Article

Analysis of User Experience on the Lazada Platform Using the Honeycomb Model

Afrilza Daffa Naryapramono, Diva Satria, Fawwaz Haryolukito Pambudi, Muhammad Azzam Fadhlullah, Tyto Rinandi, Florentina Yuni Arini *

Teknik Informatika, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Semarang, Semarang, 50229, Indonesia

Abstract—This paper aims to examine the User Experience (UX) on the Lazada e-commerce platform through the UX Honeycomb model. Enhancing the shopping experience, from finding items to completing purchases, is a crucial element for e-commerce platforms. In today's competitive e-commerce landscape, improving UX quality has become a key differentiator directly impacting user retention and satisfaction, especially for Lazada. The UX Honeycomb's seven aspects—useful, usable, desirable, findable, accessible, credible, and valuable—are essential for Lazada to maintain its market position and foster lasting customer relationships. This study gathered information from a survey of 50 participants. The survey revealed that Lazada's interface is considered usable due to its user-friendly design and various digital payment options. For the useful aspect, the product recommendation feature was found to be helpful for locating items that meet specific needs. However, the desirable aspect requires improvement, as Lazada's visual appeal was not considered engaging enough. The findable aspect is well-addressed by an efficient and straightforward search function. While the accessible aspect shows progress with an intuitive design, further support for users with physical or sensory impairments is needed. The credible aspect received positive feedback, with user reviews and comprehensive product descriptions building trust. Finally, the valuable aspect is evident through discount programs, vouchers, and flash sales that offer financial advantages. Therefore, the UX Honeycomb framework offers valuable insights into Lazada's continued efforts to create a seamless and fulfilling user experience.

Keywords—customer convenience; lazada platform; user experience; ux honeycomb.

1. Introduction

Electronic commerce, often called e-commerce, is expected to grow rapidly. This growth is evident in the increasing number of product sales through online platforms, as noted by Lestari & Anggraini (2018). In 2016, approximately 8.4 million consumers in Indonesia shopped using e-commerce, generating total sales of about 61 trillion rupiah (Setyanti, 2015). When developing an e-commerce application, it is crucial for creators to prioritize designing an effective and efficient user interface. A well-designed interface ensures the application is comfortable and easy for users to navigate. This idea is reinforced by research from Asyifah et al. (2023), which emphasizes the importance of developing innovative and effective e-commerce applications to compete in the increasingly competitive global market. These considerations also apply to Lazada, which stands as one of Indonesia's largest online shopping platforms.

A well-designed application makes users more likely to stay on the platform and consistently use Lazada for their online buying and selling activities. Lazada is a major e-commerce platform in Indonesia, offering a wide array of products. These categories include clothing, electronics, household goods, health and beauty items, toys, sports equipment, groceries, and many other products available for purchase. Lazada became a large corporation after significant investments from firms such as JP Morgan and other companies, along with its parent company, Rocket Internet. Data shows that Lazada's website traffic rank has generally improved since its launch, indicating a rising number of visitors who use the platform for their shopping needs. The information provided within the Lazada application is clear and detailed about the products offered, covering aspects such as product type and brand. Each product listing on Lazada provides comprehensive descriptions, including how to use the product.

As a retail company in the e-commerce sector, Lazada aims to provide a comfortable and satisfying shopping experience for the public. This includes buying and selling goods across various categories, such as apparel, health products, electronics, home decor, and beauty items, all accessible through the Lazada platform. The user interface (UI) and user experience (UX) on Lazada are specifically designed to improve customer comfort while browsing different product categories. A good user experience is directly associated with higher overall customer satisfaction (Wiwesa, 2021). Lazada also supports several payment options, including cash-on-delivery (COD), credit/debit cards, and bank transfers. This variety allows users the freedom to select the most suitable and reliable payment method. Supporting diverse payment systems has been shown to improve the convenience and ease of online transactions, which also positively influences user loyalty (Mulyadi & Gultom, 2022). The quality-of-service Lazada offers also plays a significant role in building customer trust, ensuring users feel secure during every transaction (Kurniawan et al., 2020).

According to Simanjuntak (2018), almost every business operates in a competitive environment. Suseta et al. (2019) used UX Honeycomb to evaluate the user experience of the Tapp Market e-commerce platform. This is also supported by Mutiasanti et al. (2018) research, which tested e-commerce reliability to determine user experience value with UX Honeycomb from a stakeholder perspective. However, no research has detailed the evaluation of user experience for Lazada e-commerce using UX Honeycomb. Lazada's positive impact could improve further by applying the UX Honeycomb principles introduced by Morville (2004). The UX Honeycomb principles address various aspects, including being usable, useful, desirable, findable, accessible, credible, and valuable. The hope is that UX Honeycomb can offer a fresh perspective on Lazada e-commerce, helping to improve its brand, product quality, service quality, and customer satisfaction.

2. Method

2.1. Research method

This research uses a survey method. A survey method was used to understand the relationships between variables and make broader statements about a larger group (Muchlis, 2023). One common way to gather information for a survey is through a questionnaire, which involves giving a set of questions to

people who then provide answers (Hafidz et al., 2021). For this study, 50 people completed the questionnaire.

The primary focus of this research was to examine the UX as perceived by respondents who use the Lazada e-commerce platform. UX encompasses the perceptions and responses a person has when using a product, system, or service (International Organization for Standardization, 2019). The usefulness of this study was assessed using the UX Honeycomb standard (Morville, 2004). This standard is based on seven key aspects that serve as its fundamental principles:

a. Useful

Generally, useful is an aspect that stresses that a product must offer advantages or worth to its users. It is not enough for a product to simply look appealing; it must also help users achieve their goals effectively and efficiently. In other words, a useful product provides real added worth to users, meeting their needs and simplifying the completion of tasks or the resolution of problems they encounter (Sauri et al., 2023). This ensures that the product serves a clear purpose and helps users accomplish what they set out to do

b. Usable

In a general sense, usable refers to how easy a product is to use, especially concerning navigation and interaction with its features. Beyond having a purpose, a product must also be easy for users to operate. This ease-of-use influences user comfort, which in turn encourages them to continue using the platform (Sauri et al., 2023). Products that are difficult to operate often lead to frustration and abandonment by users.

c. Desirable

Desirable means that brand logos, brand identity, images, and other design elements should be crafted in a way that evokes positive emotions and appreciation from users. The aim here is to build an emotional bond between users and the product, so that the product is not only helpful but also a pleasure to use (Deac, 2014). This emotional connection can foster loyalty and a preference for the product.

d. Findable

The principle of findable ensures that a product's design includes intuitive and simple navigation, allowing users to locate the product and features they need quickly and without confusion. Elements that support findability include clear menus, informative labels, and a logical page structure. These are essential for helping users complete their tasks efficiently and reducing frustration (Syahidi & Tolle, 2021). Easy findability contributes significantly to a smooth user journey.

e. Accessible

The principle of accessible ensures that a product can be used by as many people as possible, including those with physical, sensory, or cognitive limitations. This aspect aims to create an inclusive experience, providing equal opportunities for everyone to approach and use the product without barriers. By considering accessibility, a product can meet the needs of diverse users, improve comfort, and broaden its user base (Deac, 2014). This commitment to accessibility reflects a broader understanding of user needs.

f. Credible

The credible aspect of a product aims to build user trust. A

product should present itself as dependable, in terms of its design, content, and interactions, so users feel confident when using it. By offering consistent and clear elements, a product can build a positive relationship that strengthens user satisfaction and comfort (Sauri et al., 2023). Trustworthiness is key to fostering long-term user engagement.

g. Valuable
The principle of valuable ensures that a product must offer great advantages and significant importance in users' lives. This ultimately leads to increased user satisfaction, loyalty, and comfort over time (Vivakaran & Neelamalar, 2015). A truly valuable product integrates seamlessly into a user's routine and provides lasting positive contributions.

2.2. Type of research

This study employs a descriptive quantitative approach to validate the Honeycomb UX analysis framework among Lazada e-commerce users. This method, as outlined by Sugiyono (2014), involves collecting and analyzing numerical data to identify general trends and patterns within the gathered information. The quantitative approach, rooted in the positivist paradigm, processes data statistically, primarily through numerical representations.

The primary goal of this method is to determine percentages, frequencies, and averages of respondent answers. This approach is well-suited for understanding the perceptions and preferences of the sample group within a survey setting. It also simplifies the process of defining data related to UX variables within the e-commerce context.

By utilizing a descriptive quantitative approach, this research aims to acquire a comprehensive understanding of user conditions and perceptions concerning the Lazada platform across predefined aspects. The use of clear measurement scales within the questionnaire allows this study to pinpoint specific patterns or trends in user experience. These patterns could include various elements, such as overall satisfaction levels, the efficiency of use, and how well features align with user needs. This detailed examination provides valuable insights into the actual user experience on the Lazada e-commerce platform.

