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Heuristic Evaluation Analysis of Beauty E-Commerce Interfaces Using the SLR Approach: A Case Study of Sociolla

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Abstract

This study aims to evaluate the Sociolla e-commerce website based on the principles and paradigms of Human-Computer Interaction (HCI). The evaluation covers multiple dimensions, including human-system interaction, technological implementation, usability metrics, and ergonomic aspects of the user interface. The research adopts Nielsen's heuristic evaluation approach, complemented by in-depth analysis of the user interface and aesthetic assessment, which influence user perception. Sociolla was chosen due to its significant market position as a leading beauty e-commerce platform in Indonesia, with an innovative and responsive interface design that meets user needs. The primary issue addressed in this study is how well the platform provides an optimal and efficient user experience in the context of human-computer interaction. The findings indicate that Sociolla demonstrates high compliance with HCI principles, particularly in system visibility, user control mechanisms, error prevention, and consistent interface design, which contribute to user comfort and engagement. Moreover, the platform effectively integrates aesthetic elements with functional needs in a manner that enhances user engagement while improving task efficiency. This study contributes significantly to the theoretical development of e-commerce interface design and provides practical insights for digital developers in creating effective interfaces, particularly in the beauty and cosmetics sector. The findings are expected to serve as a guide for designers and developers of other digital platforms in enhancing user experience by applying effective HCI principles, while maintaining a balance between functionality and aesthetics.

Keywords: Aesthetic Design, E-Commerce User Interface, Human-Computer Interaction, Sociolla, Usability Evaluation

I. Introduction

Digital transformation has fundamentally changed the way humans interact with technology, especially in e-commerce, which is now a catalyst for economic growth. In Indonesia, e-commerce shows significant annual growth, reaching 20% in the last five years (Kemp, 2022) [11], making Indonesia one of the fastest-growing e-commerce markets in Southeast Asia. However, despite its rapid growth, the main challenge in the industry is to provide an optimal user experience. Human and Computer Interaction (IMK) plays a crucial role

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in creating designs that are not only functional, but also emotionally and psychologically satisfying for users. The principles of IMK now focus not only on functional aspects, but also include the social, cultural, and emotional dimensions that influence user interaction with technology (Shneiderman et al., 2016) [26]. This is in line with the development of the IMK paradigm, which is moving from just "ease of use" to a more holistic and user-oriented experience (Preece et al., 2015) [25].

Sociolla, one of the leading beauty e-commerce platforms in Indonesia, is a relevant example in applying the principles of IMK locally. Founded in 2015, Sociolla has grown into an integrated beauty ecosystem with online platforms, physical stores, and digital communities (East Ventures, 2022) [6]. With more than 42 million users in 2023, Sociolla has proven that user-centered interface design plays a crucial role in the success of digital platforms. This research aims to analyze the application of IMK principles in the design of Sociolla's website, especially in human, technology, usability, and ergonomic aspects, and contribute to the understanding of how digital platforms can better serve user needs. The study also fills a gap in the literature on the implementation of IMK in Indonesian e-commerce, focusing on different market characteristics compared to developed countries.

II. Realate Work

2.1. Human-Computer Interaction: Evolution and Contemporary Paradigms

Human-Computer Interaction (IMK) is a discipline that studies the relationship between humans and interactive computer systems. IMK initially developed in the 1980s, with a primary focus on the technical and functional aspects of computer systems. Over time, the IMK approach has evolved to include the psychological and emotional, as well as social and cultural aspects of the interaction between users and technology (Dix et al., 2004) [1]. In today's era, IMK places more emphasis on a holistic and contextual user experience, which seeks to reduce cognitive load and increase user satisfaction in interacting with computer systems.

In the early phases, IMK focused on improving the efficiency and effectiveness of the use of computer devices by paying attention to ergonomics and human interaction issues. According to Carroll (2003), IMK initially prioritized technical aspects, but since the 2000s, the IMK paradigm has begun to lead to a more immersive user experience, focusing on the emotional and contextual influence of interactions [2]. This shows that interface design is not only about functionality, but also how technology can interact with users emotionally and culturally.

2.2. The Human Aspect in Human-Computer Interaction

The human aspect in IMK focuses on the characteristics, capabilities, and limitations of humans as technology users. Shneiderman & Plaisant (2010) classify the human aspect into three categories: physical, cognitive, and affective [26]. The physical aspect involves the user's motor abilities and visual perception, while the cognitive aspect deals with how to think and solve problems, and the affective aspect includes emotions and motivations that affect the way users interact with technology. In the context of e-commerce, these human factors greatly influence the user experience, especially in terms of how users feel when interacting with the platform. High usability can reduce cognitive load, make navigation easier, and improve the shopping experience. Ho et al. (2009) stated that demographic factors and technological experience influence users' preferences towards interface design [9]. Designs that pay attention to cultural aspects can improve usability and user satisfaction (Zhang et al., 2007) [34].

