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Systematic Literature Review (SLR): The Influence of Donation Button Color on Online Donation Behavior on the Kitabisa Platform: Using Eye Tracking

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Abstract

The development of crowdfunding platforms like Kitabisa has changed the pattern of community interaction in digital donations. One important element in the user interface (UI) that can influence donation decisions is the color of the donation button. This research aims to systematically review literature discussing the effect of color on visual attention and online donation behavior, using a Systematic Literature Review (SLR) approach with PRISMA guidelines and bibliometric analysis. A total of 11 selected articles were analyzed, consisting of 6 studies on eye tracking and 5 studies on donation behavior. The results of the review show that color plays an important role in attracting users' visual attention, while factors such as trust, empathy, and interface design influence donation intent. However, no research has been found that specifically links the color of donation buttons to online donation behavior through an eye tracking approach. These findings reveal a research gap that can be further explored, as well as providing practical implications for the development of UI design for donation platforms.

Keywords: Donation Button Color; Online Donation Behavior; Eye Tracking; Interface Design; SLR

1. Introduction

The development of digital technology has transformed the way people interact and contribute to social causes, including online donations. Crowdfunding platforms like Kitabisa have become an important means of raising funds for various social and humanitarian causes. In this context, user interface (UI) design plays a crucial role in influencing donation behavior. One significant design element is the color of the donation button, which can influence user attention and decisions.

Color has a strong psychological impact, influencing user emotions and behavior. Research shows that color can influence user perceptions and actions in digital contexts. For example [8], showed that attention-grabbing design elements can enhance user experience, while [2] found that packaging color can influence consumer attention and decisions. Therefore, the choice of donation button color on platforms like Kitabisa can contribute to donation conversion rates.

Eye tracking has become an effective tool for understanding user interactions with design elements on websites. Using this technology, researchers can analyze users' attention patterns toward donation buttons and how their color influences their decisions to donate. [10] demonstrated that eye tracking can provide insight into how users perceive colors when exposed to specific design elements. While several studies have explored the influence of color in the context of web design and marketing, there remains a gap in the literature specifically addressing the influence of donation button color on online donation behavior.

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Therefore, this study aims to conduct a systematic review of the existing literature on the influence of donation button color on online donation behavior. By identifying key findings and existing research gaps, it is hoped that this study will provide deeper insights into how donation button design can be optimized to increase the effectiveness of donation campaigns on the Kitabisa platform and other crowdfunding platforms.

2. Material and methods

In this research, the materials and methods used to conduct a systematic review of the literature on the effect of donation button color on online donation behavior followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. PRISMA is a framework designed to improve transparency and consistency in reporting systematic reviews. By using this approach, we will ensure that the process of selecting, analyzing, and synthesizing literature is carried out systematically and structured.

The review process began with the identification and selection of relevant studies from various academic databases. Inclusion and exclusion criteria will be applied to ensure that only eligible studies are included in the analysis. Furthermore, data from selected studies will be extracted and analyzed to identify key findings and emerging patterns in the literature.

In addition, bibliometric analysis will be conducted to provide insights into research trends, author collaborations, and publication distribution in this field. Bibliometric analysis allows us to map research networks and identify significant contributions in the existing literature. By combining the PRISMA approach and bibliometric analysis, this research aims to provide a comprehensive overview of the effect of donation button color on online donation behavior, as well as to identify research gaps that can be explored further.

2.1. PRISMA analysis

To ensure transparency and systematicity in the article selection process used in this study, researchers referred to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol. The PRISMA diagram was used to illustrate the flow of the identification, screening, eligibility, and inclusion processes for studies relevant to the research focus. Figure 1 below shows the PRISMA flow diagram illustrating the systematic stages in the literature selection process of this study.

