

## USER INTERFACE DESIGN ANALYSIS OF TOKOPEDIA MARKETPLACE WEBSITE

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**Abstract.** The development of digital technology significantly influences people's lifestyles, especially in the trade sector. The shopping system has shifted from conventional shopping directly to stores (offline purchasing) to online shopping (online purchasing) with the existence of a website-based marketplace platform. One of the marketplaces that serve as the most prominent online buying and selling platform in Indonesia is Tokopedia. The users are more than 50% of the active population in Indonesia. Tokopedia, as a Unicorn company, certainly has a professional design team in designing user interface websites so that it looks attractive, is easy to use, and has a strong identity. A good user interface design will make it easier for users and make them loyal users. This study proposes guidelines for user interface design theory. It analyzes the appearance of the user interface design of the Tokopedia marketplace website in a descriptive analysis for user convenience, providing comfort for users, and even emotional attachment. The results of this study are expected to be a role model in designing a marketplace website that is comfortable to use to increase the number of users from various circles.

**Keywords:** graphic design, marketplace, Tokopedia, user interface, website

### Introduction

A marketplace is a website or mobile application that allows sellers and buyers to transact online. One of the marketplaces that function as Indonesia's most prominent online trading platform is Tokopedia, founded in 2009 and awarded the Indonesian Unicorn title in 2018. Unicorn is a startup with a valuation value of 1 billion USD. In 2020, Tokopedia's active users reached more than 100 million per month (Jakarta Globe 2021) out of 185.45 million people belonging to the category of Indonesia's productive population (15-64 years old) (The World Bank 2021). In addition to the enormous company value, its users are more than 50% of the active population in Indonesia.

Currently, many marketplaces have sprung up and competed with each other to get loyal users. Website design is a crucial factor in the acceptance and success of websites and electronic commerce (Flavian, Gurrea, and Orus 2009). The mature designs of name, logo, color, template/page layout, image, identity, and content are essential to impress people the first time they browse a company's website and decide whether to use it again (Gunawan 2018). Tokopedia's website is not only designed to meet Tokopedia's needs but also to consider its users. The convenience of application users in using the Tokopedia application is expected by the team that created the application. This mature design is proven by a large number of Tokopedia users. Tokopedia certainly has a design team whose job is to make a part in designing the web's user interface so that it looks attractive, is easy to use, and has a strong identity. This

study analyzes the user interface design of the Tokopedia marketplace website to be a role model in designing a website that is comfortable to use.

Few studies in national journals and some in un-reputed journals regarding Tokopedia have been made, evaluating the user interface system of Tokopedia's software on a user-based basis (Aziza, 2019; Muqoddas et al., 2020). Another study measured the quality of the Tokopedia website on user satisfaction. The results obtained are 73.46% assessing the quality of the Tokopedia website as good, and users are satisfied with its use (Nugroho and Sari 2016). Research that has been made discusses Tokopedia from the point of view of user experience system technology and user satisfaction levels. However, nothing has been discussed from the user interface graphic design point of view. The user interfaces themselves have been used in many studies and show the importance of the appearance of the user interface design in providing user comfort and convenience. This study aims to fill the reference gap in international journals regarding the analysis of the user interface design of the Tokopedia website as the influential unicorn in Southeast Asia with high user satisfaction. This research is essential for international reference because Indonesia occupies the fourth largest population after China, India, and America.

This study will formulate the basic principles of a good application display based on the user interface theory associated with the basic principles of graphic design. The visual appeal of accessing websites has impacted user preferences and overall satisfaction (Varela et al. 2013). One of the aesthetic ways to solve the interaction between websites and users is the primary goal of visual design (Mullet and Sano 1995). In a website, essential elements such as typographic styling, color palette, and imagery must be arranged in the proper layout composition to be comfortable and easy to use by users (Dabner, Stewart, and Vickress 2020).

## Methods

The user interface is a study of the graphic layout of a web or application to make it look attractive, simple, and easy to use. The user interface is the communication between the user and the system through control selection, layout, icon, and other graphic design, color, and animations to achieve the user's goals (McKay 2013). User interface design is fundamental to making it easier for users to interact with the used web. The design of comfortable visual elements will significantly affect the loyalty of its users. In running a website-based marketplace, a user interface design is needed.

