

The Role of Green Platform Design in Enhancing User Comfort in Digital Marketplaces

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Abstract

Purpose: This study aims to examine the role of green platform design in enhancing user comfort within digital marketplace environments by exploring how sustainability-oriented interface elements influence user experiences and behaviors.

Research Methodology: This study employed a qualitative descriptive approach. Data were collected through in-depth interviews, direct observations, documentation, and open-ended questionnaires involving 93 users of Shopee, Tokopedia, and TikTok Shop. The collected data were analyzed using thematic analysis to identify key patterns related to green platform design and user comfort.

Results: The findings indicate that green platform design elements, including simplified interface layouts, intuitive navigation, eco-friendly features, sustainability-related product information, eco-labels, and green product recommendation systems, contribute to higher user comfort, improved search efficiency, increased trust, and enhanced overall satisfaction.

Conclusions: The study concludes that green platform design serves as an important factor in shaping positive user experiences in digital marketplaces. Integrating sustainability principles into platform interfaces not only supports environmental awareness but also strengthens user engagement and marketplace competitiveness.

Limitations: This study is limited by its qualitative approach and the involvement of users from three selected digital marketplaces, which may restrict the generalizability of the findings to broader e-commerce contexts.

Contributions: This study highlights green platform design as a determinant of user comfort and provides practical insights for developing sustainable digital marketplace strategies that enhance user experience and loyalty.

Keywords: *E-Commerce, Green Platform Design, Marketplace, User Comfort, User Experience*

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1. Introduction

Digital transformation has fundamentally reshaped the way individuals conduct economic transactions and satisfy consumption needs, positioning digital marketplaces as an integral component of the contemporary digital economy ([Wahyudi, & Nugroho, 2022](#); [Susanto, & Prasetyo, 2023](#)). The rapid expansion of marketplace platforms such as Shopee, Tokopedia, and TikTok Shop reflects a shift in competition beyond product variety and price competitiveness toward the creation of superior user experiences. As digital commerce continues to mature, users increasingly expect platforms that are efficient, intuitive, and capable of delivering seamless interactions throughout the purchasing process. Consequently, perceived ease of use and user experience have become critical determinants of technology acceptance and continued platform usage because they improve transaction efficiency, convenience, and overall productivity ([Syamilah, 2025](#); [Cahyadi, Widiyanti, & Slamet, 2021](#); [Nurmalasari, Mofea, & Komariah, 2023](#)).

Simultaneously, growing public awareness of environmental sustainability has transformed users' expectations regarding digital platforms. Consumers no longer evaluate marketplaces solely based on functional performance but also consider the extent to which platforms demonstrate environmental responsibility and support sustainable consumption. In response to this trend, many digital marketplace providers have begun incorporating green platform design, which emphasizes environmentally responsible interface development through simplified system architecture, intuitive navigation, energy-efficient digital interactions, eco-label integration, sustainability-related product information, and features that facilitate environmentally conscious purchasing decisions ([Zhang, Sami, Ullah, Ullah, & Salahuddin, 2024](#); [Fianda, Fandanny, Kacaribu, Desyani, Asyifa, & Wijayanti, 2022](#); [Mufid, 2024](#)). Beyond supporting environmental objectives, these design elements are expected to improve usability, reduce users' cognitive effort, and create more comfortable digital shopping experiences.

From a digital management perspective, green platform design represents the convergence of sustainable innovation and user-centered design. Marketplace developers increasingly integrate technological innovation to create informative, user-friendly, and sustainability-oriented platforms capable of enhancing user trust, shopping convenience, and commercial performance ([Aekthanate, Ketkaew, & Jantuma, 2024](#)). Likewise, previous studies have consistently demonstrated that interface quality and user experience constitute essential determinants of user satisfaction because well-designed interfaces simplify navigation, facilitate information processing, and improve overall interaction quality ([Irfany, Az-Zahra, & Syawli, 2023](#)). Users generally prefer platforms that provide clear navigation structures, comprehensive product information, and efficient transaction processes, all of which positively influence purchasing decisions and long-term platform loyalty. In this regard, green platform design has the potential to enhance user comfort by enabling faster identification of environmentally friendly products while minimizing unnecessary interaction complexity during online shopping activities ([Klein & Popp, 2022](#)).

Despite the growing body of literature concerning user experience, interface design, digital service quality, and sustainable e-commerce, significant theoretical limitations remain. Existing studies predominantly conceptualize green initiatives as factors influencing green purchase intention, sustainable consumer behavior, logistics efficiency, or technology adoption. Meanwhile, user comfort has generally been examined through conventional usability, interface quality, or technological performance perspectives, with limited attention given to sustainability-oriented platform design as an antecedent of user comfort ([Rana, Shafi, Rasheed, & Malik, 2024](#)). Consequently, previous research has tended to treat sustainability and user experience as two independent research streams rather than examining their theoretical integration. This limitation restricts current understanding of how sustainability-oriented design characteristics embedded within digital platforms influence users' psychological perceptions of comfort during marketplace interactions, particularly within the rapidly growing Indonesian digital marketplace context.

Accordingly, this study addresses this theoretical gap by positioning green platform design as a strategic design construct that simultaneously embodies sustainability principles and user experience

optimization. Unlike previous studies that emphasize technological functionality, marketing performance, or environmental purchasing behavior independently, this research develops an integrated perspective by examining how sustainability-oriented platform design contributes to user comfort through qualitative exploration of marketplace users' experiences. This integrated perspective constitutes the primary novelty of the study by extending the theoretical discourse on digital management, user behavior, and user experience through the incorporation of sustainability-oriented platform design into the conceptualization of user comfort.

Based on this background, the study aims to analyze the role of green platform design in enhancing user comfort in digital marketplaces using a qualitative approach. The findings are expected to enrich the theoretical development of digital management, consumer behavior, sustainable digital platform design, and user experience literature while providing practical guidance for marketplace developers and managers in designing environmentally responsible platforms that simultaneously improve user comfort, strengthen customer trust, and support sustainable digital business competitiveness.

2. Literature Review and Hypotheses Development

2.1 Green Platform Design

Green platform design is a digital design concept that integrates environmental sustainability principles into the development of technology platforms. This concept encompasses efficient and simplified interface design while promoting sustainable consumption behavior among users. In the context of digital marketplaces, green platform design is manifested through the provision of features that enable users to locate environmentally friendly products more easily and conveniently. Sustainability-oriented user experience design in online retail systems has been shown to enhance user comfort, application usability, and consumer experience within digital platforms ([Lu & Yan, 2023](#)).

