

## The Influence of Virtual Reality Technology on Purchase Intention through User Experience as an Intervening Variable in the Marketing Strategy of Samsung Products in the Virtual World: a Conceptual Paper

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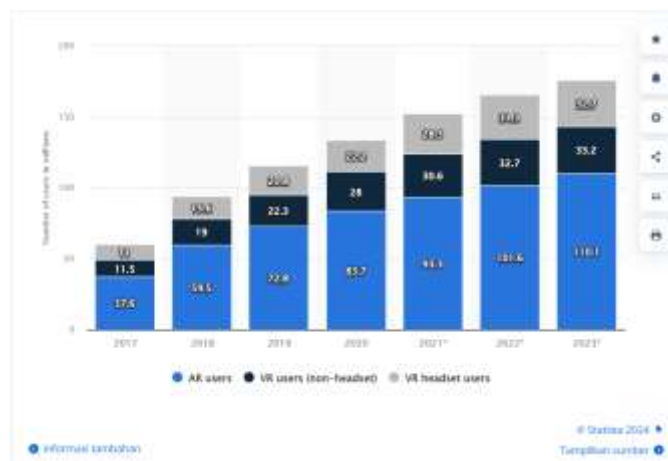


### ABSTRACT

Virtual reality has come a long way in recent years, and its potential to revolutionize the world of marketing is becoming increasingly apparent. It offers an immersive and engaging new way to reach consumers. Samsung utilizes this technology to gain a significant advantage in competition. This study aims to determine the effect of virtual reality technology on purchase intention through user experience as an intervening variable in the marketing strategy of Samsung products in the virtual world. This type of research is quantitative research using the Structural equation modeling (SEM) method with the Partial Least Square (PLS) approach using SmartPLS software. With this research, it is hoped that it can contribute to improving marketing strategies for Samsung products through virtual reality technology.

## INTRODUCTION

Technological advancements and developments in visualization have reached new heights, especially in terms of content that can be presented with a high degree of reality. Virtual reality is one of the main contributors to this visual development. With promising visual devices, users can enjoy a variety of entertainment, information, and simulation content. Visual technology has become part of the ever-evolving contemporary lifestyle (Saputra, 2022). Virtual Reality (VR) technology has grown rapidly in recent years, according to (Ika, 2018) estimates that the number of users of artificial reality, virtual reality (VR), and augmented reality (AR) services will reach 440 million by 2025. Virtual reality (VR) is the use of computers to create simulated experiences that resemble reality in detail. In simpler terms, virtual reality is the generation of three-dimensional images by computers that appear very real thanks to the use of various specialized devices. By 2030, the utilization of virtual reality and augmented reality in the retail and consumer sectors is expected to contribute \$184.2 billion to global GDP. This will enable retailers to create new and more engaging experiences for customers.



**Figure 1. Explains the Increase in the Number of Virtual Reality and Augmented Reality Users in the United States From 2017 to 2023**

Sumber : (Jugap, 2023)

The figure above explains the increase in the number of virtual reality and augmented reality users in the United States from 2017 to 2023. The use of virtual reality (VR) in the United States has grown from 11.5 million non-headset virtual reality users in 2017 to 33.2 million users in 2023. For virtual reality headset users, there were 11 million in 2017 and 32.7 million users in 2023. This is predicted to increase over time. Most of the time, information about virtual reality focuses on gaming, but over time virtual reality has become a revolutionary breakthrough in technology that can change the way we interact with the digital world. The main principle behind virtual reality technology is immersive experience where users can feel as if they are in a virtual environment, ignoring the real world around them. This is due to the combination of high graphics technology, audio, 3D, and real-time interaction between the user and the virtual environment. Virtual reality applications have a variety of uses, ranging from entertainment

such as playing games or watching movies, to applications in education, training, scientific research, product design, health care, to now penetrating into marketing in business (Harpiawan, Inilah Rangkuman Daftar Penggunaan VR di Berbagai Industri, 2023).

