

## **NLP-Based Sentiment Analysis of Alfagift and Klik Indomaret Application Reviews: A Comparative Study**

**Nur Laili Indah Fuji Lestari<sup>1</sup>, Tri Vani Diah Naraya<sup>2</sup>, Handari Niken Anggraini<sup>3</sup>, Faisal Fahmi\***

<sup>1,2,3</sup>Information and Library Science, Airlangga University, Surabaya, Indonesia  
Email: <sup>1</sup>nur.laili.indah-2022@fisip.unair.ac.id, <sup>2</sup>tri.vani.diah-2022@fisip.unair.ac.id,  
<sup>3</sup>handari.niken.anggraini-2022@fisip.unair.ac.id  
\*Corresponding author: faisalfahmi@fisip.unair.ac.id

### **Abstract**

Amid competition for online shopping applications, Alfagift and Klik Indomaret compete for the same market share. This study aims to analyze and compare user reviews of both applications using sentiment analysis based on Natural Language Processing (NLP) with the E-Servqual approach, focusing on Efficiency and System Availability indicators, to determine the advantages and disadvantages of each application and provide a basis for service improvement, strategic decision making, and reference for users in choosing online shopping applications that suit their needs. Methods include data collection, data grouping, data processing, selecting analyzed samples with consensus, and data analysis to describe user perceptions of the quality of service of each application. The results showed that on the positive side, both apps experienced an increase in efficiency although not significant, with gradual improvements in user experience. Alfagift showed improvements in technical responsiveness and ease of use, while Klik Indomaret was relatively stable with a simple user experience. On the negative side, efficiency issues still arise consistently and impact user perception. Alfagift often faces access and login issues, while Klik Indomaret tends to be slow when accessing various features. These findings reflect that despite year-on-year improvements, both apps still face technical challenges that need to be resolved to improve the overall quality of digital services.

**Keywords:** Sentiment Analysis, Natural Language Processing, E-Servqual, Alfagift, Klik Indomaret

## **1. INTRODUCTION**

Online shopping applications are increasingly needed to facilitate shopping activities by individuals, especially in today's digital and high mobility era [1]. Lifestyle changes that demand time efficiency have encouraged consumers to switch from conventional shopping to online-based services [2]. This certainly encourages the increasing number of online shopping platforms, so that competition arises to attract consumer attention [3]. Amid rampant competition,

Klik Indomaret and Alfagift are two major platforms that compete in the realm of retail-based e-commerce. Both applications have a strong corporate background in the retail sector, namely Indomaret and Alfamart, which have long competed in the form of physical stores that continue into the digital realm, so that they can reach consumers more widely and provide more practical, fast, and efficient shopping services. In addition, both retailers target the same market share [4]. This creates a fairly tight competitive situation, given that the products, services, and offered by each application are relatively similar [5].

In research by [6], stated that according to Similarweb data related to Top Apps Ranking in the Most Popular Shopping Apps in Indonesia category, which shows that the Alfagift application is above the Klik Indomaret application. This condition is certainly influenced by many factors, one of which is the level of customer loyalty. For this reason, it is very important to pay attention to feedback and reviews from customers regarding the services provided [7]. Reviews provided by users on application store platforms such as the Google Play Store usually contain opinions, experiences, and levels of satisfaction with the applications used [8]. Through these reviews, companies can make considerations to make improvements and improvements to the services or products provided [6]. Feedback and reviews from these customers can be seen through the review feature on Google Play. Data from the Google Play Store as of May 2025 shows that the Klik Indomaret application has been downloaded more than 10 million times with an average rating of 4,1 out of 5. Meanwhile, Alfagift shows similar performance with more than 10 million downloads and an average rating of 4,3 out of 5.

Research by [9], which analyzed user sentiment towards the Telegram application on the Google Play Store using a Natural Language Processing (NLP) approach, showed that most reviews were positive, especially regarding ease of use, application benefits, customer service responsiveness, and security aspects. However, negative reviews were also found, expressing problems with usage, security issues, and dissatisfaction with customer service. This finding confirms that NLP-based sentiment analysis is effective in capturing user perceptions and provides strategic insights for developers in improving overall app quality. In line with this, [10], stated that sentiment analysis is an effective tool for understanding public perception of a product or service. By utilizing NLP techniques, user opinions can be classified quickly and accurately into positive, negative, and neutral categories [11]. In addition, this approach enables the identification of problem trends and application advantages that cannot be revealed through conventional numerical data alone.

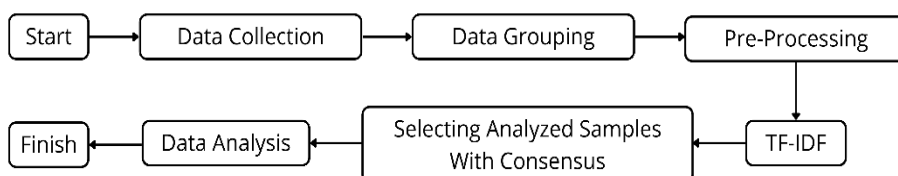
NLP-based sentiment analysis not only provides a mapping of user opinions in the form of positive, negative, or neutral, but also opens up opportunities to link these

findings to the dimensions of digital service quality. However, the use of NLP-based sentiment analysis is still insufficient to obtain a comprehensive picture of the quality of application services. Therefore, an E-Servqual model is needed that can link these findings to the dimensions of digital service quality. The E-Servqual model can be used to measure the effectiveness and efficiency of digital services, such as websites or applications, in providing convenience and comfort for users [12]. With this approach, the research not only maps user sentiment but also provides practical recommendations based on the E-Servqual framework that application developers and company management can use as a basis for service improvement. This approach also provides a more comprehensive picture of the user experience, both in terms of sentiment trends and measurable service quality, thereby enabling accurate analysis of the strengths and weaknesses of the service.

