E-ISSN: 2783-3119

nasme-journal.ir



Exploring the best e-commerce in Indonesia: In-depth analysis of price, security, user-friendliness, product availability, and promotions in determining the leading platform

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Received 04 August 2023 | Revised 09 September 2023 | Accepted 06 October 2023

Abstract

In the increasingly digital era, choosing the right e-commerce platform is very important in achieving business success. The aim of this research is to carry out an in-depth analysis of the main criteria, including price, security, ease of use, product availability and promotion, in determining the best e-commerce platform in Indonesia. Through the Hierarchy Process (AHP) Analysis method, we evaluate the relative impact of each criterion in selecting ecommerce platforms, and compare the main platforms in Indonesia: Blibli, Bukalapak, Lazada, Shopee, and Tokopedia. Our research results show that in choosing the best ecommerce platform, promotions and discounts have the greatest influence, followed by product availability and ease of use. Although price has less influence in our analysis, security remains a significant consideration. These results provide insight into the priorities that businesses need to pay attention to when choosing a suitable e-commerce platform. This research also reveals that the leading e-commerce platform in Indonesia is Tokopedia which has the greatest influence on the selection of criteria analyzed. In this study, we obtained data from 105 respondents who participated. However, it is important to remember that selecting the best e-commerce platform should be based on the business context, consumer preferences, and desired strategy. Our conclusion provides a useful guide for business people in understanding the important factors to consider in choosing an e-commerce platform that is profitable and suits their goals.

Keywords: AHP, E-commerce, Criteria, Alternative, Super decisions.

1. Introduction

The development of e-commerce has undergone an impressive evolution over the past few years. In its early years, in the late 1990s, e-commerce started as a small experiment in the digital world. However, with increased internet access, better technology, and changing consumer spending patterns, e-commerce has grown into a dominant economic force. According to data from Statista, in 2021, global e-commerce sales reached more than 4.2 trillion US dollars, with more than 2.14 billion online buyers worldwide (Central Statistics Agency, 2022).



Figure 1. Growth of e-commerce around the world

This shows how rapidly e-commerce has grown over time. This growth is also driven by various factors such as the convenience of online shopping, wider product choices, and increased consumer confidence in online payments and delivery. Countries in the Asia-Pacific region and South America are currently experiencing the fastest growth in the e-commerce sector (Statista, 2021). This is due to the dynamic adaptation to new technologies as well as the demographic structure of these countries - there are more young people than older citizens. This new generation is more tech-savvy and tends to buy things online rather than offline.



Figure 2. E-commerce ranking for 2022 worldwide

In this comparison, Indonesia is a developing country whose market growth in 2022 will reach 23% below India and the Philippines (Fokina, 2023). However, it should be noted that Indonesia is among the ten fastest growing countries in terms of increasing the number of online sales. One supporting factor is that internet users in Indonesia are projected to make more online purchases in 2025 than before. And with this growth comes new opportunities for businesses to capitalize on this trend by expanding their reach into the e-commerce market. Based on a BPS survey entitled E-Commerce Statistics 2022, only 34.10% of business actors use *e-commerce platforms* to sell, while the remaining 65.90% of business actors still sell offline. Although from the statement above, BPS also recorded an increase in December 2022 from 32.23% in December 2021, increasing to 34.10% in December 2022 (Fitra, 2022).

E-commerce users in Indonesia are influenced by various variables including social, technological and economic factors. Some variables that can influence the behavior of e-commerce users in Indonesia are as follows: Technology Growth: The increasingly widespread adoption of technology in Indonesia, including increased internet access and smartphone penetration, has enabled more people to access e-commerce platforms. Population Demographics: Indonesia's demographic composition is dominated by a young population, which is more familiar with technology, driving the growth of e-commerce usage. Use of Social Media: The active use of social media in Indonesia has also influenced purchasing patterns, as social media platforms are often used as channels for advertising and e-commerce promotions. Transaction Security: The level of trust in the security of online transactions influences how many people are willing to shop online. The development of secure payment methods and consumer data protection are important factors. Product Choice and Price: The availability of a variety of products and competitive prices on e-commerce platforms can influence consumers'

