Industrial Engineering and Engineering Management (IE-EMG), Mapua University, under the supervision of Dean School of IE-EMG, Prof. Michael Nayat Young. The respondents were given the written consent for participation in the study.

In creating and compiling the questionnaire, two measurements were used, namely ranking or ranking ordered from most favourite to least favourite and using a rating on a Likert scale with a value of 1 representing very dislike, 2 representing dislike, 3 representing quite liking, 4 representing liking, and 5 represents very like it. The following Table 2 is the attribute questions stimuli.

Table 2. Stimuli.

Stimuli	Platform view	Promo	Payment method	Marketplace	Delivery service	Review
1	Simple platform display	Free shipping with a certain minimum purchase amount	Cash on delivery	Red Marketplace	Marketplace delivery service	Product reviews in the form of photos and videos
2	Colorful and illustrated platform displays	Cashback on product purchases with a certain minimum purchase amount	Cash on delivery	Green Marketplace	Marketplace delivery service	Product reviews in the form of photos and videos
3	Colorful and illustrated platform displays	Cashback on product purchases with a certain minimum purchase amount	Credit Card/ Paylater	Green Marketplace	Expedition services	Product reviews in the form of photos and videos
4	Simple platform display	Cashback on product purchases with a certain minimum purchase amount	Pay via merchant	Green Marketplace	Expedition services	Product reviews in the form of photos and videos
5	Colorful and illustrated platform displays	Cashback on product purchases with a certain minimum purchase amount	Pay via merchant	Red Marketplace	Marketplace delivery service	Product reviews are in the form of ratings and comments
6	Colorful and illustrated platform displays	Cashback on product purchases with a certain minimum purchase amount	Transfer via bank	Red Marketplace	Expedition services	Product reviews are in the form of ratings and comments
7	Simple platform display	Free shipping with a certain minimum purchase amount	Pay via merchant	Green Marketplace	Marketplace delivery service	Product reviews are in the form of ratings and comments
8	Colorful and illustrated platform displays	Free shipping with a certain minimum purchase amount	Transfer via bank	Black Marketplace	Marketplace delivery service	Product reviews in the form of photos and videos
9	Simple platform display	Cashback on product purchases with a certain minimum purchase amount	Cash on delivery	Black Marketplace	Expedition services	Product reviews are in the form of ratings and comments
10	Colorful and illustrated platform displays	Free shipping with a certain minimum purchase amount	Cash on delivery	Green Marketplace	Expedition services	Product reviews are in the form of ratings and comments
11	Simple platform display	Cashback on product purchases with a certain minimum purchase amount	Transfer via bank	Green Marketplace	Marketplace delivery service	Product reviews in the form of photos and videos
12	Colorful and illustrated platform displays	Free shipping with a certain minimum purchase amount	Credit Card/ Paylater	Green Marketplace	Marketplace delivery service	Product reviews are in the form of ratings and comments
13	Simple platform display	Cashback on product purchases with a certain minimum purchase amount	Credit Card/ Paylater	Black Marketplace	Marketplace delivery service	Product reviews are in the form of ratings and comments
14	Simple platform display	Free shipping with a certain minimum purchase amount	Transfer via bank	Green Marketplace	Expedition services	Product reviews are in the form of ratings and comments
15	Colorful and illustrated platform displays	Free shipping with a certain minimum purchase amount	Pay via merchant	Black Marketplace	Expedition services	Product reviews in the form of photos and videos
16	Simple platform display	Free shipping with a certain minimum purchase amount	Credit Card/ Paylater	Red Marketplace	Expedition services	Product reviews in the form of photos and videos

4. Result

4.1. Statistical result

Validity testing aims to determine which question items are valid or not. Data analysis will be carried out by the pilot test. This can be seen by using the *r* table, where the *r* table used for 30 respondents is 0.361. Below are the results of the validity test in [Table 3](#). After carrying out validity testing, reliability testing will be carried out. The Cronbach alpha generates the value of 0.859 for 16 items, exceeding the minimum score of 0.6 (Nugraha et al., 2023; Persada et al., 2023). The Cronbach value therefore is reliable.

Full data validity testing needs to be carried out to ensure that the question items in the research are valid or invalid. The value of the *r* table used for 100 respondents is 0.196 with a significance level of 5%. A question item can be said to be valid when the Pearson correlation value is greater than the *r* table value. Below are the results of testing the validity of each question item in [Table 4](#). The Cronbach alpha generates the value of 0.730 for 16 items, exceeding the minimum score of 0.6 (Cayaban et al., 2023; Perez et al., 2023). The Cronbach value therefore is reliable.