Based on the above description, this study aims to analyze and compare user reviews of the Klik Indomaret and Alfagift applications through a sentiment analysis approach based on Natural Language Processing (NLP) that focuses on the E-Servqual aspect. With sentiment analysis of both applications, this study is expected to provide an overview of the strengths and weaknesses of each application from the user's perspective. The results of this study are expected to not only benefit app developers and company management but also provide added value in the form of useful information for users in selecting the appropriate online shopping app that aligns with their preferences and needs.

## 2. METHODS

The research outlined in this study follows a systematic approach to analyze user sentiments expressed in reviews of mobile applications using sentiment analysis and Natural Language Processing (NLP) techniques. The methodology is designed to handle large datasets, allowing for an in-depth understanding of user opinions based on their feedback. The study progresses through several key stages, starting with data collection from the Google Play Store, followed by data grouping, processing, and analysis, all with the aim of uncovering patterns that reflect user satisfaction. Figure 1 illustrates the structured flow of this research process, providing a clear overview of each stage from data collection to final analysis.



**Figure 1.** Research Flow

This study uses a quantitative approach with sentiment analysis methods based on Natural Language Processing (NLP). NLP is a branch of artificial intelligence that focuses on how computers can understand, interpret, and generate human natural language [13]. This approach was chosen because it can systematically analyze large amounts of text data, making it highly relevant in understanding user opinions through reviews on digital platforms. This research goes through several stages as follows.

## 2.1. Data Collection

The first stage in this research is data collection. Data was obtained through the scraping process using the Google Colaboratory platform, utilizing the MOST\_RELEVANT code. This code allows for the automatic and efficient retrieval of data from user reviews on the Google Play Store application. Google Play Store was chosen as the data source because it is one of the largest application distribution platforms in the world [14]. According to the Business Competition Supervisory Commission (KPPU), Google Play Store is the largest digital service distribution platform in Indonesia, with a market share of 93%. This dominance means that almost all Android apps are distributed through the Play Store. With its large market value, the Play Store also serves as a rich source of user review data compared to other platforms. Scraping was conducted on two applications that are the subjects of the research, namely Alfagift and Klik Indomaret. The results of this process yielded a total of 108,006 user reviews for Alfagift and 47,426 reviews for Klik Indomaret. The data obtained is raw and unstructured, so further processing steps are necessary.

## 2.2. Data Grouping

After the data is collected, it is grouped based on sentiment polarity to focus the analysis. Reviews with ratings of 1 and 2 are categorized as negative sentiment, ratings of 4 and 5 as positive sentiment, while ratings of 3 are excluded because they are considered neutral and do not represent user attitudes. The data was then filtered based on the period, retaining only reviews from the years 2022, 2023, and 2024 to remain relevant and up-to-date. The final results show that in the Alfagift application: in 2022, there were 3,678 reviews with a rating of 1, 1,063 with a rating of 2, 911 with a rating of 4, and 13,779 with a rating of 5; in 2023, there were 2,576 with a rating of 1, 554 with a rating of 2, 519 with a rating of 4, and 21,498 with a rating of 5; in 2024, there were 3,070 with a rating of 1, 657 with a rating of 2, 490 with a rating of 4, and 13,805 with a rating of 5. Meanwhile, in the Klik Indomaret application: in 2022, there were 1,746 reviews with a rating of 1, 298 with a rating of 2, 381 with a rating of 4, and 4,795 with a rating of 5; in 2023, there were 1,702 with a rating of 1, 304 with a rating of 2, 340 with a rating of 4, and 4,209 with a rating of 5; and in 2024, there were 2,711 with a rating of 1, 487 with a rating of 2,

450 with a rating of 4, and 5,148 with a rating of 5. The grouped data is stored in 12 separate files based on sentiment categories and years, for example, files for ratings 1 and 2 of Alfagift in 2022, to facilitate further data processing. The results of this grouping were then saved in 12 separate files based on sentiment category and year, namely: Alfagift in 2022 with 4,741 reviews for ratings 1 and 2, and 14,690 reviews for ratings 4 and 5; 2023 with 3,132 and 22,017 reviews, respectively; and 2024 with 3,727 and 14,295 reviews. The data from this grouping is then stored in 12 separate files based on sentiment category and year, namely: Alfagift in 2022 with rating files 1 and 2 containing 4,741 reviews, and rating files 4 and 5 containing 14,690 reviews; 2023 with 3,132 and 22,017 reviews, respectively; and 2024 with 3,727 and 14,295 reviews. Meanwhile, for Klik Indomaret, 2022 consisted of 2,044 reviews with ratings of 1 and 2, and 5,176 with ratings of 4 and 5; 2023 had 2,006 and 4,549 reviews, respectively; and 2024 had 3,198 and 5,598 reviews. All the grouped data was then processed individually to display the frequency of words from user reviews for each specified period.