2.3. Technological Aspects in Human-Computer Interaction

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Web technologies, such as responsive design and progressive web applications (PWAs), play a big role in creating a consistent user experience across devices. According to Garrett (2011), every layer of web technology, from strategy to surface, affects the overall user experience [7]. Technology also enables personalization, which can increase the relevance of content and services for users, affecting conversion rates and user satisfaction (Nielsen & Budiu, 2013; Tam & Ho, 2006) [20] [29].

2.4. Usability Aspects in Human-Computer Interaction

Usability measures how easy an interface is to use and includes five main components: learnability, efficiency, memorability, errors, and satisfaction (Nielsen, 1993) [18]. Heuristic evaluation, which uses basic principles to identify usability issues, has been shown to be effective in detecting flaws in interface design (Nielsen & Molich, 1990) [21]. In e-commerce, high usability is essential to increase user satisfaction and drive conversions (Chen & Macredie, 2005; Wang & Senecal, 2007) [3] [32].

2.5. Aspects *of Ergonomics* in Human and Computer Interaction

Ergonomics in IMK is concerned with adapting system design to meet the physical, cognitive, and emotional needs of users. Ergonomic design that pays attention to aesthetics and functionality has a great effect on the user experience (Helander, 2006) [8]. In e-commerce, good visual ergonomics, including color selection and other design elements, can increase user satisfaction and trust (Cyr et al., 2010; Lindgaard et al., 2006) [5] [13].

2.6. Sociolla: Profile and Position in the Indonesian Beauty E-Commerce Industry

Sociolla, which was founded by PT. Social Bella Indonesia in 2015, is a beauty e-commerce platform that focuses on product authenticity and information transparency. Sociolla combines various elements, such as online shopping platforms, beauty media, social commerce, and physical stores, to create an omnichannel experience for users. With over 42 million users as of 2023, Sociolla offers over 300 beauty brands and achieved significant growth in Gross Merchandise Value (GMV) (East Ventures, 2022) [6]. Sociolla positions itself as a leader in the Indonesian beauty e-commerce industry by continuously innovating in design and user experience.

III. RESEARCH METHODS

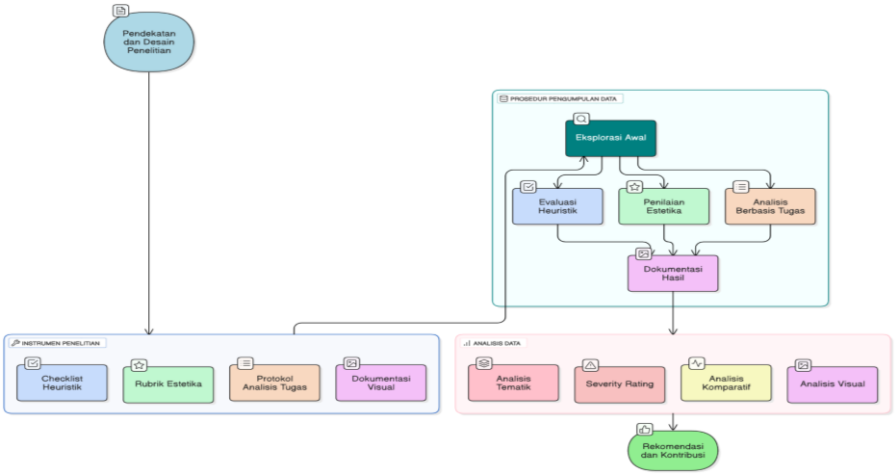

Figure 1. Research Methods

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3.1 Research Approach and Design

This study uses an evaluative approach with a mixed-method design that combines qualitative and quantitative analysis. An evaluative approach was chosen to assess the quality of the Sociolla website based on the criteria that have been set in the IMK paradigm. The mixed-method design facilitates data triangulation that provides a more comprehensive understanding of the phenomenon being studied (Creswell & Creswell, 2018) [4].

Specifically, this study adopted a heuristic evaluation model developed by Nielsen & Molich (1990) [21] and expanded with an analysis of aesthetic components based on the framework of Lavie & Tractinsky (2004) [12]. Heuristic evaluation models are used to assess the usability of a website, while aesthetic analysis assesses visual design elements that affect the overall user experience. This combination allows researchers to evaluate not only the functional aspects of the Sociolla website, but also the aesthetic dimensions that are important in creating an overarching user experience. Thus, this study is expected to provide a comprehensive overview of the quality of the Sociolla website based on relevant IMK principles.

3.2 Research Instruments

The main instruments used in this study are:

1. **Heuristic Evaluation Checklist:** Based on Nielsen's 10 heuristic principles, this checklist is used to identify usability issues on the Sociolla website. Each principle of operationalization becomes specific indicators that can be observed and measured.
2. **Aesthetic Evaluation Rubric:** Adapting the aesthetic framework of Lavie & Tractinsky, this rubric is used to assess the aesthetic aspects of the Sociolla website. This rubric covers the dimensions of classical aesthetics (clarity, cleanliness, symmetry) and expressive aesthetics (creativity, originality, beauty).
3. **Task Analysis Protocol:** Used to analyze the user's flow in completing specific tasks on the Sociolla website, such as product search, product filtering, and checkout process.
4. **Screenshots and Screen Recordings:** Used to document elements of the Sociolla website's interface and user interaction with the platform. This visual documentation is important to support the analysis and provide stronger evidence of the findings.