Descriptive statistical analysis was carried out to determine the demographic respondents who had completed the questionnaire. [Table 5](#) shows the demographic regarding the percentage of gender, percentage of time used, percentage of use of the marketplace platform, and the last transaction in the marketplace.

Importance values are values that are useful for showing the importance of attributes of marketplace users according to respondents' answers. The following is the average importance value obtained from the results of data in [Table 6](#). Based on the table above, it is known that the importance values of the attributes are the payment method attribute with an importance value of 35.967, the marketplace attribute with an importance value of 20.066, the promo attribute with an importance value of 12.168, the

Table 3. Validity test of pilot test.

Questions code	r-table	Pearson correlation	Validity
P1		0.503	
P2		0.561	
P3		0.560	
P4		0.666	
P5		0.600	
P6		0.366	
P7		0.737	
P8	0.361	0.733	Valid
P9		0.502	
P10		0.498	
P11		0.516	
P12		0.571	
P13		0.362	
P14		0.635	
P15		0.716	
P16		0.553	

Table 4. Validity TEST.

Questions code	r-table	Pearson correlation	Validity
P1		0.405	
P2		0.343	
P3		0.459	
P4		0.421	
P5		0.583	
P6		0.201	
P7		0.603	
P8	0.196	0.305	Valid
P9		0.487	
P10		0.524	
P11		0.288	
P12		0.511	
P13		0.213	
P14		0.596	
P15		0.551	
P16		0.529	

Table 5. Demographic analysis.

Respondent Profile	Frequency
Gender	
Male	31
Female	69
Total	100
Percentage of time usage	
Occasionally	14
Seldom	14
Once a week	33
Frequently	39
Total	100
Marketplace usage	
Red brand	75
Green brand	16
Black brand	9
Total	100
Last transaction in marketplace	
Less than 1 month	83
1 month	12
3 months	3
6 months and more	2
Total	100

Table 6. Average importance values.

Importance values	
Attribute	
Platform View	9.511
Promo	12.168
Payment Method	35.967
Marketplace	20.066
Delivery service	11.532
Review	10.756

delivery service attribute with an importance value of 11.532, the review attribute with an importance value of 10.756, and the platform view attribute with an importance value of 9.511. Therefore, the highest important attribute for consumers is the payment method attribute.

The utility value obtained from the data processing results on [Table 7](#). Based on the table, it is known that the utility value of the platform display attribute, namely the simple platform display, has a value of 0.070, while for coloured and illustrated platform displays the value is -0.070 . With this data, simple platform displays are preferred by respondents because they have the most positive value compared to coloured and illustrated platform displays. The respondents prioritize a simple platform appearance when using the marketplace platform.

The utility value of the promo attribute, namely cashback on product purchases with a certain minimum purchase amount, has a value of 0.137, while free shipping with a certain minimum purchase amount has a value of -0.137 . With this data, cashback for product purchases with a certain minimum purchase amount is preferred by respondents because it has the most positive value compared to free shipping with a certain minimum purchase amount. The respondents prioritize cashback on product purchases with a certain minimum purchase amount when using the marketplace platform. The utility value of the payment method attribute, namely bank transfer, has a value of 0.407, credit card/paylater has a value of 0.205, cash on delivery has a value of -0.235 , while paying via merchant has a value of -0.378 . With this data, transfers via bank are preferred by respondents because they have the most positive value compared to credit cards/paylaters, cash on delivery, and paying through merchants. The respondents prioritize transfers via banks when carrying out transactions and using marketplace platforms. The utility value of the marketplace attribute, namely Red and Black marketplaces, have the same value, namely 0.078, while for Green marketplace has a value of -0.157 . With this data, it can be concluded that Red and Black Marketplaces have the same level of importance for respondents in using the marketplace platform compared to Green Marketplace. The utility value of the delivery service attribute, namely marketplace delivery services, has a value of 0.029, while for expedition services has a value of -0.029 . With this data, marketplace delivery services are preferred by respondents because they have the most positive value compared to expedition services. The respondents prioritize marketplace delivery

Table 7. Utility values.