### 2.3. Data Processing

The next stage is data processing, which begins with text pre-processing using RapidMiner software. This application was chosen because it is capable of extracting patterns from large data sets by combining statistical methods, artificial intelligence, and databases [15]. RapidMiner also makes it easy for users to perform large-scale data calculations through various available operators. The data used is the result of grouping based on sentiment categories and periods in the previous stage. This pre-processing involves several important steps, namely: (1) data cleaning to remove irrelevant characters such as symbols, numbers, punctuation marks, emojis, and links; (2) case folding to standardize the text to all lowercase letters; (3) stopwords removal to eliminate common words that do not have significant meaning, such as “the,” “from,” and “and”; (4) tokenizing to break the text into individual words; and (5) stemming to return words to their base form. The results of this pre-processing are then saved in Microsoft Excel format. In the Alfagift application, the number of words generated from negative and positive reviews, respectively, is as follows: in 2022, 42,689 and 35,781 words; in 2023, 32,941 and 56,454 words; and in 2024, 36,085 and 35,364 words. Meanwhile, on the Klik Indomaret app, 2022 generated 20,782 words from negative reviews and 14,615 words from positive reviews; 2023 generated 19,113 and 12,366 words, and 2024 generated 25,465 and 15,069 words. Furthermore, all processed words were weighted using the TF-IDF (Term Frequency-Inverse Document Frequency) formula to identify the most important and representative words in the context of user reviews.

#### 2.4. Selecting Analyzed Samples with Consensus

After the data is ready, a consensus stage is conducted to determine the review sentences that will be used as the object of analysis. Consensus is a process of collective decision-making aimed at reaching a mutual agreement, without any domination or pressure from any particular party [16]. In this study, consensus was achieved by four people divided into two groups. Each group was tasked with selecting reviews based on the two words with the highest TF-IDF scores from each sentiment category (positive and negative), year, and application. For the negative category, the highest words in the Alfagift application are: "application" and "shopping" (2022 and 2023), as well as "application" and "Alfagift" (2024). In the Klik Indomaret application, the highest words are: "application" and "click" (2022), "application" and "indomaret" (2023), as well as "application" and "slow" (2024). Meanwhile, for the positive category, the highest words in the Alfagift application are: "alfagift" and "shopping" (2022 and 2023), as well as "shopping" and "alfagift" (2024). In the Klik Indomaret application, the highest words are: "indomaret" and "shopping" (2022), as well as "shopping" and "indomaret" (2023 and 2024). The review sentences containing those words were then selected as the main samples for further analysis in the next stage. The consensus-selected reviews were also selected based on their relevance to the research indicators, taking into account two main aspects. The first was efficiency, which included reviews that highlighted the app's access speed, lightweight performance, and relatively small size. Second, system availability, which includes reviews that emphasize the app's ability to function without errors and to be accessed at any time without hindrance. This process ensures that the analyzed reviews fit the E-Servqual model.

#### 2.5. Data Analysis

The data analysis stage is conducted with reference to the E-Servqual concept, which is a model used to measure the quality of electronic services based on user experience and perception [17]. In this study, the analysis is focused on the two main dimensions of E-Servqual, namely Efficiency and System Availability. This process aims to reveal how users perceive the quality of service provided by each application, both in positive and negative categories. Thus, this analysis provides a more focused and in-depth picture of the most determining aspects of user satisfaction with the Alfagift and Klik Indomaret applications.

### 3. RESULTS AND DISCUSSION

The analysis of the research results was conducted concerning the E-Servqual indicators, which are designed to evaluate the quality of electronic services from the perspective of users [17]. In this analysis, the focus is on two main dimensions, namely Efficiency and System Availability, which are considered to represent

fundamental aspects of user experience with digital applications. Each dimension is analyzed based on specific indicators that reflect the extent to which the service is able to meet user expectations in terms of speed, ease of use, and system availability and reliability.

### 3.1. Efficiency

In service quality theory, efficiency refers to the extent to which customers can easily access a website, search for the desired product, obtain relevant information, and leave the site with minimal effort [18]. In the context of modern digital services, efficiency includes not only ease of access but also speed and comfort in operating the application as a whole [17]. This is very important because an efficient user experience will have a direct impact on user satisfaction and loyalty. The assessment of efficiency in electronic services includes several key indicators, such as Page Load Speed, Ease of Navigation, Effective Search System, User Friendliness, Streamlined Transaction Process, Mobile Responsiveness, and Effective Use of Filters and Categories [17]. However, in this study, the focus of analysis is directed at two main indicators that are considered most relevant in the context of the application under study, namely Page Load Speed and Ease of Navigation. These two indicators were chosen because they play a direct role in determining how quickly and easily users can access and explore the digital applications used.

#### 1) Comparison of Negative Reviews of Alfagift and Klik Indomaret Apps

Long-term analysis conducted on Alfagift and Klik Indomaret application reviews from 2022 to 2024 shows the consistency of problems in the aspects of page load speed and ease of navigation. The majority of users each year complain about the slow page load speed of the application and the inefficient navigation of the application. Reviews that appeared in 2022 such as "*Mulai dialihkan belanja online lewat aplikasi ini tapi aplikasinya lemot banget. Belum milih-milih barang belanjaan yg ada emosi duluan. Kalo emang mau up to date belanja online yg niat dong bikin aplikasinya*" which shows how the time-consuming page loading process becomes an initial obstacle to the shopping experience for some users. However, the same pattern of problems is still being complained about by users in 2023. Where users complain about how long it takes to start the app and how it keeps getting stuck on specific pages. "*Buka aplikasi aja lama banget, menu-menunya bikin bingung*" and "*Saya mau belanja lewat app, boro-boro bisa belanja. Masuk ke app-nya aja loading terus gak masuk*", it highlights the fact that application reaction time and navigation effectiveness are still far from ideal.

