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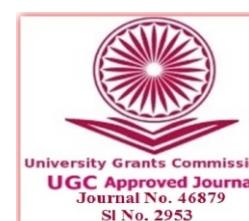
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# **Digital Media Analysis Of Mobile Banking Application Usage: A Comparison Of State-Owned, National Private, And International Private Banks**

Sigismund Fernandes Taek<sup>1</sup>, Laurentius Bambang Harnoto<sup>2</sup>,  
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## **Abstract:**

*The development of digital technology has made mobile banking an essential service. Digital media plays a crucial role in shaping public perception of the quality of banking services. This study analyzes the performance of digital media from mobile banking applications from three categories of banks: SOEs (BRImo), National Private (BCA Mobile), and International Private (UOB TMRW). This study uses secondary data from the Brand24 media monitoring platform for the period from August to September 2024. The four main metrics analyzed were total sentiment, reach, main discussion topics, and the most influential media. The analysis was carried out in a descriptive, comparative manner, using average calculations. State-owned banks dominate in terms of popularity, with the highest number of mentions and reach. International Private Banks showed the highest user sentiment, at 37% positive, reflecting a high level of satisfaction despite limited exposure. National Private Banks face both positive and negative sentiment, which tends to balance out. Significant differences were found in the performance of digital media. State-owned banks are popular, while International Private Banks excel in user satisfaction. These results emphasize the importance of digital sentiment analysis for understanding customer satisfaction, regardless of the volume of online discussion.*

**Keywords:** Mobile banking, Digital Media Analysis, Brand24, sentiment analysis.

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## **I. Introduction**

The global banking world has experienced fundamental disruption due to the digital revolution [1]. In Indonesia, this phenomenon is reflected in the significant growth in mobile banking transaction volume, which has consistently increased from 2019 to 2023. The adoption of this service is driven by customer preferences for practicality (46.5%), transaction speed (32.7%), and ease of balance checks (17.8%) [2]. In an increasingly competitive environment, banks in Indonesia, divided into state-owned, national private, and international private banks, are competing to develop mobile banking applications with various feature innovations [3], [4]. This study focuses on the comparison of digital performance across three representative applications: BRImo (Bank Rakyat Indonesia), a representation of state-owned banks; BCA Mobile (Bank Central Asia), a representation of National Private Banks; and UOB TMRW (United Overseas Bank), a representation of International Private Banks.

Although many studies have examined mobile banking adoption or user satisfaction with a single bank, significant gaps remain in the literature [2], [5]. There has not been a direct comparative study that compares three fundamentally different categories of banks (based on ownership and target market) through the lens of digital media performance. These differences in status (state-owned banks, national private banks, and international private banks) hypothesize that their digital performance strategies and outcomes will also differ, especially in terms of volume (reach) and quality of interaction (sentiment) [6]. This research aims to bridge this gap by providing a comprehensive view of Indonesia's digital banking landscape.

In addition to the technical aspects, the application's performance is now greatly influenced by public perception. Digital media, especially social media such as Twitter (X), Facebook, and Instagram, have shifted their functions to become the main platforms for users to share experiences with banking services [7], [8]. Comments, complaints, and reviews about the app's features, security, or technical issues spread quickly, thus forming a crucial brand image. The analysis of sentiment spread in digital media is closely linked to the Customer Satisfaction Theory [9], making it a valid real-time indicator of customer experience and loyalty [1].

Therefore, this study was conducted to fill the knowledge gap by analyzing and comparing the digital media performance of the BRImo, BCA Mobile, and UOB TMRW applications during August and September 2024, using sentiment, reach, and discussion topic metrics.

## II. Material And Methods

This study uses a quantitative descriptive method with a digital media analysis approach. The design of this study was chosen to describe the digital phenomenon and performance characteristics of mobile banking applications, without aiming to identify cause-and-effect relationships. The study focuses on three main mobile banking applications: BRImo (Bank BRI), BCA Mobile (BCA), and UOB TMRW (UOB Indonesia). UOB TMRW was specifically chosen as the representative of International Private Banks because of its character among the younger generation and its role in representing international banking services in Indonesia, while the research focused on the digital performance of the three applications.

The data used is secondary data obtained from the Brand24 media monitoring platform. The study period is set for two months, from August 1, 2024, to September 30, 2024. Key Metrics The analysis used includes four main aspects:

- 1) Total sentiment, which measures the volume of mentions that are classified as Positive, Neutral, or Negative;
- 2) Reach, which is the potential for the spread of conversations in digital media;
- 3) Main Discussion Topics, which identify the issues that users are most likely to discuss; and
- 4) Most Influential Media, which shows which digital platforms are generating the most sentiment and mentions.

The sentiment classification automatically generated by Brand24 has been manually validated and cleaned by researchers to ensure the accuracy of the Indonesian context used on social media.

The data analysis process was carried out using descriptive, comparative, and average calculations. Two main theoretical frameworks support this research. Sentiment Analysis Theory is applied to measure a bank's reputation in real time based on public reviews, which helps adjust communication strategies [10], [11]. Meanwhile, Customer Satisfaction Theory is used to measure customer satisfaction levels, assuming that high positive sentiment reflects a good service experience and ultimately drives recommendations [12], [13].