The implementation of green platform design may include environmentally friendly product labels, eco-friendly category filters, eco-score information or product environmental impact indicators, and sustainable product recommendation systems. These features facilitate users in searching for and making purchasing decisions regarding green products in digital marketplaces. The integration of technology into innovative website design can improve website usability, information quality, user trust, and encourage online purchasing decisions for green products ([Aekthanate et al., 2024](#)).

In addition to serving as a technological innovation, green platform design also represents a corporate sustainability strategy for building a positive brand image and strengthening user loyalty. Marketplaces that demonstrate concern for environmental issues are more likely to gain acceptance among modern consumers who are increasingly aware of the importance of sustainable consumption. Digital designs that promote transparency in sustainability-related information can enhance users' awareness and encourage sustainable consumption behavior on digital platforms ([Asikis, Klinglmayr, Helbing, & Pournaras, 2021](#)).

2.2 Perceived Convenience

Perceived convenience refers to an individual's perception of the ease, practicality, and efficiency experienced when using a digital platform to perform specific activities, including searching for and purchasing products online. It reflects the extent to which users believe that a platform enables them to find desired products quickly, simplifies transaction processes, and saves time and effort during shopping activities. Convenience in digital services is closely associated with reducing the time and effort consumers expend in obtaining the products or services they need ([Syamilah, 2025](#)). Easy access and user-friendly features for product searches, transaction processes, product evaluation, and post-purchase services can enhance user satisfaction and strengthen behavioral intentions among marketplace users ([Nurdianasari & Rista, 2021](#)). In marketplaces specializing in environmentally friendly products, perceived convenience constitutes an important factor influencing consumers' purchasing decisions ([Rubel, Kee, & Rimi, 2025](#)).

Through user-friendly search features, eco-friendly products can be located easily, accessed through dedicated categories such as green labels, or identified via product recommendation systems, thereby

improving user convenience throughout the shopping process. The higher the level of convenience perceived by users when interacting with a marketplace platform, the greater the likelihood that consumers will develop intentions and behaviors to purchase environmentally friendly products through digital marketplaces. Consequently, it is essential to develop platforms that are easy to use, equipped with well-optimized features, and capable of delivering positive user experiences.

The simpler and more informative a platform's design, the higher the level of user convenience experienced when using marketplace services. Therefore, green platform design is closely associated with improving the overall user experience in online shopping activities. In this study, perceived convenience is assessed using several indicators, including the ease of finding environmentally friendly products, the minimization of additional effort during the purchasing process, the practicality of transaction procedures, and time efficiency in selecting desired products.

2.3 Digital Marketplace

A digital marketplace is an internet-based commercial platform that connects sellers and buyers within an electronic system, eliminating geographical and temporal barriers while providing users with convenient and flexible access to a wide variety of products. Digital marketplaces offer numerous features, including product search functions, digital payment systems, logistics services, and user reviews that facilitate online transactions. They enable consumers and sellers to conduct buying and selling activities without meeting physically, thereby saving time while offering diverse product choices, discounts, competitive prices, and secure product delivery guarantees ([Silviah, Lutfianti, & Firmansyah, 2022](#)).

The development of digital marketplaces in Indonesia has demonstrated significant growth alongside the expansion of internet usage and changes in consumer shopping behavior. Platforms such as Shopee, Tokopedia, and TikTok continue to introduce innovations aimed at enhancing user experience and maintaining market competitiveness. Digital marketplaces have become one of the fastest-growing sectors in online commerce by providing consumers with greater accessibility and transaction efficiency ([Pratamal, Prasetyo, & Aditya, 2022](#)).

Competition among marketplace platforms has encouraged companies to develop platform designs that are more effective, efficient, and sustainability-oriented. Under these conditions, the implementation of green platform design can serve as a differentiation strategy that not only enhances the platform's added value but also improves user convenience in digital shopping activities.

3. Research Methodology

This study employed a qualitative approach using a descriptive method ([Ratnaningtyas, Ramli, Syafruddin, Edi, Suliwati, and Jahja \(2023\)](#)) to obtain an in-depth understanding of the role of green platform design in enhancing user convenience in digital marketplaces. A qualitative descriptive design was considered appropriate because it facilitates a comprehensive exploration of users' experiences, perceptions, and interpretations of sustainability-oriented digital platform features that influence online shopping convenience. The study involved 93 active users of digital marketplaces, including Shopee, Tokopedia, and TikTok Shop. Participants were selected through purposive sampling to ensure that all respondents possessed relevant experience with the phenomenon under investigation. The sampling criteria required participants to (1) be at least 18 years old, (2) have actively used one or more digital marketplace platforms for at least the previous six months, (3) have conducted online purchases regularly, and (4) have experience searching for, purchasing, or interacting with environmentally friendly products or sustainability-related platform features such as eco-labels, green product categories, or sustainability information.

To obtain richer qualitative insights, in-depth interviews were conducted with 15 informants purposively selected from the participant pool based on the frequency of marketplace use, familiarity with green platform features, and willingness to share detailed experiences. Semi-structured interviews were employed to maintain consistency while allowing participants to elaborate on their perceptions and experiences. Each interview lasted approximately 30–45 minutes and was conducted

either face-to-face or through online communication platforms, depending on participant availability. With participants' consent, all interviews were audio-recorded, transcribed verbatim, and reviewed to ensure transcription accuracy. Data collection continued until thematic saturation was achieved, indicated by the absence of substantially new themes or perspectives emerging from successive interviews.

Data were collected through multiple techniques, including in-depth interviews, observations, documentation, and open-ended questionnaires as complementary research instruments ([Sugiono, 2016](#)). Interviews explored participants' experiences regarding the usability and sustainability features of digital marketplace platforms. Observations focused on identifying platform characteristics related to green platform design, including eco-labels, environmentally friendly product categories, green search filters, sustainability-related product information, intuitive navigation, and green product recommendation systems. Documentation was utilized to support data interpretation through screenshots of marketplace interfaces, interview transcripts, questionnaire responses, and other relevant research documents. The open-ended questionnaires complemented the interview findings by capturing broader user perspectives and strengthening the consistency of emerging themes.