3. Results and discussion

This survey aimed to evaluate the experiences of Lazada platform users. We developed a questionnaire based on the UX Honeycomb standard and relevant articles. Each question was carefully crafted to align with all seven aspects of the UX Honeycomb: useful, usable, desirable, findable, accessible, credible, and valuable. The questionnaire contained nine questions designed to capture these seven aspects, with criteria organized as follows:

a. Useful
Questions in this section addressed the effectiveness of the recommendation features and price sorting in helping users locate desired products.

b. Usable
This part of the survey explored the ease of using the Lazada interface, including navigation and the transaction process.

c. Desirable
These questions assessed the visual appeal and overall design of the Lazada platform, aiming to understand if these elements encourage continued user engagement with the application.

d. Findable
This section gauged how easily users could find products and features they needed on the platform.

e. Accessible
Questions here evaluated the comfort of using Lazada, considering users with physical limitations.

f. Credible
This aspect focused on measuring user trust in the product information provided by Lazada, such as descriptions, user reviews, and ratings.

g. Valuable
Questions regarding this aspect examined the extent to which Lazada's features, like discounts and loyalty programs, added worth for users.

Each question used a 5-point Likert scale to measure respondent perception, ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). This scale allowed for quantifiable data and facilitated further statistical analysis.

Before widespread distribution, the questionnaire underwent pre-testing with a small group of users. This step ensured that every question was easy to understand, clear, and relevant to the user experience. This process served as a content validation measure, confirming that the questionnaire accurately measured the intended aspects. The survey was distributed to a number of Lazada platform users with questions seeking information about their UX when using the Lazada platform. A total of 50 respondents who actively use the Lazada platform completed the questionnaire.

3.1. Useful aspect of Lazada

The useful aspect examines how users perceive the helpfulness of a product's features. Users should feel that a product meets their needs within this aspect (Butkovic et al., 2023).

3.1.1. Analysis of product recommendation features

Questions addressing the useful aspect generally consider how a product or feature's helpfulness can meet user needs. Questions regarding this aspect specifically focused on the recommendation feature to assess its usefulness to respondents. In particular, this question asked how Lazada's recommendation feature helps users find products that match their needs.

Fig. 1 presents five-scale options: very unhelpful, unhelpful, neutral, helpful, and very helpful. As the diagram displays, the majority of respondents, approximately 68% of the total, selected helpful for the product recommendation feature they found on Lazada. This indicates that Lazada possesses a helpful recommendation feature, enabling respondents to find desired items easily.

A recommendation system functions by estimating items that might appeal to a user, such as suggesting books, news articles, movies, and more (Badriyah et al., 2018). The analyzed

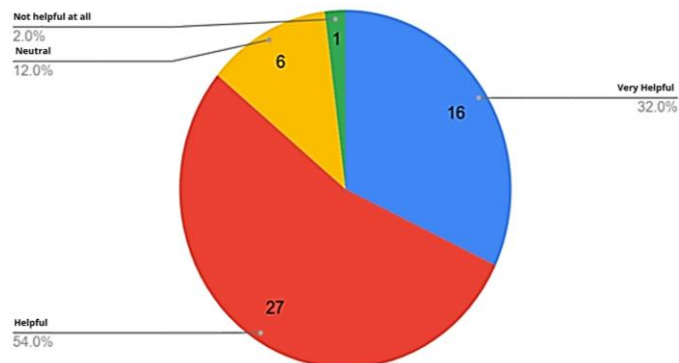Fig. 1. Survey results of the product recommendation feature of Lazada

Fig. 3. Survey results of the filter and sorting feature of Lazada
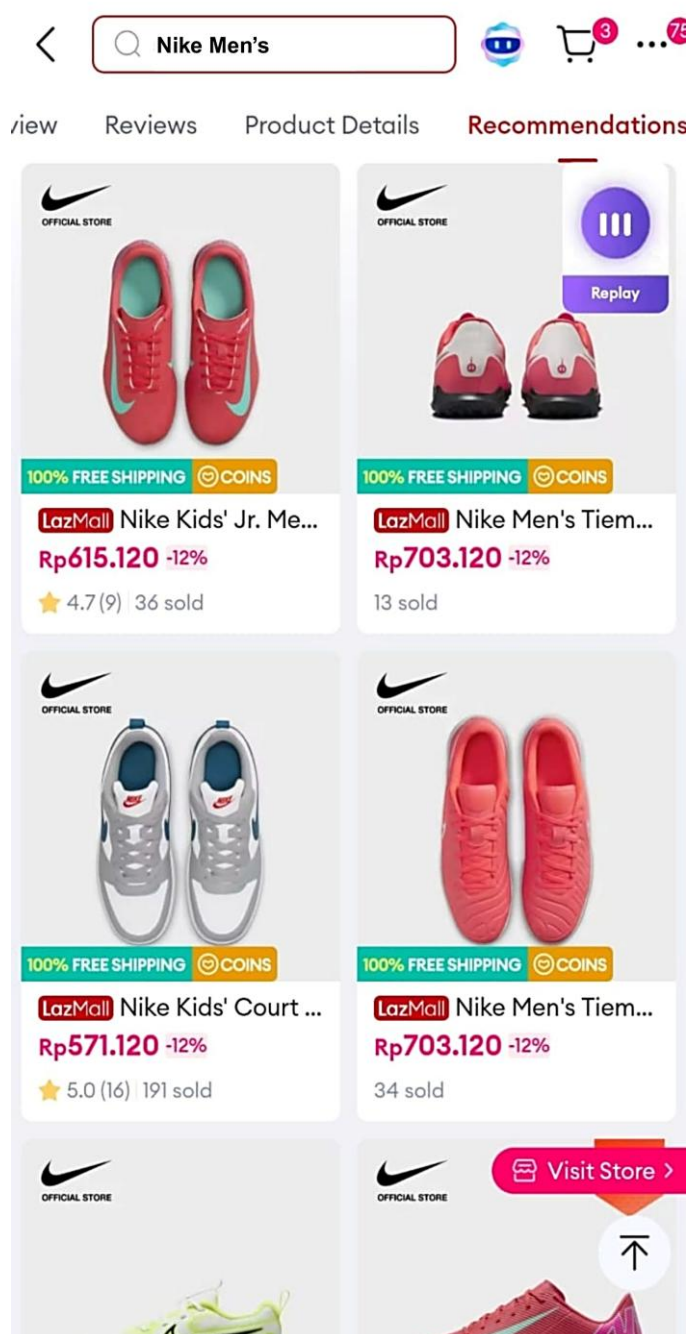

Fig. 2. Product recommendation page of Lazada

recommendation feature is a content-based filtering type of recommendation. This means recommendations are provided by analyzing the user's profile, product descriptions, or other factors that shape a user's preferences for an item.

Referring to the content-based filtering product recommendation method, Lazada's product recommendation feature adheres to the standard. Recommendations are provided by observing the content of the user's profile, product descriptions, or other elements related to shaping a user's item choices. Fig. 2 illustrates that the recommended products align with the selected product type and brand, specifically Nike futsal shoes, and even the price range of recommendations starts similarly.

3.1.2. Analysis of filter and sorting features

Questions aimed at measuring how a product or feature's usefulness meets user needs also relate to the useful aspect. These questions focused on the price sorting feature to measure its helpfulness by posing questions to respondents.

Fig. 3 presents five-scale options: very unhelpful, unhelpful, neutral, helpful, and very helpful, which asked how much Lazada's filter and sorting features ease the user experience. The majority of respondents provided positive answers. Approximately 54% of respondents answered helpful and approximately 32% answered very helpful. This indicates that Lazada's filter and sorting features fulfill their purpose, as they are beneficial according to their use.

The sorting feature relates to the useful aspect, where a product or feature's usefulness is observed to ensure users experience the advantage of a product or feature in meeting their needs (Butkovic et al., 2023).

The feature correctly sorts prices according to the chosen setting. Fig. 5 shows that the Lazada platform sorts prices from highest to lowest, allowing users to obtain extensive information about prices for this product type, including the highest price, price range, lowest price, and even price differences, which can be very helpful to users.

