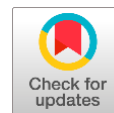


Analysis of the Role of Management Information Systems in Improving Smartphone Product Purchasing Decisions in Indonesia



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Abstract

This study employs a Systematic Literature Review (SLR) approach to analyze the role of Management Information Systems (MIS) in improving smartphone purchasing decisions in Indonesia. Literature sources were collected from Scopus, Google Scholar, and DOAJ publications published between 2016 and 2026. The findings indicate that MIS plays a significant role in supporting consumer purchasing decisions by providing accurate, relevant, timely, and easily accessible information. In addition, Decision Support Systems (DSS) using methods such as Simple Additive Weighting (SAW), Fuzzy Associative Memory (FAM), and Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) assist consumers in selecting smartphones based on their preferences and needs. The study also reveals that factors such as product quality, price, brand image, user experience, social influence, and information quality significantly affect consumer trust and purchase intention in the digital era. Furthermore, the integration of MIS with digital marketing strategies and online consumer reviews strengthens decision-making effectiveness and enhances customer satisfaction. However, previous studies still mainly focus on the technical implementation of DSS and general consumer behavior, leaving a research gap regarding the relationship between MIS, information quality, consumer trust, and smartphone purchasing decisions in Indonesia. Therefore, further studies are recommended to examine the influence of digital technology, e-WOM, and artificial intelligence on smartphone purchasing behavior.

Keywords: Management information system, decision support system, smartphone purchase decision, consumer trust, information quality

1. Introduction

The development of information and communication technology has significantly influenced changes in modern society's lifestyle, particularly in the use of smartphones as the primary device for digital activities. Smartphones are not only used as communication tools, but also support various activities such as education, business, entertainment, financial transactions, and access to information (Thahir et al., 2025). In Indonesia, the increasing number of internet users and the high penetration of smartphones indicate that people are becoming increasingly dependent on digital technology in their daily lives (Daulay et al., 2020). This condition has intensified competition in the smartphone industry, requiring companies to understand consumer needs and utilize information technology to enhance competitiveness and optimize information management in their business activities.

The development of the internet and digital media has influenced consumer behavior in the smartphone purchasing decision-making process (Deviyanti & Putri, 2025). Consumers in the digital era tend to actively seek product information through social media, marketplaces, official websites, and user reviews before making a purchase (Hatama et al., 2021). In determining their choices, consumers consider not only price, but also product quality, brand image, after-sales service, and ease of accessing information (Situmorang, 2025). Therefore, accurate, relevant, and easily accessible information has become an important factor in building trust and influencing consumers' purchasing decisions toward smartphone products.

Management Information Systems (MIS) are technology-based systems that function to manage, store, and present information in order to support decision-making processes within organizations (Juli, 2024). In the business world, MIS plays an important role in improving operational efficiency, supporting marketing activities, and helping companies better understand consumer needs and behavior (Octha et al., 2026). Through the implementation of MIS, companies can analyze customer data, monitor market developments, and evaluate business strategies based on accurate and integrated information (Apriani et al., 2026). In the smartphone industry, the use of MIS helps companies identify consumer preferences related to



product features, pricing, and service quality, enabling companies to make more effective decisions in order to enhance product competitiveness in the market (Anggreni & Arsana, 2022).

The implementation of Management Information Systems (MIS) in the smartphone industry plays an important role in improving operational efficiency and supporting corporate decision-making processes (Fadillah et al., 2025). The application of MIS enables organizations to obtain accurate and timely information, thereby enhancing the effectiveness of managerial decision-making (Siregar et al., 2026). In addition, the integration of mobile-based systems helps facilitate data access, improve coordination between departments, and reduce operational costs through business process automation (No et al., 2025). In the smartphone industry, the implementation of MIS also functions to maintain data security through device management systems capable of preventing information leakage and unauthorized access (Noor & Siregar, 2025). However, the implementation of MIS still faces various challenges, such as data privacy protection and the need for continuous system updates and training to ensure the system operates optimally.