The study examined two primary dimensions: green platform design and users' perceived convenience. Green platform design encompassed environmentally friendly product labels, eco-friendly filters, sustainability information, intuitive interface design, and ease of platform navigation. User convenience was explored through perceptions of platform usability, efficiency in product searching, clarity of information, transaction convenience, and overall user experience during marketplace interactions. Data were analyzed using descriptive qualitative analysis involving data reduction, data display, and conclusion drawing. To enhance the credibility and trustworthiness of the findings, the study applied methodological triangulation by comparing information obtained from interviews, observations, documentation, and questionnaires. Member checking was conducted by confirming interview summaries with selected participants to ensure the accuracy of interpretation, while peer discussion among the research team was employed to minimize subjective bias during data interpretation. These procedures strengthened the credibility, dependability, and overall validity of the research findings.

4. Results and Discussions

4.1 Respondent Characteristics

The respondents in this study consisted of 93 digital marketplace users who actively used platforms such as Shopee, Tokopedia, and TikTok Shop. The majority of respondents were active users of digital marketplaces, engaging in online shopping approximately two to three times per month. Most respondents belonged to the productive age group and had educational backgrounds ranging from senior high school to postgraduate level. These characteristics indicate that the respondents possessed sufficient experience in using digital marketplaces and were therefore able to provide informed assessments regarding the implementation of green platform design and the convenience of using such platforms.

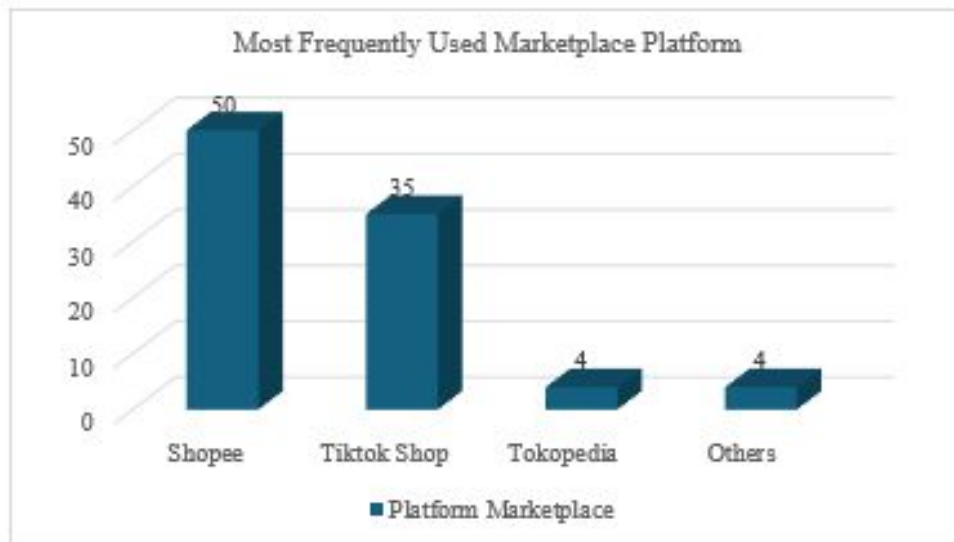


Figure 1. Most frequently used marketplace platform

Based on Figure 1, the distribution of marketplace usage indicates that Shopee was the platform most frequently used by the respondents. This finding suggests that Shopee remains the primary marketplace for users' online shopping activities, particularly when searching for environmentally friendly products.



Figure 2. Frequency of online shopping

Figure 2 the frequency of online shopping indicates that most respondents made purchases two to three times per month. This finding demonstrates that the respondents were active users of digital marketplaces and therefore had adequate experience to evaluate the convenience of using these platforms. The results of the interviews provide insights into users' experiences and perceptions of green platform design features in digital marketplaces. The findings highlight several aspects, including eco-friendly features, interface simplicity, sustainability information, and green product recommendations, which contribute to enhancing user comfort and shopping experiences, as presented in Table 1.

Table 1. Interview results

Informant	Statement
Informant 1	"The eco-friendly filter feature helps me find environmentally friendly products more quickly."
Informant 2	"The green label makes it easier for me to identify environmentally friendly products."
Informant 3	"The eco-score information helps me understand the environmental impact of a product before making a purchase."
Informant 4	"The simple marketplace interface makes the application more comfortable to use."
Informant 5	"The green product category helps me choose products that best meet my needs."
Informant 6	"I have greater trust in marketplaces that provide information about product sustainability."
Informant 7	"Clear marketplace navigation makes it easier for me to search for products."
Informant 8	"Environmentally friendly product recommendations help me discover alternative product options."
Informant 9	"An application interface that is not overly cluttered makes me feel more comfortable while shopping."
Informant 10	"The eco-friendly feature makes the process of searching for products easier and more practical."
Informant 11	"Clear product information helps me compare products more easily."
Informant 12	"A marketplace with environmentally friendly features appears to be more concerned about its users."
Informant 13	"I am more interested in using marketplaces that provide dedicated categories for environmentally friendly products."
Informant 14	"The green product search feature helps me save time when shopping online."
Informant 15	"Having too many product choices sometimes makes it take longer for me to decide."

4.2 Green Platform Design

The findings indicate that green platform design plays an important role in enhancing user convenience in digital marketplaces. Based on questionnaire responses from 93 participants, the majority of users expressed positive perceptions of marketplace features that support environmentally friendly products. The eco-friendly category filter was perceived as enabling users to locate environmentally friendly products more easily and efficiently. Users reported that this feature simplified the product search process, thereby reducing the time required to find suitable products. These findings suggest that the implementation of green product search features can improve the efficiency of digital marketplace usage.

Furthermore, the presence of eco-labels or environmentally friendly labels also helps users identify sustainable products more easily. Respondents perceived that green product labels provide clearer information regarding product characteristics, thereby facilitating purchasing decisions. Sustainability-related information, such as eco-scores and environmental impact indicators, was also considered valuable in enhancing users' understanding of the environmental implications of products prior to purchase. In addition, users expressed positive perceptions of environmentally friendly product recommendation features available on digital marketplaces. These features assist users in discovering alternative products that align with their needs and environmental preferences. The availability of green product recommendation systems makes the product search process more practical and convenient for users.

The findings from the in-depth interviews further support these results. Informant 1 stated, "The eco-friendly filter feature helps me find environmentally friendly products more quickly." Likewise, Informant 7 commented, "Clear marketplace navigation makes it easier for me to search for

products.” These statements indicate that a simple and intuitive platform design can significantly enhance user convenience when interacting with digital marketplaces.