3.2. Usable aspect of Lazada

This aspect emphasizes that the ease of using an interface significantly impacts user satisfaction. With an easily understandable interface, users feel more comfortable and are
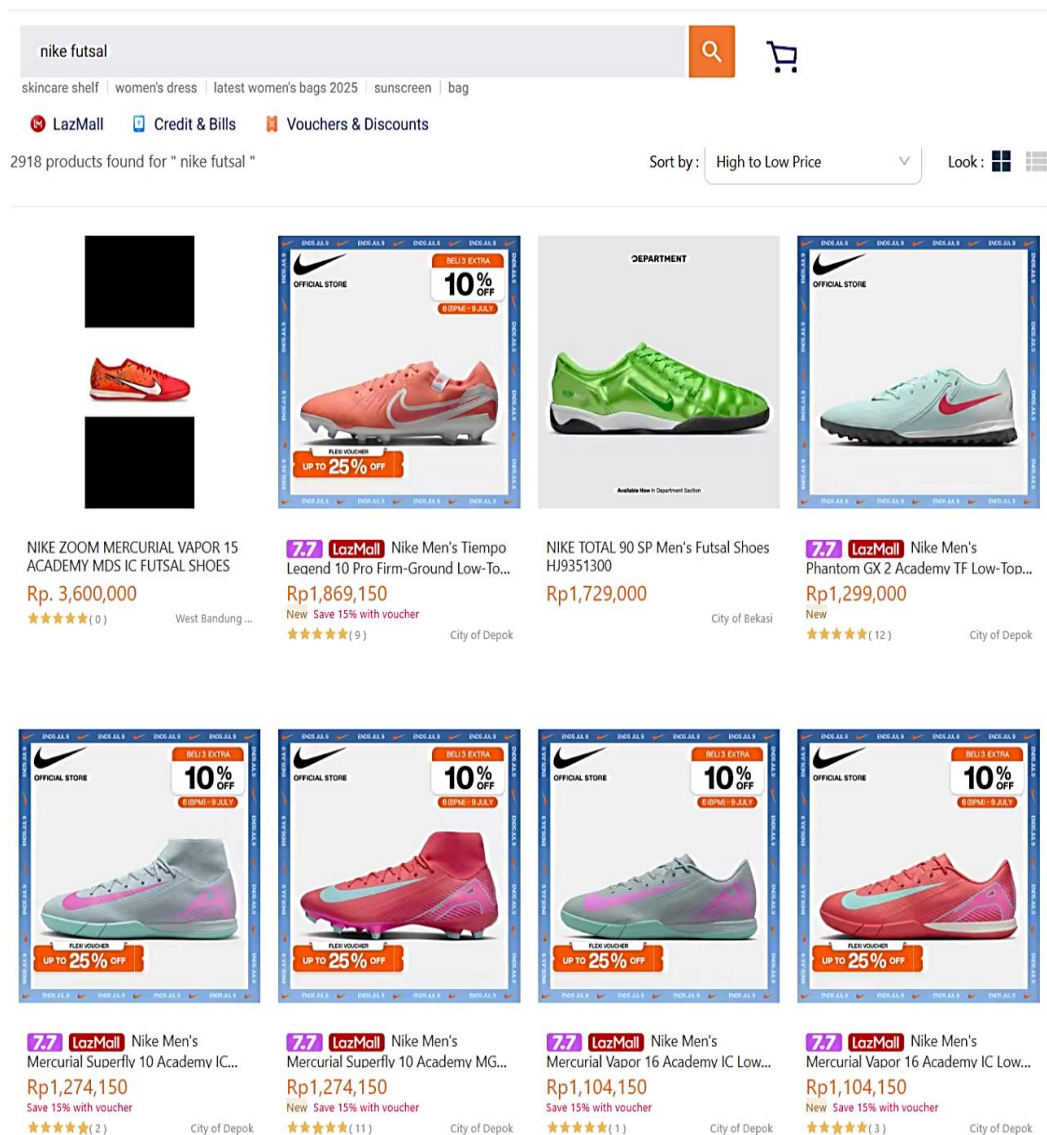
Fig. 5. Lazada price sorting feature

more likely to return to the platform. Feedback concerning the usability aspect helps identify elements that can be improved for a more optimal experience (Butkovic et al., 2023).

3.2.1.   *Analysis of lazada interface ease of use*

Questions addressing the usable aspect generally consider how to measure the ease of using Lazada's features without making users feel confused.

Fig. 4 presents five-scale options: very challenging, challenging, neutral, easy, and very easy, which focuses on the ease of using features on the Lazada platform. The majority of respondents, approximately 56%, found Lazada's features easy to use. However, a significant number, approximately 34% of respondents, answered neutral, suggesting there is still considerable room for Lazada to further improve the ease of using its features.

In this study, it was found that the features on the Lazada platform are reasonably easy to use. Features such as payment on the Lazada platform have provided users with the convenience of choosing their preferred payment options (Sigar
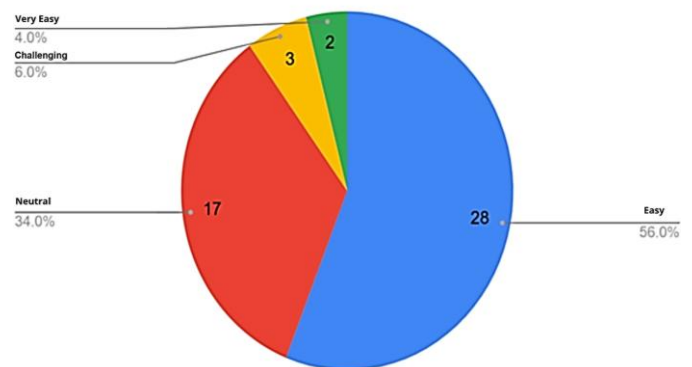

Fig. 4. Survey results on the ease of use of the Lazada main features

et al., 2022).

Fig. 7 and 6 show the payment features on the Lazada platform. Payment features are crucial in an e-commerce
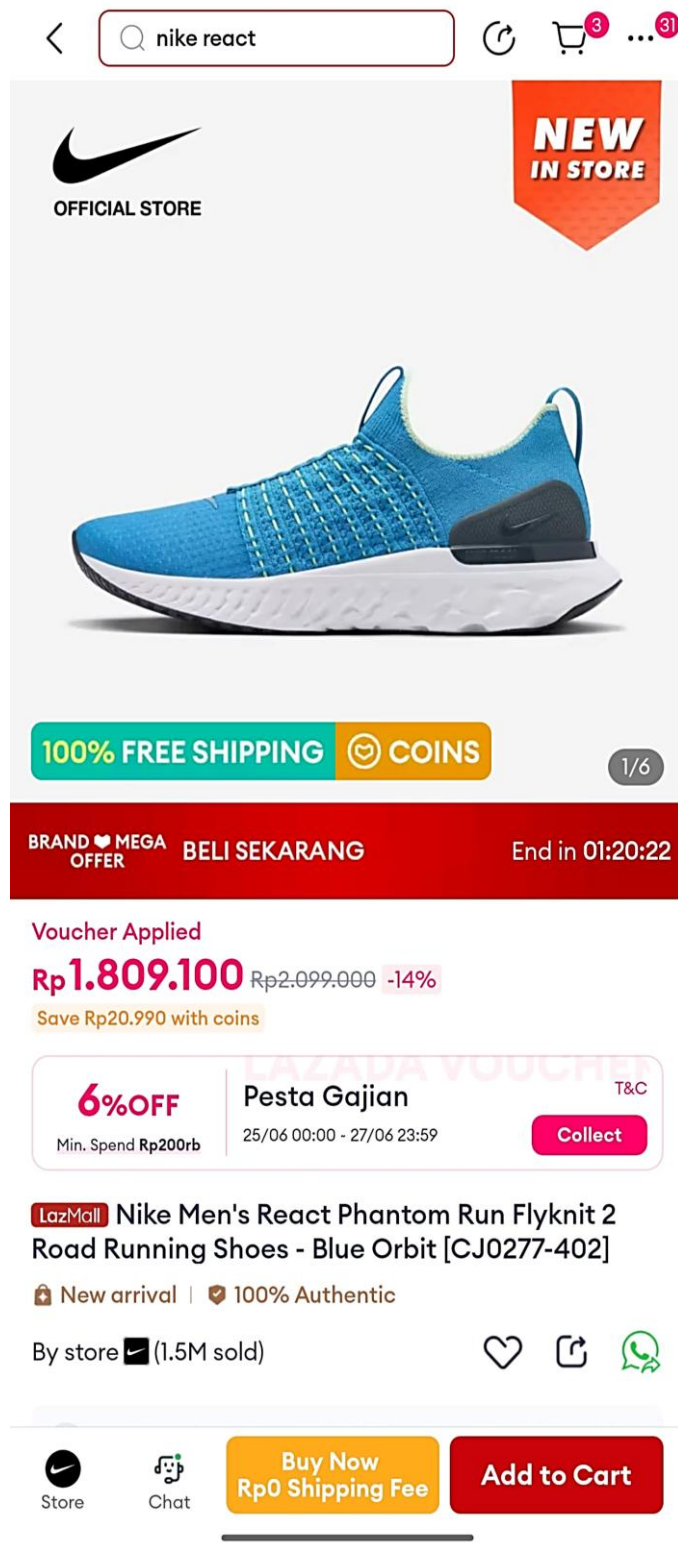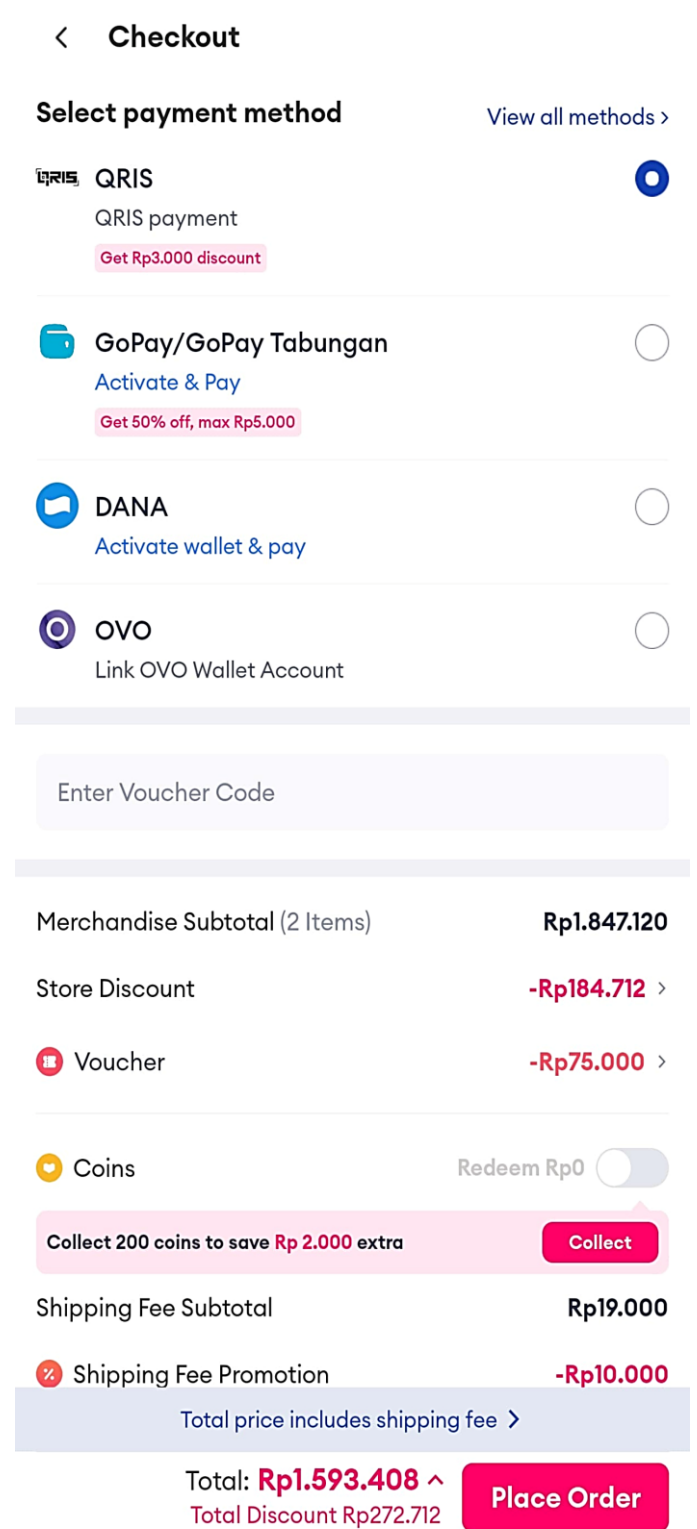
Fig. 7. Products page