Management Information Systems (MIS) play an important role in influencing consumer purchasing decisions through improving the effectiveness and efficiency of digital services (Safitri et al., 2025). The implementation of MIS helps companies provide accurate product information, simplify transaction processes, and enhance consumer convenience and trust in using digital platforms (Kualitas et al., 2023). In addition, MIS enables companies to analyze consumer behavior so that marketing strategies can be adjusted according to market needs (Aedo & Trisnawarman, 2025). Through the provision of relevant and competitive information, MIS can also increase consumer interest in a product (Manajemen et al., 2025). However, the implementation of MIS still faces several challenges, such as suboptimal data quality, lack of user training, and the excessive amount of information that may cause confusion for consumers in the purchasing decision-making process.

Various studies indicate that the identification of research gaps is an important step in producing research that has novelty and scientific contribution. Through literature review, researchers can identify research gaps, develop theoretical foundations, and determine the relevance of the conducted research (Msimanga & Mukwada, 2022). In addition, the process of reviewing literature broadly and comprehensively helps researchers understand research problems more systematically (Hukum et al., 2025). The use of analytical tools such as Publish or Perish and VOSviewer is also considered effective in supporting the identification of research gaps more efficiently (Rahma et al., 2025). Therefore, the identification of research gaps plays an important role in improving the quality and contribution of research across various fields.

Based on various previous studies, Management Information Systems (MIS) have an important role in improving company operational efficiency, supporting decision-making processes, and influencing consumer purchasing decisions through the utilization of digital technology. MIS are able to provide accurate information, enhance user experience, and support data-driven marketing strategies. However, there is still a research gap because most studies focus more on organizational efficiency and specific e-commerce platforms, while research regarding the role of MIS in improving smartphone purchasing decisions in Indonesia remains limited. Therefore, this study aims to analyze the role of MIS in smartphone product purchasing decisions in Indonesia through a Systematic Literature Review (SLR) approach in order to obtain a more comprehensive understanding of the influence of MIS on consumer behavior in the digital era.

2. Materials and Methods

This study uses a quantitative research method with a Systematic Literature Review (SLR) approach aimed at analyzing the role of Management Information Systems in improving purchasing decisions for smartphone products in Indonesia. The SLR approach was chosen because it is capable of identifying, evaluating, and synthesizing various previous research findings in a systematic and structured manner. The literature search process was conducted through several academic databases, such as Google Scholar, ScienceDirect, and ResearchGate, using keywords such as "Management Information System," "purchasing decision," "smartphone," and "digital marketing." The literature used was focused on scientific articles, national and international journals, as well as conference proceedings relevant to the research topic and published within the last few years.

The determination of inclusion and exclusion criteria was carried out to ensure the quality and relevance of the research sources used. The inclusion criteria included articles discussing Management Information Systems, consumer behavior, smartphone purchasing decisions, as well as studies using quantitative approaches or literature review methods. Meanwhile, articles that were not relevant to the topic, lacked clear data, or consisted of non-scientific opinions were categorized under the exclusion criteria. The next stage was the process of data selection and extraction, which was conducted by reviewing the titles, abstracts, research methods, and research findings of each selected article. The collected data were then analyzed and synthesized to identify patterns, relationships, and research gaps related to the role of Management Information Systems in improving smartphone product purchasing decisions in Indonesia.



Figure 1. Research Prosedure

Figure 1 illustrates the research procedure carried out systematically in analyzing the role of Management Information Systems (MIS) in smartphone product purchasing decisions in Indonesia. The research began with the identification of problems and research gaps, followed by the determination of a quantitative method using a Systematic Literature Review (SLR) approach. The next stages included literature searching, establishing inclusion and exclusion criteria, and conducting the selection and extraction of data from various previous studies. The obtained data were then analyzed and synthesized to determine the influence of MIS on smartphone consumer purchasing decisions, resulting in relevant research conclusions and recommendations.

3. Results and Discussion

Based on the reviewed research findings, there are several main sub-discussions that become the focus of this study, namely: (1) the role of Management Information Systems (MIS) and Decision Support Systems (DSS) in the smartphone purchasing decision-making process, (2) factors influencing smartphone purchasing decisions such as brand, price, features, and social influence, and (3) the quality of information in MIS that affects consumer trust and purchase intention. These three sub-discussions form the basis for grouping relevant studies in this research.

