

The Smartphone Revolution: A Systematic Review of Its Impact on Consumer Behavior and Market Trends (2019-2024)

ABSTRACT

Aims:This study intends to explore the impact of smartphones on consumer behavior and the market by conducting a systematic literature review during the period 2019 - 2024.

Study design:Systematic literature review.

Place and Duration of Study:Literature was reviewed from various journals and articles published between 2019 and 2024.

Methodology:A systematic literature review was conducted, analyzing 13 articles according to criteria of inclusion and exclusion. The study examined five aspects: brand consciousness, health supervision, doctor-patient relationships, academic achievements, and client interests.

Results:The study found that smartphone usage, particularly among students, has a detrimental impact on academic performance due to delays and general poor performance. The findings suggest the necessity to improve the quality of products and services to enhance brand loyalty, foster technology-healthcare cooperation for efficient health monitoring solutions, establish guidelines for data protection in medical communications, and provide education to help students regulate smartphone usage effectively.

Conclusion:The findings are useful for policymakers, researchers, and practitioners in managing smartphone use to achieve optimal positive effects while preventing adverse side effects. This contributes to improving consumer health and productivity and supports appropriate progressive advancements in electronics. Further focus should be on enhancing brand loyalty, improving healthcare technology, protecting medical communication data, and educating students on effective smartphone usage.

Keywords: smartphones, consumer behavior, market trends, systematic literature

1. INTRODUCTION

Smartphone ownership has risen globally due to technological development and the ease of access to mobile devices (Ryding & Kuss, 2020). The applications within smartphones are multifunctional and can have several operations that can operate as background to monitor behavior and usage time successively. Smartphones' applications are not only confined to the sector of communication but also incorporate other sectors like education, health, fun, and commerce. The utilization of smartphones also provides many benefits and welfare to their users, along with an effect on their health (Trifan et al., 2019). This study will seek to embark on a literature review in an endeavor to establish what is already known concerning the smartphone phenomenon and the extent to which it has influenced consumer behavior and market trends. Citing (Lee, 2024), smartphone photography is a technique one can use to enhance his or her mood and positive attitude and therefore encourages the pursuit of smartphone photography as a tool to enhance human emotions. Therefore, based on the understanding of previous studies, it is expected to give a better understanding of how the

use of smartphones influences different domains of life and the gaps in research that need to be highlighted. The relevance of this research issue is based on the fact that smartphones remain a valuable and convenient device, and their computing capabilities make it possible to develop various functional applications in such spheres as health, education, business, and others (Mendes et al., 2020). It is believed that this research would significantly benefit the existing literature and be useful in making proper decisions on the use of smartphones and their effects on users.

2. MATERIAL AND METHODS

Therefore, this paper employs the PRISMA approach to screen and include relevant articles retrieved from the Scopus database of articles published between 2019 and 2024. The process of selecting articles was first initiated by comprehending 133 articles concerning smartphones, customers, and markets. Finally, concerning the article collection criteria based on smartphone and customer behavior or market trends, a total of 114 documents were identified. From the obtained list of sources, 72 documents were screened for further eligibility, and the list was reduced to 19 documents. The final samples were chosen according to the following criteria: only journal articles, no overlapping of recordings, and PDF files only available for the Scopus database and free to download, meaning that 13 papers were selected for the present study. This PRISMA process ensures that only articles that resemble the criteria that were selected as relevant to the research are used for the next step of the analysis. A graphic figure of the PRISMA Analysis Model is illustrated below.

