

ABSTRACT

An optimal user experience (UX) on e-commerce websites is essential to ensure accessibility and user satisfaction, including for users with color blindness. About 0.7% of Indonesia's population is colorblind, and some of them who are active internet users have difficulty accessing e-commerce sites. Literature studies show that there are still many e-commerce websites that do not pay attention to accessibility aspects, including in the design of user interfaces (UI) for website users with color blindness. This research emphasizes the importance of deeply understanding user needs and creating innovative solutions on the TUS Mart website. TUS Mart is a web platform owned by Telkom University Surabaya that sells hydroponic and aquaponic products, but has not been equipped with color blind features. The Design Thinking method was chosen, because it is able to solve problems with a user-centered approach, including iterative stages with more effective solutions that include Empathize, Define, Ideate, Prototype, and Test. The data used in this research is qualitative data, namely interviews with TUS Mart buyers and active users of e-commerce websites with color blindness. This research resulted in a TUS Mart website designed with modes: normal (integrated with monochromacy mode), protanopia, deutanopia, tritanopia, and dark mode. Validity testing was conducted on each of 25 respondents with color blindness to assess the design before and after modification. The Wilcoxon Signed-Rank Test results showed a significant difference between the initial SUS score of 51.1 (poor category, Grade D, NPS detractor) and the post-modification score of 86.3 (excellent category, Grade A, NPS promoter). This result confirms that the addition of a color blind mode significantly improves usability and accessibility for users with color blindness.

Keywords: *E-commerce, Website, Color Blindness, Accessibility, Design Thinking*