Attribute	Level of attributes	Utility estimate	Std. Error
Platform View	Simple platform display	0.070	0.118
	Colourful and illustrated platform displays	-0.070	0.118
Promo	Free shipping with a certain minimum purchase amount	-0.137	0.118
	Cashback on product purchases with a certain minimum purchase amount	0.137	0.118
Payment Method	Transfer via bank	0.407	0.205
	Credit Card/Paylater	0.205	0.205
	Cash on delivery	-0.235	0.205
	Pay via merchant	-0.378	0.205
Marketplace	Green Marketplace	-0.157	0.158
	Red Marketplace	0.078	0.185
	Black Marketplace	0.078	0.185
Delivery service	Expedition services	-0.029	0.118
	Marketplace delivery service	0.029	0.118
Review	Product reviews are in the form of ratings and comments	-0.040	0.118
	Product reviews in the form of photos and videos	0.040	0.118
Constant		3.199	0.125

services when using the marketplace platform. The utility value of the review attribute, namely product reviews in the form of photos and videos, has a value of 0.040, while product reviews in the form of ratings and comments have a value of -0.040. With this data, product reviews in the form of photos and videos are preferred by respondents because they have the most positive value compared to product reviews in the form of ratings and comments. The respondents prioritize product reviews in the form of photos and videos when using the marketplace platform.

Below are the stimulus ratings shown in Table 8. Based on the table data above, it shows the ranking of the 16 existing stimuli. Of the 16 stimuli, it is known that the 11th combination was ranked 1st as the most preferred by respondents. The combination of attributes in rank 1 is a simple platform display, cashback for product purchases with a certain minimum purchase amount, transfers via bank, Green Marketplace, marketplace delivery services, and product reviews in the form of photos and videos. The first ranked attribute combination has a total utility value of 0.526. This combination can be ranked first because based on the total results of the utility value calculation calculated from the attributes and attribute levels in the 11th combination, it produces the highest value. Meanwhile, the 10th combination is the combination that respondents least like or is ranked 16th (last). The combination of attributes in rank 16 is a coloured and illustrated platform display, free shipping with a certain minimum purchase amount, cash on delivery, Green Marketplace, expedition services, as well as product reviews in the form of ratings and comments. The final ranked attribute combination has a total utility value of -0.668. This combination can be ranked last because based on the total results of the utility value calculation calculated from the attributes and attribute levels in the 10th combination, it produces the lowest value.

By analysing the correlation value, the Pearson's R value is 0.792 and the Kendall's Tau value is 0.567, which is close to 1 and shows a strong relationship between the results obtained and consumer preferences (Ong et al., 2021).

4.2. Discussion

Based on the results of previous research, the research can identify aspects that can be developed by the marketplace. The recommendations explained are based on the relationship with the results of data processing in this research. This recommendation was made based on open questions conducted with questionnaire respondents and contained criticism and suggestions for marketplace platforms, namely Green Marketplace, Red Marketplace, and Black Marketplace Shop.

Not all the marketplace platform displays in Indonesia have a user-friendly display, where users expect a satisfactory platform display in the user experience category. Through research data presented by Google, it is stated that up to 67% of users have a tendency to carry out transactions on the marketplace platform if it has a user-friendly display (Fauzia et al., 2018). From the results of the data processing that has been carried out, it is shown that the platform display attribute has a positive value, namely a

Table 8. Stimulus rank.