Along with problems with speed and navigation, the Alfagift app has also drawn criticism for providing false information about products and stock levels. One user



stated, “*Kapok belanja di sini, produk yang saya beli nggak sesuai, dikirim katanya di tokonya nggak ada, padahal di aplikasi tertulis ready*”. These findings are in line with related study in [19], which also discovered issues with the Alfagift app's product information accuracy. This problem shows a lack of system integration between the front-end of the application and the actual data in the store, which is an important aspect in maintaining information consistency and preventing gaps between expectations and reality. In this regard, [20], explain that information mismatches can undermine user trust and create cognitive dissonance, which ultimately hurts customer loyalty. Furthermore, there is an inconsistency in the delivery status when users have not gotten their items, but the system indicates that they have. This circumstance exacerbates user dissatisfaction and may erode user confidence in the application platform, both of which undoubtedly affect client loyalty.

In 2024, the pattern of problems has shifted slightly. Where users often complain about obstacles that occur in the final stages of the transaction, such as slow payment, adding products to the cart, and receipts that never enter the application. One user commented “*Aplikasi sangat lemot dan lambat sinyal padahal bagus dan lancar saat scroll Instagram, waktu itu saya sudah masukkan ke keranjang 2 produk yang mau saya beli namun saat mau bayar tiba tiba terjadi error dan bertuliskan “Pesanan gagal?” Waktu saya cek produknya lagi tiba tiba stok nya habis*”. This condition shows how problems in application services directly affect user experience. According to research conducted by [21], the slow resolution of transaction problems, can affect trust and user experience. This service instability has the potential to reduce brand image.

Meanwhile, in the same period, Klik Indomaret also faced similar complaints about slow app performance, both when moving between pages and when making transactions. However, in the period 2022 to 2024, users tend to complain a lot about how the Klik Indomaret application is getting slower. Not only that, Klik Indomaret faces a lot of criticism in terms of ease of navigation. Users often complain about the complicated address input feature and the absence of an order tracking feature. This is mentioned by one of the reviews, namely “*gajelas anjir ngelag parah, nambabin alamat aja susah, dari awal mau daftar emg udah banyak masalah. cacat bgt LEMOT PARAH*”. These challenges show even more how these flaws have impacted customers' online buying habits.

The problems with these two apps are not isolated, but reflect a common phenomenon in digital apps. A number of studies have highlighted how these barriers can affect user experience and satisfaction. In terms of page loading speed, [22], in their book revealed that a 1-second delay in page response can result in a 7% reduction. [23], also added that page load speed has a direct impact on user efficiency performance. Not only that, [24], in their research suggested that poor



findable and usable aspects can cause a significant decrease in efficiency, even when core values (e.g. payment or delivery) are already available. He also emphasized that conceptually, usable and findable aspects are the foundation of efficiency, without which, users struggle to complete tasks quickly and easily. Therefore, weakening these aspects could allow Klik Indomaret to experience a decline in user retention.

## 2) Comparison of Positive Reviews of Alfagift and Klik Indomaret Apps

Analysis of user reviews of the efficiency of the Alfagift and Klik Indomaret applications from 2022 to 2024 shows mixed dynamics between positive and negative sentiment. In 2022 Alfagift received a lot of appreciation from users because it was considered fast, practical, and made the shopping process easier. Reviews such as *“Aplikasinya lancar jaya no lemot2, mudah dipahami dan gampang kalo mau cari produk yg tersedia, promo atau yg gratisan. Setiap transaksi ada jejaknya, bisa cek sampe mana barangnya, total habis berapa masih nampak di riwayat”* confirms the success of Alfagift in providing an optimal experience for some users. Entering 2023, there were noticeable improvements in terms of speed and navigation. Many users praised the application's fast response and intuitive navigation, as in the comment *“Cepat responnya, aplikasinya bagus, suka banget pakai Alfagift.”*

The point exchange function, the user-friendly interface, and the simplicity of locating promotions make Alfagift the best option for feature integration and navigation. This advantage reflects the Efficiency dimension in the E-Servqual model, namely the system's ability to help users' complete transactions with minimal time and effort [25]. In 2024, Alfagift was again praised for its ability to maintain positive performance, with a focus on practicality and ease of use, Comments such as *“praktis dan cepat, gak ribet”* indicate that Alfagift places application performance as a top priority, so that users can immediately navigate to the desired product, place an order, and complete payment quickly.

Meanwhile, in the same period, Klik Indomaret was also praised for its transaction efficiency and delivery speed, although issues regarding the slowness of the application still often arise. In addition, the ease of navigation and transactions on the Klik Indomaret app did not escape the praise of some users in 2023. However, a slightly different focus of excellence occurred in 2024. Based on user reviews, Klik Indomaret is considered more prominent than Alfagift in terms of shopping flow flexibility. The flexibility includes the ease of setting up payment methods and delivery options for users purchases. [26], found that transaction speed and ease of use are the main variables in the adoption of non-cash payment technology, which is reflected in the increasing volume of transactions and user interactions. Although both apps had technical challenges, they managed to improve performance with different approaches. While Klik Indomaret concentrates on

transaction flow convenience and service flexibility, Alfagift is superior at stability and navigation systems. Within the e-Servqual framework, both applications have shown efforts to improve the efficiency dimension, although improving performance consistency remains an important challenge in the future.