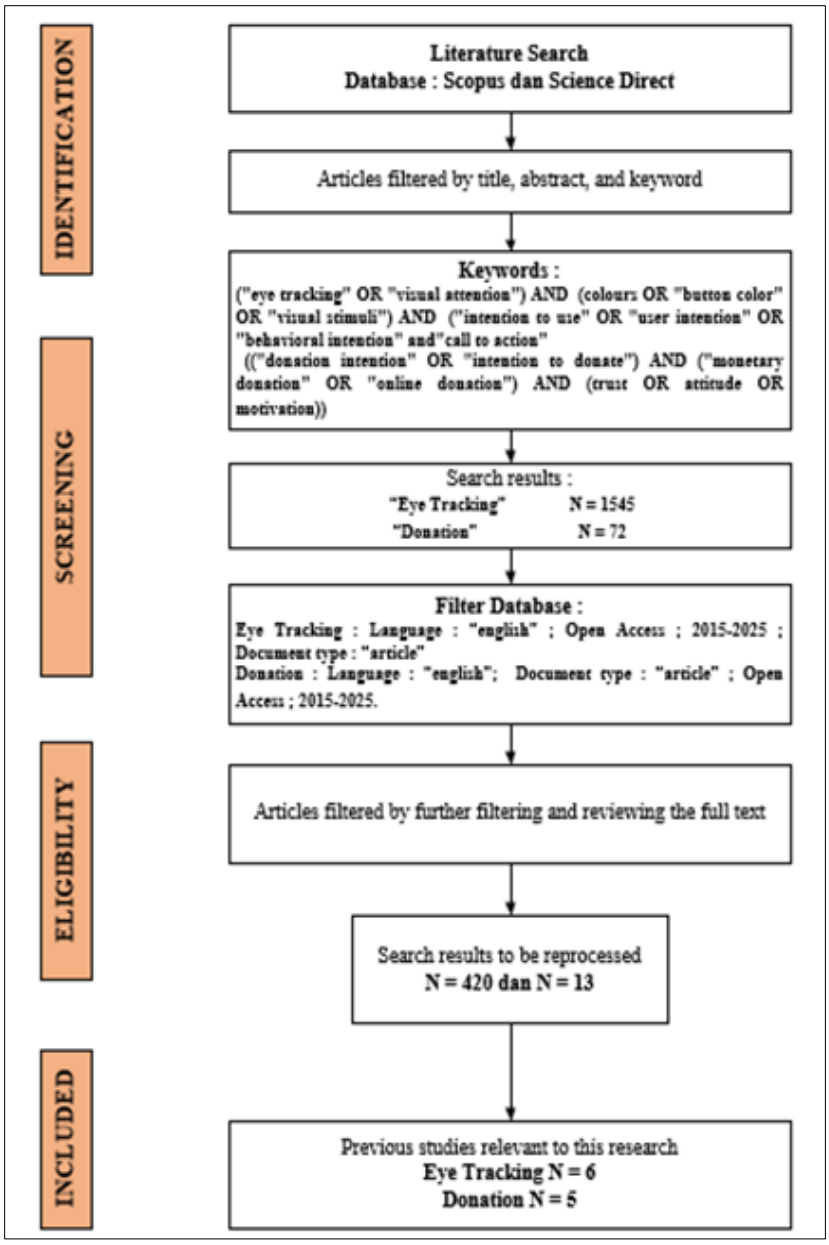

Figure 1 PRISMA flow diagram in the article selection process

Based on Figure 1 above, it illustrates the literature search process flow in research related to eye tracking and donation methods, using two main databases, namely Scopus and Science Direct. In this identification stage, researchers conduct a business literature search using relevant keywords. The databases used include Scopus and Science Direct. Articles obtained through this search are filtered based on root words, titles, abstracts, and established keywords, namely "eye tracking" or "visual attention" along with other related terms such as "user intention", "donation", and "behavioral intention".

In the Screening stage, the initial search results show that the total number of identified articles related to eye tracking is N = 1,545. These documents are then further filtered. This filtering step aims to eliminate articles that do not meet the established criteria, which in this case include time limits and access types (only Open Access). Furthermore, in the Eligibility stage, the filtered articles are re-examined to ensure their eligibility, with additional criteria such as document type and material relevance. In the figure, it is shown that after filtering, the search results considered relevant amount to N = 420 for the eye tracking topic and N = 13 for the donation topic.