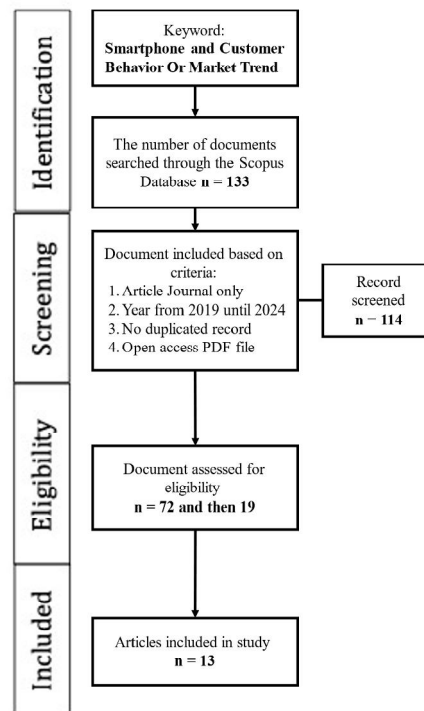


Figure 1. Flowchat of the PRISMA method was employed to identify, screen, and select relevant literature.

By applying this systematic approach, as shown by (Lestari et al., 2023), only the studies that met the quality criteria were selected for the review. This is to ensure that only valid and

reliable research is conducted based on the identified customer themes and trends that depict the study criteria. PRISMA is useful in excluding the right information and ensuring that the research is of high quality.

3. RESULTS AND DISCUSSION

Table 1. Analyzere result for selected articles

Author s	Title	Year	Area/ Country	Method ology	Key Findings	Conclusion	Influence on Consumer Behaviour	Influence on Market Trend
Biswas and Liu	A hybrid recommender system for recommending smartphones	2022	N/A	Hybrid Recommender System	Developed a hybrid recommender system combining collaborative filtering and content-based filtering	The system effectively recommends smartphones based on user preferences and behaviors	Enhances personalized shopping experiences	Encourages more competitive marketing strategies
Chmielek	The usage of smartphone and mobile applications in Poland	2020	Poland	Survey (CAWI method)	Identified conditions and patterns of smartphone usage among Polish consumers	Polish consumers' usage patterns are similar to those in Europe and globally	Reflects broad adoption and usage patterns	Indicates market maturity and potential saturation
Eze et al.	Predictors of Smartphone and Tablet Use among Patients	2022	N/A	Quantitative Analysis	Identified key predictors of smartphone and tablet use among patients	Important factors include age, education, and perceived ease of use	Highlights critical factors in adoption	Suggests areas for targeted marketing efforts
Guo et al.	Analyzing Chinese Customers' Switching Intention	2021	China	Survey, Quantitative Analysis	Investigated factors influencing customers' intention to switch smartphone brands	Key factors include satisfaction, perceived value, and alternative attractiveness	Provides insights into customer loyalty	Highlights importance of brand management
John et al.	Smartphone Technology for Clinical Communication	2022	Global	Commentary, Observational Study	Examined trends in clinical communication using smartphones	Smartphone technology improved communication	Emphasizes need for secure and efficient communication	Pushes for better regulation and data security

	ation in COVID-19				technology during COVID-19	efficiency but raised data compliance concerns	on tools	practices
Lee (2023)	Research trends related to problematic smartphone use among children	2023	Korea	Text Network Analysis	Identified key research topics: parental attitudes, PSU behavior, family environment, social relationships, etc.	Parental factors significantly influence children's PSU, with increased focus needed on school-age children.	Highlights the importance of parental guidance in smartphone use by children	Emphasizes the need for targeted interventions and policies in the market.
Rakib et al. (2022)	Factors affecting young customers' smartphone purchase decisions	2022	Bangladesh	Survey, Quantitative Analysis	Key factors: brand image, price, features, social influence	Brand image and social influence are significant in young customers' purchase decisions.	Young customers are heavily influenced by social trends and brand reputation.	Highlights the importance of marketing and brand management strategies.
Reza et al. (2021)	Impact of smartphones on self-determination and procrastination	2021	Pakistan	Survey, Quantitative Analysis	Excessive smartphone use leads to procrastination and affects academic performance.	Smartphone overuse negatively impacts self-determination and academic outcomes.	Encourages responsible smartphone use among students.	Suggests the need for educational campaigns and tools to manage smartphone use.
Mercurio et al. (2020)	Longitudinal trends in the quality, effectiveness of health apps	2020	USA, Australia	Longitudinal Study	High turnover of top mental health apps; few significant changes in app features and privacy policies.	Despite high turnover, there are no significant improvements in app quality or safety.	Consumers need to be cautious about the quality and reliability of health apps.	Pushes for stricter regulations and standards in the app market.
Oh and Park (2020)	Insights for sustainability of smartphone	2020	Global	Case Study, Market Analysis	Examined sustainability practices in smartphone business, highlighting innovation	Sustainable practices and innovation are crucial for long-term	Encourages consumers to prefer brands with sustainable practices.	Drives industry-wide adoption of sustainable practices and