### 3.2. System Availability

In the context of digital services, System Availability refers to the availability and reliability of the system in providing the services needed by users. According to [27], system availability is the ability of the system to provide everything needed by users consistently. This view is reinforced by Tjiptono in [28], which explains that system availability includes aspects of the functionality of web-based methods and the extent to which the system can be accessed and operates properly without obstacles. The quality of system availability can be measured through a number of important indicators, such as Stable Uptime, Fast Server Response, Availability of Core Features, Server Reliability During High Traffic, Quick Recovery After Disruptions, Reliable System Security, and Mobile Service Availability [17]. In this study, the analysis of the user experience of the Alfagift and Klik Indomaret applications is focused on two main indicators, namely Stable Uptime and Quick Recovery after Disruptions. These two metrics were selected because they provide a clear picture of system availability and the system's capacity to be promptly updated, fixed, and optimized in the case of a malfunction or decline in performance.

#### 1) Comparison of Negative Reviews of Alfagift and Klik Indomaret Apps

In the analysis of negative reviews related to the dimensions of system availability of the Alfagift and Klik Indomaret applications, it shows that there are similarities in terms of facing problems in the aspects of Stable Uptime and Quick Recovery after Disruptions. In the Alfagift application in 2022 users complained a lot about applications that were erroneous and failed to open even after updating the application. Comments such as “*Setelah diperbarui malah tidak bisa dibuka aplikasinya*” and “*Sudah 3 hari aplikasi eror, tidak bisa terbuka*” show that there are indications of application failure in maintaining service availability and weak application recovery processes. Reviews like “*Aplikasi aneh, logout sendiri, sign in malah tidak bisa,*” have surfaced as 2023 approaches, drawing attention to how persistent this problem is and how it tends to get worse because of the poor technological response to issues that affect essential app features like login and main page navigation. As if the situation wasn't already dire, problems with the Alfagift app were discovered in 2024, even during the initial access phase. There is little question that a decrease in user retention may result from users reporting app crashes, unsuccessful login attempts, and frozen displays that made the app totally useless.

Meanwhile, the Klik Indomaret application is also not spared from criticism regarding the application that is erroneous and remains slow even after updating the application, which indicates the existence of reliability and latency issues that worsen user perceptions of application quality. Empirical studies reveal that application technical performance, including latency, crash rate, and loading speed are key indicators in influencing user satisfaction and retention rates. For example, if response time increases by just 1 second, user retention can decrease by 7%, while crash rates above 1% can lead to a 26% reduction in user retention in the short term [29]. In 2023, Klik Indomaret continues to display the same shortcomings as Alfagift: users continue to complain about the app frequently crashing, closing on its own, and frequently having trouble monitoring orders because it is unresponsive when in use. These users often complained about the app's slow navigation system and basic accessibility [6]. In 2024, however, Klik Indomaret performed marginally better than Alfagift. Compared to Alfagift, which is inaccessible, Klik Indomaret is generally superior since, despite its reduced performance, it is still accessible, which results in a comparatively lower level of user annoyance. This indicates that, while they have not yet been able to completely optimize the program's performance and reliability, the system enhancements made to the KlikIndomaret application have been quite effective in preserving fundamental accessibility. Overall, both have similar problem patterns. Alfagift is more often criticized for access and login failures, while Klik Indomaret is more for performance degradation and unresolved bugs. Since user annoyance causes retention to drop, both programs must enhance their system design and maintainability to ensure consistent uptime.

## 2) Comparison of Positive Reviews of Alfagift and Klik Indomaret Apps

The results of the analysis on positive user reviews regarding the system availability of the Alfagift and Klik Indomaret applications from 2022 to 2024 show quite interesting dynamics. Both applications face a number of criticisms on the technical side. However, there are also several user reviews of application performance which are considered quite adequate. In 2022 Alfagift received more positive reviews in terms of physical services, compared to digital. Users still complain about application problems that cannot be opened, as in the comment "*Pelayanan bagus dan cepat. Banyak promo dan cashback. Hanya saja sudah 2 hari ini aplikasi tidak bisa dibuka dengan alasan tidak ada koneksi internet. Padahal internet saya sedang lancar. Saya sampai install ulang tapi tetap saja tidak bisa dibuka*". This reflects the digital divide discussed [30], in their research which states that the digital divide, transformation of company effectiveness can have a significant impact in business with the development that blatantly starts from manual to all-digital which also changes the way companies interact with customers, through online platforms, social media, and customized digital experiences.

Entering 2023, Alfagift appears to be making improvements in terms of uptime stability. Where users report the application running quite stable “*Aplikasi stabil, gak banyak error... membantu banget saat mager malam hari, kurir responsifnya cepat.*” which indicates an increase in service accessibility. In terms of maintainability, there are not many reviews that discuss post-update system recovery. Comments about the smoothness of the application are interpreted as a sign of good performance. Furthermore, in 2024, Alfagift showed more consistent performance with high responsiveness in various subcategories, promos, and payment processes. This enhancement shows how the Alfagift application's system has been significantly optimized. That thing also reflects that Alfagift has succeeded in optimizing application performance to be lightweight and efficient, allowing users to complete transactions without significant obstacles.