Fig. 6. Payment options

platform because each user has their own preferences for payment options. An e-commerce platform must create a payment system that is easy for users to ensure it does not burden them.

3.3. Desirable aspect of Lazada

The desirable aspect focuses on the importance of emotional

appeal and aesthetics in the user experience. This aspect indicates whether users emotionally wish for continued product use (Vivakaran & Neelamalar, 2015).

3.3.1. Analysis of visual elements

Questions addressing the desirable aspect generally consider how to measure user attraction when using the Lazada

Does Lazada's visual design, including elements such as product images, layout, and colors, keep you interested in browsing products longer?
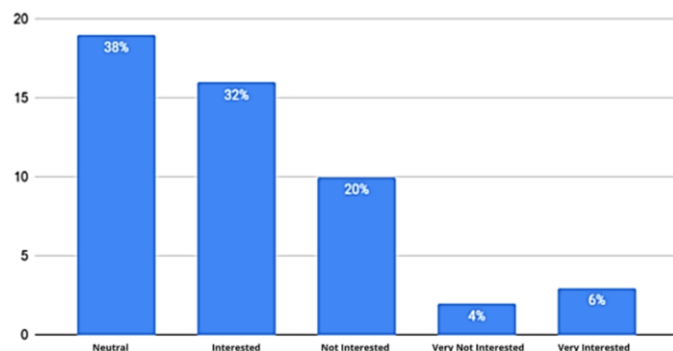

Fig. 9. Survey results of Lazada's visual design

platform and the frequency of user engagement with Lazada.

The bar diagram in Fig. 9 illustrates respondents' interest in the visual elements on Lazada for prolonged platform Browse. It presents five-scale options: very uninterested, not interested, neutral, interested, and very interested. Approximately 38% answered neutral, meaning respondents felt indifferent to Lazada's visual elements. Additionally, approximately 32% of respondents answered interested, which suggests they felt drawn to Lazada due to its appealing visual design. Lastly, approximately 20% of respondents answered not interested, leading to the conclusion that some respondents found Lazada's visual elements unengaging.

Visual media greatly influences how users perceive an application or platform. Visual experience can become more engaging and enjoyable by employing appropriate colors, shapes, icons, typography, and layout. The user interface can be designed to capture attention and simplify interaction and navigation by using consistent visual elements that align with the application's purpose (Fatah & Ayu Mufarroha, 2022). The effective use of visual elements can improve interface appeal, create a professional impression, and help users grasp information more easily. Ultimately, this can improve overall user satisfaction and experience.

In Fig. 8, several visual elements are available for user purposes. The existing visual elements have unique shapes and clear displays consistent with their functions, which can capture user attention and encourage exploration of the platform's various features. These visual elements also maintain a consistent and harmonious color design, preventing them from being overly conspicuous compared to other visual elements.

Fig. 8. Visual Elements on Lazada

3.4. Findable aspect of Lazada

Within the findable aspect, users should be able to locate a feature or navigation function easily and quickly. Users who can swiftly find what they need will increase the effectiveness of the tasks they perform, thereby improving user comfort when using a product (Vivakaran & Neelamalar, 2015).

3.4.1. Analysis of search features

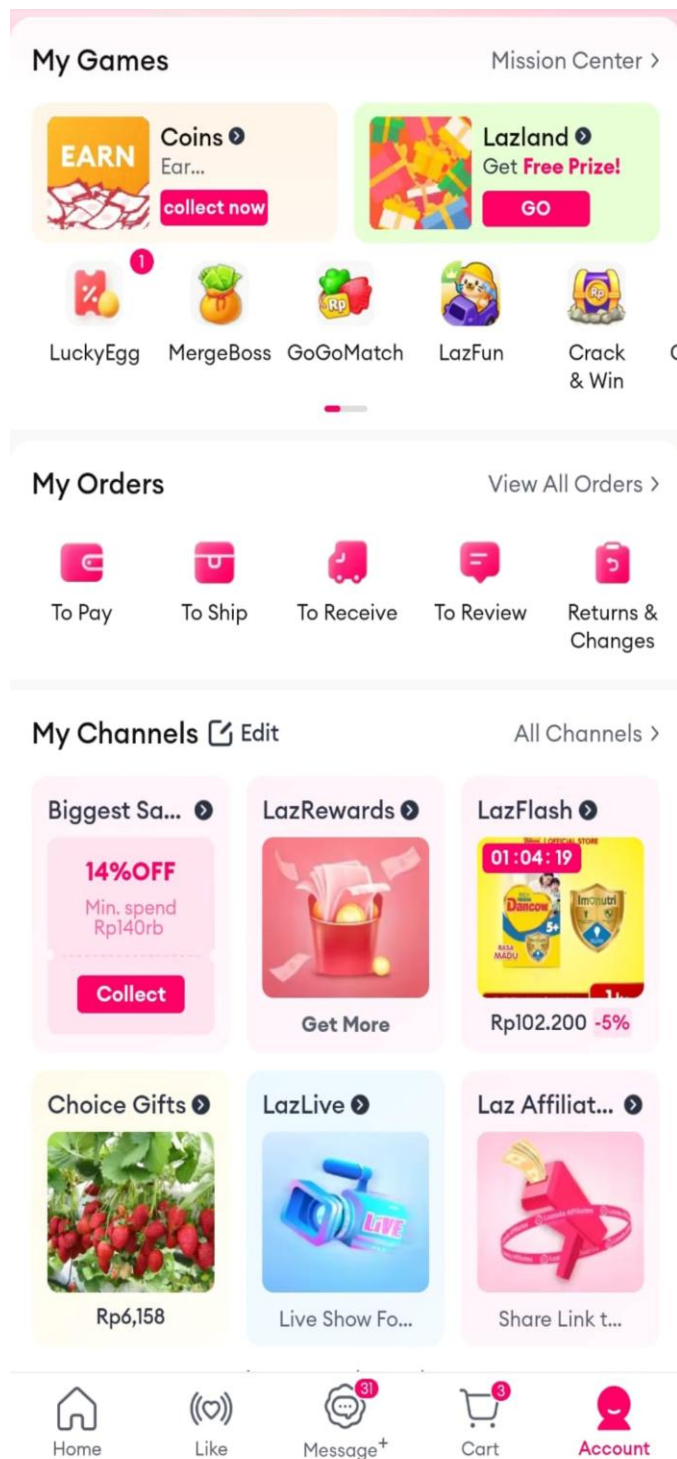Questions addressing the findable aspect generally consider

how users can locate features easily and quickly, ensuring user comfort when searching for products on the Lazada platform.