## III. Result And Discussion

Analysis of digital media performance using data from the Brand24 platform during August and September 2024 showed significant differences in performance among the three mobile banking applications studied [14], [15]. As a qualitative context, the interpretation of the mentions data identifies specific patterns for each sentiment classification:

Positive Sentiment: Regarding praise, especially user-friendliness, transaction speeds, and attractive promotions [16]. Examples of positive mentions, by Brand24 platform category, as shown in Figure 1.



**Figure 1. Positive Sentiment**

Negative Sentiment: Contains complaints, the majority of which are caused by application technical glitches (errors or bugs), transaction failures, and slow customer service response [17]. Examples of positive mentions, categorized by the Brand24 platform, as shown in Figure 2.



**Figure 2. Negative Sentiment**

Neutral Sentiment: An informative conversation, such as a feature question, an official announcement from a bank, or a comparison between products without an emotional opinion [18]. Example of positive mentions according to the category of the Brand24 platform, as shown in Figure 3.



**Figure 3. Neutral Sentiment**

A comparative summary of the three applications' performance is presented in Table 1.

**Table 1. Comparison Summary**

Metric	State-Owned Banks	National Private Banks	International Private Banks
Total mentions	3606	1018	59
Reach	173000000	9000000	424000
Positive sentiment	13%	5%	37%
Neutral sentiment	84%	87%	58%
Negative sentiment	3%	8%	5%
Main topics	Promos, Service Features and issues related to transfers, balances, and Automatic Teller Machines	Ease of service, transactions and payment/error issues	Registration, rewards, and user experience
Most active media performance	Tiktok and Youtube	Tiktok and Youtube	Youtube, Twitter and Facebook

#### Popularity and Reach Performance

The results from Table 1 show that state-owned banks, through their application BRImo, have an advantage in quantitative metrics. This dominance is reflected in the highest Total Mention and Reach among its competitors. This dominance aligns with BRI's status as a state-owned bank with the largest customer base in Indonesia [6], [19]. The high volume of this conversation indicates BRImo's success in achieving superior brand awareness in the digital realm, although it does not necessarily guarantee the highest quality of service.

#### Quality of Sentiment and User Satisfaction

Despite losing volume, Private Banks International (UOB TMRW) performed best on the qualitative metric, namely Positive Sentiment. UOB TMRW recorded the highest positive sentiment (37%) and the lowest negative sentiment (5%). These findings demonstrate a very high level of user satisfaction among TMRW's UOB audience, although its digital reach remains limited. This result is very much in line with the Customer Satisfaction Theory, which explains that a positive service experience and a high-quality user experience will encourage customers to promote (word-of-mouth) and provide positive digital reviews [20], [21]. This proves that UOB TMRW has built a strong brand image among its user segment.

#### National Private Bank Challenge (BCA Mobile)

National Private Banks (BCA Mobile) are in a challenging position [8]. Despite a relatively high volume of mentions, the app has a significant negative sentiment (22%), suggesting a balance between praise and complaints. Based on the Sentiment Analysis Theory, this high level of negative sentiment indicates urgent service issues that need to be fixed, including features and technical issues/bugs in the application. This balance of sentiment has the potential to damage banks' digital image amid the massive adoption of applications [22], [23].

As for the limitations in this study related to the use of the free version of the Brand24 analysis tool, the data obtained from many online media sources is limited to Facebook, X (Twitter), YouTube, TikTok, Instagram, Blogs, Forums, and Reddit. Nevertheless, this study has identified the most popular mobile banking,

user sentiment towards each mobile banking, the main topic of each sentiment towards the three types of mobile banking, and the media that play an active role in each user sentiment.

#### **IV. Conclusion And Recommendation**

This study successfully analyzed and compared the performance of digital media in mobile banking applications across three categories of banks (SOEs, National Private, and International Private) during the period from August to September 2024. The results confirm that no single type of bank is absolutely superior in all digital metrics. Specifically, the main conclusions obtained are:

- State-Owned Banks (BRI Mo) excel in quantitative aspects, namely popularity and reach. This dominance reflects high brand awareness in the market, but does not automatically guarantee the best service quality.
- International Private Banks (UOB TMRW) excels in the qualitative aspect, namely the quality of user sentiment. With 37% positive sentiment and the lowest negative sentiment, the app attests to the highest level of customer satisfaction. These findings confirm that the best performance in digital media is not only determined by the volume of conversations but, more crucially, by the quality of the sentiment generated, in line with the Customer Satisfaction Theory.
- National Private Banks (BCA Mobile) are in the midst of significant challenges, characterized by a balance between positive and negative sentiments. This shows the need for serious attention to service issues that generate negative sentiment.

Thus, digital media analysis of sentiment and reach is a valuable tool for understanding customer perception and satisfaction. Based on the findings of the study, here are the suggestions that can be given:

1. For the Banking Industry: Banks are advised to prioritize digital sentiment analysis as a key indicator of performance. Sentiment data can serve as strategic input to improve the quality of mobile banking services and to formulate more effective communication strategies.
2. For National Private Banks (BCA Mobile): Banks need to immediately identify and make in-depth improvements to service aspects that are the main negative topics, given the high percentage of negative sentiment.
3. For International Private Banks (UOB TMRW): Digital marketing and communication strategies should be improved to expand public reach and exposure, so that the positive sentiment that has been achieved can be maximised to attract a larger user base.
4. For Further Research: It is recommended to use the paid (Premium) Brand24 media monitoring platform with more in-depth analysis capabilities to obtain more comprehensive data, including context analysis and comparison of long-term trends.

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