

User-Centered Design Evaluation of ShopeeFood Driver User Interface and Experience

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ABSTRACT

The ShopeeFood Driver application serves as a critical tool for delivery partners in managing orders and navigation. However, initial observations and user interviews conducted in Surabaya identified several usability issues, including the absence of demand visualization (heatmaps), lack of destination-based order filtering, and the inability for drivers to rate customers. This study aims to evaluate and redesign the UI/UX of the ShopeeFood Driver application using the User-Centered Design (UCD) method to enhance operational efficiency and user satisfaction. The research followed the four stages of the UCD process: understanding the context of use, specifying user requirements, producing design solutions, and evaluating against requirements. Data were collected from 30 active delivery partners in Surabaya through observations, semi-structured interviews, and System Usability Scale (SUS) questionnaires. The redesign introduced three key features: an order-demand heatmap, a destination-based (one-way) order filter, and a customer rating system. Post-redesign evaluation demonstrated significant improvements in usability. Effectiveness increased from 82.8% to 100%, while efficiency improved as the average task completion time decreased from 34.7 seconds to 21.7 seconds. Additionally, the average SUS score increased from 66.75 (Marginal/OK) to 87.25 (Acceptable/Excellent). These results indicate that the application of the UCD method successfully addressed operational challenges at the field level and substantially improved the usability of the ShopeeFood Driver application, resulting in a more intuitive and efficient user experience for delivery partners.

Keyword: User-Centered Design, Usability, ShopeeFood Driver, UI/UX Redesign, System Usability Scale (SUS).

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1. INTRODUCTION

The development of digital technology has driven the growth of application-based services, particularly in the food and beverage sector through online ordering and delivery systems. The increase in mobile application usage has not only affected people's consumption patterns, but also demands a system quality that is capable of supporting its users' operational activities effectively and efficiently. In this context, the quality of the user interface and user experience are important factors that determine the success of an application in meeting user needs [1].

ShopeeFood is a food delivery service that provides a special application for driver partners, namely ShopeeFood Driver. This application is used as the main means of receiving orders, determining pickup locations, and delivering orders to customers. However, based on preliminary observations and interviews with active drivers, a number of obstacles related to the interface and user experience were found, such as limited supporting information, unintuitive usage flow, and a lack of features to assist drivers in decision-making while working. These issues have the potential to reduce work effectiveness and user satisfaction with the application [2].

Several previous studies have shown that usability evaluation is an appropriate approach to identify problems in interactive systems and improve UI/UX quality. Usability evaluation methods are widely used in application development because they provide an overview of the effectiveness, efficiency, and user satisfaction with the system being used [3]. One commonly used method is the System Usability Scale (SUS), which is considered simple yet reliable in measuring the usability level of an application [4].

In addition to usability evaluation, a user-centered design approach is also necessary to ensure that the resulting solution meets real needs. User Centered Design (UCD) is a design method that actively involves users in every stage of system development, from understanding the context of use to evaluating the designed solution [1]. This approach is considered effective in producing interfaces that are easier to use and suit user characteristics [5].

Based on these issues, this study proposes the evaluation and redesign of the ShopeeFood Driver application's UI and UX using a User Centered Design approach combined with usability measurement using the System Usability Scale method. The novelty of this research lies in the direct application of UCD in the work context of ShopeeFood Driver drivers and the development of interface prototypes tailored to the operational needs of users, so that it is expected to improve the overall usability quality of the application [2], [6].

2. METHODS

This study is a descriptive study with a qualitative and quantitative approach that aims to evaluate and redesign the user interface and user experience on the ShopeeFood Driver application using the User Centered Design (UCD) method. The UCD approach was used because it involves users directly in all stages of system design, so that the resulting solutions are more in line with the needs and context of actual use [1], [5]. The research process was conducted through data collection using observation techniques, semi-structured interviews, literature studies, and questionnaires distributed to active users of the ShopeeFood Driver application [3]. Usability evaluation was carried out using the System Usability Scale (SUS) method, which is an instrument consisting of ten statements to measure the level of effectiveness, efficiency, and user satisfaction with the system [4]. Qualitative data was analyzed to identify user problems and needs as a basis for redesigning the interface, while quantitative data was analyzed by calculating the SUS score to determine the level of application usability, so that the research results could be accepted scientifically and systematically [6].

3. RESULTS AND DISCUSSION

3.1 Data Collection and User Problem Identification

Data collection in this study was conducted through observation, interviews, and questionnaires involving 30 ShopeeFood driver-partners residing in Surabaya. Field observations were performed while drivers used the ShopeeFood Driver application in real-world conditions, such as receiving orders, delivering food, and interacting with the system. The results revealed several key obstacles, including difficulty identifying high-demand areas due to the absence of heatmap visualizations, the lack of a "destination-based" (one-way) order filtering feature, and the inability to provide ratings for customers.