decisions to shop online. Promotions and Discounts: Promotions, discounts and special offers on e-commerce platforms can also act as an incentive for users to shop online. Ease of Use: An easy-to-use user interface and a convenient online shopping experience also influence consumer choices. Brand Trust and Reviews: Brand reputation, product reviews, and previous user experiences can influence the level of trust consumers have in a particular e-commerce platform. Geographic Accessibility: Some regions in Indonesia may have limited access to physical stores, making online shopping an attractive alternative. Cultural Influences: Cultural values and local preferences may also influence the types of products sought and purchasing preferences. Changes in Habits Due to COVID-19: The COVID-19 pandemic has changed consumer shopping habits in Indonesia, encouraging more people to switch to online shopping for safety and convenience reasons. All of these variables together form an ecosystem that influences the adoption and use of e-commerce in Indonesia (Katadata, 2023).

In this context, research or analysis discussing the best e-commerce platforms is important to help consumers and business people choose the platform that best suits their needs. Therefore, the title reflects the main objective of this analysis, namely to investigate and identify the key factors that shape the quality of the best e-commerce platforms in Indonesia. This research was carried out through an in-depth analysis approach by considering several critical aspects, including price, safety, ease of use, product availability and promotion. The Analytic Hierarchy Process (AHP) approach is used to provide a systematic framework for evaluating and comparing these factors, as well as for determining which e-commerce platforms have the best performance. This background is also supported by the desire to provide guidance to consumers who want to shop online and to business people who want to sell their products online. This analysis is expected to provide deeper insight into the elements that most influence user experience and transaction success in the context of e-commerce in Indonesia.

2. Literature Review

2.1. AHP (Analytic Hierarchy Process)

AHP, or Analytic Hierarchy Process, is a multi-criteria decision-making method developed by Thomas L. Saaty in the 1970s. This method is used to assist in selecting the best solution when there are several criteria that must be considered. AHP combines quantitative and qualitative approaches in the decision-making process in a systematic way (Saaty, 2008).

The following are general steps in implementing the AHP method:

- 1. Problem Identification: Identify the problem or decision to be taken, as well as the criteria and alternatives involved.
- 2. Hierarchy Creation: Create a hierarchical structure consisting of several levels. The first level is usually the main goal or high-level goal. The next level will include the criteria that must be considered to achieve those goals, and after that, possible alternatives.
- 3. Criterion Assessment: Assess the relative importance of each criterion to the high-level goal. This is often done using a comparison scale, where each criterion is compared with the others.
- 4. Alternative Assessment: Assess each alternative against each criterion. Just like in the previous step, this is also done using a comparison scale.
- 5. Calculating Relative Weights: Using mathematical calculations, such as the eigenvalue method or pairwise comparison method, to calculate the relative weights of criteria and alternatives.
- 6. Calculating Aggregate Value: Multiplies the criteria weights by the alternative ratings to calculate an aggregate value for each alternative. The alternative with the highest aggregate value is considered the best solution.

- 7. Consistency Analysis: Checks whether the comparisons made in steps 3 and 4 are consistent. Inconsistencies can reduce the validity of AHP results.
- 8. Sensitivity Analysis: Perform a sensitivity analysis to examine the extent to which changes in comparisons or weights may affect the results.
- 9. Decision Making: Using calculation results to make the right decisions according to the hierarchy that has been created.

AHP is a useful method when you have to face complex decision making and involve many interrelated criteria. With a hierarchical approach and paired comparisons, AHP helps decompose complex problems into more manageable parts and produces more systematic solutions.



Figure 3. AHP structure diagram for evaluating the best e-commerce in Indonesia

Important concepts and elements related to the Analytic Hierarchy Process (AHP):

- 1. Consistency Ratio (CR): This is a measure used to measure the level of consistency in the pairwise comparisons made in steps 3 and 4. Consistency is important because inconsistent comparisons can produce inaccurate results. CR is obtained by comparing pairwise comparisons with a randomly generated consistency index. If the CR exceeds the specified threshold value, then the comparison is considered inconsistent.
- 2. Super matrix: This is a matrix used in AHP calculations that combines comparison of criteria and comparison of alternatives. The super matrix describes the relationship between all the elements in the hierarchy.
- 3. Eigenvalue and Eigenvector: AHP uses the concepts of eigenvalue and eigenvector in calculations to determine the relative weights of criteria. An eigenvalue is a value associated with an eigenvector, which is a vector that describes the relative weights of criteria. The eigenvalue associated with the main eigenvector is used to calculate the consistency and weight of the criteria.
- 4. Comparison Scale: During the AHP process, the comparison between criteria and alternatives is expressed in a comparison scale. Commonly used comparison scales are:1: Both elements are equally important.
 - 3: The first element is slightly more important than the second element.
 - 5: The first element is more important than the second element.