3.3 Data Collection Procedures

The data collection process is carried out in several stages as follows:

1. **Exploratory Analysis:** In this stage, the researcher conducts an initial exploration of the Sociolla website to understand the information architecture, key features, and design characteristics of the platform. The goal is to get an overview of how the website is structured and how the design elements are applied.
2. **Heuristic Evaluation:** Evaluators who have expertise in the field of IMK conduct a heuristic evaluation of the Sociolla website using a checklist that has been prepared. Any usability issues found are logged, categorized by severity, and documented for further analysis.
3. **Aesthetic Assessment:** The evaluator assesses the aesthetic aspects of the Sociolla website using the aesthetic evaluation rubric. This assessment includes design elements such as layout, color, typography, and visual cohesion. The assessment aims to explore how well these elements support a pleasurable visual experience for users.
4. **Task-Based Analysis:** The evaluator conducts a task-based analysis to evaluate the effectiveness and efficiency of the website in facilitating specific user tasks, such as searching for products, selecting filters, and completing the checkout process. The goal is to assess how easily and quickly users can complete their tasks without any significant difficulty.

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5. **Documentation:** All evaluation results, including screenshots and screen recordings, are documented to provide visual evidence of the findings. This documentation will be used to further explore how website design can affect the user experience.

3.4 Data Analysis

The collected data will be analyzed through the following approaches:

1. **Thematic Analysis:** For qualitative data obtained from heuristic evaluation and aesthetic assessment, thematic analysis is used to identify patterns and themes that arise in the context of conformity with IMK principles. This analysis will highlight patterns related to how design elements affect the user experience.
2. **Severity Rating:** Identified usability issues will be classified based on their severity using a scale of 0-4, in accordance with Nielsen's (1994) recommendations [19]. This scale classifies issues ranging from no issues (0) to critical issues that require immediate fixes (4).
3. **Comparative Analysis:** The results of the evaluation of the Sociolla website will be compared with industry standards and best practices in e-commerce design to identify the strengths and weaknesses of the website. This comparison aims to provide perspective on whether the Sociolla website is already in a competitive position in the e-commerce market.
4. **Visual Analysis:** Screenshots and documented screen recordings will be analyzed to provide visual context to the evaluation findings. This analysis will help identify design patterns that affect the user experience, particularly in terms of aesthetics and visual functionality.

With this method, this research is expected to provide a clear picture of the quality of the Sociolla website, both in terms of functionality and aesthetics, as well as provide useful recommendations to improve the quality of user experience on beauty e-commerce platforms in Indonesia. This research also aims to delve deeper into how IMK principles can be effectively applied to local platforms, which can enrich the IMK literature, particularly in developing countries. In addition, the results of this research can provide insights for developers and interface designers to create a platform that is more inclusive and responsive to the needs of users in Indonesia. Finally, this research contributes to optimizing the design of e-commerce websites in Indonesia, paying attention to ergonomics, usability, and aesthetics aspects that are the key to success in the digital industry.

IV RESULTS AND DISCUSSION

4.1.1 Cognitive Considerations

The Sociolla website shows a good understanding of the cognitive aspects of users by implementing a design that minimizes cognitive load. This is in line with the theory of cognitive load by Sweller et al. (1998), which states that excessive cognitive load can inhibit the effectiveness of interactions [28]. Sociolla simplifies interactions by grouping products into clear categories, utilizing the principle of information chunking that makes it easier for users to organize information and make decisions. This principle is in line with Miller's (1956) theory of magical number seven, which states that humans can only process 7±2 items of information simultaneously [17].

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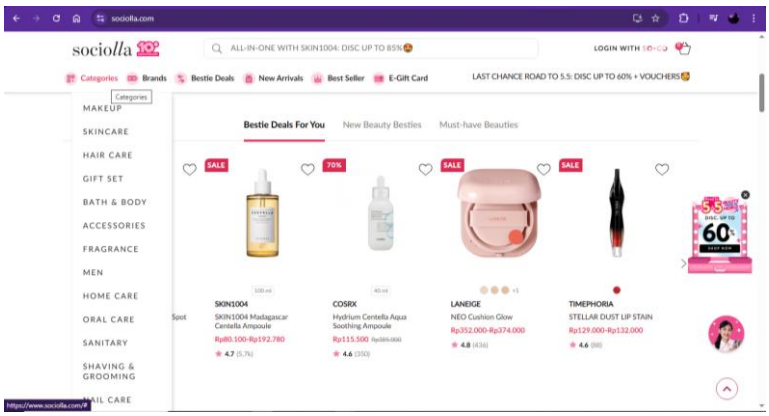

Figure 2. Sociolla Product Categorization

Features such as "Product Recommendations" and "Similar Products" utilize the principle of recognition over recall (McClelland, 1979) [16], allowing users to recognize relevant options without having to actively recall them. The implementation of this principle accelerates search and decision-making, in line with the findings of Norman (2013) who emphasize the importance of design that optimizes human cognitive processes. The Sociolla website also uses a clear visual hierarchy to direct the user's attention to important elements. This principle improves efficiency in product search and decision-making, as well as reducing confusion. Sweller's (1988) research on cognitive load reduction also underscores the importance of designs that simplify user interaction [27].