In designing a website, several things need to be considered, such as making an attractive interface design comfortable to use by users and can meet the needs of its users. The user interface design of a good website can increase effectiveness by making it easier for users to operate and making it easier for users to get the information they need quickly. Conversely, a user interface that is too complex can make users feel difficult, and there is a possibility that users can make mistakes in using it when faced with overly complex menus, difficult-to-understand terms, or chaotic navigation flows (Shneiderman et al 2016). There are some guidelines for creating user interface designs, namely (Stone et al 2005):

1. Visibility, the first step towards the goal must be clear.
2. Affordability, tutorial on how to use it.
3. Feedback, it should be clear about what happens once it is clicked.
4. Simplicity, simple view and focus on a task.
5. Structure, the content structure is arranged wisely.
6. Consistency, the similarity of design and system.
7. Tolerance, prevent errors during use.



8. Accessibility, it can be used by all users, regardless of disability, access device, or environmental conditions.

As technology develops, the guidelines for creating user interface designs should be updated. Not only easy to use as it was when the website first appeared, but today's user interface designs must also be visually comfortable. This study proposes guidelines for designing a website user interface with a comfortable visual appeal for users. The guidelines are:

1. Visibility
2. Affordance
3. Feedback
4. Simplicity
5. Structure

Content is not only structured but there is a hierarchy and a balanced emphasis in a unified website design layout.

6. Consistency

Not only the similarity of the system makes it easy to use steps, but visual consistency is also critical in determining the credibility of the web design. Design settings of color, font type, and font size must be in harmony.

7. Tolerance

8. Accessibility

9. Emotional attachment

A company must have a specialty that can bind users emotionally to become loyal users, for example, using an interactive mascot or an accommodating help center. Even though users are faced with technology, users can still feel the warmth/help from the website as a representation of the company.

## Result and Discussion

This analysis discusses how the user interface of the Tokopedia website works, as well as its advantages and disadvantages. The analysis is based on user interface theory and graphic design theory. The analysis is based on the guidelines for making user interface designs:

### Visibility

The user's first step towards achieving his desired goal should be clear. The visibility has been implemented well by Tokopedia. When a user enters the [www.tokopedia.com](http://www.tokopedia.com) website, they are immediately presented with a home page that allows users to immediately search for the information they need without being confused and looking for too long. The appearance of the Tokopedia home page is excellent. The primary information presented is visible and easily understood by users, both non-specialists and experts.

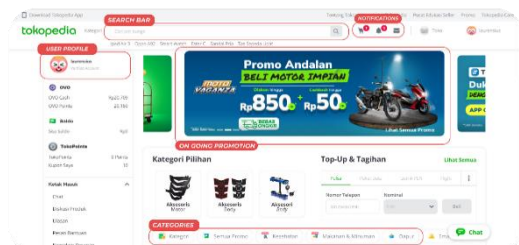


Fig. 1 Display of the Tokopedia home page

A detailed yet minimalist look allows users to find what they need quickly and efficiently. In addition, the icons provided by Tokopedia on its marketplace page are apparent. The

notification display is also clearly visible, thus giving users more attention to see the notification first. The profile display on the main page is also clearly visible and detailed, making it easier for users to choose items that fit the budget available in the user's Tokopedia account. The chat button looks quite large, allowing users to immediately find out if there are new messages from sellers or buyers. The promotional banner display is also very clearly visible so that users do not miss any ongoing/future offers.

### Affordance

The website must be able to tell the user what steps to take. Affordance is also implemented very well by Tokopedia. For example, in the search bar, Tokopedia writes examples of what to do to get the information needed. Another example is the offer of a specific category or promo; if the user points the pointer to a particular promo/category area, an interface appears that can direct the user to see the next section or the previous section. In this affordance element, the display looks minimalist and very clear. When the user clicks on the search bar to write what they want, the display focuses only on the search bar, while other parts look dark. This display makes users feel comfortable and focused on fulfilling their desires. In this affordance category, the user interface of Tokopedia is already very good for its users. The display looks clear and detailed.

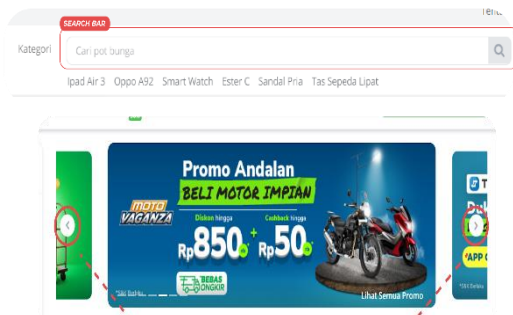


Fig. 2 Search bar display and navigation of Tokopedia

Tokopedia's user interfaces display that when going to top-up shopping balances, top-up payment needs for daily necessities already have several choices, making it easier for users to choose according to their needs quickly and clearly. The display of the list of choices provided by Tokopedia is also perfect; the icons used already represent the functions provided. A very diverse selection and an attractive appearance can provide a plus for Tokopedia users.