Meanwhile, Klik Indomaret in 2022 received a response that was inversely proportional to the response obtained by Alfagift in the same year. Klik Indomaret received a number of positive reviews related to improved performance after an update to the application. One user wrote, “*Setelah update lagi agak lebih baik, dibanding versi sebelumnya, pertahankan kualitas aplikasinya*”. Theoretically, the UX framework in the context of mobile applications (MAUX) emphasizes the importance of performance aspects as an integral part of “features” that affect user perceptions of usability, speed of interaction, and relevance of user experience in various application scenarios including ecommerce such as Klik Indomaret [31]. Therefore, shopping apps must ensure high responsiveness and minimal bugs to maintain trust while driving conversions. In 2023 Klik Indomaret again received similar appreciation to the Alfagift application in the same year with the comment “*Aplikasinya bagus dan stabil, barang-barang yang diperlukan lengkap*”. This condition shows that both applications have met basic expectations in terms of service affordability in a consistent citation, and by the Stable Uptime indicator in a citation digital-based system. However, the lack of maintainability checks on the system suggests that major disruptions are either rare or not publicly reported. Klik Indomaret was also praised in 2024 for its smoothness, despite the fact that evaluations tended to be more general and lacking technical details like loading speed or server reaction time. Most people just submitted reviews with remarks like as “*Aplikasi lancar*”.

According to this disparity, Klik Indomaret stands out for its general consistency in the user experience, but Alfagift tends to outperform in terms of application feature agility. In a number of crucial areas, both applications effectively deliver pleasant user experiences; nevertheless, system design may yet be improved to guarantee longer-term stability. Therefore, there is still a need for more navigational improvements, and it is crucial to make sure that system upgrades adequately address and fix long-standing problems.

### 3.3. Discussion

The analysis of user reviews for the Alfagift and Klik Indomaret applications offers valuable insights into how each application performs in relation to the key E-Servqual dimensions of Efficiency and System Availability. These dimensions are critical for ensuring a smooth and reliable user experience, as they reflect fundamental aspects of usability, accessibility, and reliability. The results from the reviews, spanning 2022 to 2024, underscore the importance of addressing these factors in digital applications, as they have significant implications for user satisfaction, retention, and loyalty.

#### 1) Efficiency: Insights and User Sentiments

Efficiency, as defined in service quality theory, refers to the ease and speed with which users can navigate a digital application and complete tasks with minimal effort. This dimension was assessed through indicators such as Page Load Speed and Ease of Navigation, which are integral to ensuring a seamless user experience. The results from the Alfagift and Klik Indomaret applications suggest a mixed performance, with some positive and negative reviews emerging over the three years analyzed.

Both applications faced consistent criticism for slow page load speeds, which emerged as a recurring theme in negative reviews. For instance, users frequently complained about long wait times during the initial app loading phase, as well as when transitioning between pages or completing transactions. These issues reflect the substantial impact that poor load times can have on user frustration and disengagement. Previous studies have corroborated this finding, noting that delays in page loading can significantly reduce user satisfaction, with even a 1-second delay leading to a 7% decrease in user retention [22]. In the case of Alfagift, users expressed frustration about how delays in the page load process hindered their shopping experience, with complaints about the app being "too slow" and difficult to navigate. Similarly, Klik Indomaret users reported a slow app performance, particularly when adding products to the cart or completing payments. These technical hurdles not only reduced users' satisfaction but also introduced barriers that impacted their overall trust in the applications.

Despite these challenges, both apps also received positive feedback regarding efficiency, particularly for their improvements over time. Alfagift, in particular, was lauded for its fast response times, streamlined transaction processes, and effective use of filters and categories in 2023 and 2024. This suggests that the developers took user feedback into account and made significant strides in improving performance. Klik Indomaret, on the other hand, was praised for its flexibility in shopping flow, including the ease with which users could set up payment methods

and delivery options. This aligns with prior research suggesting that flexibility in user experience is crucial for increasing transaction volume and user adoption of digital services [26].

The contrasting patterns between Alfagift's improvements in speed and Klik Indomaret's strengths in transaction flexibility point to different strategies for improving efficiency. Both apps managed to enhance the overall user experience, but the challenges of slow performance and navigation issues remained prevalent for both platforms.

## 2) System Availability: Reliability and Consistency

System Availability is another critical dimension of service quality, reflecting the reliability and consistency of an application's functionality. In this study, the indicators of Stable Uptime and Quick Recovery after Disruptions were analyzed. These aspects are vital in maintaining a reliable service, particularly in e-commerce applications where service interruptions can directly affect users' ability to complete purchases and access information.

Both Alfagift and Klik Indomaret experienced similar issues regarding system availability, with users frequently reporting problems such as crashes, errors, and failed logins. In particular, Alfagift's users complained about the app being inaccessible after updates, with some stating that the app failed to open altogether. The persistent nature of these issues over the three years points to underlying technical flaws that hinder the application's performance. Similarly, Klik Indomaret faced criticism for performance degradation, particularly after updates, suggesting that while the app remained accessible, its responsiveness and reliability were still subpar.

The ability of an application to recover quickly from disruptions is crucial to ensuring a positive user experience. Both apps struggled with recovery times, as users reported ongoing issues even after updates or attempts to reinstall the apps. This aligns with prior research indicating that a failure to recover from service disruptions can significantly impact user trust and retention [29]. Alfagift, for example, was often criticized for not addressing login issues, leading to frustrations and a decrease in the likelihood of users returning to the app. Conversely, Klik Indomaret, while still facing performance issues, was viewed as more accessible during critical service outages, leading to comparatively lower user frustration.

The user feedback regarding both applications suggests that, while improvements were made, particularly in terms of system stability, both apps still face challenges in maintaining consistent uptime and fast recovery from technical disruptions.



Ensuring that these issues are addressed through system optimization and regular maintenance is crucial for preserving user trust and satisfaction.