Nevertheless, the study also found that some users still experience difficulties in selecting environmentally friendly products due to the large variety of products and the abundance of information available on digital marketplaces. Informant 15 remarked, “Having too many product choices sometimes makes it take longer for me to decide.” This finding suggests that digital marketplaces should further simplify information presentation to minimize user confusion during product searches. Overall, the results demonstrate that green platform design can enhance user convenience in digital marketplaces by providing informative and user-friendly features that support a more effective and efficient process of searching for environmentally friendly products.

4.3 Perceived Convenience (User Convenience)

The findings reveal that most users feel comfortable using digital marketplaces that provide features supporting environmentally friendly products. User convenience is reflected in the ease of platform navigation, the efficiency of product searches, and the clarity of information available on digital marketplaces. Based on questionnaire responses from 93 participants, most users indicated that environmentally friendly product search features enabled them to locate products more quickly and efficiently. Users perceived that the eco-friendly category filter simplified the product search process, thereby reducing the time required to identify relevant products. Moreover, the presence of eco-labels within the marketplace helped users recognize environmentally friendly products more easily.

Users also expressed positive perceptions regarding sustainability-related information, such as eco-scores and environmental impact indicators. Such information was considered helpful in enabling users to understand product characteristics before making purchasing decisions. The clarity of information provided by the marketplace increased users' trust and enhanced their comfort when selecting environmentally friendly products on digital platforms. In terms of usage convenience, most respondents considered the process of purchasing environmentally friendly products through digital marketplaces to be practical and straightforward. The search features and platform navigation were viewed as facilitating product discovery without requiring excessive additional effort. Furthermore, the simple and intuitive marketplace interface contributed to a more comfortable user experience throughout the online shopping process.

The in-depth interview findings further corroborate these results. Informant 4 stated, “The simple marketplace interface makes the application more comfortable to use.” In addition, Informant 14 noted, “The green product search feature helps me save time when shopping online.” These statements demonstrate that a streamlined platform design and well-organized search functionality can enhance users' perceived convenience when using digital marketplaces.

However, the study also found that some users continue to experience difficulties due to the wide variety of products and the large amount of information available on digital marketplaces. Informant 15 stated, “Having too many product choices sometimes makes it take longer for me to decide.” This condition indicates that the abundance of information on digital marketplaces may sometimes require users to spend more time identifying products that best match their needs and preferences.

The findings suggest that green platform design is perceived as enhancing user convenience in digital marketplaces through features that are informative, simple, and easy to use. The more effectively green platform design is implemented within digital marketplaces, the more positive and comfortable the overall user experience becomes.

4.4 Digital Marketplace

The research findings indicate that digital marketplaces serve as the primary platforms used by respondents for online shopping activities. Based on questionnaire responses from 93 participants, Shopee was the most frequently used marketplace, with 50 respondents identifying it as their preferred platform, followed by TikTok Shop with 35 respondents, while Tokopedia and other

marketplaces were each used by 4 respondents. These findings suggest that Shopee and TikTok Shop continue to dominate digital marketplace usage among users.

In addition, the majority of respondents reported engaging in online shopping two to three times per month. This finding indicates that the respondents were active users of digital marketplaces and therefore possessed sufficient experience in utilizing various platform features, including those related to environmentally friendly products. Users perceived that digital marketplaces facilitate product searches, purchasing transactions, and access to product information in a faster and more practical manner. Features such as product categories, search systems, product recommendations, and user reviews were considered instrumental in improving the efficiency of digital marketplace usage.

The results of the in-depth interviews also revealed that users felt more comfortable using marketplaces characterized by simple interfaces and clear navigation. Informant 7 stated, “Clear marketplace navigation makes it easier for me to search for products,” while Informant 9 remarked, “An application interface that is not overly cluttered makes me feel more comfortable while shopping.” These responses suggest that intuitive interface design and well-organized navigation contribute positively to users' overall shopping experience.

Users also perceived that digital marketplaces provide easier access to products that were previously difficult to obtain through conventional retail channels. Marketplace platforms enable consumers to purchase products from other regions or countries more conveniently without having to visit physical stores or sales locations. This finding indicates that digital marketplaces broaden users' access to a wide range of products, including environmentally friendly products that may not always be available in their local areas. Beyond improving product accessibility, digital marketplaces were also perceived to offer more competitive prices than conventional brick-and-mortar stores. Users believed that marketplaces provide a wider range of pricing options, allowing them to compare products according to their needs and financial capabilities. As a result, respondents considered purchasing through digital marketplaces to be both more convenient and more practical.

Digital marketplaces were further regarded as facilitating access to environmentally friendly products by offering a diverse selection of items at prices that accommodate users' needs and purchasing power. This variety enables consumers to identify products that best suit their preferences without facing significant limitations in terms of access or available choices. Moreover, users preferred purchasing green products through marketplaces because they perceived them as safer for personal health, more environmentally responsible, and supportive of sustainable lifestyles. The availability of product information, eco-labels, and user reviews also enhanced users' confidence in selecting environmentally friendly products within digital marketplaces.

Nevertheless, several users reported that some sellers still offer products whose actual characteristics do not fully correspond to the descriptions or environmentally friendly labels displayed on marketplace platforms. Such situations make some consumers more cautious when selecting products and encourage them to place greater emphasis on user reviews and ratings before making purchasing decisions.

4.5 Discussion

4.5.1 Green Platform Design as a Supporting Factor for User Convenience

The findings of this study indicate that green platform design plays a significant role in enhancing user convenience in digital marketplaces. Users perceived that features such as eco-friendly category filters, eco-labels, product sustainability information, and green product recommendations facilitate a more efficient and convenient process for searching environmentally friendly products. These findings suggest that platform designs incorporating sustainability-oriented features can provide a more practical and seamless user experience for digital marketplace users. Sustainability-based user experience design in digital platforms has been shown to improve the effectiveness of platform utilization and strengthen the overall user experience in online retail systems through effective information presentation, intuitive interactions, and the integration of sustainability values into digital

systems ([Lu, & Yan, 2023](#); [Regif, Seran, Naif, Pattipeilohy, & Saputri, 2023](#); [Pahrijal, 2023](#); [Kurniawan, Gunawan, & Rahayu, 2025](#)).