7: The first element is clearly more important than the second element.

9: The first element is clearly more important than the second element.

2, 4, 6, 8: Values between the above comparisons, used when differences in element importance are less clear.

- 5. Ranking of Alternatives: After calculation of relative weights, alternatives can be ranked based on the resulting aggregate value. The alternative with the highest aggregate value is the most desirable.
- 6. AHP Applications: AHP can be used in a variety of contexts, including business decision making, project planning, vendor selection, investment analysis, product selection, and more. This is beneficial when you have many factors to consider and you need to make an informed decision.

It is important to remember that AHP has several assumptions and limitations, and its success depends on the accuracy of the comparisons made by decision makers. Additionally, the interpretation and use of AHP results also requires human wisdom to consider context and other factors that may not be captured in the model.

2.2. E-commerce

E-commerce is a buying and selling and marketing activity carried out electronically via the internet network (Kristanto, 2020), (Vermaat, 2016). E-commerce allows buyers and sellers to carry out buying and selling transactions online without having to meet physically. Ecommerce also makes it easier for buyers to buy products without having to leave the house, and makes it easier for sellers to market their products throughout the world. Blibli, Bukalapak, Lazada, Shopee, and Tokopedia are examples of e-commerce that are popular in Indonesia. Ecommerce is an electronic commerce activity that supports electronic sales and purchases. Ecommerce allows buyers and sellers to carry out buying and selling transactions online via the internet. Each e-commerce has its own advantages and disadvantages, and has an adequate security system. E-commerce makes it easier for buyers to buy products without having to leave the house, and makes it easier for sellers to market their products throughout Indonesia. Meanwhile, one of the criteria in this research is that price is the amount of money that consumers must pay to buy a product or service (Firmansyah, 2019). Price is an important marketing mix element, because it can influence consumer buying interest (Sari, 2018). Meanwhile, security is an important factor in carrying out online transactions, because it can minimize the risk of fraud and loss for consumers. Security can be realized through an adequate security system, such as data encryption and security certificates (Permata Sari, 2017). For ease of use is an important factor in attracting consumer interest in using a particular e-commerce platform, ease of use can be realized through a simple and easy interface understood by consumers (Nurjannah, 2017). Product availability is an important factor in attracting consumer interest in using a particular e-commerce platform. Product availability can be realized through collaboration with many sellers and product providers. Promotion is an important marketing mix element, because it can increase consumer awareness of the products or services offered. Promotions can also be carried out through various means, such as online advertising, discount programs, and affiliate programs (Firmansyah, 2019).

3. Research Methods

The results of research conducted by distributing questionnaires to 105 respondents showed that 66.7% of *e-commerce users* were women, and 33.3% were men. There are 5 e-commerce platforms that are most frequently used, the first is Shopee at 88.6% because maybe Shopee has lots of promos and Shopee advertisements that often appear everywhere make e-commerce users *interested*. Secondly, there is Tokopedia at 21%, Tokopedia itself has 2-hour arrival shopping which contains vegetables, fruit, snacks, etc. making it easier for users to shop for kitchen needs without having to leave the house. The third shows that 13.3% of Lazada users, this platform also provides a fairly complete range of needs. The fourth is Bukalapak at 4.8%,