Stimuli	Platform view	Promo	Payment method	Marketplace	Delivery service	Review	Total	Rank
1	Simple platform display	Free shipping with a certain minimum purchase amount	Cash on delivery	Red Marketplace	Marketplace delivery service	Product reviews in the form of photos and videos	-0.155	9
2	Colorful and illustrated platform displays	Cashback on product purchases with a certain minimum purchase amount	Cash on delivery	Green Marketplace	Marketplace delivery service	Product reviews in the form of photos and videos	-0.256	12
3	Colorful and illustrated platform displays	Cashback on product purchases with a certain minimum purchase amount	Credit Card/ Paylater	Green Marketplace	Expedition services	Product reviews in the form of photos and videos	0.126	6
4	Simple platform display	Cashback on product purchases with a certain minimum purchase amount	Pay via merchant	Green Marketplace	Expedition services	Product reviews in the form of photos and videos	-0.317	13
5	Colorful and illustrated platform displays	Cashback on product purchases with a certain minimum purchase amount	Pay via merchant	Red Marketplace	Marketplace delivery service	Product reviews are in the form of ratings and comments	-0.244	11
6	Colorful and illustrated platform displays	Cashback on product purchases with a certain minimum purchase amount	Transfer via bank	Red Marketplace	Expedition services	Product reviews are in the form of ratings and comments	0.483	2
7	Simple platform display	Free shipping with a certain minimum purchase amount	Pay via merchant	Green Marketplace	Marketplace delivery service	Product reviews are in the form of ratings and comments	-0.613	15
8	Colorful and illustrated platform displays	Free shipping with a certain minimum purchase amount	Transfer via bank	Black Marketplace	Marketplace delivery service	Product reviews in the form of photos and videos	0.347	4
9	Simple platform display	Cashback on product purchases with a certain minimum purchase amount	Cash on delivery	Black Marketplace	Expedition services	Product reviews are in the form of ratings and comments	-0.019	8
10	Colorful and illustrated platform displays	Free shipping with a certain minimum purchase amount	Cash on delivery	Green Marketplace	Expedition services	Product reviews are in the form of ratings and comments	-0.668	16
11	Simple platform display	Cashback on product purchases with a certain minimum purchase amount	Transfer via bank	Green Marketplace	Marketplace delivery service	Product reviews in the form of photos and videos	0.526	1
12	Colorful and illustrated platform displays	Free shipping with a certain minimum purchase amount	Credit Card/ Paylater	Green Marketplace	Marketplace delivery service	Product reviews are in the form of ratings and comments	-0.170	10
13	Simple platform display	Cashback on product purchases with a certain minimum purchase amount	Credit Card/ Paylater	Black Marketplace	Marketplace delivery service	Product reviews are in the form of ratings and comments	0.479	3
14	Simple platform display	Free shipping with a certain minimum purchase amount	Transfer via bank	Green Marketplace	Expedition services	Product reviews are in the form of ratings and comments	0.114	7
15	Colorful and illustrated platform displays	Free shipping with a certain minimum purchase amount	Pay via merchant	Black Marketplace	Expedition services	Product reviews in the form of photos and videos	-0.496	14
16	Simple platform display	Free shipping with a certain minimum purchase amount	Credit Card/ Paylater	Red Marketplace	Expedition services	Product reviews in the form of photos and videos	0.227	5

simple platform display, so that this attribute is one of the considerations for students in choosing and using the marketplace platform. Therefore, marketplace platform developers need to improve application quality and increase loyal users. Based on the above, the appearance of the platform desired by respondents needs to be considered by the marketplace that respondents prefer a simple platform appearance. Users feel that they would be more satisfied if the marketplace platform's appearance could be improved to make it more user friendly. According to the respondents' answers, there was confusion with the display design displayed. Recommendations that can be made are to reduce images or icons that cause the

display to look too full and make the display and features more attractive and not confusing for users. The insight proves that the concerns of the respondents can be used as a reference for making improvements to the platform appearance. With this, it is hoped that it can retain users to continue using the marketplace platform because they feel comfortable with the display provided.

Sales promotion is one of the variables in the marketing mix which acts as a means of communicating between consumers and the company and makes consumers buy products or use services (Sulistianti & Sugiarta, 2022). From the results of the data processing that has been carried out, it is shown that the promo attribute has a positive value, namely cashback on product purchases with a certain minimum purchase amount, so this attribute is one of the considerations for students in choosing and using the marketplace platform. Therefore, marketplace platform developers need to improve application quality and loyal users. Based on the above, the promotions desired by the respondents need to be considered by the marketplace that respondents prefer cashback promos for purchasing products with a certain minimum purchase amount. Users feel that they will be more satisfied if the promotions in a marketplace are more tailored to the users' needs. According to the respondents' answers, the promos provided do not meet the needs of users. Recommendations that can be made are to provide more promo offers, shopping vouchers or discounts that can be claimed every day, the promos offered are unlimited and can be used on all goods, and the promo vouchers offered have no estimated usage limit for the voucher. The insight proves that the concerns of the respondents can be used as a reference for making improvements to existing promos. With this, it is hoped that it can retain users to continue using the marketplace platform because the promotions offered can increase their intention to use the marketplace itself.