The availability of eco-friendly filtering features enables users to accelerate the product search process without manually browsing multiple product categories. Likewise, eco-labels help users identify environmentally friendly products more easily, thereby simplifying purchasing decisions. Additional information, such as eco-scores and environmental impact indicators, further assists users in understanding the environmental implications of products before making purchases. Platforms that present information in a visual, straightforward, and easily understandable manner can reduce users' cognitive load, making it easier for them to identify products that align with their preferences ([Riadi, Pinontoan, Huzna, & Fitroh, 2022](#)).

The interview findings further demonstrate that a simple and well-organized platform design provides greater convenience for digital marketplace users. Informants reported that uncluttered application interfaces, clear navigation structures, and systematically organized product information facilitate product searches and purchasing transactions. Furthermore, system efficiency within digital platforms also influences user convenience. Users expressed greater satisfaction with applications that are lightweight, respond quickly, and consume relatively little internet bandwidth and device resources. These findings indicate that green platform design is not solely associated with environmental sustainability but is also directly related to the overall quality of users' experiences when interacting with digital marketplaces. Perceived ease of use has become a strategic factor influencing user convenience and the intention to use e-commerce platforms, as users generally prefer applications that are practical and easy to operate ([Syamilah, 2025](#); [Martínez-Caro, Cepeda-Carrión, Cegarra-Navarro, & Garcia-Perez, 2020](#); [Norouzkhani, Norouzi, Faramarzi, Bahari, Shirvani, Eslami, & Tabesh, 2025](#); [Abuhassna, Alnawajha, Awae, & Edwards, 2024](#)).

The findings of this study differ from those of several previous studies, which have primarily emphasized green platform design as a marketing strategy and a means of strengthening a company's sustainability image. In contrast, the present study demonstrates that green platform design is perceived not only as an expression of environmental responsibility but also as a factor that directly influences user convenience when using digital marketplaces, while simultaneously fostering user comfort, satisfaction, and loyalty. Accordingly, this research highlights that sustainability-oriented platform design contributes substantially to the user experience, particularly with respect to ease of use, efficiency in product searches, and convenience of platform navigation.

Nevertheless, the study also found that the extensive variety of products and the abundance of information available on digital marketplaces may cause users to spend more time selecting appropriate products. This finding suggests that digital marketplaces should further simplify the presentation of information to minimize user confusion during the process of searching for environmentally friendly products. It also indicates that the effectiveness of green platform design depends not only on the availability of sustainability-related features but also on the platform's ability to present information in a simple, relevant, and user-friendly manner.

The findings demonstrate that green platform design enhances user convenience in digital marketplaces through simplified platform architecture, efficient system performance, and sustainability-oriented features that facilitate the search for and purchase of environmentally friendly products. These results reinforce the view that integrating sustainability principles into digital platform design can serve as an important strategic approach for marketplaces to improve user experience while simultaneously strengthening a positive and sustainability-oriented platform image.

4.5.2 Perceived Convenience (User Convenience)

The findings indicate that most users feel comfortable using digital marketplaces that provide features supporting environmentally friendly products. User convenience is reflected in the ease of platform use, the efficiency of product searches, the clarity of information, and the ease of navigation throughout the purchasing process. These findings suggest that sustainability-oriented features available on digital marketplaces contribute to a more practical and efficient user experience. Ease of navigation, efficiency

in product searching, and clarity of information within digital marketplaces significantly influence users' perceived online convenience during purchasing transactions ([Nurdianasari & Rista, 2021](#)); ([Atieq & Nurpiani, 2022](#)); ([Jameela & Nanik, 2024](#)); ([Khaddafi, Rahman, Riszki, & Wahyudi, 2024](#)).

Users reported that environmentally friendly product search features enable them to identify products that meet their needs more quickly and conveniently. Furthermore, the simple and uncluttered marketplace interface provides a more comfortable user experience. These findings indicate that users' perceived convenience is influenced by the platform's ability to offer systems that are both easy to use and informative. The results further demonstrate that digital marketplace users tend to experience greater convenience when platforms provide straightforward and informative navigation systems. This observation is consistent with the concept of perceived convenience, which emphasizes the importance of ease of use, information clarity, and interaction efficiency in creating positive user experiences. In the context of digital marketplaces, user convenience constitutes a critical factor influencing both the intensity of platform usage and consumers' purchasing decisions. Users value platforms that not only provide functional convenience and usability but also deliver emotional and economic benefits. Consequently, it is essential to design e-commerce platforms that are not only useful and easy to operate but also capable of providing a holistic and positive user experience ([Syamilah, 2025](#); [Pratamal, Prasetyo, & Aditya, 2022](#); [Kirchner, & Schüßler, 2019](#)).

User convenience is further enhanced by the availability of a wide range of environmentally friendly products offered at prices that accommodate users' needs and financial capabilities. Users are able to compare products, prices, and reviews directly, making the purchasing process more efficient. This finding demonstrates that digital marketplaces facilitate a more convenient shopping experience for users. The quality of information and product transparency on digital platforms have a significant influence on users' trust and comfort when purchasing green products online ([Nghah, Bandar, Awi, Eneizan, & Alshannag, 2022](#); [Erni, & Jaya, 2022](#); [Suhardi, Febliansa, Anzori, & Damarsiwi, 2023](#); [Aekthanate, Ketkaew, & Jantuma, 2024](#)).

Nevertheless, some users reported the need to exercise greater caution when selecting environmentally friendly products because certain products do not fully correspond to the descriptions provided on the marketplace. Consequently, users tend to rely on product reviews and ratings before making purchasing decisions. This condition indicates that user trust also constitutes an essential component in establishing convenience when using digital marketplaces.

The findings reinforce the view that user experience is a fundamental aspect of digital marketplace development. The more effectively green platform design is implemented, the higher the level of users' perceived convenience in using the platform. Therefore, digital marketplaces should continue to develop sustainability-oriented features that are simple, informative, and easily accessible in order to support sustainable consumption behavior within the digital society. These findings demonstrate that integrating sustainability principles into digital platform design not only improves marketplace service quality but also contributes to creating user experiences that are more comfortable, efficient, and positive.