The analysis of both applications highlights a significant need for continuous improvement in the key dimensions of Efficiency and System Availability. While both Alfagift and Klik Indomaret made strides in improving user experience, they still face recurring issues related to slow performance, poor navigation, and technical disruptions. These challenges not only affect user satisfaction but also have long-term implications for user retention and brand loyalty. For future development, both applications need to focus on optimizing the speed and reliability of their platforms. Addressing the technical issues surrounding page load speed and system uptime should be a priority, as these factors directly influence user engagement. Additionally, the ease of navigation and the flexibility of transaction flows are key areas that both apps can enhance to create a more seamless and enjoyable shopping experience. Regular system updates, improved recovery processes, and a focus on maintaining consistent uptime will be essential in minimizing disruptions and improving user trust. Ultimately, the insights derived from user reviews suggest that a holistic approach, integrating both technical improvements and user-centric design strategies, will be crucial for the long-term success and competitiveness of Alfagift and Klik Indomaret in the digital marketplace.

#### 4. CONCLUSION

Based on sentiment analysis of user reviews of the Klik Indomaret and Alfagift apps from 2022 to 2024. In general, both apps show improvement over time, although the improvements are not always significant. In positive reviews, the efficiency of both apps has improved, albeit gradually. Alfagift has begun focusing on enhancing technical responsiveness and user-friendliness, while Klik Indomaret has maintained stability and a simple user experience. Based on negative reviews, efficiency issues remain a significant concern, as users continue to experience these issues year after year, impacting their perception of service quality. Alfagift frequently faces complaints related to access failures and login processes, while Klik Indomaret is consistently criticized for its slow access speed when loading certain pages or features. Based on these findings, for the Alfagift application, developers need to prioritize improvements to the authentication system and login process to make them more stable, including server optimization to prevent access failures, especially during peak hours. Meanwhile, for Klik Indomaret, improvement efforts should focus on optimizing page loading speed and app features, such as through data compression, backend performance enhancements, or more effective cache management. With these steps, both apps have the potential to significantly enhance user satisfaction.



## REFERENCES

- [1] K. Kunci, M. N. Alfu, and L. Amalya, “Faktor-faktor yang memengaruhi perilaku konsumtif masyarakat Indonesia dalam berbelanja online,” *Maliki Interdisciplinary J.*, vol. 1, no. 4, pp. 263–270, 2023.
- [2] R. A. Utamanyu and R. Darmastuti, “Budaya Belanja Online Generasi Z dan Generasi Milenial di Jawa Tengah (Studi Kasus Produk Kecantikan di Online Shop Beauty By ASAME),” *Scriptura*, vol. 12, no. 1, pp. 58–71, Aug. 2022, doi: 10.9744/scriptura.12.1.58-71.
- [3] Isrania, Meilin, N. Emantonio, R. S. Magdalena, and A. Wulandari, “Analisis Pertumbuhan Platform Bisnis Digital di Indonesia,” *J. Ilm. Raflesia Akuntansi*, vol. 11, no. 1, 2025.
- [4] M. A. K. Wardana, N. A. Octavini, and S. Nurbaiti, “Indomaret vs Alfamart: The Battle for Store Atmosphere Supremacy,” *J. Fidusia*, vol. 6, no. 2, Nov. 2023.
- [5] G. Yosephine, J. Melodya, C. Zagita, and S. R. Wicaksono, “Perbandingan Strategi Competitive Analysis antara Indomaret dan Alfamart Menggunakan Metode Analisis Porter’s Five Forces,” *J. Ilm. Manaj. dan Kewirausahaan*, vol. 1, no. 2, Jul. 2022.
- [6] A. D. Alzahra, U. Enri, and Y. Umaidah, “Analisis Sentimen Ulasan Pengguna Klik Indomaret Pada Google Play Menggunakan Support Vector Machine,” *INNOVATIVE: J. Soc. Sci. Res.*, vol. 3, no. 4, pp. 2173–2185, 2023.
- [7] R. Z. Firdaus, S. Hadi Wijoyo, and W. Purnomo, “Analisis Sentimen Berbasis Aspek Ulasan Pengguna Aplikasi Alfagift Menggunakan Metode Random Forest dan Pemodelan Topik Latent Dirichlet Allocation,” *J. Pengembang. Teknol. Inform. dan Ilmu Komput.*, vol. 9, no. 2, pp. 2548–964, 2025.
- [8] M. F. I. Haq, I. Rosyadi, M. Nasir, and A. Khambali, “Sentiment Analisis Ulasan Aplikasi Livin Pada Google Play Store,” *Surya Informatika*, vol. 14, no. 1, May 2024.
- [9] Nurwanda, N. Suarna, and W. Prihartono, “Penerapan Nlp (Natural Language Processing) Dalam Analisis Sentimen Pengguna Telegram di Playstore,” *J. Mahas. Teknik Informat.*, vol. 8, no. 2, p. 1841, Apr. 2024.
- [10] E. E. Amelia and I. Yustiana, “Analisis Sentimen Pada Ulasan Produk UNIQLO dengan Algoritma Naive Bayes,” *J. Sains Komput. & Informat.*, vol. 8, no. 1, pp. 141–148, Mar. 2024.
- [11] N. Z. Rania and R. D. Syah, “Analisis Sentimen Terhadap Aplikasi Gojek Pada Play Store Menggunakan Metode Random Forest Classifier,” *J. Ilm. Informat. Komput.*, vol. 29, no. 2, pp. 144–153, Aug. 2024, doi: 10.35760/ik.2024.v29i2.11877.
- [12] F. Tjiptono and G. Chandra, *Service, quality & customer satisfaction*, 5th ed., Yogyakarta: Penerbit ANDI, 2019.