Fig. 10 presents five-scale options: very hard, hard, neutral, easy, and very easy. Based on the diagram in Fig. 10, it can be assumed that approximately 20% answered neutral, meaning respondents did not experience difficulty in finding desired products. Furthermore, approximately 16% answered very easy, indicating respondents felt comfortable with Lazada's search feature. Lastly, the highest percentage, approximately 56%,

How easy is it for you to find a particular search feature or product category on Lazada when you need it?
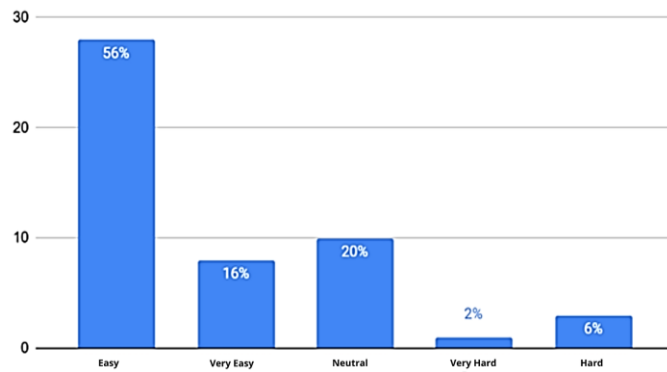

Fig. 10. Survey results of the Lazada feature's findability

Fig. 11. Lazada's navigation bar

Do you feel the navigation features on Lazada help you find products quickly and efficiently?
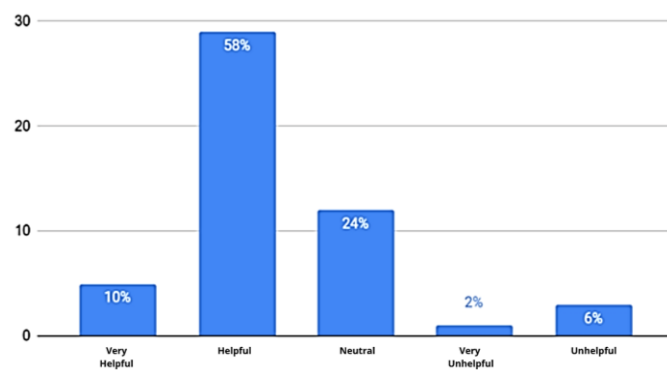

Fig. 12. Survey results of the navigation feature of Lazada

Fig. 13. Several navigation features of Lazada

answered easy, leading to the conclusion that the majority of respondents felt desired products could be found very easily and quickly.

To satisfy the findable aspect, a platform must arrange its buttons and features as effectively as possible to ensure they are easily discovered and accessed by users. This is because the findable aspect means that platform design must ensure products or services are easily found to achieve success. Users must be able to find desired items easily and quickly (Siek & Fariz, 2023).

Fig. 11 displays the navigation bar on the Lazada platform. Most of Lazada's features have easily discoverable navigation functions. For example, the cart or trolley feature, for viewing items selected for purchase, is clearly displayed at the bottom of the main page within the navigation bar. This feature also has
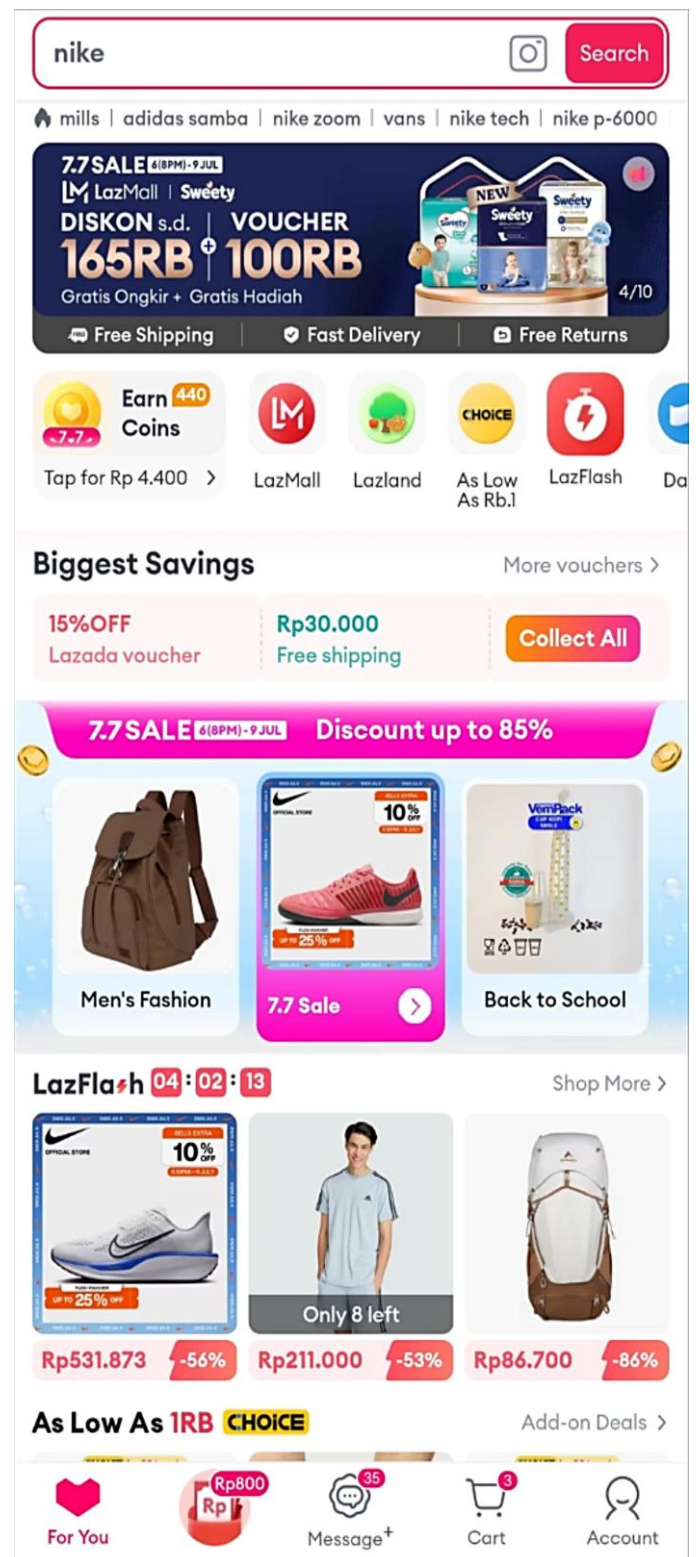
an easily recognizable shopping cart icon, ensuring users can quickly identify it.

3.4.2. *Analysis of navigation features*

Questions concerning navigation features also relate to the findable aspect, where users feel assisted in quickly locating desired products and feel comfortable using Lazada.

How well do you think Lazada has prepared features that make it easy for users with physical disabilities to interact?
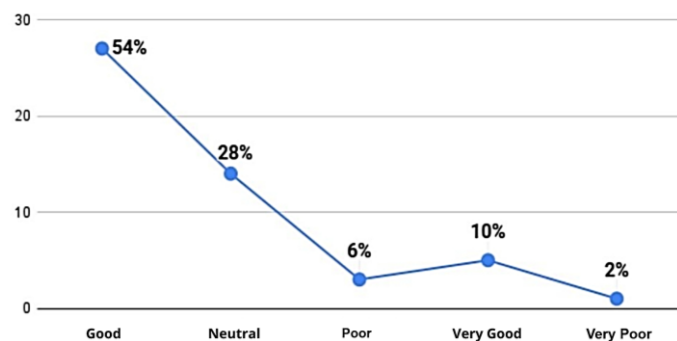

Fig. 14. Survey results of Lazada's convenience level on various devices

Fig. 12 presents five-scale options: very unhelpful, unhelpful, neutral, helpful, and very helpful. From the diagram in Fig. 12, two options require attention. First, approximately 24% of respondents answered neutral, meaning they did not feel helped by Lazada's navigation features. Second, and the highest at approximately 58%, respondents answered helpful, which indicates that respondents felt assisted by Lazada's navigation features.

The navigation structure forms a critical part of e-commerce design. Its goal is to make it easy for visitors to access the e-commerce pages. Navigation components typically include the ability to move from one page to another (Prayitno & Safitri, 2015).

Based on Fig. 13, several navigation features can be observed. These include the "Lazmart" feature, which focuses on daily necessities, and the "Lazflash" feature, which contains products sold with substantial, limited-time discounts that can attract users to purchase them. Lazada offers many other navigation features as well.

3.5. Accessible aspect of Lazada

Related to this aspect, users should be able to easily access a product. A product with high accessibility ensures that various types of users, including those with physical or technical limitations, can use the product without difficulty. The universality factor in this aspect signifies that a product is designed to reach all types of users regardless of physical limitations, location, or the device used (Vivakaran & Neelamalar, 2015).

3.5.1. Analysis of Lazada's ease of access on various devices

Questions addressing the accessible aspect generally consider how users can access Lazada comfortably and easily without encountering obstacles that cause discomfort.

