

## The Effect of Perceived Usefulness, Perceived Ease of Use, Relative Advantage, and Compatibility on Intention to Purchase E-readers Mediated by Attitudes Toward E-reader Use: A Conceptual Paper

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### ABSTRACT

The Technology Acceptance Model (TAM) is a theoretical framework that is widely used to understand technology adoption behavior, including in the context of e-reader use. This study aims to analyze the influence of perceived usefulness and perceived ease of use as the main construct of TAM on attitude toward using e-readers, as well as examine the role of attitude mediation in influencing intention to purchase. Using a quantitative approach and structural model design, this study found that the perception of usability and ease of use significantly shaped positive user attitudes, which ultimately drove purchase intent towards e-readers. These results confirm the relevance of TAM as a conceptual basis in understanding consumer psychological factors towards the adoption of new technologies, as well as providing practical implications for manufacturers in developing marketing strategies based on user perception

## INTRODUCTION

According to Amirtharaj et al., (2023) In addition to serving as a representation of knowledge, books also serve as a window of knowledge to the world, teaching critical thinking, fostering empathy, and opening our eyes to various aspects of life. In addition, books play an important role in building a literate society, competitive, and flexible to the changing times. Reading can also be a fun companion in leisure that can entertain people in unwinding, calming the mind, and escaping from everyday routines.

In this regard, As awareness of the importance of reading culture increases, new technologies have allowed for wider access to reading materials while overcoming space, time, and physical limitations. The e-book format, which is now beginning to be accepted by readers, is a tangible representation of that transformation. People who enjoy reading are no longer dependent on books in physical form (Cremin & Scholes, 2024). In addition, the education sector is witnessing the impact of science and technology (IPTEK), which is the constant demand for innovation in learning that depends on the human ability to create new ideas, theories, and technologies (Li et al., 2022). E-books, an innovation that comes from a combination of literacy and technology, offer a practical solution for the dynamic and fast-paced modern reader. Its digital format allows readers to store hundreds to thousands of books on a single device, such as tablets, smartphones, or e-readers (Stejskal et al., 2021).

The advent of e-books poses a challenge to the traditional reading habit of printed books. The main purpose of e-books is not to replace physical books, but to support and facilitate reading activities to become more practical and accessible anytime and anywhere (Casselden & Pears, 2020). The existence of e-books not only increases efficiency, but also allows the dissemination of reading materials to areas that previously had difficulty gaining access to printed books (Ambarwati et al., 2022). *E-book* allows one to read in between activities, while traveling, or even before going to bed, without the need for additional lighting as physical books do. This makes *E-book* as a very suitable choice for modern society that has high mobility.

In recent decades, the internet has come and gone very fast, affecting human lifestyles in various fields, including social, cultural, political, and economic. The development of digital technology has driven major changes in various ways of meeting needs. The existence of the internet makes it easier for people to carry out daily activities, such as accessing information and making online purchase transactions (Rahmiati et al., 2019). This affects how business people continuously develop various innovations to answer consumer needs and increase the ease of using their products or services (Rahmiati et al., 2019).

One of the innovations that has gained widespread attention in recent years is the e-reader, or electronic book reader device. Based on a report from Statista (2021), the global e-reader market is expected to reach a value of USD 17.1 billion by 2025, with an annual growth rate of 5.2% from 2021 to 2025. This shows that there is a growing interest in these devices, which make it easier for users to access and read books in digital format.

In Indonesia, the trend of reading electronic books is increasing along with the high penetration of the internet and the use of digital devices. According to the Rakuten Insight survey (2023), as many as 83% of Indonesian respondents stated that they read books more often through smartphones than print media. This reflects a behavioral shift from reading physical to digital books due to the ease of access and flexibility offered (Rakuten Insight, 2023).

However, the adoption of special devices for reading *e-books* such as e-readers is still relatively low in Indonesia. Data from GoodStats (2024) shows that as many as 79% of respondents in Indonesia still prefer to read physical books over digital books. The low interest in buying e-readers in Indonesia can be caused by several factors, including the relatively expensive price of the device and the public's lack of understanding of the benefits of e-readers. In an interview quoted by Pujiati (2024) from Deepublish, it was stated that there are still many people who do not understand the difference between *e-books* and e-readers, and have not seen the urgency to switch from printed books. In addition, limited distribution and lack of product promotion have also slowed down the penetration of the e-reader market in Indonesia.