Table 1. Analysis of Research Findings Classification

No	Research Field/Focus		Author(s)	Research Insight / Variables
1	The Role of MIS and DSS in Purchasing Decision-Making		Witarsa & Ramadian (2026)	MIS provides fast, accurate, and relevant information in smartphone purchasing decisions
2	The Role of MIS and DSS in Purchasing Decision-Making		(Various DSS studies: SAW, FAM, TOPSIS)	DSS helps provide product recommendations according to user preferences objectively
3	Factors Influencing Smartphone Purchasing Decisions	Influencing Purchasing	Mashuri & Febrima (2024)	Brand perception, product features, price, and social influence affect purchasing decisions
4	Factors Influencing Smartphone Purchasing Decisions	Influencing Purchasing	Tantama (2017)	Innovation, brand, and product reliability are dominant factors in purchasing decisions
5	Factors Influencing Smartphone Purchasing Decisions	Influencing Purchasing	Nugroho et al. (2018)	Price and product features are the most influential factors
6	Factors Influencing Smartphone Purchasing Decisions	Influencing Purchasing	Syahdina et al. (2025)	Brand image, price perception, and product quality have a significant influence (78.8%)
7	Factors Influencing Smartphone Purchasing Decisions	Influencing Purchasing	Murni (2021)	Brand, price, and product quality influence purchasing decisions (45.3%)

No	Research Field/Focus	Author(s)	Research Insight / Variables
8	Information Quality in MIS and Consumer Trust	Tri (2025)	Information quality increases consumer purchase intention and trust
9	Information Quality in MIS and Consumer Trust	Various studies	Product information, reviews, and online ratings increase trust and purchasing decisions

Overall, the table focuses on three main scopes, namely the role of information systems (MIS and DSS), consumer behavior factors in smartphone purchasing decisions, and information quality as a variable influencing consumer trust and purchase intention. The scope of this study shows that smartphone purchasing decisions are influenced not only by information system technology aspects, but also by psychological and marketing factors that are interconnected within the digital environment.

3.1 The Role of Management Information Systems (MIS) in Supporting the Smartphone Product Purchasing Decision-Making Process in Indonesia

Management Information Systems (MIS) play an important role in supporting smartphone purchasing decisions in Indonesia through the provision of fast, accurate, and relevant information (Witarsa & Ramadian, 2026). The implementation of MIS and Decision Support Systems (DSS), such as the SAW and FAM methods, helps consumers choose products according to their needs and preferences. In addition, MIS improves information quality through integrated data management and digital technology, while also supporting product recommendations based on specific specifications, such as price, RAM capacity, and camera quality. However, excessive use of MIS may lead to technological dependency and reduce consumers' critical thinking ability in the purchasing decision-making process.

Various studies show that Decision Support Systems (DSS), such as SAW, FAM, and TOPSIS, are effective in helping consumers choose smartphones according to their needs and preferences objectively. In addition, Management Information Systems (MIS) play an important role in providing accurate, relevant, and timely information to support decision-making. However, most previous studies still focus on the technical implementation of DSS and have not extensively examined the comprehensive role of MIS in smartphone purchasing decisions. Other factors such as brand, product features, and communication and entertainment functions also influence consumer decisions in selecting smartphones.

Based on various previous studies, Management Information Systems (MIS) and Decision Support Systems (DSS) play an important role in supporting smartphone purchasing decisions through the provision of fast, accurate, and consumer-oriented information. Methods such as SAW, FAM, and TOPSIS have proven effective in providing product recommendations based on user preferences. In addition, MIS contributes to improving information quality and user experience, which influence consumer behavior. However, previous studies have mainly focused on the technical implementation of DSS and have not comprehensively examined the role of MIS in smartphone purchasing decisions in Indonesia. Therefore, further research is needed regarding the relationship between information quality, consumer behavior, and digital marketing strategies in the use of MIS in the digital era.

3.2 Factors in Management Information Systems That Most Influence Smartphone Consumer Purchasing Decisions

Smartphone purchasing decisions are influenced by factors such as brand perception, product features, social influence, user experience, and price (Mashuri & Febrima, 2024). A positive brand image can increase consumer trust and purchase intention, while features such as camera quality and technology become important considerations. In addition, user experience and the influence of family and friends also affect purchasing decisions. Price is another major consideration because consumers tend to compare product benefits with the costs incurred. Therefore, companies need to adjust their marketing strategies according to consumer preferences and characteristics.