The final stage, Included, is where researchers list studies that are truly relevant to their research. From the final search, it was found that there are N = 6 articles focusing on eye tracking methods and N = 5 for the donation topic that have

been reviewed and approved as suitable for inclusion in further research analysis. Thus, the diagram clearly shows the systematic stages in literature search and filtering to ensure that the research is based on valid and relevant sources.

2.2. Bibliometric Analysis

As part of a systematic approach in this literature review, a bibliometric analysis was conducted to gain a comprehensive understanding of the research landscape connecting color, visual attention, and online donation behavior. This method not only aimed to identify research trends and the contributions of leading scientists in this field but also to map the interconnections between key concepts relevant to the use of eye-tracking technology in the context of digital interfaces, especially donation buttons.

By utilizing leading scientific databases such as Scopus and Web of Science, as well as tools like VOSviewer and Bibliometric, the bibliometric analysis provided a quantitative basis and visualization of knowledge networks that strengthened the literature selection process and directed the focus of this study more precisely. Through keyword mapping, citation analysis, and collaboration patterns among authors and institutions, this section became an important foundation for building the conceptual framework and research justification related to the influence of donation button color on user behavior on the Kitabisa platform.

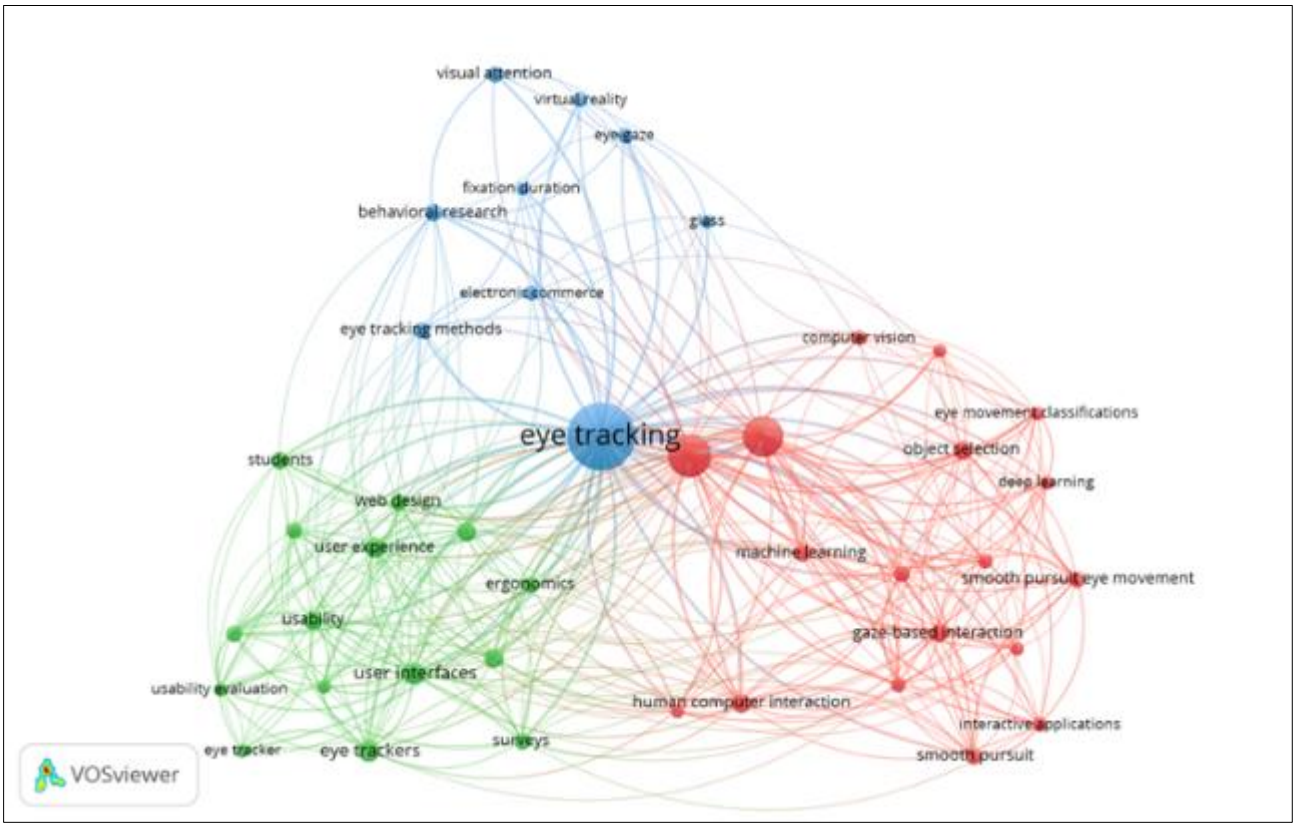

Figure 2 Keyword Co-occurrence Network Map Eye Tracking

The image above is a bibliometric visualization using VOSviewer, showing a keyword co-occurrence mapping related to the topic of eye tracking. This visualization illustrates how keywords related to eye tracking are grouped into three main clusters, distinguished by color: blue, green, and red clusters.

The blue cluster focuses on cognitive and behavioral aspects such as visual attention, fixation duration, and behavioral research, which are relevant in the context of analyzing visual attention to design elements like donation buttons. The green cluster covers usability and user experience aspects, such as user experience, usability evaluation, and web design, which support understanding how the color of donation buttons affects user interaction on online platforms like Kitabisa. Meanwhile, the red cluster contains more keywords related to technology and computational approaches such as machine learning, deep learning, and gaze-based interaction, indicating technical approaches that can be used to analyze eye tracking data in more depth.

The central position of the keyword "eye tracking" emphasizes its primary role in connecting various disciplines and approaches in research related to human-technology interaction. Thus, this visualization supports that eye tracking is an appropriate and widely used approach in studies aiming to understand user behavior, including in the context of the influence of donation button color on online donation behavior.