Bukalapak also provides various needs but perhaps fewer discounts are given so users rarely use it. The last one shows 1.9% of Blibli users, this platform also has few promotions and requirements, making it possible for users to rarely use it. Data processing with the superdecisions application for decision making to determine the best e-commerce in Indonesia. The research steps carried out are 1) problem formulation, problem formulation is a question that will be answered through data collection. The problem formulation functions as a basis for presenting theories, analysis methods and drawing conclusions; 2) Literature studies to be able to react to the research problem formulation require theoretical references related to the problem and previous research as input material, which provides temporary answers to the research problem formulation. Literary studies can be obtained in specialized magazines, seminar publications, books, and on the Internet; 3) definition of criteria, namely selecting criteria that can be used as a reference for finding solutions or answers to problems as a basis for data collection, determining the weight of each criterion, sub-criteria and each alternative; 4) Defining respondents, the respondents selected and determined are respondents who understand, understand, have experience and use five e-commerce platforms as options. Because the number of respondents is not very important for AHP, in this study respondents are defined as a group of respondents who can represent e-commerce users. The specified criteria, alternatives and respondents are used as sources of assessment information; 5) Design or prepare questions related to weighting or pairwise comparison of several criteria, sub-criteria and alternatives. The structure of the survey and questions must be easy for respondents to understand, so that the values determined are correct and expected; 6) Data processing, at this stage the aim is to process the data received and carry out testing using the Analytical Hierarchy Process (AHP); 7) Make conclusions. This step ends with research carried out, which provides recommendations on which electronic platforms have the highest priority value, which will later be used to build the electronic business (Hartini, 2020).

4. Results and Discussion

The following are the results of the hierarchical structure that has been determined for decision making using the AHP method:

		GOAL		
	THE BES	T E-COMMERCE IN INDO	NESIA	
	<		>	
		Ţ		
		KRITERIA		
Security	User Friendliness	Product Availability	Price	ns and Discounts
<		/		> _
	ŀ	↓ ALTERNATIF		
TOKOPEDIA	BUKALAPAK	SHOPEE	LAZADA	BLIBLI > _

Figure 4. Comparison of Criteria Using AHP

1. Choose	2. Node	e comp	aris	sons \	with	resp	bec	t to 1	HE BEST E-COMMERCE	~ +	3. Results	
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Choose Node 🔹	Comparison	ns wrt "Th ailability is	IE BE	EST E-C	OMI	MERCE	IN	INDON	ESIA" node in "KRITERIA" cluster		Inconsistency: 0.09175	
THE BEST E-COM~ 🖃	r touget Au	Bodut		ilica iliu		portarii	like	0000	•y 	Price		0.07116
Cluster: GOAL	Inconsistency	A-	Pro	motions~	Secu	rity ~	Frie	-		Product A~		0.12628
0.000.000.2		. .	t		†		†			Promotion~		0.37265
Choose Cluster 👥	Price ~	l. i	Ľ	4	Ľ	1	Ľ	2		Security		0.16916
	Product		t	2	÷	1	t	2		User Frie~		0.26075
KRITERIA 🔟	A~		1		-	-	-	_	,			
	Promotions~				۲.	5	٢	1				
	Security ~						÷	1				

Figure 5. Comparison of Criteria Using AHP

The following is an interpretation of the eigenvalue related to the value above:

In the Analytic Hierarchy Process (AHP) method, eigenvalue is used to measure the consistency of comparison results between criteria. A consistency value close to zero indicates a good level of consistency, while a higher value indicates a discrepancy or inconsistency in the comparison. In the context of the data provided, the inconsistency value of 0.09175 describes the extent of the level of consistency of the results of the comparison carried out. The closer to zero, the more consistent the application of the comparison. This value has a low tendency, indicating that the comparisons that occur in the AHP analysis have an adequate level of consistency. The eigenvalue of the Price criterion is 0.07115. This shows that the price factor has a relatively low influence in decision making regarding the criteria. The eigenvalue of the Product Availability criteria is 0.1262. This indicates that product availability factors have a slightly greater impact than price, but still have a moderate influence. The eigenvalue of the Promotions and Discounts criterion is 0.3726. This value indicates that promotions and discounts have a fairly high eigenvalue, indicating a significant influence in the criteria selection process. The eigenvalue of the Security criterion is 0.1691. Despite having a lower eigenvalue, security aspects still play an important role in evaluation. The eigenvalue of the User Friendliness criterion is 0.2607. The ease of use factor has a significant influence in determining preferred criteria. Overall, the eigenvalue provides insight into the extent of influence of each criterion in the user's final decision making in the context of the evaluation that has been carried out. In this interpretation, normalized values are used to assess the relative influence of each e-commerce platform on the analyzed criteria. The Lazada platform had the greatest impact, followed by Shopee, Tokopedia, Bukalapak, and Blibli. Selection of a suitable e-commerce platform can be done based on this normalized value.