Various studies show a consistent pattern regarding the factors that influence smartphone purchasing decisions. Research conducted by Rivando Chandra Tantama (2017) involving 200 consumers identified eight main factors, with innovation, brand, and product reliability being the most dominant. Furthermore, D. Nugroho et al. (2018) found that price and product features were the most influential factors in consumer purchasing decisions. A more recent study by Aang Syahdina et al. (2025) revealed that brand image, price perception, and product quality contributed 78.8% to smartphone purchasing decisions among 97 respondents. In addition, Seri Murni (2021) demonstrated that brand, price, and product quality factors accounted for 45.3% of the variation in consumer purchasing decisions based on research involving 100 respondents.

Based on various previous studies, smartphone purchasing decisions are influenced by several main factors, such as brand image, product quality, technological features, social influence, and price perception. Brand and product quality are considered dominant factors because they can increase consumer trust, loyalty, and perceived value toward smartphones. In addition, technological developments encourage consumers, especially younger generations, to consider technical features and user experience in the purchasing process. Price is also an important consideration, as consumers tend to adjust the product's benefits to their financial capabilities. However, most previous studies have mainly focused on marketing and consumer

behavior aspects, so further research is still needed regarding the role of Management Information Systems in supporting smartphone purchasing decision-making processes in Indonesia.

3.3 The influence of information quality provided through Management Information Systems (MIS) on consumer interest and trust in purchasing smartphones

The quality of information in Management Information Systems (MIS) has a significant influence on consumer interest and trust in smartphone purchasing decisions (Tri, 2025). Accurate, relevant, and easy-to-understand information, such as product specifications, user reviews, and smartphone features, can increase consumer confidence in making purchasing decisions. In addition, online ratings and reviews help strengthen perceived product quality and reduce purchase risk. Conversely, invalid or low-quality information can decrease consumer trust. Therefore, companies need to ensure that the information presented through MIS is accurate, complete, and aligned with consumer needs.

Various studies show that information quality has a positive effect on purchase intention and consumer trust in online purchasing, as good information can increase trust and encourage buying decisions, especially in digital transactions. In addition, factors such as brand image, perceived quality, and product features also contribute to strengthening consumer trust in smartphone purchases. However, research specifically focusing on information quality through Management Information Systems (MIS) in the context of smartphone purchasing decisions is still limited. Therefore, further studies are needed to examine the role of MIS in providing information quality that more specifically influences purchasing decisions.

Based on various studies, information quality plays an important role in shaping consumer purchase intention, trust, and purchasing decisions for smartphones. Accurate and relevant information, such as reviews, specifications, and online ratings, helps increase consumer confidence and reduce purchase risk. Research shows that information quality significantly influences purchase intention and trust. However, most studies are still general and have not specifically focused on the role of Management Information Systems (MIS), so further research is needed.



Figure 2 Research Variables

Overall, the relationships between variables in this conceptual framework indicate that MIS and information quality play a role in building consumer trust, which then influences purchase intention and ultimately leads to smartphone purchasing decisions. External factors such as product attributes, price, brand, social influence, and user experience act as supporting elements that strengthen consumer preferences and behavior in selecting products. Thus, smartphone purchasing decisions are the result of a complex interaction among technological, informational, psychological, social, and experiential factors in the digital era.

4. Conclusions

Based on the evaluation of various previous studies, it can be concluded that Management Information Systems (MIS) play an important role in supporting smartphone purchasing decisions by providing fast, accurate, relevant, and easily accessible information. In addition, the implementation of Decision Support Systems (DSS) using methods such as SAW, FAM, and TOPSIS has been proven to help consumers select products according to their needs and preferences. Other factors such as product quality, price, brand image, user experience, and social influence also have a significant impact on consumer purchase intention

and trust in the smartphone purchasing process in the digital era. However, most previous studies have focused on the technical aspects of DSS and general consumer behavior, and have not comprehensively examined the relationship between MIS, information quality, consumer trust, and smartphone purchasing decisions. This research gap indicates the need for further studies on the influence of MIS-based information quality on consumer purchase intention and purchasing decisions, particularly by considering the development of digital technology, social media, electronic word of mouth (e-WOM), and the use of artificial intelligence in smartphone product recommendation systems in Indonesia.

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