People's reading preferences are also influenced by psychological factors and user experience. According to a survey by GoodStats (2024), more than 70% of respondents stated that they feel more focused when reading printed books than e-books. The need to create a positive shopping experience, because it determines consumer trust in the service (Efendi et al., 2020) The factor of eye comfort and emotional closeness to physical books also influence the decision to continue to choose print media. These findings show that the obstacles to e-reader adoption are not only technical or economical, but also related to reading perceptions and habits.

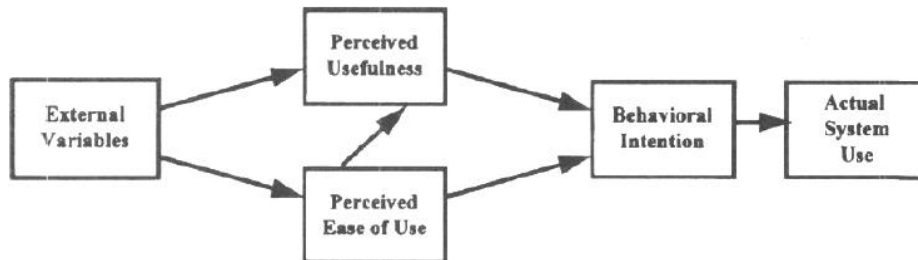
An e-reader is a device designed to read electronic books that are shaped like a tablet but equipped with e-ink instead of LCD. The main drawback of e-readers compared to print books is the lack of storage, as e-readers can hold thousands of books without requiring a lot of storage.

This study aims to analyze the influence of *perceived usefulness*, *perceived ease of use*, *relative advantage*, and *compatibility* on *attitude toward using* e-readers and test the role of mediating user attitudes in influencing *intention to purchase*. The Technology Acceptance Model (TAM) can be used to explain how *perceived usefulness*, *perceived ease of use*, *relative advantage*, and *compatibility* play a role in shaping consumer attitudes and behaviors (Venkatesh & Davis, 2000). Theoretically, this study contributes to the development of the TAM model by including DOI elements, thereby expanding the understanding of technology adoption factors in the context of digital consumers. Meanwhile, practically, the results of this study are expected to be a reference for e-reader manufacturers in designing marketing strategies based on consumer preferences, especially by emphasizing aspects of usability, convenience, and suitability of products with market needs.

## LITERATURE REVIEW

### Technology Acceptance Model (TAM)

TAM is one of the most widely used approaches in the study of technology adoption due to its simplicity and strong predictive capabilities (Sasongko et al., 2025). This model was first introduced by (Davis, 1989) as a development of Theory of Reasoned Action (TRA) proposed by Ajzen and Fishbein in 1980. TAM aims to understand the factors that influence the acceptance of technology in general, as well as explain the behavioral intent (behavioral intention) users to the use of technology in various contexts (Baier et al., 2025).



The conceptual model of this study integrates the Technology Acceptance Model (TAM) to explain the factors that affect the *intention to purchase* of e-readers. In this model, the flow of relationships between variables is described as follows: *perceived usefulness* (PU), *perceived ease of use* (PEOU), *relative advantage*, and *compatibility* directly affect *attitudes toward using* e-readers. Furthermore, attitudes towards the use of *e-readers* are a determining factor in forming *intention to purchase*. In other words, the user's perception of the usefulness, convenience, relative advantage, and suitability of the *e-reader* with their needs and lifestyle will form a positive attitude, which ultimately encourages consumer interest in buying the device.

First perceived usefulness (PU) or perception of usability is considered a key factor in the TAM model. PU describes the extent to which a person feels that the use of an e-reader will enhance their reading experience. If consumers feel that e-readers can make the reading experience more efficient, more enjoyable, and more accessible, then this perception will form a positive attitude towards the use of the device, which will ultimately strengthen the intention to buy it (Caycho-Vigo et al., 2025).

H1: There is a positive and significant relationship between perceived usefulness and Attitude towards use.

Moreover *perceived ease of use* (PEOU) or perception of ease of use is also an important factor in TAM. PEOU shows the extent to which one feels that the use of e-readers does not require much effort. An easy-to-use e-reader, with a simple interface and intuitive navigation, will encourage a more positive attitude towards use, which in turn will increase purchase intent (Liu et al., 2021).