Figure 6. Comparison of Security Criteria Using AHP

From the data you provided, let's provide an interpretation of the AHP analysis results for comparing e-commerce platforms (Blibli, Bukalapak, Lazada, Shopee, Tokopedia) based on security criteria:

Inconsistency: The inconsistency value of 0.08896 indicates the level of consistency of the comparison results carried out. The closer to zero, the more consistent the comparison results. This value is quite low, indicating that the comparisons in the AHP analysis are relatively consistent. Blibli: The Blibli e-commerce platform has a normalized value of 0.0968 in the security criteria. In the context of this analysis, Blibli has a relatively low impact in influencing security. Bukalapak: The Bukalapak e-commerce platform has a normalized value of 0.1689 in security criteria. Bukalapak has a higher impact than Blibli in influencing security aspects. Lazada: The Lazada e-commerce platform has a normalized value of 0.1215 in security criteria. Lazada has a lower impact than Bukalapak in influencing security. Shopee: The Shopee ecommerce platform has a normalized value of 0.2882 in security criteria. Shopee has guite a high impact in influencing security. Tokopedia: The Tokopedia e-commerce platform has a normalized value of 0.3244 in security criteria. Tokopedia has the greatest impact among all platforms in influencing security aspects. In this interpretation, normalized values are used to assess the relative influence of each e-commerce platform on security criteria. The Tokopedia platform had the greatest impact, followed by Shopee, Bukalapak, Lazada, and Blibli. Selection of a suitable e-commerce platform can be done based on these normalized values for security criteria.

1. Choose	2. Node comparisons with respect to User Friendliness -								3. Results			
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Choose Cluster	RURU -	1. 1		×.		1		<u>10</u>		SHOPEE		0.17241
ALTERNATIF -	BUKALAPAK -		+	1	٠	2	+	2	Ē	OKOPEDIA		0.22480
	LAZADA -				1	2	1	2				
	SHOPLE -						+	2				

Figure 7. Comparison of User Friendliness Criteria Using AHP

From the above, the interpretation of the AHP analysis results on the comparison of ecommerce platforms (Blibli, Bukalapak, Lazada, Shopee, Tokopedia) is based on user friendliness criteria, namely:

Inconsistency: The inconsistency value of 0.09743 indicates the level of consistency of the comparison results carried out. The closer to zero, the more consistent the comparison results. This value tends to be quite low, indicating that the comparisons made in the AHP analysis are quite consistent. Blibli: The Blibli e-commerce platform has a normalized value of 0.1675. In the context of this analysis, Blibli has a lower influence compared to other platforms in selecting criteria. Bukalapak: The Bukalapak e-commerce platform has the highest normalized value, namely 0.2570. This shows that Bukalapak has the greatest impact among all platforms in the selection criteria. Lazada: The Lazada e-commerce platform has a normalized value of 0.17821. Lazada has a lower impact than Bukalapak, but still greater than BLIBLI. Shopee: The Shopee e-commerce platform has a normalized value of 0.1724. Shopee has almost equal impact to Lazada in the selection criteria. Tokopedia: The Tokopedia e-commerce platform has a normalized value of 0.22480. Tokopedia has a higher impact compared to Blibli and Shopee, but still lower than Bukalapak. In this interpretation, normalized values are used to assess the

relative influence of each e-commerce platform on the analyzed criteria. The Bukalapak platform has the greatest impact, followed by Tokopedia, Lazada, Shopee, and Blibli. Selection of a suitable e-commerce platform can be done based on this normalized value.