Semi-structured interviews further validated these observation findings. The majority of drivers expressed that the application is not yet optimized for operational efficiency. Key user inputs included the need for a heatmap to identify areas with high order potential, a one-way order feature to avoid counter-intuitive routes, and a customer rating system for two-way evaluation. These findings served as the foundation for formulating user requirements during the interface redesign phase.

3.2 Pre-Redesign Usability Evaluation Results

A usability evaluation of the initial ShopeeFood Driver application was conducted through usability testing and the System Usability Scale (SUS) questionnaire. Effectiveness testing revealed that not all participants could complete tasks without assistance, particularly tasks related to rejecting orders and navigating specific features. In terms of efficiency, the average task completion time was relatively long, indicating that user interaction with the system was not yet fully streamlined.

Table 1 Usability Evaluation Results Pre-Redesign

Aspects	Before Redesign
Effectiveness	82,8%
Efficiency	34,7 second
SUS Score	66.75

The initial SUS measurement yielded an average score of **66.75**. Based on SUS scoring categories, this falls under **Marginal** acceptability, a **Grade D** scale, and an **"OK"** adjective rating. These results indicate that the application was at the minimum threshold of usability and required significant improvements to enhance user comfort and ease of use. A summary of the initial evaluation results is presented in the usability comparison table in the following section.

3.3 Results of the User-Centered Design (UCD) Implementation

Based on the user needs analysis, the ShopeeFood Driver UI/UX was redesigned using the User-Centered Design (UCD) approach. The stages included: *understanding the context of use*, *specifying user requirements*, *designing solutions*, and *evaluating against requirements*. During the design phase, an interface prototype was developed to accommodate three primary features: a high-demand area heatmap, a one-way order feature (usable once daily), and a customer rating system.

Interviews and testing of the prototype received positive responses from users. Drivers stated that the interface was easier to understand, the workflow was clearer, and the developed features aligned with their field requirements. This demonstrates that involving users in the design process contributes positively to the quality of the resulting solution.

3.4 Post-Redesign Usability Evaluation Results

The usability evaluation of the redesigned prototype showed significant improvements compared to the pre-redesign version. **Effectiveness** increased from **82.8% to 100%**, indicating that all participants were able to complete all tasks without assistance. Regarding **efficiency**, the average task completion time decreased from **34.7 seconds to 21.7 seconds**, signaling improved speed and ease of interaction.

Table 2 Usability Evaluation Results Post-Redesign

Aspects	After Redesign
Effectiveness	100%
Efficiency	21,7 second
SUS Score	87.25

Furthermore, the post-redesign **SUS score** reached an average of **87.25**. This score is categorized as **Acceptable**, with a **Grade B** scale and an **"Excellent"** adjective rating. The comparison of usability metrics before and after the redesign is displayed in the effectiveness, efficiency, and SUS score comparison table, showcasing improvements across all measured usability aspects.

3.5 Discussion

The increase in effectiveness, efficiency, and user satisfaction scores demonstrates that the User-Centered Design approach successfully produced an interface solution better suited to the needs and work context of ShopeeFood drivers. The features developed based on user input proved effective in reducing usage barriers and improving the overall user experience.

Table 3 Comparison of Usability Evaluation Results

Aspects	Before Redesign	After Redesign
Effectiveness	82,8%	100%
Efficiency	34,7 second	21,7 second
SUS Score	66.75	87.25

This study reinforces the principle that active user involvement in the evaluation and design process is vital for enhancing the usability of mobile applications. Consequently, the User-Centered Design approach serves as an effective framework for developing and evaluating food delivery service applications that demand high efficiency and field-level ease of use.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that the evaluation and redesign of the user interface and user experience on the ShopeeFood Driver application has been able to answer the research problem formulation. The application of the User Centered Design approach allows for the systematic identification of user needs and problems, so that the solutions produced are more in line with the context of use and operational activities of drivers. The usability evaluation results show that a user-oriented approach plays an important role in improving the quality of interaction between users and the system.

Theoretically, this study reinforces the concept that user involvement in the design process contributes positively to improving the usability of mobile applications. The findings of this study can be used as a reference in the development and evaluation of similar digital service applications. In the future, further research can be conducted by involving a wider range of respondents, applying additional evaluation methods, and directly implementing the design results to measure the impact of system usage on a more realistic scale.

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