4.1.2 Affective Considerations

In the affective aspect, Sociolla succeeds in creating a pleasant emotional experience for users with an attractive design, in accordance with the theory of emotional design by Norman (2004) [23]. This theory divides emotional experiences in design into three levels: visceral, behavioral, and reflective. On a visceral level, Sociolla uses eye-catching visual elements such as harmonious color palettes, high-quality product images, and clean layouts. A positive first impression increases the user's emotional impression of the platform.

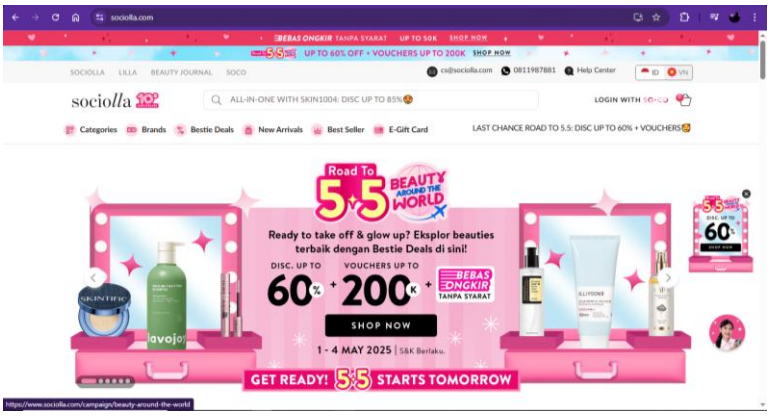

Figure 3. Sociolla Home Page

On a behavioral level, Sociolla offers intuitive and responsive navigation, allowing users to interact easily during the shopping process. The experience becomes more meaningful on a reflective level, where personalized content and relevant product offerings strengthen the emotional connection between users and

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platforms. This is in line with the findings of Jordan (2000) regarding user enjoyment-based design [10]. This design approach also applies the principle of aesthetic-usability effect (Tractinsky et al., 2000) [31], which suggests that aesthetic design can improve the perception of ease of use. Sociolla prioritizes an attractive and easy-to-use design, creating convenience for users and reducing barriers to interacting with websites.

4.1.3 Perceptual Considerations

Sociolla's website design demonstrates an understanding of the principles of human visual perception, which are essential for creating an optimal user experience. The use of Gestalt principles, as shown in Figure 3, helps to create a cohesive and easy-to-understand visual experience. One example is the use of the principle of proximity, where related elements such as price and product ratings are grouped close to the product image, making it easier for users to process information quickly.

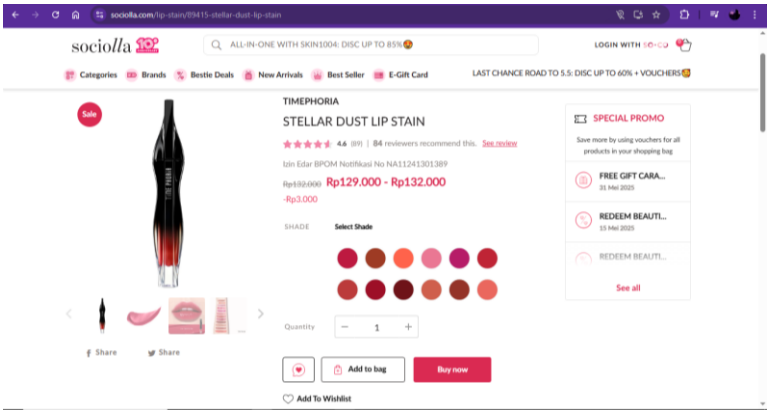

Figure 4. Implementation of the Proximity Principle in Sociolla Product Layout

The figure-ground principle is also effectively applied through the use of white space to create a clear contrast between the foreground and background elements. This improves readability and helps users focus on relevant information. The use of proper typography, with varying font sizes and styles, supports the implementation of a clear visual hierarchy, which prioritizes important information such as price, rating, and product description. With a design that pays attention to this aspect of perception, Sociolla makes it easier for users to understand and process information visually.

4.2 Evaluation of Technology Aspects on the Sociolla Website

4.2.1 Frontend Technologies

Sociolla leverages the latest frontend technologies, including HTML5, CSS3, and modern JavaScript, to create a responsive interface across multiple devices. This is in accordance with the principle of responsive web design introduced by Marcotte (2011) [15]. The website is optimally accessible on desktop, tablet, and smartphone, ensuring a consistent user experience across all platforms. The use of AJAX allows for dynamic content updates without reloading pages, which improves the speed of interaction and user convenience.