Fig. 14 presents five-scale options: very poor, poor, neutral, good, and very good. Based on the diagram in Fig. 14, it can be concluded that approximately 54% of respondents felt good about Lazada's features for users with physical limitations. Furthermore, approximately 10% of respondents felt very good about the features Lazada offers for users with physical limitations. However, approximately 6% of respondents felt it

Fig. 15. Lazada image features

was poor, and approximately 2% of respondents felt Lazada's features were very poor for users with special needs.

The purpose of accessibility is to ensure that people with disabilities can live their lives with the same standards and quality as others (Siswanto et al., 2022). Therefore, e-commerce platforms must provide accessibility features for users with special needs so that these users can also use the platform.

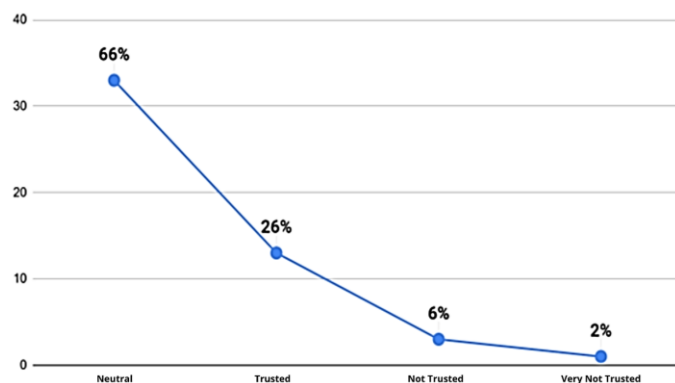The image feature, as shown in Fig. 15, is one feature that

Fig. 17. Survey results on the product information accuracy of Lazada

can help users with physical limitations access Lazada more easily. This feature allows users to find products by photographing or uploading images of products they are looking for. This can assist older individuals who may have difficulty typing clearly to find products more easily. However, overall, Lazada still needs to expand its range of features that can help users with physical limitations interact with the platform more easily.

3.6. Credible aspect of Lazada

In the credible aspect, users are expected to trust the Lazada application due to the information found on Lazada. User trust in an e-commerce application can be achieved through high-quality information within the e-commerce system (Pebiyanti et al., 2023).

3.6.1. Analysis of product information accuracy

The following survey questions focused on the level of user trust in the accuracy of product information provided by Lazada, such as descriptions, reviews, and ratings. This is important because users rely on this information when deciding to make a purchase.

Fig. 17 presents five-scale options: very untrusted, not trusted, neutral, trusted, and very trusted. From the diagram in Fig. 17, approximately 26% trusted the accuracy of product information provided by Lazada. Additionally, approximately 6% of respondents felt they did not trust it, and approximately 2% of respondents strongly distrusted the accuracy of Lazada's product information. A significant approximately 66% of respondents felt neutral about the accuracy of Lazada's information.

Research indicates that product reviews on an e-commerce platform can include both positive and negative comments. Honest and dependable information within reviews greatly sways user purchase decisions (Pan et al., 2022).

In Fig. 16, the Lazada platform effectively provides a dedicated space for user reviews. Review information such as star ratings, comments, and user photos are clearly displayed, providing potential buyers with more accurate information about product quality.
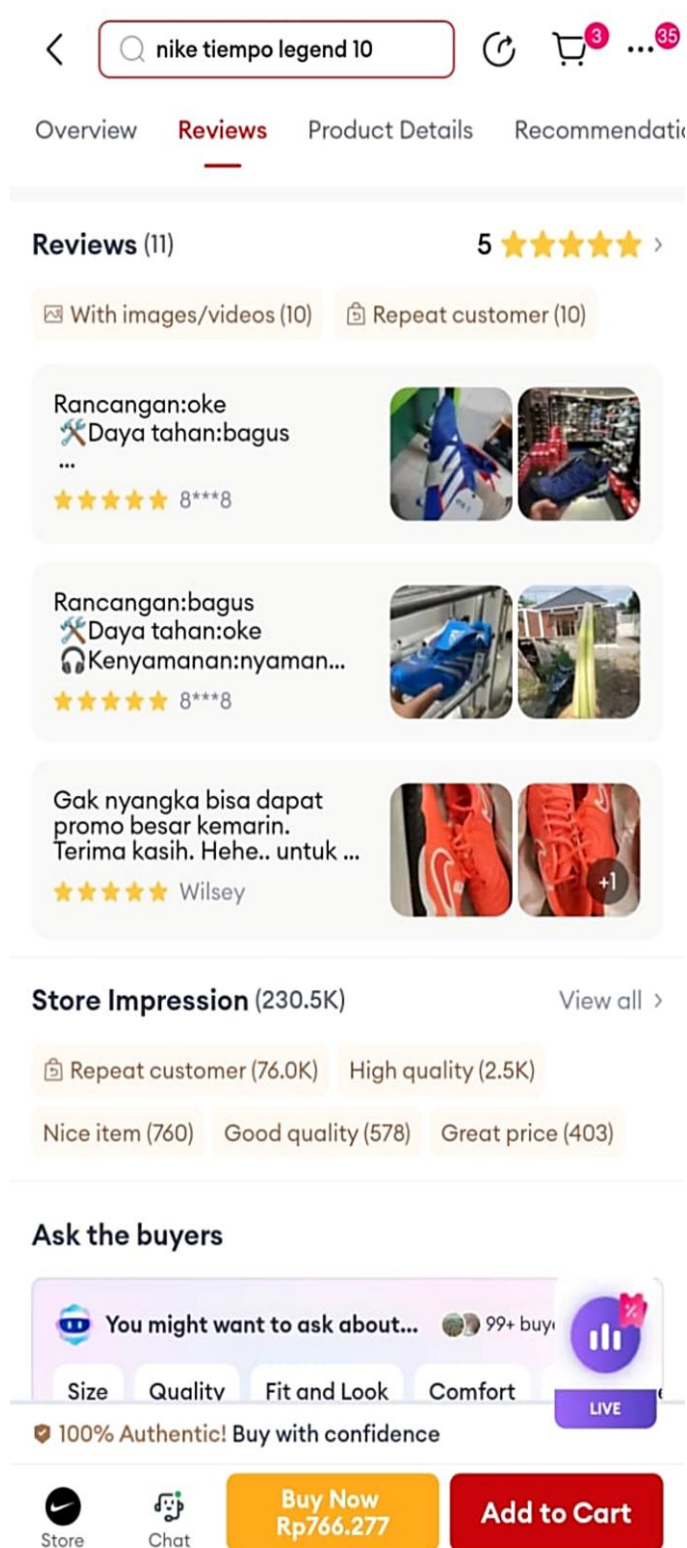
Fig. 16. Dedicated space for user reviews

3.7. Valuable aspect of Lazada

Within the valuable aspect, a product is expected to offer significant worth to its users. This aspect stresses that every product must meet user needs and provide high relevance, whether in terms of efficiency, effectiveness, or overall experience. A study shows that products with high valuable aspects tend to provide significant satisfaction and are more

Do you feel that Lazada's features (e.g. discount programs, flash sales) provide significant added value or benefits to you as a user?
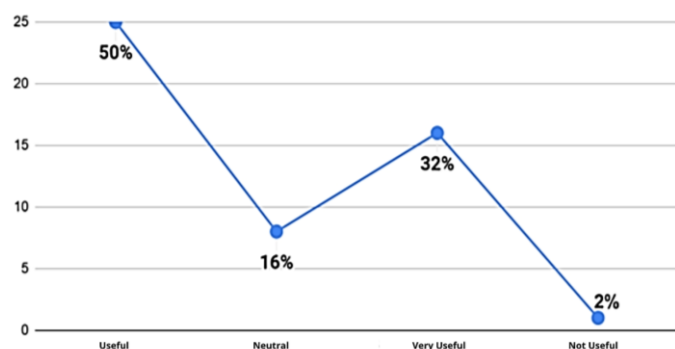

Fig. 19. Survey results on whether the features provide added value or benefits

memorable to their users (Vivakaran & Neelamalar, 2015).

3.7.1. *Analysis of Lazada features that provide added value and benefits*

Questions addressing the valuable aspect generally considered how users experienced the advantages of Lazada's features, such as discount programs and flash sales, and if these features added worth to Lazada.

Fig. 19 presents five-scale options: very not useful, not useful, neutral, useful, and very useful. Based on the diagram in Fig. 19, it can be assumed that Lazada's features offered added worth and were considered very useful by approximately 32% of respondents. Moreover, approximately 50% of respondents felt Lazada's features were helpful. Only approximately 2% of respondents considered Lazada's features not useful. This means that, overall, Lazada's features have provided considerable advantages to many users.

This study found that features like discount programs and flash sales on the Lazada e-commerce platform offered added worth or advantages to users. Effective discount programs can encourage user decisions to immediately purchase products, especially when offers are considered advantageous (Berlilana et al., 2024).

In Fig. 18 and 20, the Lazada platform effectively utilizes discount and flash sale features, which are well-presented. Information such as discount percentages, promotion durations, and buttons to review terms and conditions are clearly displayed, allowing users to easily understand the available discounts efficiently. Furthermore, flash sale offers also show prices before and after the discount, as well as the remaining promotional duration, enabling users to see the best offers available for a limited time.