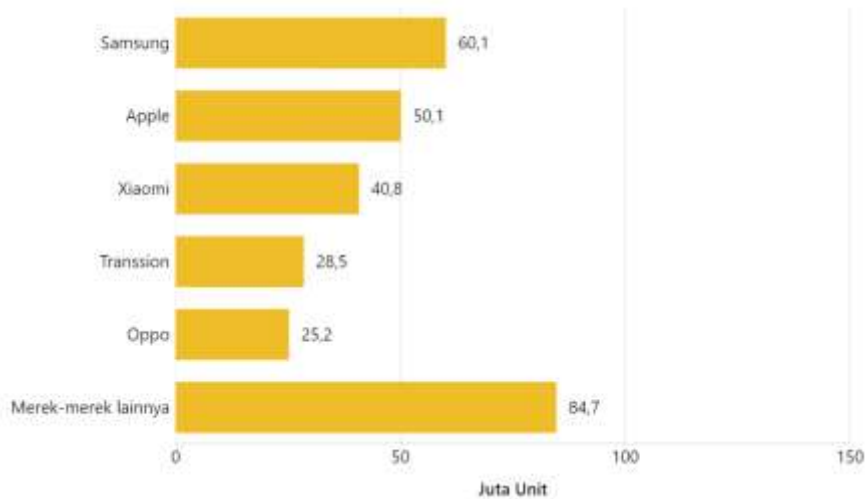
According to (Harpiawan, 2023) today, marketing goes a step further by not only showing content to potential consumers, but also making potential consumers experience it firsthand. In an effort to achieve this, marketing strategies use virtual reality to take audiences to various places in a short time. Virtual reality can be applied in the retail sector for various purposes such as helping home decoration, furniture selection, cars, clothes to smartphones. One of the retail companies that has adopted virtual reality as a marketing strategy in today's modern era is Samsung. By 2023, about 1.033 billion people around the world use Samsung smartphones, which is a significant portion of the approximately 7.33 billion global smartphone users. This shows Samsung's smartphone penetration as one of the best android manufacturers globally. In addition, about 259 million Samsung units were shipped worldwide in 2022 (onyango, 2023).

Brand	2022 (%)
Apple	39
Samsung	20
Other	15
Huawei	7
Xiaomi	6
Oppo	4
Vivo	4
Realme	3
Motorola	2

**Figure 2. Samsung's Market Share in 2022**

Sumber : (onyango, 2023)

The table above explains Samsung's market share in 2022, where Samsung smartphones have a significant market share. In recent years, Samsung has consistently been among the top two smart smartphone manufacturers, competing fiercely with major players such as apple, xiami, oppo, vivo, and others. The table shows that Samsung has a 20% smartphone market share below apple which has the largest share of 39%.



**Figure 3. The Total Volume of Global Smartphone Shipments from Various Brands**

Sumber : (Muhamad, 2024)

Based on the international data corporation (IDC) report, the total volume of global smartphone shipments from various brands in the first quarter of 2024 reached 289.4 million units, which is a 7.8% increase compared to the first quarter of 2023. In the first quarter of 2024, Samsung controlled 20.8% of the global smartphone shipping market with a total shipment of 60.1 million units, which achievement shifted Apple, which has now dropped to second place with 50.1 million units.

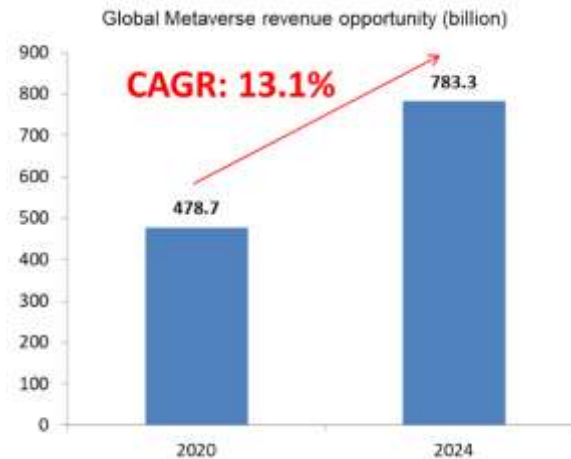
Tahun	Pendapatan (USD miliar)
2013	212.68
2014	191.78
2015	186.6
2016	187.74
2017	222.81
2018	218.17
2019	206.61
2020	200.61
2021	216.56
2022	234.08

**Figure 4. Samsung's Revenue from 2013 to 2022**

Sumber : (onyango, 2023)

The table explains that Samsung's revenue from 2013 to 2022. In its revenue Samsung experienced an increase and decrease although not drastically. In 2023, Samsung also experienced an increase and decrease in the second quarter, where profits fell by 95% or 60.01 trillion Korean won (about \$47.21 billion). However, in the third quarter, despite a 77.6% decrease in annual profit, it increased by 262.65 compared to the previous quarter. Which shows that there is a strong resurgence in Samsung.

Latam, the Latin American regional division of the electronics company, has decided to provide an online space to increase its brand visibility in the digital world. The company created a space named "House of Sam" on Decentraland, one of the largest metaverse platforms based on Ethereum. According to reports, the move aims to bring the brand closer to a new generation of consumers by using the metaverse as a tool. Samsung marketing directors Latam and Arthur Wong stated that customers will be able to interact with each other and participate in exclusive shows, courses, and events that will be offered for free on Decentraland (Pratomo, 2022).