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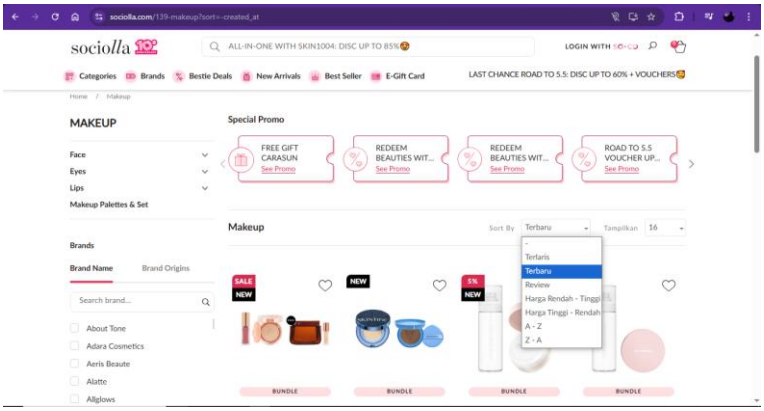

Figure 5. Responsiveness of the Sociolla Website

However, while the website has complied with most of the Web Content Accessibility Guidelines (WCAG) 2.1, there is still room for improvement, especially in terms of color contrast and keyboard navigation. These improvements are important to ensure better accessibility for users with limited vision or mobility.

4.2.2 Backend Technologies

In terms of the backend, the Sociolla website implements an infrastructure that supports scalability and high performance. The use of a Content Delivery Network (CDN) ensures that page loading times remain fast, even if they are accessed from different geographical locations. This improves the user experience by reducing latency. Additionally, an effective caching system helps minimize server response times, allowing for a smoother experience when moving between pages.

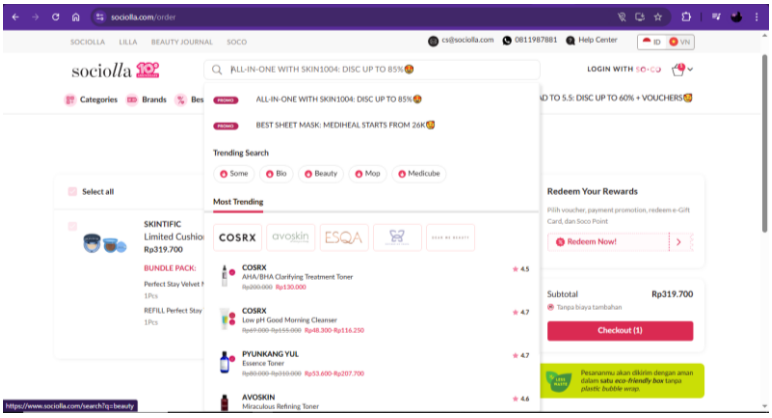

Figure 6. Search features on Sociolla

Load balancing and database optimization technology is used to handle large transaction volumes, maintaining website stability even during a surge in visitors. This shows that Sociolla has paid attention to the need for efficient and reliable infrastructure, especially for e-commerce businesses with high transaction volumes.

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4.2.3 Integration Technologies

Sociolla demonstrates expertise in integrating various external technologies that improve the functionality of the website. The complete payment system and integration with various methods, from credit cards to e-wallets, provides convenience for users in choosing payment options according to their preferences. This integration is in line with the principle of flexibility of use suggested by Nielsen (1994) [19].

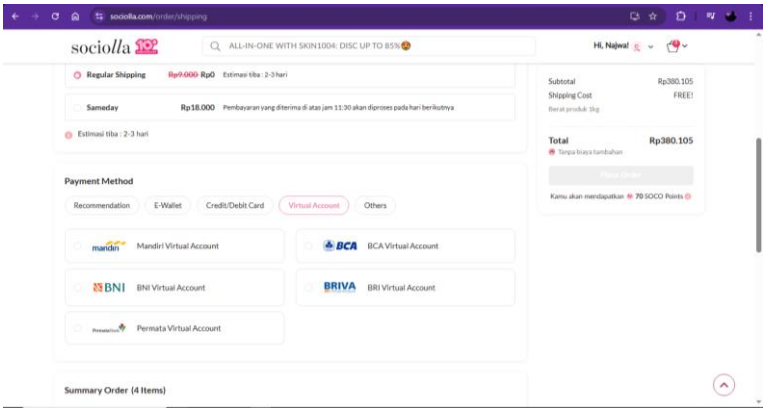

Figure 7. Integrated Payment Options on the Sociolla Website

The website is also integrated with the logistics system, allowing users to track their shipments in real-time. This feature provides the transparency needed by users to know the status of their orders. Integration with social platforms like SOCO also allows users to view product reviews, enriching their shopping experience with more social and interactive content.

4.3 Evaluation of Usability Aspects on the Sociolla Website

4.3.1 Visibility of System Status

The Sociolla website implements the principle of visibility of system status well. Users are always provided with timely feedback on the status of the system through visual indicators, such as progress bars during loading and animations when products are added to the shopping cart. This provides transparency about what's going on inside the system, which strengthens the user experience. Clear information is also displayed when products are out of stock or stocks are limited, and the option to sign up for availability notifications is offered to users. With this kind of transparency, users feel more in control at every stage of their interaction with the website.