4. Conclusion

The findings of this study show that Lazada generally meets the criteria of the UX Honeycomb model. The useful and findable aspects are fulfilled by product recommendation and search features, which make it easy for users to find desired products. For the usable aspect, users on the platform find the Lazada interface easy to use. The ease of using platform
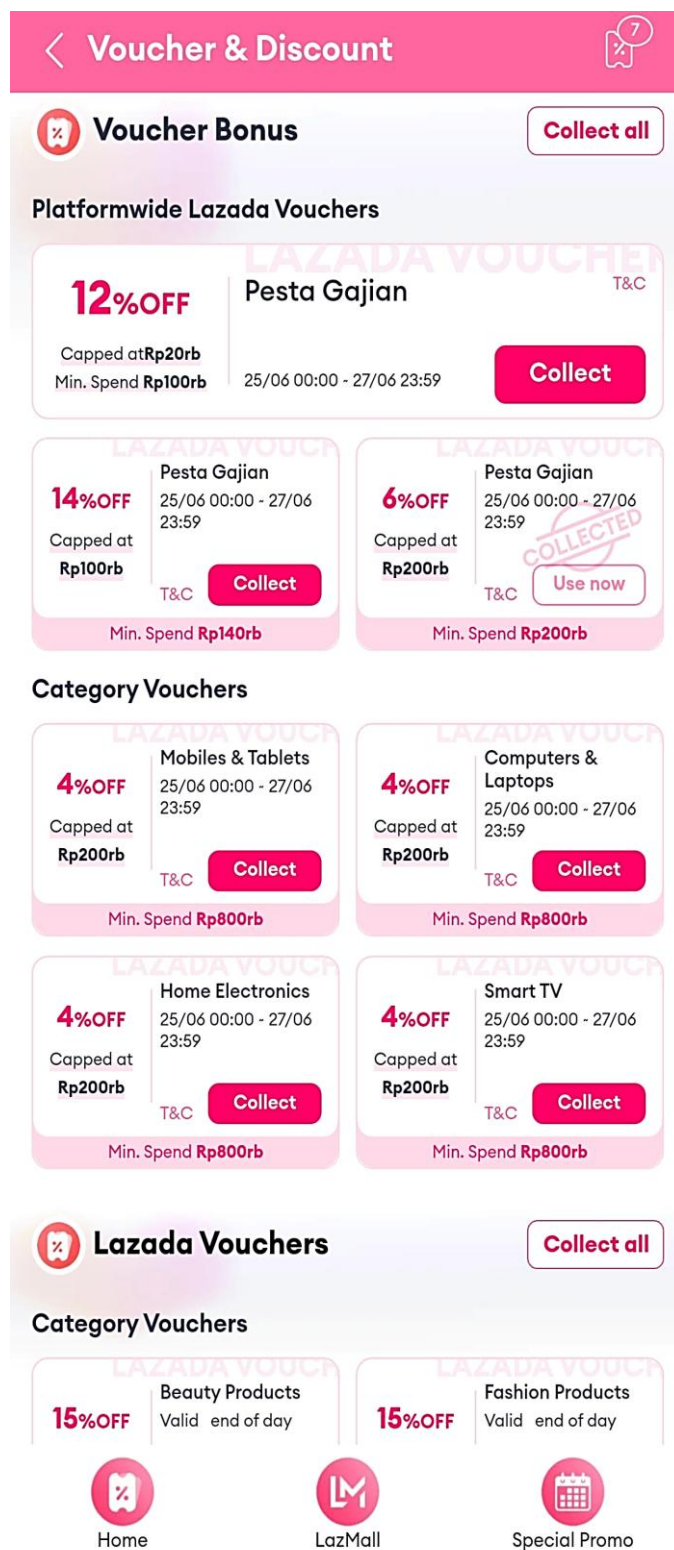
Fig. 18. View list of vouchers & discounts on Lazada platform

features, such as payment options, means Lazada has done well in assisting its users. The accessible aspect also indicates that Lazada offers features that help users with limitations; however, the variety of these features needs improvement. Meanwhile, the credible and valuable aspects also meet standards due to reliable product information and features like discounts, which add worth to the platform. Nevertheless, the desirable aspect, which deals with visual appeal, requires more attention to

Fig. 20. Flash sale feature on the Lazada platform

improve users' emotional experience. Thus, we can conclude that Lazada's UX has met most of the Honeycomb standards.

Based on the study's conclusions, the authors have several suggestions for Lazada application developers. It is recommended that Lazada's application developers enhance the UI layout. Lazada should pay closer attention to how users behave and their habits when using the application. This approach would allow for placing UI components in locations frequently accessed by users, ensuring all features are used more often. Similarly, the 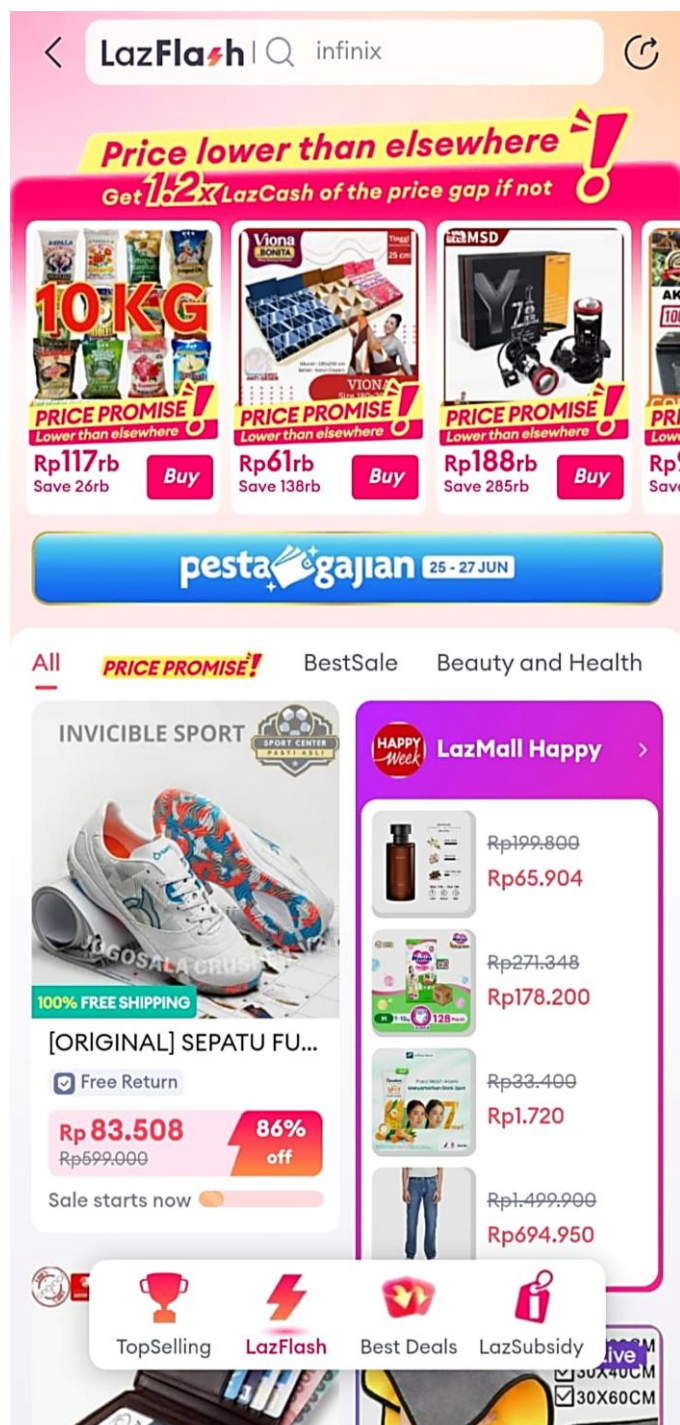application's UX should be further improved by considering various user preferences, making the user experience with the Lazada application better.

Data availability

All data produced or examined during this study are present in this paper.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Authors' contributions

All authors participated in the study design, writing, and manuscript revision. ADN, DS, FHP, MAF, and TR drafted the initial manuscript and revised it, and FYA supervised the study. All authors have reviewed and approved the final manuscript."

References

Asyifah, A., Syafi'i, A., Hanipah, H., & Ispiyani, S. (2023). Pengembangan Aplikasi E-Commerce untuk Peningkatan Penjualan Online. *Action Research Literate*, *7*(1), 70–75. https://doi.org/10.46799/arl.v7i1.188

Badriyah, T., Fernando, R., & Syarif, I. (2018, March 8). Sistem Rekomendasi Content Based Filtering Menggunakan Algoritma Apriori. *Konferensi Nasional Sistem Informasi (KNSI) 2018*.

Butkovic, A., Mcardle, G., & Bertolotto, M. (2023). *A Framework to Measure User Experience of Geoportals*. https://www.researchgate.net/publication/377151521

Deac, L. (2014). *Modern Web Design Techniques - A Practical approach*. Turku University of Applied Sciences.