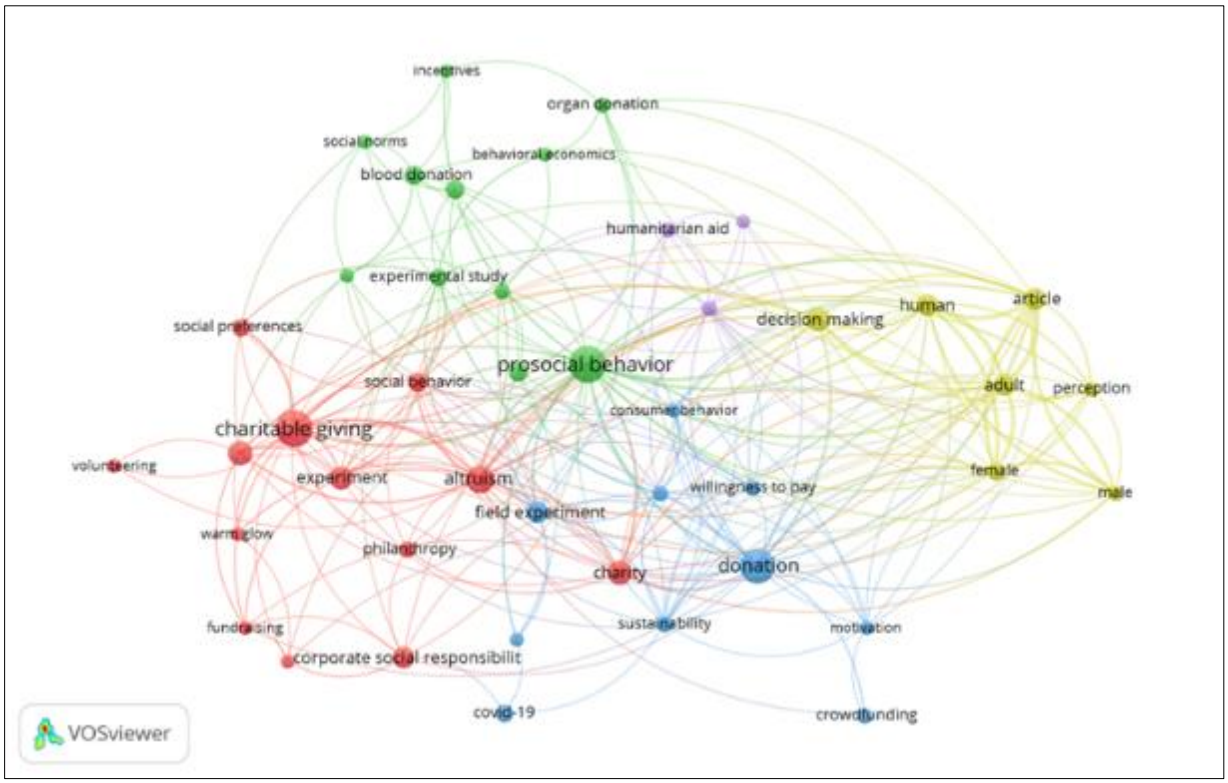

Figure 3 Keyword Co-occurrence Network Map Doantion

The second image is a bibliometric visualization using VOSviewer, mapping keywords that frequently appear together in literature on prosocial behavior and donation activities. This visualization displays five main clusters that show the interconnectedness between various topics in the study of donation behavior and social contributions.

The red cluster highlights aspects of charitable giving, including terms such as altruism, philanthropy, volunteering, and corporate social responsibility. This cluster reflects the psychosocial and experimental approaches widely used in studies on individual motivations and forms of contribution to charitable activities. The green cluster groups topics related to prosocial behavior and behavioral economics, such as experimental study, social norms, and organ donation, indicating a scientific approach to understanding prosocial actions based on economic and behavioral principles.

The blue cluster focuses on aspects of donation and charity, as well as their connection to topics such as sustainability, crowdfunding, and motivation, which are highly relevant in the context of online donations on platforms like Kitabisa. The yellow cluster illustrates demographic characteristics such as human, male, female, and perception, indicating that individual factors are also widely studied as determinants in donation behavior. The purple cluster, although smaller, shows the connection between decision making and consumer behavior, supporting a cognitive approach to understanding how someone decides to donate.

Thus, this visualization reinforces the relevance of research topics on the influence of visual design elements such as donation button colors on online donation behavior, as these topics lie at the intersection of prosocial behavior, decision-making, and the psychological aspects of user experience.

3. Results and discussion

This section presents the results of a literature review that has been systematically collected and analyzed using the PRISMA approach and bibliometric analysis. The discussion focuses on two main themes that form the basis of this