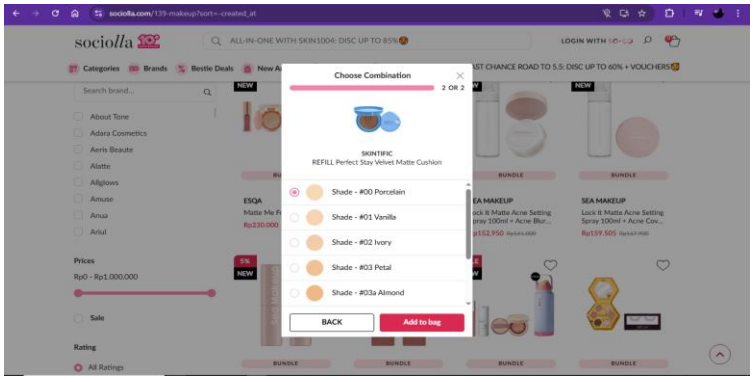

Figure 8. Visual Feedback when Adding Products to a Shopping Cart

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This principle is also reinforced by the use of direct visual feedback, such as pop-up notifications or animations that notify users when a product has been successfully added to the cart or when a transaction is being processed. This helps users feel more confident and reduces their confusion. For example, when adding a product to the cart, an animation showing the item entering the cart provides direct confirmation to the user, which is in line with the feedback principle needed to strengthen the user's trust in the interaction with the system (Norman, 2013). In addition, Sociolla also maintains open communication through notifications when there are errors or technical issues, such as when a payment fails or there is a problem during delivery. This demonstrates the importance of communicating the status of the system in a clear and understandable way for users, ensuring they can make better decisions or take the necessary actions to proceed.

4.3.2 Error Prevention

The Sociolla website implements various mechanisms to prevent user errors, creating a smoother and less frustrating experience. This approach is in line with the principle of error prevention which emphasizes that design that prevents problems is better than a good error message (Nielsen, 1994) [19].

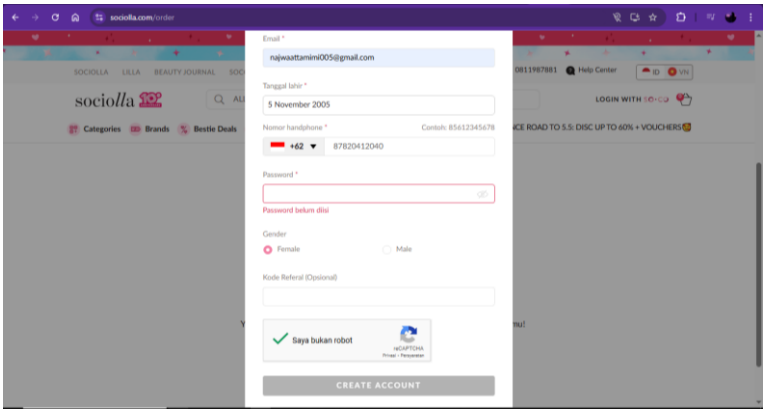

Figure 9. Form Validation on the Sociolla Registration Page

The input form on the registration and checkout pages comes with real-time validation that provides instant feedback when users enter invalid data. This approach prevents users from submitting forms with incomplete or unformatted data, reducing frustration and increasing efficiency, in line with Wroblewski's (2008) [33] recommendations on effective form design.

4.3.3 User Control and Freedom

Sociolla gives users full control over their navigation and actions within the website. The consistent "Back" feature allows users to return to the previous page without losing the data they have entered, creating a sense of security and trust in their interactions with the website. Figure 9 shows how the confirmation dialog when deleting an item from the cart gives users the opportunity to undo their action if something goes wrong. Users can choose to cancel the removal of the item or confirm the removal of the product directly.

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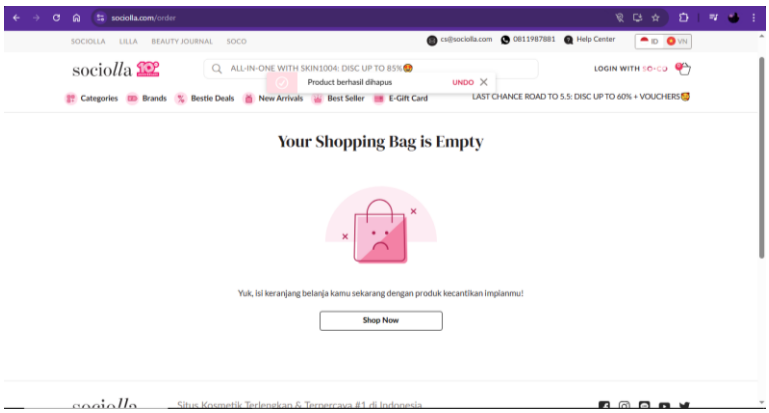

Figure 10. Display When Removing Items from the Cart

In addition, the website provides a variety of options to allow users to correct or change the decisions they have made, such as editing shipping information or changing the payment method on the checkout page. This approach is in line with the principle of reversible actions expressed by Tidwell (2010), which suggests that interfaces should give users the freedom to easily reverse or change their decisions without negative consequences [30]. The "Search History" and "Recently Viewed Products" features allow users to quickly return to previously explored items, reducing the need to recall and research. This implementation is in line with the principle of reversible actions recommended by Tidwell (2010) to improve user exploration and experimentation [30]. It also allows users to feel more free to browse and correct their mistakes without fear of losing information they have already found before.