Consumers can choose the payment methods provided by the marketplace according to their wishes. Currently, digital payment methods are preferred compared to cash payments because they make it easier for consumers to carry out transactions more quickly and efficiently (Handayani, 2021). From the results of the data processing that has been carried out, it is shown that the payment method attribute has a positive value, namely transfer via bank, so this attribute is one of the considerations for students in choosing and using the marketplace platform. Therefore, marketplace platform developers need to improve application quality and loyal users. Based on the above, the payment method desired by the respondents needs to be considered by the marketplace that respondents prefer the payment method via bank transfer. Users feel that they will be more satisfied if payment methods can expand the choice of transaction services. According to the respondents' answers, the payment method options provided do not meet the needs of users. Recommendations that can be made are to provide transaction services like other e-wallets, provide more varied payment options and the voucher codes provided can use all payment methods provided, not limited to certain payment methods. The insight proves that the concerns of the respondents can be used as a reference for making improvements to existing payment methods. With this, it is hoped that it can retain users to continue using the marketplace platform because the more varied payment options make it easier for marketplace platform users.

Marketplace is an interactive electronic business community which provides a market for companies to conduct business-to-business (B2B) e-commerce or other non-business activities (Graha, 2019). From the results of the data processing that has been carried out, it is shown that the marketplace attribute has a positive value, namely Red Marketplace and Black Marketplace Shop, so this attribute is one of the considerations for students in choosing and using the marketplace platform. Therefore, marketplace platform developers need to improve application quality and loyal users. Based on the above, the marketplace that respondents want needs to be taken into account by the marketplace that respondents prefer to use the Red Marketplace and Black Marketplace Shop marketplace platforms. Users feel that they will be more satisfied if the marketplace can make improvements to the website or application. According to the respondents' answers, there are still shortcomings in the marketplace. Recommendations that can be made are that improvements to the website/application and system are carried out periodically to avoid existing disturbances such as errors, slowness, lagging or crashing in the application, notifications are given to users when they want to make improvements to the marketplace platform, filtering recommendations goods that appear to be more related, filtering credible sellers, providing rewards and loyalty programs that benefit users, and reducing unnecessary costs. The insight proves that the concerns of the respondents can be used as a reference for making improvements to the marketplace. With this, it is

hoped that it will be able to retain users to continue using the marketplace platform because this unrest has resulted in users switching and being lazy about using the marketplace platform.

Goods delivery services are very important for areas that people cannot reach themselves, so it would be very necessary and would be efficient if they could deliver goods to these areas which makes it easy and practical as a solution for the community (Kusaimah, 2021). From the results of the data processing that has been carried out, it is shown that the delivery service attribute has a positive value, namely the delivery service belongs to the marketplace, so this attribute is one of the considerations for students in choosing and using the marketplace platform. Therefore, marketplace platform developers need to improve application quality and loyal users. Based on the above, the delivery service desired by the respondents needs to be taken into account by the marketplace that respondents prefer the delivery service provided by the marketplace. Users feel that they will be more satisfied if existing delivery services can adapt to user needs. According to the respondents' answers, existing delivery services still have shortcomings. Recommendations that can be made are to select the desired shipping expedition, speed up the delivery time according to the specified procedures and time standards, and improve the service and delivery courier to make it even better. The insight proves that the concerns of the respondents can be used as a reference for making improvements to existing delivery services. With this, it is hoped that it can retain users to continue using the marketplace platform because the delivery services offered are guaranteed and reliable and can increase customer confidence in using the marketplace platform.

Product reviews are one way of spreading word of mouth through electronic media which can be called marketing communication and can influence and play a role in the buyer's purchasing decision process. This product review is an opinion formed from consumer experiences with the services or products being bought and sold. Information from product reviews provided can serve to identify and evaluate products needed by consumers. From the results of the data processing that has been carried out, it is shown that the review attribute has a positive value, namely product reviews in the form of photos and videos, so that this attribute is one of the considerations for students in choosing and using the marketplace platform. Therefore, marketplace platform developers need to improve application quality and loyal users. Based on the above, the reviews that respondents want needs to be considered by the marketplace that respondents prefer product reviews in the form of photos and videos so that they look more real. Users feel that they will be more satisfied if existing reviews can meet the information needs of users. According to respondents' answers, existing reviews have not met the satisfaction of the information desired by users. Recommendations that can be made are that the reviews given have good and clear photo or video quality, the photos or videos uploaded are not blurry or shaky, the photos or videos match the product being sold, not uploading different photos or videos, and the reviews given must be honest about the quality of the product. The insight proves that the concerns of the respondents can be used as a reference for making improvements and filtering existing reviews. With this, it is hoped that it can retain users to continue using the marketplace platform because it has clear product reviews based on buyers' uploads which results in users trusting the marketplace platform which has and sells good quality products.