research: studies related to the use of eye tracking in evaluating visual elements of interface design, and studies discussing online donation behavior.

The analysis was conducted by evaluating the methods, main findings, and research gaps of each selected article. With this approach, the researchers aim to identify the extent to which previous research has explored the influence of visual elements, especially the color of donation buttons, on users' visual attention and donation intentions, as well as to uncover research gaps that have not been widely touched upon by previous studies. Through the synthesis of these review results, this section is expected to provide a strong conceptual and empirical basis to support the importance of further research on the role of button color in increasing the effectiveness of online donation campaigns on platforms such as Kitabisa.

3.1. Analysis of Eye Tracking Studies in the Context of Visual Design

A number of studies have used eye-tracking methods to understand how users' visual attention is influenced by digital design elements, such as color, shape, and the position of objects on the screen. For example, research by [1] shows that buttons with rounded corner designs attract higher user attention compared to designs with sharp corners, indicating that the visual aspect of buttons can influence user perception. However, this study has not yet considered color as a variable influencing visual appeal.

Furthermore [2] revealed that the color pink on cosmetic packaging can cause pupil dilation when fixated, indicating an increase in emotional attention. This is supported by the findings of [5] which also showed that pink, although not the primary preference, is often the object of highest fixation in the context of dental clinics. On the other hand, [6] found that high-contrast colors such as red and yellow tend to attract user attention faster than soft colors.

Although these studies show how color can influence visual attention, none of them directly link the effect of color on donation buttons in digital interfaces. Thus, the contribution of these researches is more towards a basic understanding of visual attention but is still far from the specific context of online donation behavior.