4.4 Evaluation of Ergonomic Aspects on the Sociolla Website

4.4.1 Visual Ergonomics

The Sociolla website implements the principles of visual ergonomics by using the right color contrast between the text and the background, creating good readability. The use of proportional font size and spacing between elements also reduces the possibility of eye strain on users who interact with the website for a long time. This approach shows attention to the visual comfort of the user, in accordance with the recommendations to reduce eye strain.

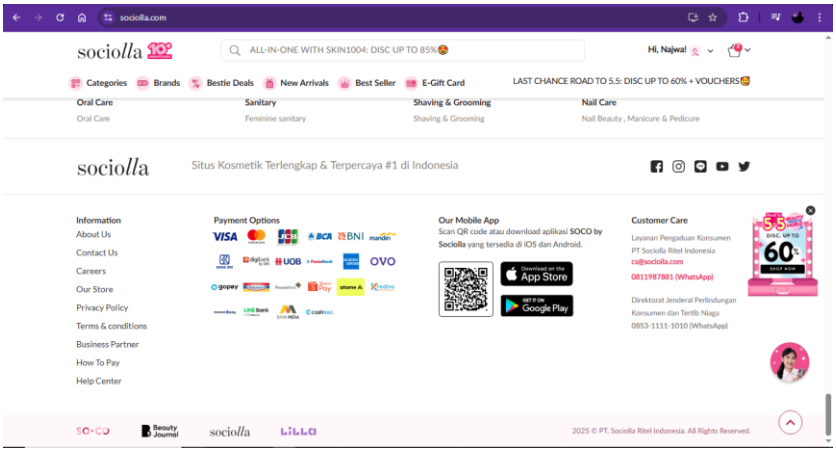

Figure 11. Optimal Implementation of Visual Contrast on Text and Background

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Proportional font sizes are essential to ensure good readability across different devices. Sociolla has paid attention to the use of contextual fonts, such as larger font sizes for important elements such as price and product name, as well as smaller font sizes for additional information such as product descriptions. The spacing between elements also supports visual comfort and makes it easier for users to navigate the page without feeling overwhelmed by information that is too dense.

4.4.2 Interactive Ergonomics

Sociolla applies the principles of interactive ergonomics by prioritizing ease and efficiency of interaction. The size of the target interactions, such as buttons and links, is adjusted to make it easy for users to reach without errors. Figure 18 shows the optimal implementation of touch targets on mobile devices, minimizing typos in interactive elements. The size of buttons and links on mobile devices has been adjusted to the standards recommended by the Nielsen Norman Group (2015) [22], with an average size of 44px × 44px to ensure that users can interact with these elements comfortably.

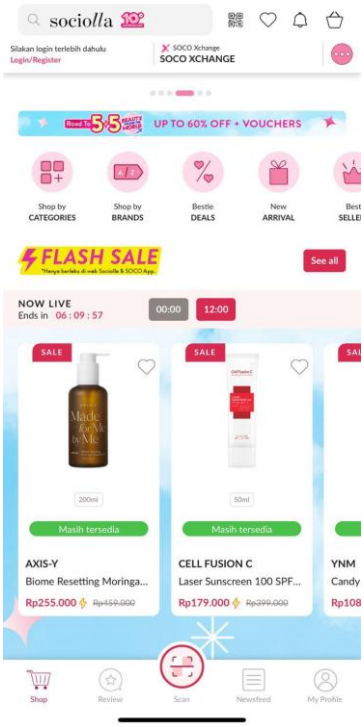

Figure 12. Optimal Implementation of Touch Targets on Mobile Versions

Sufficient spacing between interactive elements reduces the possibility of missed clicks, especially on mobile devices with touch input. This implementation reflects an understanding of Fitts's Law which explains the relationship between target size, distance, and ease of interaction (MacKenzie, 1992) [14]. Therefore, users can easily interact without feeling hampered or experiencing typos that often occur on websites that are not ergonomically designed.

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4.4.3 Cognitive Ergonomics

The Sociolla website also pays attention to the principles of cognitive ergonomics, with a clear information structure and a navigation method that makes it easier for users to understand the website. The use of visual cues such as color, size, and contrast to indicate a hierarchy of information helps users prioritize more important elements. This reduces the possibility of confusion and disorientation, and facilitates a more efficient experience.