H2: There is a positive and significant relationship between perceived ease of use and Attitude towards use.

Next *relative advantage* or relative superiority, according to DOI theory, refers to the extent to which consumers see e-readers as superior technology over other alternatives, such as physical books. Factors such as portability, large storage capacity, and access to a variety of digital books at any time, can increase

the perception of the relative superiority of e-readers. When consumers feel that e-readers offer more advantages over conventional books, they will develop a more positive attitude towards the use of the device and increase the intention to buy it (Jahan & Shahria, 2022).

H3: There is a positive and significant relationship between relative advantage and Attitude towards use.

Compatibility is another factor that influences the adoption of technology, which is described in the DOI theory. Compatibility refers to the extent to which an e-reader fits the needs, lifestyle, and values of consumers (Deng et al., 2023). An e-reader that is compatible with consumers' reading habits and easily integrates with other devices or applications that are already in use will increase a positive attitude towards use. This positive attitude will then strengthen the intention to buy an e-reader.

H4: There is a positive and significant relationship between compatibility and Attitude towards use.

Attitudes are understood as users' responses to the use of a system, reflecting the extent to which they agree or disagree with the use of that technology and how they interact with it (Cristofaro et al., 2023). Attitude can be interpreted as a tendency that is formed consistently to respond to an object or situation in a certain way. In the context of using technology, the more positive a person's attitude towards a technology, the more likely they are to use it.

Eventually *intention to purchase* or the intention to buy an e-reader is a dependent variable that is influenced by attitudes towards use. Based on the SDGs, the intention to buy is the main factor that drives actual purchasing behavior. The stronger the intention to buy an e-reader, the more likely the consumer is to make the purchase (Kim et al., 2025).

H5: There is a positive and significant relationship between Attitude towards use and Intention to Purchase.

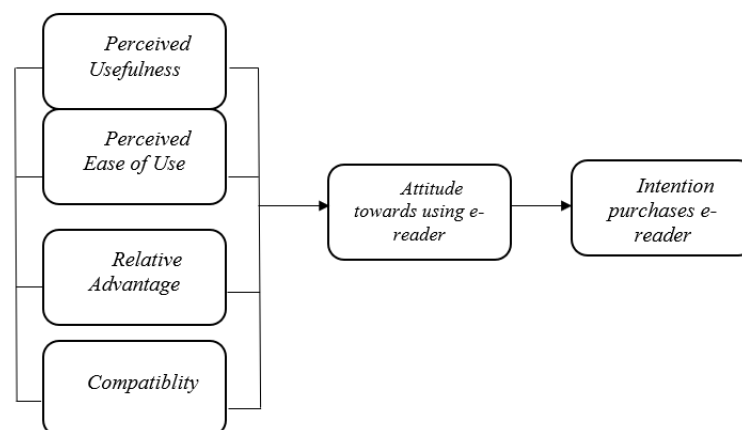


Figure 1. Conceptual Framework

## **METHODOLOGY**

This quantitative research aims to directly analyze the relationship between independent and dependent variables by incorporating moderating variables that may either strengthen or weaken the effects observed. The sampling technique used is non-probability sampling, due to the uncertainty regarding the exact size of the research population. Respondents are expected to contribute meaningful insights to support the hypothesis testing process.

Data will be processed using the SEM PLS software, with all variables measured using a 5-point Likert scale. After data collection, the results will be interpreted through descriptive analysis to provide a better understanding of the numerical data. Based on the adopted theoretical framework, this study applies a quantitative approach using the Structural Equation Modeling (SEM) technique (Sasongko et al., 2025).

## **RESULTS**

Within the framework of the Technology Acceptance Model (TAM), perceived usefulness (PU) is seen as one of the main determinants that influence the formation of individual attitudes towards a technology. PU refers to the extent to which a person believes that using a system will improve its performance. In the context of e-reader use, when users believe that the device can provide real benefits such as speeding up the process of searching and reading books, facilitating access to various digital literature, and increasing reading comfort in various situations, then this belief will form a positive attitude towards the use of e-readers. In other words, the higher the perception of the usefulness of the technology, the more likely it is that users will develop a positive view that encourages the intention to adopt it (P1).