3.2. Identifying Research Gaps in Eye Tracking Studies

From the literature review conducted, it is clear that the main research gap in the eye tracking domain lies in the scarcity of studies focusing on the color of donation buttons within the context of donation platform user interfaces. Most existing eye tracking studies are still limited to product marketing contexts, web visual element arrangement, or passive and static visual responses to color, such as the research by [10] which explores imaginative color perception based on music genre. For example [8], did evaluate usability using eye tracking, but their primary focus was on fixation areas within page layouts, not on button color as an interactive element. Thus, this literature gap opens up an important space for further exploration into how visual attention to donation buttons with specific colors can drive click decisions, especially on platforms like Kitabisa that rely on users' emotional and impulsive engagement.

The following is a summary of several studies that use eye tracking methods to evaluate users' visual attention to digital design elements.

Table 1 Eye Tracking Article Summary Table

No	References and Title	Objects and Methods	Research Results
[1]	(Gleichauf et al., 2025) Understanding Visual Attention to Button Design Utilizing Eye-Tracking: An Experimental Investigation	Object: Button design (corner radius); Method: Laboratory experiment + eye tracking + questionnaire	Buttons with rounded corners are attracting the most attention and are preferred by users
[2]	(Ko et al., 2024) Changes in Pupil Size According to the Color of Cosmetic Packaging: Using Eye-Tracking Techniques	Object: Cosmetic packaging color; Method: Visual experiment with eye tracking	Pink color causes pupils to dilate during fixation, indicating high emotional attention.
[5]	(Song et al., 2021) Assessment of color perception and preference with eye-tracking analysis in a dental treatment environment	Object: Clinic chair color; Method: Eye tracking + color preference survey.	Pink is the most frequently looked color, although not the primary preference, indicating high visual attention.

[6]	(Baik et al., 2013) Investigation of Eye-Catching Colors Using Eye Tracking	Object: Static color palette on screen; Method: Eye tracking experiment.	High-contrast colors attract attention faster than soft colors.
[8]	(Țichindelean et al., 2021) A comparative eye tracking study of usability towards sustainable web design	Object: Web visual element layout; Method: Eye tracking usability study.	The top, middle, and right areas of the screen are most frequently fixed by users.
[10]	(Junjie et al., 2024) Estimating Imagined Colors from Different Music Genres with Eye-Tracking	Object: Imagined colors based on music; Method: Eye tracking + imaginative color mapping.	Imaginary colors are influenced by music genre; visual attention can be drawn through indirect emotional associations.

The eye tracking article summary table presents six studies that examined users' visual attention to various digital design elements using eye tracking. The focus of the studies varied, ranging from button design and packaging color to web visual layout. The results indicate that visual aspects such as button shape, color contrast, and the element's location on the screen significantly influence users' visual attention. However, the table also reveals that none of the studies specifically addressed the influence of donation button color within the context of donation platform interfaces. This indicates an important research gap that deserves further exploration, particularly given the potential of color as a trigger for attention and action in online donation decisions.

3.3. Analysis of Studies on Online Donation Behavior

In addition to visual attention, online donation behavior is also influenced by various psychological and social factors, studied through surveys and experiments. [11] identified that technological features in social media significantly influence attitudes and donation intentions, with attitudes acting as a mediator. A similar finding was found by [3], who stated that affective trust triggered by design elements (including warm colors) can increase donation intentions.

Another study by [9] demonstrated that round-up donation schemes can reduce the "pain of donation" and are preferred in crowded environments, demonstrating the importance of psychological context in donation decisions. [4] added that the use of VR media can increase empathy and a sense of responsibility, which in turn increases the propensity to donate, although this effect is stronger for volunteering than for direct monetary donations. However, of all these studies, none have explicitly tested the influence of the visual interface, especially button color, on trust, affection, or donation intentions, even though several have mentioned color as a potential element that can trigger emotional and cognitive responses.