business

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Thirteen papers were chosen for examination based on the predetermined inclusion and exclusion criteria. According to (Hael et al., 2024), the investigation revealed that the usage of smartphones significantly affects a number of areas of consumer behavior and market trends. The aforementioned research suggests that when we compared these findings with those of other studies, they seemed to be consistent with both domestic and global trends, i.e., the market for mobile apps would continue to expand quickly (Chmielarz, 2020). The main conclusions drawn from the evaluated literature are listed below.

Brand Loyalty: Research by (Siddiqui & Sharma, 2022) in India revealed that millennials tend to be loyal to certain smartphone brands. Factors such as product quality, user experience, and after-sales service contribute significantly to brand loyalty. Consumers who are satisfied with the features and performance of smartphones tend to remain loyal to the same brand. Companies need to focus on improving product and service quality to maintain brand loyalty. Quality improvements include not only product technology and design but also responsive and user-friendly after-sales services. Consumers who feel satisfied with product quality and performance tend to be more loyal and reluctant to switch to other brands. This brand loyalty is not only important for maintaining market share but also for attracting new customers through word-of-mouth recommendations. According to (Nurwulandari & Maharani, n.d. 2021), the importance of strategies for customer satisfaction is to maintain and increase brand loyalty in the increasingly competitive smartphone market. Therefore, companies must continuously strive to understand customer needs and expectations and provide products and services that not only meet but also exceed their expectations.

Health Monitoring: A study by (Thornton et al., 2020) showed that smartphones and wearables can be used as digital biomarkers to monitor the progression of multiple sclerosis. This study uses deep learning and digital biomarkers to analyze health data. Smartphones and wearables can collect real-time health data, which is helpful in monitoring disease progression. This technology enables more personalized and real-time health monitoring, which can be of great benefit to both patients and healthcare providers. Secondly, the data collected can be analyzed using deep learning algorithms to provide deeper insights into the patient's health condition. Thus, the use of smartphones and wearables in health monitoring has great potential to improve patient health outcomes, reduce healthcare costs, and increase the overall efficiency of the healthcare system.

Clinical Communication During the COVID-19 Pandemic, a study by (Rakib et al., 2022) examined the use of smartphone technology in improving communication efficiency between medical personnel and patients during the COVID-19 pandemic. Smartphone technology facilitates fast and efficient communication between medical personnel and patients, which is especially important in emergency situations. Smartphone technology allows medical personnel to provide necessary information and instructions to patients in real-time, which helps in the management of emergency cases and reduces the burden on healthcare facilities. However, the study also highlights the importance of data compliance and security in the use of medical communication technology. Healthcare providers and technology companies need to work together to develop solutions that are not only efficient and reliable but also secure and compliant with strict data privacy standards. Thus, the use of smartphone technology in clinical communication has great potential to improve the efficiency and quality of healthcare, provided that data privacy and security issues are taken

seriously. These findings provide important guidance for policymakers and practitioners in developing and implementing effective and secure medical communication technologies.