4.5.3 Digital Marketplace

Digital marketplaces have become platforms that facilitate users' access to a wide variety of products, including environmentally friendly products that were previously difficult to obtain through conventional retail channels. Through digital marketplaces, users can purchase products from other regions or countries without having to visit physical sales locations. This finding indicates that digital marketplaces broaden users' access to products that meet their needs. Digital marketplaces simplify transaction processes, accelerate online commerce, and provide consumers with more practical and efficient access to a diverse range of products through internet-based electronic trading systems ([Santy & Hidayat, 2021](#)). Furthermore, optimizing services and streamlining user transactions through integrated digital systems enables consumers to obtain products more quickly, conveniently, and efficiently ([Pratamal, Prasetyo, & Aditya, 2022](#)).

The results demonstrate that Shopee and TikTok Shop are the marketplaces most frequently used by respondents because they are perceived as practical, user-friendly, and capable of offering a broad selection of products at competitive prices. Digital marketplaces enable users to compare prices, product quality, and customer reviews directly, thereby making purchasing decisions easier and more efficient. Perceived ease of use and perceived usefulness are important factors influencing users' intentions to adopt e-commerce platforms ([Kanapickienė, Keliuotytė-Staniulėnienė, Teresienė, Špicas, & Neifaltas, 2022](#)); ([Iskandar, Hartoyo, & Hermadi, 2020](#)).

Moreover, digital marketplaces assist users in accessing environmentally friendly products by offering a wider variety of options at prices that align with users' financial capabilities. Respondents perceived that the availability of diverse green products within marketplaces enables them to select products that better suit their daily needs and budget constraints. These findings indicate that digital marketplaces provide users with greater flexibility through improved product accessibility, efficient access to product information, and streamlined online transaction processes ([Ariestania, & Adriyanto, 2024](#); [Farikhatus, Hamid, & Ayu, 2025](#)).

The study also found that users hold positive perceptions of marketplaces that demonstrate a commitment to sustainability. Features such as environmentally friendly product categories, eco-labels, reduced paper usage through digital transactions, and sustainability campaigns were perceived as enhancing the marketplace's image among users. Users believed that marketplaces offering sustainability-oriented features appear to be more concerned with environmental protection and user needs. This perception fosters trust and emotional comfort when interacting with digital marketplaces. Respondents viewed such platforms as being motivated not only by commercial objectives but also by social and environmental responsibility. The integration of sustainability values into platform design can enhance user value and foster positive perceptions of digital marketplaces ([Prabawani, Hadi, Wahyudi, & Ainuddin, 2023](#); [Ratna, 2024](#)).

In addition, the availability of clear product information and user reviews increases users' confidence in selecting environmentally friendly products. Users reported feeling more secure when marketplaces provide transparent and easily understandable sustainability information. This finding indicates that information transparency within digital marketplaces plays a crucial role in building users' trust in green products marketed online. Product information quality and platform transparency significantly influence user trust as well as online purchasing decisions for environmentally friendly products ([Aekthanate, Ketkaew, & Jantuma, 2024](#)).

However, the study also revealed that some sellers continue to offer products whose actual characteristics do not fully correspond to the descriptions or environmentally friendly labels displayed on marketplace platforms. As a result, users become more selective in choosing products and place greater emphasis on reviews and ratings provided by other consumers before making purchasing decisions. This finding suggests that users' trust in digital marketplaces is influenced not only by platform quality but also by the consistency of information and the credibility of the products offered by sellers.

Digital marketplaces function not merely as online transaction platforms but also as channels that enable users to obtain environmentally friendly products more easily, quickly, and conveniently. Supported by effective green platform design, digital marketplaces can enhance both user convenience and the overall user experience when purchasing environmentally friendly products. These findings indicate that integrating sustainability-oriented features into digital marketplaces can serve as an important strategy for promoting sustainable consumer behavior while simultaneously improving the quality of user experiences on modern e-commerce platforms.

5. Conclusions

5.1 Conclusions

This study demonstrates that green platform design plays a strategic role in enhancing user convenience in digital marketplaces by integrating simplified interface design, intuitive navigation, efficient system performance, and sustainability-oriented features into digital platforms. Features such

as eco-friendly category filters, eco-labels, sustainability-related product information, and green product recommendation systems enable users to identify environmentally friendly products more efficiently while improving perceptions of convenience, trust, and overall shopping satisfaction. The findings also indicate that digital marketplaces provide practical access to diverse products regardless of geographical or temporal constraints, thereby strengthening the efficiency and flexibility of online shopping. Among the platforms examined, Shopee emerged as the marketplace most frequently preferred by participants because of its user-friendly interface, practical payment system, affordable shipping costs, transparent delivery tracking, and accessible complaint and product return mechanisms. Nevertheless, challenges remain, including information overload caused by excessive product choices and inconsistencies between sustainability claims and the actual characteristics of some products, which may reduce user confidence in environmentally friendly marketplace features.

This study contributes to the advancement of digital management, sustainable consumer behavior, and user experience literature by demonstrating that green platform design should be understood not merely as a technological or environmental innovation but as a strategic design construct that simultaneously enhances platform usability, strengthens user trust, and promotes sustainable consumption behavior. By integrating sustainability-oriented design with user experience perspectives, this study extends existing discussions that have traditionally examined sustainability and digital platform usability as separate domains. Practically, the findings suggest that marketplace developers should prioritize the integration of transparent eco-label verification systems, standardized sustainability information, intelligent green product recommendation algorithms, intuitive interface design, and personalized sustainability features that simplify users' decision-making processes. Marketplace managers should also strengthen monitoring mechanisms to ensure the credibility of environmental claims presented by sellers, thereby increasing consumer trust and encouraging responsible purchasing behavior. Future studies are encouraged to employ mixed-method or quantitative approaches involving broader geographical contexts and diverse digital platforms to further validate the relationship between green platform design, user comfort, and sustainable consumer behavior across different marketplace environments.

5.2 Research Limitations

This study has several limitations that should be acknowledged. First, it employed a qualitative descriptive approach involving 93 digital marketplace users, which may limit the generalizability of the findings to broader populations. Second, the research focused primarily on users' perceptions and experiences regarding green platform design rather than objectively measuring behavioral outcomes or platform performance. Third, the study concentrated on selected digital marketplaces and did not compare differences across various e-commerce ecosystems or cultural contexts. These limitations provide opportunities for further investigation using broader samples, comparative approaches, and mixed-methods or quantitative research designs.