3.4. Identifying Research Gaps in Online Donation Studies

While there is evidence that design elements such as warm colors can enhance affect-based trust [3], research on the direct influence of donation button color on click decisions remains very limited. The majority of existing studies focus on macro factors such as technological features, presentation media (VR or video), and psychosocial approaches. This reinforces the need for research that combines cognitive-visual approaches with the context of digital interface design, such as using eye tracking methods to evaluate the effectiveness of donation button color in attracting attention and encouraging donation intentions in real time. Platforms like Kitabisa, which rely on users' visual responses, are a highly relevant platform for testing this hypothesis.

Next, we present a summary of studies that discuss various factors influencing online donation intentions and decisions through digital platforms.

Table 2 Donation Article Summary Table

No	References and Title	Objects and Methods	Research Results
[11]	(Sura et al., 2017) Factors influencing intention to donate via social network site (SNS): From Asian's perspective.	Respondents from several Asian countries (Malaysia and Korea). Method: Online survey, SEM (Structural Equation Modeling).	Internet technology features significantly influence attitudes towards online donations and intentions to donate via SNS. Attitudes act as a mediator between technology features and intentions to donate.
[3]	(X. Zhang et al., 2021) Influences of Medical Crowdfunding Website Design Features on Trust and Intention to Donate.	Laboratory experiment (320 college students, China), 2×2×2 factorial design.	Cognitive and affective trust influence donation intentions. Information and social cues enhance trust. Warm colors enhance affective trust.
[9]	(Hwang et al., 2021) Rounding up for a cause: The joint effect of donation type and crowding on donation likelihood.	wo-study experiment; restaurant environment; manipulation of donation type (round-up vs. flat-dollar) and crowd level.	Round-up donations reduce the pain of donation and increase donation intentions, especially in crowded environments.
[4]	(Kandaurova and Lee, 2019) The effects of Virtual Reality (VR) on charitable giving: The role of empathy, guilt, responsibility, and social exclusion.	Three experiments comparing VR media vs. 2D video; college students.	VR increased empathy, responsibility, and intention to donate. The effect was stronger for volunteering than for monetary donations, especially among individuals who felt socially isolated.
[7]	(Y. Zhang et al., 2020) Why do people patronize donation-based crowdfunding platforms? An activity perspective of critical success factors.	Cross-country online survey (744 respondents), SEM analysis.	User trust and willingness to donate were influenced by website acceptance, crowd familiarity, and donation reciprocity.

The donation article summary table contains five studies that examine factors influencing online donation intentions and behavior, particularly through digital platforms. These studies highlight the role of trust, website design features, presentation media (such as VR), and psychological factors such as empathy and a sense of responsibility in driving donation intentions. While several studies suggest that visual elements such as warm colors can increase affective trust, none have directly examined the influence of donation button color on user decisions. This indicates a research gap in the micro-design aspects of interfaces, particularly color as a strategic visual element in increasing donation conversions on platforms like Kitabisa.

4. Conclusion

Based on the systematic review of eleven articles, consisting of six eye-tracking studies and five online donation behavior studies, it can be concluded that:

- Color plays a crucial role in influencing users' visual attention, as evidenced in various studies using eye-tracking methods. Contrasting colors and colors with specific emotional associations (such as pink or red) tend to attract more attention, although not many studies have investigated the specific context of digital buttons in UI.
- On the other hand, online donation behavior is influenced by various factors such as trust, platform design, empathy, and users' perception of technology. However, micro-visual aspects like the color of donation buttons have not been a primary focus in previous research.
- This review identifies a significant research gap, namely the absence of studies explicitly linking the color of donation buttons to donation decisions, especially with an eye-tracking based approach. Yet, the combination of visual design and understanding of users' visual behavior can be key to increasing the effectiveness of online donation campaigns.

The results of this review imply that visual elements such as the color of donation buttons have great potential to influence users' attention and decisions in the context of online donations. These findings can be utilized by platform developers like Kitabisa to optimize interface design to increase donation conversion. Furthermore, academically, this research opens opportunities for further research that combines eye-tracking methods with UI design aspects to evaluate users' visual responses and behavior more deeply.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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