Effect on Academic Performance: According to research by (Reza et al., 2021), the findings suggest that uncontrolled smartphone use can disrupt students' concentration and focus, which in turn negatively affects their academic performance. This research highlights the importance of smartphone use management in educational contexts to reduce the negative impact on academic performance. Educational programs that help students manage their technology use effectively are essential to ensuring that technology is used as a tool that supports learning rather than a distraction. The implication of these findings is the need for the development of apps and tools that help students better manage their time and reduce distractions caused by smartphones. Educational apps designed to improve students' focus and concentration can help reduce the negative impact of smartphone use on academic performance. Thus, effective management of smartphone use among students can help improve academic performance and support overall educational success.

Consumer Wellbeing: This study by (Taylor, 2022) conducted a systematic literature review to identify the impact of smartphone use on mental and emotional well-being. Excessive use can disrupt the balance between digital and real life, which can negatively impact consumers' mental health. This research highlights the importance of balance in technology use to avoid negative impacts on mental health. Features that support user well-being, such as focus mode, screen time reminders, and time management tools, can help users better manage their smartphone use and reduce the risk of negative impacts on mental health. In addition, there is a need to raise awareness about the importance of responsible technology use and the balance between digital and real life.

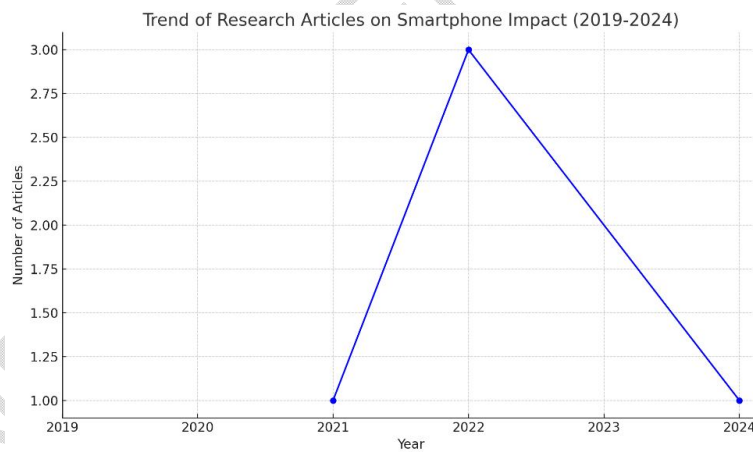


Figure 2. Trend chart of the number of research articles related to the influence of smartphones

The trend chart above illustrates the number of research articles related to the influence of smartphones on consumer behavior and market trends from 2019 to 2024. This diagram shows how research interest in this topic developed during the period. The X axis (Year) indicates the year of publication of the research article, the Y axis (Number of Articles) indicates the number of articles published each year and the trend line depicts the trend in the number of articles discussing this topic from year to year.

Documents by country/territory

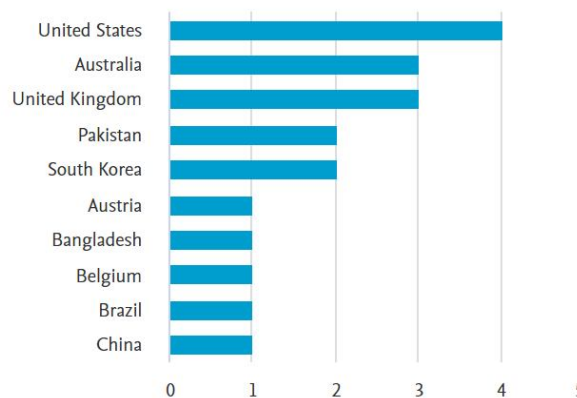


Figure 3. Diagram of the number of research articles by country

The trend chart above illustrates the number of articles and country names that researched related to the influence of smartphones on consumer behavior and market trends from 2019 to 2024. The X axis (Year) indicates the number of arguments, the Y axis (Number of Articles) indicates the country that writes a lot of related articles.