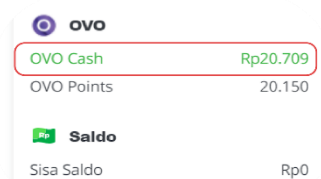


Fig. 3 The appearance of the font color changes when clicked

### Feedback

A good design will pay attention to every detail of what the target user might need. The more effective the use of the design, the better the design will be. Every step a new user takes can get visual feedback, so there is no confusion about what was done. In the following criteria, Tokopedia also pays great attention to the element of feedback needed.

In the menu on the left, if the user puts the pointer on the menu they want and can click, the feedback is that the menu color changes from black to green. If the user hovers the pointer on the menu icon at the top, a new interface will appear, and other parts will become darker,



focusing the user on the selected part. However, some parts are unsatisfactory; namely, when the user hovers the pointer on a specific category, the expected feedback does not appear. Another example is if the user points the pointer to a product being sold, there is almost no clear feedback on the interface. Overall, the feedback display from Tokopedia is excellent and transparent.

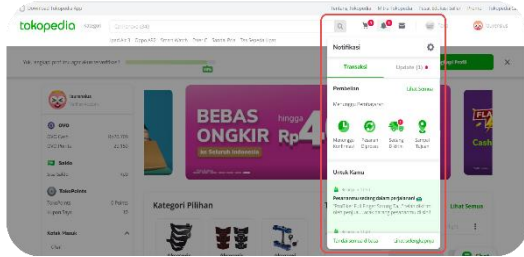


Fig. 4 Display background color changes after a new interface appear

### Simplicity

The appearance of the website should be simple and focused. An excellent interactive system must minimize the amount of attention provided by the user to operate it (Krug 2005). In this case, Tokopedia has also paid close attention to it. For example, users do not need much effort to find the information they need; with just a few clicks, users can immediately find the accurate and precise information they want without having to go through a tortuous process.

In designing the user interface of an application, it is better to reduce unnecessary writing. The user interface design must be practical so that users do not need to memorize the steps to the intended menu. A more straightforward design makes it easier for users to search quickly for where they want to go. If there is too much unnecessary writing in a design, it makes the user have to read/find what is needed longer and most likely makes the user feel bored and choose to leave the application (Johnson 2014).

The user interface of Tokopedia is straightforward and uncomplicated. Simplicity can be seen in the Tokopedia logo, which does not use many accessories; it is easy to remember because it is simple. Other things can also be seen in the icons used in this marketplace. The icons used to look simple. As a user, Tokopedia's appearance, which is simple and looks clean and elegant, is perfect. This minimalist appearance makes users comfortable even for a long time. This simple interface also makes it easier for users to find what they want faster.

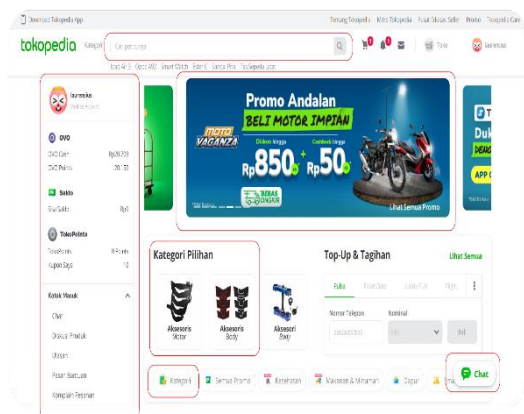


Fig. 5 Consistently simple layout design

### Structure

The content in the interface must be arranged with a good layout. Tokopedia gets a good score in this criterion due to the neat and appropriate arrangement or hierarchy of content. Designing something is essential to have a layout arrangement for the content. The layout makes

the design look more attractive and accessible for users to understand. In a layout that contains many elements, the hierarchy determines which parts to look at first. A good layout can direct the flow of the user's eye view (sequence) into the information presented in the order of priority to be conveyed first or later, making it easier for users to get the preliminary information. Tokopedia has implemented a good hierarchy. Hierarchy can be seen in the existing interface. The main priority is to make it easier for users to find or get to the user's primary goal, namely by placing the search bar at the very top of the Tokopedia website. Then in the next section, there are things that many users usually look for, namely ongoing promos or discounts. Tokopedia puts the promotions section right below the search bar to make it easier for users to find what promos they need. Then at the very bottom of the website interface, Tokopedia puts menus that are less necessary for users but are still essential for users, namely menus such as about us, help, and application downloads. The appearance of this good structure makes it easier for users to shop online.