5. Conclusions

The combination of attributes that are most liked or preferred by consumers in choosing a marketplace platform is a simple platform display, cashback on product purchases with a certain minimum purchase amount, transfers via bank, Green Marketplace, marketplace delivery services, and product reviews in the form of photos and videos. This combination of attributes can be a consumer's preference because based on the total calculation results of the utility value calculated from the attributes and the attribute levels in this combination, it produces the highest value. The combination of attributes that consumers least like or do not prefer when choosing a marketplace platform is coloured and illustrated platform displays, free shipping with a certain minimum purchase amount, cash on delivery, Green Marketplace, expedition services, and reviews products in the form of ratings and comments. This combination of attributes is not a consumer's preference because based on the total calculation results of the utility value calculated from the attributes and the attribute levels in this combination, it produces the lowest value.

The payment method attribute is the attribute that most influences consumer preferences. This was followed by the marketplace attributes, promotions, delivery services, reviews and platform appearance that were least considered by respondents. The attribute level that is the consumer's preference for the payment method attribute is payment or transfer via bank when carrying out transactions on the marketplace platform. The attribute level that is the consumer's preference for marketplace attributes is Red Marketplace and Black Marketplace Shop in using the marketplace platform. The attribute level that is the consumer's preference for the promo attribute is cashback on product purchases with a certain minimum purchase amount when using the marketplace platform. The attribute level that is the consumer's preference for the delivery service attribute is the marketplace's delivery service using the marketplace platform. The attribute level that consumers prefer in the review attribute is product reviews in the form of photos and videos when using the marketplace platform. The attribute level that is the consumer's preference for the platform display attribute is a simple platform display in using the marketplace platform.

Based on the results of the research that has been carried out, several suggestions can be identified which are expected to be useful for marketplace application developers such as Green Marketplace, Red Marketplace, and Black Marketplace Shop as well as for further research in the future. First, marketplace platform developers can pay more attention to the quality of the platform displayed to users, whether it is user friendly and easy to use the application so that it does not confuse users. Second, marketplace platform developers can pay more attention to application services, whether the promo vouchers provided are in accordance with what the user wants with the expected conditions and the transaction services or payment methods offered as an option are in accordance with the user's needs. Third, marketplace platform developers can pay more attention to the delivery services provided in the application, whether they comply with existing delivery procedures and standards and can collaborate well with delivery services in Indonesia who can serve them quickly. Fourth, marketplace platform developers can pay more attention to the quality of information such as reviews contained in the application, whether the review information provided and uploaded by other buyers is in accordance with what other potential buyers need and whether the review information written by buyers is complete, honest, objective, detailed and easy to understand, otherwise the developer can carry out further reviews if the reviews given by buyers do not match the products displayed on the application.

The present research contributes on theoretical contribution by confirming that the attributes mentioned in previous study were relevant to this research (Afithoni et al., 2023; Nguyen et al., 2019; Puspitaningrum & Setiawati, 2021; Supriyanto et al., 2023; Walga & Siregar, 2023). Some limitations and suggestions were also provided. First, in further research, the research can expand the scope of research. Future research carried out will not only be limited to 3 (three) marketplace platforms, namely Green Marketplace, Red Marketplace, and Black Marketplace, but others. Second, a more detailed criteria in searching for respondents by knowing the period when the user last made a transaction on the marketplace platform and not just once but more than once in the last few months to better describe the latest conditions of the marketplace usage. Third, considering the demographic attributes to be included in the conjoint analysis (e.g. location, gender, income, or other based on previous literature) are suggested for future research.

Author contribution

Satria Fadil Persada, Reny Nadlifatin, and Angelica Cintya Mannuela Wibowo: Contributed reagents, materials, analysis tools or data.

Satria Fadil Persada, Reny Nadlifatin, Angelica Cintya Mannuela Wibowo, Etsa Astridya Setiyati, Yogi Tri Prasetyo: Analyzed and interpreted the data; Wrote the paper, Performed the analysis; Conceived and designed the analysis.

Prawira Fajarindra Belgiawan, Ardvin Kester S. Ong, and Michael Nayat Young: Analyzed and interpreted the data, writing, review, and editing.

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Data availability statement

Data available on reasonable request from the corresponding author.

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