The results of this systematic review show that the use of smartphones has a significant impact on various aspects of consumer behavior and market trends while according to (Setyawati, n.d. 2022) consumptive behavior is a consumption activity that is not based on needs, but rather by desire and happiness alone. The main findings of this study include brand loyalty, health monitoring, clinical communication, academic performance, and consumer well-being.

Brand Loyalty, research by (Siddiqui & Sharma, 2022) shows that millennials in India tend to have high loyalty to certain smartphone brands. This is driven by product quality, user experience, and after-sales service. This finding is consistent with previous literature which suggests that a positive user experience can increase brand loyalty (Oktaviani & Lestari, 2017). The practical implication of these findings is that smartphone companies must continue to innovate in terms of product and service quality to maintain and increase customer loyalty (Sugiono & Tia Siti Aisyah, 2021).

Health Monitoring, studies highlight the huge potential of smartphones and wearables in health monitoring. According to (Bouton et al., 2024) these technologies enable real-time health data collection, which is invaluable in management for several chronic diseases. These findings support previous research showing that digital health technologies can improve disease management and patient health outcomes. The practical implication is the need for collaboration between the technology and healthcare industries to develop more effective health monitoring solutions. A comprehensive assessment is presented on studies related to diagnostic accuracy, disease detection capability, and efficacy of smartphone applications in ophthalmology (Nagino et al., 2024). Smartphone use is highly prevalent. 75% of the respondents spend more than three hours using smartphones every day (Valasareddy et al., 2019).

Clinical Communication during the COVID-19 Pandemic, research by (He et al., 2022) found that the use of smartphone technology in clinical communication during the COVID-19 pandemic greatly improved the efficiency of communication between medical personnel and patients. However, the study also highlighted the importance of data compliance and security. These findings are consistent with the literature showing that digital technologies can improve medical response in emergency situations, but also pose challenges related to data privacy and security. Therefore, there is an urgent need to develop policies and tools that ensure data security while maximizing communication efficiency. Researchers can gain the latest insights into consumer behavior and changes in consumer behavior, particularly due to the COVID-19 pandemic.

Effect on Academic Performance, a study by (Reza et al., 2021) shows that excessive smartphone use can affect the academic performance of students in Pakistan. Uncontrolled use leads to procrastination and decreased academic results. This finding is in line with research showing that distraction from smartphones can negatively affect students' concentration and academic performance. The practical implication is the importance of developing educational programs that help students manage their smartphone use effectively to minimize the negative impact on academic performance.

Consumer Wellbeing, research by (Taylor, 2022) highlights the negative impact of smartphone use on consumers' mental and emotional wellbeing. Excessive use can lead to increased levels of stress and distraction. These findings are consistent with literature suggesting that excessive technology use can negatively impact mental health. Therefore, technology companies need to consider product design that supports user well-being, such as features that reduce screen time and focus modes.

The results of this review are first, smartphone companies should focus on improving product and service quality to maintain customer loyalty (Mutakif&Nurwulandari, 2012) Second, the technology and healthcare industries should collaborate to develop more effective health monitoring solutions. Third, policies and tools that ensure data security should be developed to maximize the efficiency of medical communications. Fourth, educational programs should be designed to help students manage their smartphone usage effectively. Finally, technology companies need to consider user welfare in product design, With smartphone technology, value creation and opportunity utilization can be felt by consumers (Kim & Kim, 2017).

The study had some limitations that only included articles published in English, which may limit the generalization of the findings. Second, the study uses a variety of different methodologies, which can affect the consistency and comparability of the findings. Third, the data used in this study are mostly derived from observational and survey studies, which may have limitations in terms of internal and external validity.

4. CONCLUSION

This study aims to evaluate the impact of smartphone use on consumer behavior and market trends through a systematic review of literature published between 2019 and 2024. These findings emphasize the importance of a holistic approach to understanding the impact of smartphone technology and developing effective strategies to maximize its benefits while mitigating negative impacts. More proactive measures are needed to ensure that the use of smartphones provides maximum benefits to society while reducing its risks and negative impacts.

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