A sequence can be achieved by emphasizing large sizes, contrasting colors, location/position, and different shapes from their surroundings. Emphasis aims to make that part the center of attention so that the audience can focus more on that crucial part. The Tokopedia website interface itself already has enough emphasis. For example, the chat function button interface has a function to open a chat with other users, buyers, and sellers. This button is located at the bottom right and is floating, which means it stays on some pages. The shape taken by Tokopedia is rounded rectangular; this makes the display seem less rigid and can be readily accepted by various age groups. The use of visual elements on the Tokopedia website interface is considered good enough. It can be seen that the display does not feel one-sided or that there are visual elements that are not correctly placed. In terms of color application, Tokopedia has applied color theory to every design element so that overall, the design looks balanced, without one element dominating the other elements. Unity and harmony of design elements in the layout are seen in one concept. Unity is not only a design element but also colors, supporting objects, and typography. Tokopedia's user interface design meets these points of unity and presents an aesthetically pleasing and attractive visual.

### Consistency

The website must have a consistent resemblance to each interface. Tokopedia pays attention to the consistency aspect of each of its designs. It can be seen that every box design from Tokopedia has no corners. Consistency can be seen in all its applications. A consistent design display has an aesthetic value and supports the image strength of Tokopedia. In accessing the Tokopedia site, users can see the consistency of the design from the same layout, the use of typography, the size of the font, and the use of color.

Many researchers have discussed the impact of typography on the readability of web pages (Ling and van Schaik 2006). Typography is generally divided into Serif and Sans Serif, each of which has different characteristics. Sans Serif fonts or Gothic fonts have no small strokes as serif fonts (Ali et al. 2013). Choosing the right typography will automatically establish a connection between the reader and the media. Serif fonts are suitable for printed media, and Sans Serif fonts are suitable for computer screens because they are easier and faster to read (Vaughan 2010; Peck 2003). Many website designers claim that Sans Serif fonts provide better screen readability, especially when a small font size is chosen (Peck 2003). The choice of font type is essential in representing a particular identity. In this case, Tokopedia chose to use a Sans Serif font that is more casual and friendly but still has a high level of legibility. Users feel comfortable and subconsciously make the user loyal.

The color used in Tokopedia's design is dominated by green, which theoretically has a soft, comfortable, and calming effect for users. The use of color is done so that users can access Tokopedia for a long enough duration and remain comfortable in their eyes. Website color



selection impacts user trust, satisfaction, and electronic loyalty (Cyr, Head, and Larios 2010). Colors with long wavelengths, such as red and yellow, are considered more negatively arousing than colors with shorter wavelengths, such as blue and green (Jacobs and Hustmyer Jr. 1974). Cool colors like blue and green are generally preferred over warm colors like red and yellow (Marcus and Gould 2000). The coloring that is not too much makes the website look more minimalist and elegant and contrasts clearer. Tokopedia leaves space between buttons and links by using white space so that it appears clearly but does not eliminate the aesthetic elements or essential information needed.

### Tolerance

Tolerance means that there is a system for preventing user errors and providing recovery steps if the user has made a mistake. In this case, Tokopedia pays little attention to it. There is no feature of preventive steps or recovery steps such as back or undo if the user has made an error on the website. So the recovery method that can be taken is by pressing the back button on the browser or by pressing the Tokopedia logo to return to the landing page of the Tokopedia website. The example below is an example of the tolerance that Tokopedia has applied. This error prevention design is still lacking because it looks too stiff and less attractive.