Fatah, D. A., & Ayu Mufarroha, F. (2022). Perancangan Antarmuka Pengguna Sistem Informasi Akademik Berbasis Wireframing. *Jurnal Simantec*, *11*(1), 97–106. https://doi.org/10.21107/simantec.v11i1.19739

Hafidz, I. A., Syafei, M. M., & Afrinaldi Rolly. (2021). Survei Pengetahuan Siswa Terhadap Pembelajaran Atletik Nomor Lompat Jauh di SMAN 1 Rengasdegnklok. *Jurnal Literasi Olahraga*, *2*, 104–109.

International Organization for Standardization. (2019). *Ergonomics of human-system interaction – Part 210: Human-centred design for interactive systems (ISO 9241-210:2019)*. https://www.iso.org/standard/77520.html

Kurniawan, Y., Purwanti, A., & Kurnita, S. E. (2020). Analisis Kualitas Pelayanan Dalam Meningkatkan Kepercayaan Dan Keputusan Pembelian Konsumen PT Mitra Beton Mandiri Pekanbaru. *Jurnal Ekonomi KIAT*, *31*(2), 69–78.

Lestari, P., & Anggraini, F. (2018). Pengaruh Web E-Commerce, Kualitas Produk dan Kualitas Layanan terhadap Kepuasan Konsumen. *Sosio E-Kons*, *10*(1), 87. https://doi.org/10.30998/sosioekons.v10i1.2411

Morville, P. (2004). *User Experience Design*. Semantic Studios. https://semanticstudios.com/user_experience_design/

Muchlis, A. F. (2023). Metode Penelitian Survei-Kuesioner untuk Kesesakan dan Privasi pada Hunian Asrama. *Jurnal Lingkungan Binaan Indonesia*, *12*(3), 154–163. https://doi.org/10.32315/jlbi.v12i3.252

Mulyadi, M., & Gultom, A. W. (2022). Pengaruh Variasi Produk dan Sistem Pembayaran Terhadap Pendapatan Usaha Panglong Kayu di Kecamatan Muaradua. *Jurnal Manajemen Bisnis Unbara*, *3*(2). https://doi.org/10.54895/jmbu.v3i2.1926

Mutiasanti, S., Ananta, M. T., & Az-Zahra, H. M. (2018). Evaluasi Pengalaman Pengguna Pada Aplikasi Mobile E-Commerce Di Indonesia Dengan Menggunakan UX Honeycomb. *Jurnal Pengembangan Teknologi Informasi Dan Ilmu Komputer*, *2*(10), 3601–3608.

Pan, H., Liu, Z., & Ha, H.-Y. (2022). Perceived price and trustworthiness of online reviews: different levels of promotion and customer type. *International Journal of Contemporary Hospitality Management*, *34*(10), 3834–3854. https://doi.org/10.1108/IJCHM-12-2021-1524

Pebiyanti, E., Fauzi, A., Husniyyah, T., Tasia, S. I., Sutendi, Z., Vitri, A. E., & Penulis, K. (2023). Pengaruh Kualitas Informasi, Persepsi Keamanan, dan Persepsi Privasi Terhadap Kepercayaan Pengguna Belanja Online (Literature Review). *Jurnal Ekonomi Manajemen Sistem Informasi*, *4*(5), 2686–4916. https://doi.org/10.31933/jemsi.v4i5

Prayitno, A., & Safitri, Y. (2015). Pemanfaatan Sistem Informasi Perpustakaan Digital Berbasis Website Untuk Para Penulis. *Indonesian Journal on Software Engineering*, *1*(1), 1–10.

Sauri, Moh. S., Putra, A. H., & Yossy, E. H. (2023). User Experience Evaluation on Production Performance Monitoring System Using Honeycomb Method. *PIKSEL : Penelitian Ilmu Komputer Sistem Embedded and Logic*, *11*(1), 135–148. https://doi.org/10.33558/piksel.v11i1.6927

Setyanti, E. P. (2015). *Transaksi E-commerce Indonesia Tahun Depan Diprediksi Capai $4,5 Miliar*. Tech in Asia. https://id.techinasia.com/transaksi-ecommerce-indonesia

Sigar, C., Haidar, K., & Astuti, R. F. (2022). Analisis Persepsi Kemudahan Penggunaan E-Commerce di Kalangan Mahasiswa Pendidikan Ekonomi. *Jurnal Prospek: Pendidikan Ilmu Sosial Dan Ekonomi*, *4*(2), 53–61. https://doi.org/10.30872/prospek.v4i2.2233

Simanjuntak, S. (2018). *Analisis Pengalaman Pengguna (User Experience) Enterprise Resource Planning (ERP) Menggunakan User Experience Questionnaire (UEQ) (Studi Kasus: SAP Modul Sales & Distribution, Material Management, Fianancial Accounting)* [Institut Teknologi Sepuluh Nopember]. https://repository.its.ac.id/49487/

Siswanto, C. A., Indradewi, A. A., Emmanuella Pallo, K. X., & Purba, A. Z. (2022). Perlindungan Konsumen Terhadap Pembelian Obat Mengandung Psikotropika Pada Online Marketplace. *Jurnal USM Law Review* , *5*(2), 553–568. https://doi.org/10.26623/julr.v5i2.5337

Sugiyono, S. (2014). *Metode penelitian pendidikan : pendekatan kuantitatif, kualitatif, dan R&D* (Cet. 19). Alfabeta.

Suseta, P., Rokhmawati, R. I., & Brata, K. C. (2019). Evaluasi Pengalaman Pengguna pada Aplikasi E-Commerce Tapp Market Menggunakan Parameter UX Honeycomb. *Jurnal Pengembangan Teknologi Informasi Dan Ilmu Komputer*, *3*(6), 6191–6199. https://j-ptiik.ub.ac.id/index.php/j-ptiik/article/view/5677

Syahidi, A. A., & Tolle, H. (2021). Evaluation of User Experience in Translator Applications (Banjar-Indonesian and Indonesian-Banjar) Based on Mobile Augmented Reality Technology using the UX Honeycomb Method. *Journal of Games, Game Art, and Gamification*, *6*(1), 7–13. https://doi.org/10.21512/jggag.v6i1.7430

Vivakaran, M. V., & Neelamalar, M. (2015). *From Spectators to Users*: *A study on the transformation caused by the Social media in the Indian Media Context*. Bloomsbury. https://www.researchgate.net/publication/315686284

Wiwesa, N. R. (2021). User Interface dan User Experience untuk Mengelola Kepuasan Pelanggan. *Jurnal Sosial Humaniora Terapan*, *3*(1). https://scholarhub.ui.ac.id/jsht/vol3/iss2/2/

Afrilza Daffa Naryapramono is currently pursuing a Bachelor's degree in Informatics Engineering, Department of Computer Science, Faculty of Mathematics and Natural Sciences, Universitas Negeri Semarang, Indonesia. His current research interests include UI/UX development in the digital era, Artificial Intelligence in the formation of creative digital works, research focused on the development and application of information technology (including hardware, software, networks, and information systems), the application of combination model optimization algorithms, and the use of deep learning in digital technology.

Diva Satria is currently pursuing a Bachelor's degree in Informatics Engineering, Department of Computer Science, Faculty of Mathematics and Natural Sciences, Universitas Negeri Semarang, Indonesia. His current research interests include web and mobile application development with a focus on innovative user experience, exploration of WEB3 technology for decentralization and data security, and the application of Artificial Intelligence to enrich digital interactions and optimize application performance.

Fawwaz Haryolukito Pambudi is currently pursuing a Bachelor's degree in Informatics Engineering, Department of Computer Science, Faculty of Mathematics and Natural Sciences, Universitas Negeri Semarang, Indonesia. His current research interests include human-computer interaction, artificial intelligence, information technology research, optimization algorithms, and he is interested in programming and technologies related to Machine Learning, Software Development, and Web Development.

Muhammad Azzam Fadhlullah is currently pursuing a Bachelor's degree in Informatics Engineering, Department of Computer Science, Faculty of Mathematics and Natural Sciences, Universitas Negeri Semarang, Indonesia. His current research interests include machine learning development, artificial intelligence, information technology research, and optimization algorithms, especially in studying their concepts and applications.

Tyto Rinandi is currently pursuing a Bachelor's degree in Informatics Engineering, Department of Computer Science, Faculty of Mathematics and Natural Sciences, Universitas Negeri Semarang, Indonesia. His current research interests include human-computer interaction, artificial intelligence, and UI/UX development in web and mobile applications, specifically focusing on creating user-friendly, appealing, and user-needs-driven application interfaces.

Florentina Yuni Arini received her S.Kom. degree in 2002 and M.Cs. degree in 2009 from Computer Science, Universitas Gadjah Mada, Indonesia. In 2023, she received her Ph.D. degree from the College of Computing, Khon Kaen University, Thailand. Currently, she is an active lecturer in Informatics Engineering, Department of Computer Science, Faculty of Mathematics and Natural Sciences, Universitas Negeri Semarang, Indonesia. Her research interests include human-computer interaction, machine learning, artificial intelligence, and nature-inspired optimization algorithms.