5.3 Suggestions and Directions for Future Research

Future research is encouraged to examine the influence of green platform design on user behavior by employing larger and more diverse samples across different countries and digital marketplace platforms. Quantitative or mixed-methods approaches could be used to test the causal relationships among green platform design, perceived convenience, user trust, purchase intention, customer loyalty, and sustainable consumption behavior. In addition, future studies may explore the effectiveness of specific sustainability features, such as eco-labels, carbon footprint indicators, AI-based green product recommendations, and personalized sustainability information, in enhancing user experience and promoting environmentally responsible purchasing decisions in digital commerce.

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Author Contributions

HAS conceived and designed the study, conducted the data collection, performed the initial data analysis, and prepared the original manuscript draft. RH contributed to the research methodology, participated in data collection, and assisted in data interpretation. ARZ contributed to the methodological design, formal data analysis, and manuscript refinement. HSS supervised the research process, provided conceptual guidance, and critically reviewed and edited the manuscript. LP contributed to data analysis, interpretation of the findings, and critical revision of the manuscript. All authors contributed substantially to the development of the study, reviewed and approved the final version of the manuscript, and agreed to be accountable for all aspects of the work.

References

- Abuhassna, H., Alnawajha, S., Awae, F., Mohamed Adnan, M. A. B., & Edwards, B. I. (2024). Synthesizing technology integration within the Addie model for instructional design: A comprehensive systematic literature review. *Journal of Autonomous Intelligence*, 7(5), 1546-1546. <https://doi.org/10.32629/jai.v7i5.1546>
- Aekthanate, W., Ketkaew, C., & Jantuma, N. (2024). Trust and website conversion in consumer responses to green product purchasing: A new perspective through the lens of innovative website design's technology integration. *Heliyon*, 10(1). <https://doi.org/10.1016/j.heliyon.2023.e23764>
- Ariestania, A. R., & Adriyanto, A. T. (2024). Jurnal ilmiah manajemen dan bisnis green marketing dalam membentuk keputusan pembelian jurnal ilmiah manajemen dan bisnis. *Jurnal Ilmiah Manajemen dan Bisnis*, 25(2), 159-176. <https://doi.org/10.30596/jimb.v25i2.21999>
- Asikis, T., Klinglmayr, J., Helbing, D., & Pournaras, E. (2021). How value-sensitive design can empower sustainable consumption. *Royal Society Open Science*, 8(1), 201418. <https://doi.org/10.1098/rsos.201418>
- Atieq, M. Q., & Nurpiani, E. (2022). Pengaruh kemudahan penggunaan, manfaat dan risiko terhadap minat nasabah menggunakan mobile banking bank syariah. *Jurnal Valuasi: Jurnal Ilmiah Ilmu Manajemen dan Kewirausahaan*, 2(1), 401-423. <https://doi.org/10.46306/vls.v2i1.109>
- Cahyadi, E. R., Widiyanti, K. R., & Slamet, A. S. (2021). The use behavior of tracking and tracing services in e-commerce logistics. *Jurnal Manajemen dan Organisasi*, 12(1), 10-20. <https://doi.org/10.29244/jmo.v12i1.35373>
- Erni, E., & Jaya, F. (2022). Efektifitas Perizinan Berusaha berbasis risiko dalam rangka kemudahan berusaha. *Wajah Hukum*, 6(2), 248-257. <https://doi.org/10.33087/wjh.v6i2.927>
- Farikhatus Sa'bandiyah, U., Hamid, A. M., & Ayu, I. (2025). Peran maqashid syariah dalam mendukung keberlanjutan lingkungan melalui implementasi green economy: Studi kasus tenun ikat di parengan. *Sibatik Journal*, 4(6), 709-722.
- Fianda, A. Y. A., Fandinny, I., Kacaribu, L. N. B., Desyani, N. A. f., Asyifa, N., & Wijayanti, P. (2022). Eco-friendly packaging: Preferensi dan kesediaan membayar konsumen di marketplaces. *Jurnal Ilmu Lingkungan*, 20(1), 147-157. <https://doi.org/10.14710/jil.20.1.147-157>
- Irfany, M. A. N., Az-Zahra, H. M., & Syawli, A. (2023). Evaluasi user experience pada aplikasi belanjaparts menggunakan metode human centered design. *Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer (J-PTIIK)*.
- Iskandar, M., Hartoyo, H., & Hermadi, I. (2020). Analysis of factors affecting behavioral intention and use of behavioral of mobile banking using unified theory of acceptance and use of technology 2 model approach. *International Review of Management and Marketing*, 10(2), 41-49. <https://doi.org/10.32479/irmm.9292>
- Jameela, N., Eva Misfah, B., & Nanik, E. (2024). Tinjauan etika bisnis islam terhadap praktik jual beli sistem preloved pada shopee. *Bandung Conference Series: Sharia Economic Law*, 4(1), 87-93. <https://doi.org/10.29313/bcssel.v4i1.11197>