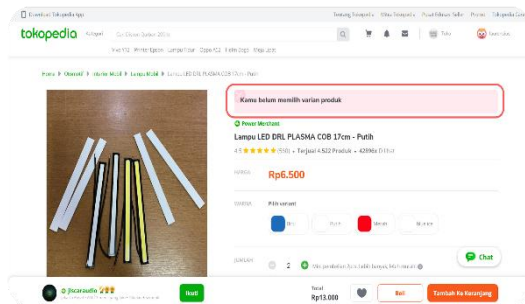


Fig. 6 Display a red bar as a reminder

### Accessibility

The website must be able to be used by many users, regardless of various problems, both from environmental conditions, the devices used, or users who have physical disabilities. Based on the 2007 Basic Health Research Report of the Ministry of Health of the Republic of Indonesia, it was stated that the color blindness rate in Indonesia was 7.4%, with the highest distribution being in the capital city of Indonesia, (24.3%) (Republic of Indonesia Ministry of Health 2013). In this regard, Tokopedia is also paying close attention. The website interface is simple, does not have a lot of color, graphics, and visuals, and has good contrast so that these problems can be adequately handled. Tokopedia's image display in black and white already has good contrast, so it can be used by many users, even people who have physical limitations of color blindness.

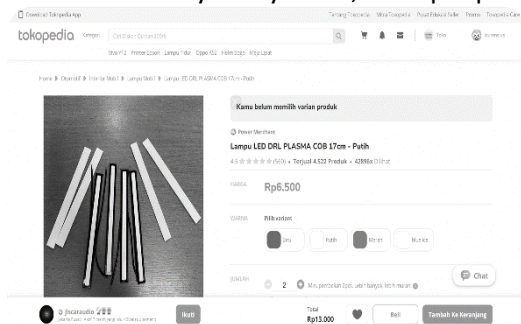


Fig. 7 Black and white layout design for those with limited color vision

## Mascot

A mascot symbolizes group identity that encourages and can have emotions to represent its role (Adams 1999). Nowadays, brand mascots become real and animated as living creatures (Cohen 2014). The use of brand mascots can increase the attention and recall the memory of the audience (Mowen and Minor 2000), building a corporate reputation and as a brand representative (Page and Fearn 2005).

Mascot not only represents and reflects the image but also serves to strengthen the visual identity of a brand. The mascot is part of the logo, which is more heart-to-heart and has an emotional bond between a brand and its users and simplifies aspects of brand promotion. A mascot is used to personify brand characters and promote a brand by building brand identity and favorable brand association, helping the brand come alive with the qualities of human emotion, thought, and personality (Mowen and Minor 2000). Tokopedia uses mascots to design its website pages and every program launched. Tokopedia used a mascot to make it easier to remember and attract users' interest, facilitating the communication process to conduct promotions effectively.

Overall, the figure of Tokopedia's mascot is an owl, which symbolizes intelligence and wisdom. However, if it is looked at closely, the mascot's body shape is the personification of the shape of a shopping cart. This design was created because Tokopedia is a marketplace where the buying and selling process is carried out. Without shifting its function as a marketplace, the Tokopedia mascot is an effective persuasive communication instrument between Tokopedia and all types of users, both sellers, and buyers. The color applied to the mascot is a derivative of the green color that is the hallmark of Tokopedia.



**Fig. 8** Various expressions of the Tokopedia mascot (Tokopedia 2022)

There are various expressions of the Tokopedia mascot applied to various forms of promotions and responses to each user. For example, if a user submits an appreciation for Tokopedia's seller or customer service, the Happy mascot image will automatically be sent to the user's chat room. On the other hand, if the user gives negative feedback, the mascot sent is crying or sad. These eight mascot expressions represent each case and user feedback, both as a seller and a buyer. Through this variant of mascot expression, the user's emotional bond will be stronger, and communication will be better.

## Conclusion

This study aims to analyze the user interface design based on the basic theory of graphic design, such as layout, typography, and color. Based on the data presentation and analysis above, it can be concluded that Tokopedia deserves to be the number 1 marketplace in Indonesia above its competitors. Tokopedia has been supported by user-friendly technology; its interface design is also very considerate and effective in building its users' brand value and emotional and psychological aspects. The theoretical aspects of the design have been well



applied. In addition, the use of mascots to reach the emotional aspect, a persuasive and personal means of communication has also been appropriately executed. This research implies that the application of interface design and other instruments that reach the emotional side over the rational will be efficient for the value and strength of a brand.

Hopefully, this research can be an inspiration and reference for other researchers to study more deeply the user interfaces of other marketplaces in Indonesia and analyze their advantages and disadvantages. This research is not perfect and has limitations, namely the lack of reviewing the interactive elements of Tokopedia, considering that the majority of users are a technology-oriented generation. Hopefully, in the future, there will be other researchers who study aspects of interactive design and make comparisons with other marketplaces in Indonesia.

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