1. Choose	2. Node	e co	ompa	aris	sons v	vith	n resp	be	t to Prod	vailability		3. Results	
Node Ouster	Graphical Verb	nal Mi	atrix Ques	tion	naire Direct	t					Nomal -		Hybrid 🛁
Choose Node 🔹	Compariso	ns w	vrt "Proc	duct	t Availab	sility	node i	n 7/	ALTERNATIF"			Inconsistency: 0.08253	1.1
Product Availa-	DUIVALAFA	1 15	2 01103	1	ore mp	1	it u tatt				BLIBLI		0.07549
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	LAZADA -			100		1	3 00000	t	2				
	SHOPEE -							+	2				

Figure 8. Comparison of Product Availability Criteria Using AHP

Interpretation results of AHP analysis for comparison of e-commerce platforms (Blibli, Bukalapak, Lazada, Shopee, Tokopedia) based on product availability criteria, namely: Inconsistency: The inconsistency value of 0.08253 indicates the level of consistency of the comparison results carried out. The closer to zero, the more consistent the comparison results. This value is low, indicating that the comparisons in the AHP analysis are relatively consistent. Blibli: The Blibli e-commerce platform has a normalized value of 0.0754. In the context of this analysis, Blibli has a lower impact compared to other platforms in the selection criteria. Bukalapak: The Bukalapak e-commerce platform has a normalized value of 0.1515. Bukalapak has lower influence than Shopee and Tokopedia, but higher than Blibli and Lazada. Lazada: The Lazada e-commerce platform has a normalized value of 0.12877. Lazada has a lower impact compared to Bukalapak, Shopee, and Tokopedia. Shopee: The e-commerce platform Shopee has a normalized value of 0.3697. Shopee has the greatest impact among all platforms in the selection criteria. Tokopedia: The Tokopedia e-commerce platform has a normalized value of 0.2744. Tokopedia has a lower impact than Shopee, but higher than other platforms. In this interpretation, normalized values are used to assess the relative influence of each ecommerce platform on the analyzed criteria. The Shopee platform has the greatest impact, followed by Tokopedia, Bukalapak, Lazada, and Blibli. Selection of a suitable e-commerce platform can be done based on this normalized value.

1. Choose	2. Noc	ode comparisons with respect to Price							•	5	
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Price -	BLIBLI IS 1 Inconsistency	IUKALAP	NE - LA	zaba	- SH	DPEL -	TOP	KOPEDIA -	BLIBLI BUKALAPAK		0.08366
Choose Cluster	8U8() -	+ 8	1	4	1	4	1	2	LAZADA SHOPEE		0.20694
ALTERNATIF	BUKALAPAK -		1	4	1	3.00000	1	3.00000	TOKOPEDIA		0.32424
	SHOPET -				T	3.0000	1	2			
	- Brown	1						Pa			

Figure 9. Comparison of Price Criteria Using AHP

Interpretation results of AHP analysis for comparing e-commerce platforms (Blibli, Bukalapak, Lazada, Shopee, Tokopedia) based on certain criteria:

Inconsistency: The inconsistency value of 0.0915 indicates the level of consistency of the comparison results carried out. The closer to zero, the more consistent the comparison results. This value is quite low, indicating that the comparisons in the AHP analysis are relatively

consistent. Blibli: The Blibli e-commerce platform has a normalized value of 0.0836. In the context of this analysis, Blibli has a low impact in selecting criteria.

1. Choose	2. Node	e com	pari	sons	s wit	h res	spe	ct to F	~ .	3. Results
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Choose Node 🗆	Compariso	ns wrt "P	romo	tions	and D	scount	ts" no	de in "/		Inconsistency: 0.08787
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Civetor VDITEDIA	Inconsistency	BUKALAPA	K-U	ZADA	- 58	OPEE -	10	ICIPEDIA -	BUKALAPAK	0.06219
CIUSIER, NRUTERIA	1465			125			1.	10	LAZADA	0.4186
Choose Cluster	BUBU -		1	9		0	1	0	SHOPEE	0.2668
ALTERNATIF -	BUKALAPAK -		1	52	1	5	1	5	TOKOPEDIA	0.2047.
	LAZADA -				÷	1	÷	5		
	SHOPEE -						+	1		