On the other hand, perceived ease of use (PEOU) also plays an important role in shaping attitudes towards technology. PEOU refers to the extent to which one believes that using a system does not require a lot of effort. In this case, if the user feels that the e-reader has a simple, intuitive, and easy-to-operate interface, and offers features that can be accessed without technical difficulties, then this perception will reduce the potential for psychological and practical obstacles in the use of the technology. As a result, the sense of comfort and confidence in using the e-reader will increase, which ultimately reinforces a positive attitude towards the device (P2). Thus, both PU and PEOU synergistically contribute to encouraging the acceptance of technology through the formation of attitudes that support its use (Rahmiati & Yuannita, 2019).

The model also accommodates external variables as part of the expansion of the theoretical framework, in order to provide a more comprehensive understanding of the factors that influence attitudes towards the use of technology. One of the external variables in question is relative advantage, which is an individual's perception that e-readers have certain advantages compared to conventional print media. These advantages can be in the form of practicality in carrying many books on one device, the ability to quickly search for specific content, to space and cost efficiency in the long run. When users realize that e-readers offer more benefits than physical books, this perception will naturally

increase positive attitudes towards the use of this technology (P3) (Wijaya et al., 2024).

In addition, compatibility variables also play an important role in shaping user attitudes. Compatibility refers to the extent to which an e-reader is aligned with an individual's personal values, needs, and lifestyle. In the modern era characterized by high mobility, time flexibility, and attachment to digital devices, e-readers are considered suitable for today's users' routines. Features such as the ability to read in multiple places, cross-device synchronization, and integration with the digital ecosystem make e-readers a technology that meets user expectations that prioritizes convenience and efficiency. The higher this level of compatibility is felt, the stronger the positive attitude towards the use of e-readers (P4).

Positive attitudes formed from users' perceptions of a technology have a crucial role in encouraging the intention to make purchases, including in the context of e-readers. In this case, attitude toward using e-readers acts as the main predictor of intention to purchase. This means that before someone decides to buy an e-reader, they need to first develop a supportive attitude towards the use of the device. This attitude is the result of the internalization process of various initial perceptions, both regarding the benefits, convenience, and relevance of e-readers to their needs and lifestyles (P5).

Thus, the four main variables in this model, namely perceived usefulness, perceived ease of use, relative advantage, and compatibility, not only have a direct influence on the formation of attitudes, but also play an indirect role in shaping purchase intentions through the mediation of these attitudes. This means that the relationship between the initial perception of technology and the final intention to buy it is not purely linear, but is mediated by a psychological construct in the form of a positive attitude towards its use (P6).

## CONCLUSIONS AND RECOMMENDATIONS

This study underscores the significant role of the Technology Acceptance Model (TAM) in understanding how consumer attitudes and purchase intentions toward e-readers are formed. The conceptual framework demonstrates that *perceived usefulness* (PU) and *perceived ease of use* (PEOU) are the two primary factors influencing users' attitudes toward using e-reader devices. A positive attitude, which stems from these perceptions, is shown to be a critical determinant in shaping a consumer's intention to purchase and ultimately adopt the technology. These findings align closely with the foundational principles of TAM, which propose that when users perceive a technology as beneficial and easy to use, they are more likely to develop a favorable attitude, which in turn fosters behavioral intentions to use or adopt the technology.

From a practical standpoint, this study provides valuable insights for e-reader manufacturers, marketers, and developers. Understanding how user perception drives attitude and intention can serve as a strategic guide for designing more effective marketing communication and product development efforts. Companies are encouraged to emphasize the functional benefits and ease of navigation of their e-reader devices in both their promotional materials and user interface design. This is particularly important for reaching digitally inexperienced

consumers or those unfamiliar with e-reading technology, who may be more hesitant to adopt new devices. Providing tutorials, intuitive user guides, and customer education programs can further enhance user confidence and acceptance.

This study suggests that e-reader developers should focus on creating simple, user-friendly designs to enhance ease of use and encourage positive user attitudes. Marketing efforts should clearly highlight the practical benefits of e-readers, such as portability, comfort, and convenience, using relatable examples or user stories.

Educating potential users especially those less familiar with technology is also important. Providing tutorials or trial opportunities can help build confidence and promote adoption.

Future research should test this model across diverse user groups to better understand technology acceptance in Indonesia. Lastly, localizing products through language support, relevant content, and affordable pricing can help e-readers feel more accessible and appealing to a wider audience.

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