- Kanapickienė, R., Keliuotytė-Staniulėnienė, G., Teresienė, D., Špicas, R., & Neifaltas, A. (2022). Macroeconomic determinants of credit risk: Evidence on the impact on consumer credit in central and eastern european countries. *Sustainability (Switzerland)*, 14(20), 1-62. <https://doi.org/10.3390/su142013219>
- Khaddafi, M., Rahman, M. N., Riszki, M., & Wahyudi, A. (2024). Penerapan green economy pada maqoshid syariah. *Jiic: Jurnal Intelek Insan Cendikia*, 1(9), 4737-4742.
- Kirchner, S., & Schüßler, E. (2019). *The organization of digital marketplaces: Unmasking the role of internet platforms in the sharing economy (pp.*
- Klein, P., & Popp, B. (2022). Last-Mile delivery methods in e-commerce: Does perceived sustainability matter for consumer acceptance and usage?. *Sustainability*, 14(24), 16437. <https://doi.org/10.3390/su142416437>
- Kurniawan, H., Gunawan, R., & Rahayu, S. (2025). Green economy dalam perspektif ekonomi syariah : Solusi untuk pembangunan berkelanjutan. *Prosiding Seminar Nasional Teknologi Komputer dan Sains*, 3(1), 361-368.
- Lu, Y., & Yan, T. (2023). Sustainability-driven consumer experience design of an online retail system for household appliances. *EAI Endorsed Transactions on Scalable Information Systems*, 10(5). <https://doi.org/10.4108/eetsis.3331>
- Martínez-Caro, E., Cepeda-Carrión, G., Cegarra-Navarro, J. G., & García-Pérez, A. (2020). The effect of information technology assimilation on firm performance in B2B scenarios. *Industrial Management and Data Systems*, 120(12), 2269-2296. <https://doi.org/10.1108/IMDS-10-2019-0554>
- Mufid, M. (2024). Reasoning ecological fatwas: The progressive response of the Indonesian Ulama Council (MUI) to the phenomenon of climate change in Indonesia. *Istinbath : Jurnal Hukum*, 20(02), 102-122. <https://doi.org/10.32332/istinbath.v20i02.4824>
- Ngah, A. H., Bandar, N. F. A., Awi, N. A., Eneizan, B., & Alshannag, F. M. (2022). The mediation effect of online shopping habits on personality traits and intention to recommend; the Covid-19 Effect. *International Journal of Business and Society*, 23(1), 188-206. <https://doi.org/10.33736/ijbs.4608.2022>
- Norouzkhani, N., Norouzi, S., Faramarzi, M., Bahari, A., Shirvani, J. S., Eslami, S., & Tabesh, H. (2025). Developing and evaluating a gamified self-management application for inflammatory bowel disease using the ADDIE model and Sukr framework. *BMC medical informatics and decision making*, 25(1), 11-11. <https://doi.org/10.1186/s12911-024-02842-3>
- Nurdianasari, & Rista, F. I. (2021). Study of perceived online convenience and customer satisfaction toward behavioral intention in online shopping. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 5(2), 399-409.
- Nurmalasari, W., Mofea, S., & Komariah, M. (2023). Tinjauan yuridis pelaksanaan transaksi jual beli online (e-commerce) melalui shopee paylater berdasarkan perspektif hukum. *Lex Veritatis*, 2, 94-103.
- Pahrijal, R. (2023). Mengubah sampah menjadi harta karun: Inovasi daur ulang yang menguntungkan lingkungan dan ekonomi (studi literature). *Jurnal Multidisiplin West Science*, 2(06), 483-492. <https://doi.org/10.58812/jmws.v2i6.430>
- Prabawani, B., Hadi, S. P., Wahyudi, F. E., & Ainuddin, I. (2023). Drivers and initial pattern for corporate social innovation: From responsibility to sustainability. *Heliyon*, 9(6). <https://doi.org/10.1016/j.heliyon.2023.e16175>
- Pratamal, R. P., Prasetyo, K. W., & Aditya, A. (2022). Analyzing e-service quality and e-satisfaction effects on customer loyalty at an indonesian digital marketplace. *JITE (Journal of Informatics and Telecommunication Engineering)*, 6(1), 126-134. <https://doi.org/10.31289/jite.v6i1.7265>
- Rana, S., Shafi, F., Rasheed, A., & Malik, M. I. (2024). Online environmental platforms service and green consumer behavior nexus: A multi-mediator study. *Future Business Journal*, 10(1), 3. <https://doi.org/10.1186/s43093-023-00283-4>

- Ratna. (2024). A literature review: Comparing approaches of islamic finance and conventional finance in the epistemology of sharia economy. *Jurnal LA RIBA Jurnal Perbankan Syari'ah Program Studi Perbankan Syari'ah*, 6(01), 20-29.
- Ratnaningtyas, E. M., Ramli, Syafruddin, Edi, S., Suliwati, D., Bekty Taufiq Ari, N., Jahja, A. S. (2023). *Metodologi Penelitian Kualitatif*. Sigli Pidie: Yayasan Penerbit Muhammad Zaini.
- Regif, S. Y., Seran, M. S. B., Naif, I. Y., Pattipeilohy, A., & Saputri, L. (2023). Literasi digital ekonomi hijau terhadap pemberdayaan UMKM desa di Kabupaten Langkat. *Jurnal Ilmu Politik dan Pemerintahan*, 9(1), 49-69. <https://doi.org/10.37058/jipp.v9i1.6922>
- Riadi, H. A. M., Pinontoan, D. P., Huzna, A. N., & Fitroh. (2022). Systematic literature review: Peran digital influencer terhadap digital marketing. *Jurnal Sains Pemasaran Indonesia*, 21(2), 283-300.
- Rubel, M. R. B., Kee, D. M. H., & Rimi, N. N. (2025). Unpacking the eco-friendly path: Exploring organizational green initiatives. *International Journal of Contemporary Hospitality Management*, 37(6), 2049-2071.
- Santy, R. D., & Hidayat, G. H. (2021). E-Transaction in digital era. *International Journal of Research and Applied Technology*, 1(2), 249-256. <https://doi.org/10.34010/injuratech.v1i2.5640>
- Silviah, S., Lutfianti, W. H., & Firmansyah, R. (2022). Analisis pengambilan keputusan konsumen dalam membeli produk online pada e-marketplace di Indonesia. *Jurnal Performa: Jurnal Manajemen dan Start-Up Bisnis*, 7(6), 669-679. <https://doi.org/10.37715/jp.v7i6.3394>
- Sugiono. (2016). *Metode Penelitian Kuantitatif, Kualitatif dan R & D* (Bandung: Alfabeta).
- Suhardi, M. A., Febliansa, M. R., Anzori, A., & Damarsiwi, E. P. M. (2023). Pengenalan metode pembayaran Cash On Delivery (COD) dalam kegiatan transaksi belanja online pada warga Dusun II Desa Sidoluhur. *Jurnal Dehasen Mengabdi*, 2(2), 101-106. <https://doi.org/10.37676/jdm.v2i2.4752>
- Susanto, H., & Prasetyo, A. (2023). Transformasi digital UMKM melalui penerapan teknologi berbasis AI. *Jurnal Ekonomi Digital Indonesia*, 2(2), 119-130.
- Syamilah, F. (2025). The influence of perceived usefulness, perceived ease of use, and perceived value on intention to use e-commerce. *Jurnal Riset Manajemen Sains Indonesia*, 16(2), 88-99.
- Wahyudi, T., & Nugroho, A. (2022). Transformasi digital di sektor perbankan: Peluang dan tantangan. *Jurnal Transformasi Digital*, 8(1), 45-60.
- Zhang, Z., Sami, F., Ullah, I., Ullah, S., & Salahuddin, K. (2024). Analyzing the green marketing approaches and their impact on consumer behavior toward the environment in China : A logistic regression approach. *Environment, Development and Sustainability*, 26(11), 29453-29474. <https://doi.org/10.1007/s10668-023-03985-5>