- [13] S. Maesaroh et al., *Pembelajaran Mesin dan Kecerdasan Buatan: Teori dan Aplikasi Praktis*, Sada Kurnia Pustaka, 2024.
- [14] D. C. Saputra, M. Fauzan, and G. C. Aldosion, "Pengaruh Rating Dan Komentar Pengguna Di Google Playstore Terhadap Keputusan Pengguna Dalam Mengunduh Aplikasi," *Spectrum: Multidiscip. J.*, vol. 2, no. 1, 2025.
- [15] D. Novianti, "Implementasi Algoritma Naïve Bayes Pada Data Set Hepatitis Menggunakan Rapid Miner," *Paradigma: J. Informat. dan Komput.*, vol. 21, no. 1, Mar. 2019, doi: 10.31294/p.v20i2.
- [16] F. Fensi, *Komunikasi Digital Antara Konsensus dan Indoktrinasi Ideologi Kolektif*, Jejak Pustaka, 2023.
- [17] A. Wardhana, *Service Quality & e-Service Quality in The Digital Edge*, 1st ed., Purbalingga: Eureka Media Aksara, 2024.
- [18] F. Ulum, R. Muchtar, and K. Kunci, "Pengaruh e-Service Quality terhadap e-Customer Satisfaction Website Start-Up Kaosyay," *J. Tekno Kompak*, vol. 12, no. 2, pp. 68–72, 2018.
- [19] A. Firdaus, "Analisis Sentimen pada Aplikasi Alfagift," *Univ. Islam Negeri Syarif Hidayatullah*, Jakarta, 2023.
- [20] A. Putra and D. U. E. Saputri, "Perancangan Sistem Informasi Pengelolaan Pesanan Pelanggan Berbasis Web Pada CV. Cahaya Mentari," *JATI: J. Mahas. Teknik Informat.*, vol. 8, no. 5, Oct. 2024, doi: 10.36040/jati.v8i5.11028.
- [21] I. Nurwanti, "Pengaruh Pengetahuan, Kepercayaan, Brand Image, Electronic Word of Mouth dan Social Media Marketing terhadap Minat Generasi Z Menggunakan Bank Aladin Syariah: Studi Kasus pada Generasi Z di Wilayah Jakarta Timur," *Univ. Islam Negeri Syarif Hidayatullah Jakarta*, Jakarta, 2025.
- [22] D. H. Saputra et al., *Digital Marketing: Komunikasi Bisnis Menjadi Lebih Mudah*, Pertama, Penerbit Yayasan Kita Menulis, 2020.
- [23] A. P. Sakti, R. S. Sianturi, and A. P. Kharisma, "Evaluasi User Experience Aplikasi Mobile Belanja Online dengan Metode Design Thinking (Studi Kasus Lazada)," *J. Pengembang. Teknol. Inform. dan Ilmu Komput.*, vol. 6, no. 7, pp. 3499–3508, Jul. 2022.
- [24] S. Mutiasanti, M. Tri Ananta, and H. Muslimah Az-Zahra, "Evaluasi Pengalaman Pengguna Pada Aplikasi Mobile E-Commerce Di Indonesia Dengan Menggunakan UX Honeycomb," *J. Pengembang. Teknol. Inform. dan Ilmu Komput.*, vol. 2, no. 10, pp. 3601–3608, Oct. 2018.
- [25] T. H. A. Hadi and R. Kartadie, "Sistem Informasi Point of Sales Berbasis Codeigniter," *J. Manaj. Informatika & Sistem Inform. (MISI)*, vol. 8, no. 2, 2025, doi: 10.36595/misi.v5i2.
- [26] A. Pinandito and R. F. Brilliansyach, "Efisiensi Penggunaan QRIS dengan Merchant Presented Mode dalam Transaksi Pembayaran Non-Tunai," *J. Teknol. Inform. dan Ilmu Komput.*, vol. 11, no. 4, pp. 805–816, Aug. 2024, doi: 10.25126/jtiik.1148570.

- [27] A. P. Parasuraman, V. A. Zethaml, and A. Malhotra, "E-S-Qual: A Multiple-Item Scale for Assessing Electronic Service Quality," *J. Serv. Res.*, vol. 7, no. 10, pp. 1–21, Feb. 2005.
- [28] A. S. Wulandari and B. Istiyanto, "e-Service Quality dan Citra Merek dalam Membentuk Kepuasan Pelanggan (Study Kasus Reddoorz)," *J. Ekobis Dewantara*, vol. 5, no. 2, pp. 118–128, May 2022.
- [29] N. Madhavan, "Improving Mobile App Performance: A Comprehensive Approach," *SSRG: Int. J. Mobile Comput. and Appl.*, vol. 11, no. 2, pp. 1–4, Aug. 2024.
- [30] S. L. Anandita, C. W. Wolor, and Marsofiyati, "Pengaruh Perubahan Digitalisasi, Kesenjangan Digital dan Transformasi Terhadap Efektivitas Perusahaan," *J. Mahas. Kreatif*, vol. 2, no. 1, pp. 50–59, Dec. 2023, doi: 10.59581/jmk-widyakarya.v2i1.2175.
- [31] G. Lu, S. Qu, and Y. Chen, "Understanding user experience for mobile applications: a systematic literature review," *Springer Disc. Appl. Sci.*, vol. 7, no. 587, Jun. 2025, doi: 10.1007/s42452-025-07170-3.