Figure 10. Comparison of Promotion and Discount Criteria Using AHP

Interpretation results of AHP analysis for comparison of e-commerce platforms (Blibli, Bukalapak, Lazada, Shopee, Tokopedia) based on promotion and discount criteria, namely: Inconsistency: The inconsistency value of 0.08787 indicates the level of consistency of the comparison results carried out. The closer to zero, the more consistent the comparison results. This value is quite low, indicating that the comparisons in the AHP analysis are relatively consistent. Blibli: The Blibli e-commerce platform has a normalized value of 0.0475. In the context of this analysis, Blibli has a lower impact compared to other platforms in the selection criteria. Bukalapak: The Bukalapak e-commerce platform has a normalized value of 0.06212. Bukalapak has a lower impact compared to Shopee, Lazada, and Tokopedia, but has a similar impact to Blibli. Lazada: The Lazada e-commerce platform has the highest normalized value, namely 0.4186. Lazada has the greatest impact among all platforms in the selection criteria. Shopee: The Shopee e-commerce platform has a normalized value of 0.2668. Shopee has a lower impact than Lazada in the selection criteria. Tokopedia: The Tokopedia e-commerce platform has a normalized value of 0.2047. Tokopedia has a lower impact than Shopee and Lazada, but greater than Blibli and Bukalapak. In this interpretation, normalized values are used to assess the relative influence of each e-commerce platform on the analyzed criteria. The Lazada platform had the greatest impact, followed by Shopee, Tokopedia, Bukalapak, and Blibli. Selection of a suitable e-commerce platform can be done based on this normalized value.

Name	Normalized by Cluster	Limiting
BLIBLI	0.08586	0.042930
BUKALAPAK	0.12036	0.060182
LAZADA	0.25602	0.128012
SHOPEE	0.26647	0.133236
ΤΟΚΟΡΕDΙΑ	0.27128	0.135640
THE BEST E-COMMERCE IN INDONESIA	0.00000	0.000000
Price	0.07116	0.035579
Product Availability	0.12628	0.063140
Promotions and Discounts	0.37265	0.186325
Security	0.16916	0.084582
User Friendliness	0.26075	0.130374

Figure 11. Priority results of comparison between criteria and alternatives

The criteria show that price is worth 7.11%, security is worth 16.91%, ease of use is worth 26.07%, product availability is worth 12.62%, promo availability is worth 37.26%. For alternatives, it shows that Tokopedia is worth 27.12%, Shopee is worth 26.64%, Lazada is worth 25.60%, Bukalapak is worth 12.03%, Blibli is worth 8.58%.

5. Conclusion

From the normalized values based on clusters, it can be seen that Tokopedia is the e-commerce platform with the greatest impact on the analyzed criteria, followed by Shopee and Lazada. The criterion that has the highest impact in selecting an e-commerce platform is "Promotions and Discounts," which has the highest value normalized by cluster. Meanwhile, the criterion that has the lowest impact in selecting an e-commerce platform is "Price," which has the lowest normalized by cluster value. This interpretation is based on the data and values listed in the priority table. If there is additional context or information to consider, interpretations can be adjusted accordingly.

In selecting priorities, especially in the context of selecting an e-commerce platform, it is important to consider various factors that are relevant and impact the decision. Here are compelling reasons to choose priorities in your analysis:

- 1. Promotions and Discounts: Setting "Promotions and Discounts" as a priority makes perfect sense as this factor has the highest impact in selecting an e-commerce platform. Attractive discounts and promotions can significantly influence consumer purchasing decisions, increase the number of transactions, and build customer loyalty.
- 2. Product Availability: The "Product Availability" criterion is also an important priority, considering that consumers tend to switch to platforms that have good product availability. Platforms with a variety of products available tend to be more attractive to consumers looking for variety and choice.
- 3. User Friendliness: The "User Friendliness" criterion has a significant impact in selecting an e-commerce platform. An easy-to-use platform, with an intuitive interface and smooth navigation, can provide users with a better shopping experience and increase customer retention.
- 4. Security: Security is also a crucial factor in online transactions. Setting "Security" as a priority shows concern for the protection of consumer data and personal information. Platforms that offer strong security and protection for online transactions can be more trusted by consumers.
- 5. Price: Even though "Price" has the lowest impact in your analysis, it is still important to consider this factor. Competitive prices or special offers may influence consumers in choosing a particular e-commerce platform.

In choosing priorities, it is important to understand the context and preferences of your target audience. Understanding consumer profiles, product preferences, and the competitive environment can also help you make informed decisions. Additionally, a combination of some of the above factors may be more relevant in the actual decision, depending on the business goals and strategy of the e-commerce platform in question.

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