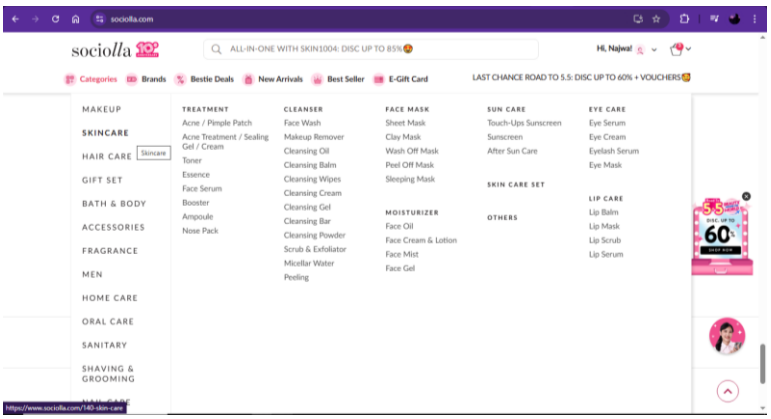

Figure 13. Implementation of a Clear Information Hierarchy on Category Pages

The implementation of progressive disclosure on product pages also supports the principle of cognitive ergonomics by presenting information in stages. More detailed information, such as full descriptions or user reviews, is only displayed when the user needs it, reducing the burden of information that must be processed simultaneously. This allows users to focus on the most relevant information and increases efficiency in decision-making.

4.4.4 Aesthetic Ergonomics

The aesthetic aspect of the Sociolla website is very much concerned with the use of a harmonious color palette and clean design. Minimalist design with effective use of white space helps reduce visual clutter and increase user focus on important information. The use of proper colors not only works aesthetically but also improves readability and comfort when interacting with the platform.

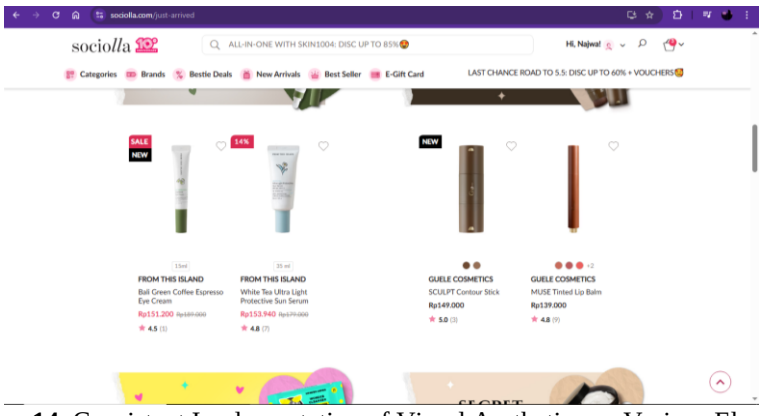

Figure 14. Consistent Implementation of Visual Aesthetics on Various Elements

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This clean, organized design creates a comfortable user experience that is free of visual distractions. This design also reinforces the principle of aesthetic-usability effect (Tractinsky et al., 2000), where an aesthetically pleasing and attractive design can improve the perception of website usage and increase user satisfaction [31].

V CONCLUSION

Based on a comprehensive evaluation of the Sociolla website using the Human and Computer Interaction (IMK) framework, it can be concluded that this website has implemented design principles that are effective and responsive to user needs. From the human aspect, Sociolla shows a good understanding of the cognitive, affective, and perceptual aspects of users. In terms of cognition, this website minimizes the cognitive load of users by using the principle of cognitive load minimization through clear product groupings and relevant recommendation features. This approach reduces the difficulty users have in processing information and speeds up decision-making. On the affective side, website design prioritizes the user's emotional experience with attractive visual elements and responsive navigation. This strengthens the user's emotional engagement with the platform. In addition, the application of Gestalt principles in interface design also supports cohesive visual perception and makes it easier for users to understand and quickly access relevant information.

In terms of technology, Sociolla uses frontend and backend technologies that support a responsive and efficient user experience. The use of modern HTML5, CSS3, and JavaScript allows websites to adapt to a variety of devices, while performance optimizations such as Content Delivery Network (CDN) and caching ensure that page loading speeds are maintained even when accessed from different geographic locations. Integration with payment and logistics systems enriches the platform's functionality, allowing users to easily make transactions and track shipments in real-time. Nonetheless, there is still room for improvement in terms of accessibility, especially in color contrast and keyboard navigation, which is important to reach more users, including those with visual or mobility limitations.

The usability aspect of this website also shows high adherence to Nielsen's usability principles, such as visibility of system status, match between system and the real world, and consistency and standards. With clear system transparency through visual indicators and timely notifications, users feel more in control at every stage of interaction. The website also makes it easier for users by aligning the design and flow of interactions with real-world expectations, reducing confusion. However, the help and documentation aspect can still be improved to support users who need further guidance.

Finally, from an ergonomic perspective, Sociolla implements design principles that pay attention to the user's comfort both physically and cognitively. Visual design that uses precise color contrast and proportional font size, as well as easy-to-reach interactive elements, reduces eye strain and minimizes errors in interaction. This design approach minimizes the potential for user error when interacting for long periods of time. Overall, the Sociolla website demonstrates a solid implementation of IMK principles, creating a balanced user experience between functional and hedonic aspects. This contributes significantly to Sociolla's success as a leading beauty e-commerce platform in Indonesia, reflecting a deep understanding of the needs, preferences, and behaviors of target users.

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