**Figure 5. Bloomberg Intelligence Estimates that the Metaverse**

Sumber : Bloomberg (2022)

Based on the figure above, Bloomberg Intelligence estimates that the metaverse market size could reach up to \$800 billion by 2024. Meanwhile, Ark Inverst estimates that revenue from virtual worlds could approach \$400 billion by 2025. Up from around \$180 million in 2021 (Samsung Asset Management, 2022). Marketing opportunities in the virtual world became possible after hardware developers such as meta, snap, and Samsung released quality and affordable VR headsets (Gunawan & Aflaha, 2022). Quoted from (Laksana, 2022), Samsung is rumored to be preparing a device to rival Apple's VR/AR headset. This rumor emerged after some time, Samsung's CEO, Han Jong-Hee gave an indication regarding the presence of a VR/AR headset that supports the metaverse. With these plans, Samsung has joined the ranks of technology manufacturers that have launched devices for the metaverse. Samsung's new device will be powered by Qualcomm chips specifically designed for virtual reality applications and will use an operating system powered by Google (Voi, 2023).

Through the background that has been described, researchers will conduct research with the title "The Effect of Virtual Reality Technology on Purchase Intention Through User Experience as an Intervening Variable on Samsung Product Marketing Strategies in Virtual World".

## **THEORETICAL REVIEW**

### **Theory Virtual Reality**

Virtual reality is a technology that creates three-dimensional images created by computers so that they look very real through the use of special equipment, which makes users feel as if they are really in the environment physically (Saurik, Purwanto, & Hadikusuma, 2018). Virtual reality technology allows users to experience a space without the need to physically be in that location. By using virtual reality, users can understand and interpret the product or environment they are experiencing. Virtual reality technology offers a dynamic and entertaining interactive approach, which provides additional information to buyers due to its more dynamic, interactive, and entertaining nature (Alverina & Tunjungsari, Pengaruh Website Quality dan Virtual Reality Terhadap Purchase Intention Pada Industri Properti Dengan Customer Satisfaction Sebagai Mediasi, 2022). According to Bahar (2022) the term virtual reality describes an experience that feels real through the senses, even though it does not physically exist in the real world. In other words, virtual reality is a technology that creates substitutes for spaces, events, objects, or physical environments that humans can accept as real or real experiences.

One of the main advantages of virtual reality is that it can give users the experience of feeling as if they are in the real world even though they are actually in the virtual world. The current development of virtual reality technology has enabled users to experience the sensation of the virtual world not only through sight and hearing, but also through other senses (Saputra, 2022). According to (Saputra, 2022) In order to feel the real sensation of virtual reality, a supporting device is needed, at least a headset that has been connected to a smartphone that supports virtual reality technology. Virtual reality has four important main components, which can be explained as follows:

1. Virtual World, a material that produces a virtual environment in the form of a script or scenario.
2. Immersion, an experience that makes users of virtual reality technology feel as if they are in a real environment even though it is fictitious. Immersion is divided into three types, namely:
  - a. Mental Immersion, creating experiences for users so that they feel as if they are in a real environment.
  - b. Physical Immersion, creating experiences for users so that they feel the atmosphere around the environment produced by virtual reality physically.
  - c. Mentally Immersed, providing experiences to users so that they are immersed in the environment created by virtual reality.
3. Sensory Feedback, plays a role in transmitting information from the virtual world to the user's senses. This component includes visual (vision), audio (hearing), and tactile aspects.
4. Interactivity, the part responsible for responding to user actions, allowing them to interact directly within the virtual environment or virtual world. Interaction is a very important element in the virtual reality experience, as it provides users with sufficient comfort to engage naturally in the virtual environment.

A technology can be considered virtual reality when it meets the following criteria:

1. The three-dimensional visualization displayed must look realistic and match the user's point of view.
2. The technology must be able to recognize and respond to all user movements, such as head movements or changes in eyeball position, so that the graphic display can be adjusted to changes in the three-dimensional world of the user (Saputra, 2022).

### **Theory Purchase Intention**

According to Fill and Turnbull (2022) purchase intention is a person's belief about relevant purchasing recommendations that can influence a person's desire to buy something. According to Resmawa (2023) purchase intention is the phase where consumers evaluate the information received and indicate the possibility that they plan or are willing to buy certain products or services in the future. According to Schiffman and Kanuk (2021) purchase intention can indicate how likely it is that consumers will buy a product, and the higher the purchase intention, the higher the consumer's desire to make a purchase. In addition, purchase intention can be considered a personal preference that can be used as a tool to predict certain behaviors in the purchasing process by consumers. According to Hsu & Tsou (2020), a person's interest can be reflected through the evaluation of the product. When interest arises, individuals will feel a strong psychological urge to take an action. In the context of marketing, consumer interest in products has a significant impact on the purchase decisions that will be taken. Therefore, purchase intentions can be used to predict real behavior in the buying process. According to Assael (2021) as a tool to predict certain behaviors in the purchasing process by consumers, the purchase request variable can be measured through the level of purchase interest, interest in considering making a purchase, and interest in recommending products to others. The indicators of purchase intention according to Ferdinand (2019) are as follows:

1. Transactional Interest  
Consumers have the intention to buy a product.
2. Referential Interest  
Consumers tend to want to provide recommendations or recommend products to others.
3. Preferential Interest  
Consumers have the desire to choose a product as the main choice in shopping.
4. Explorative Interest  
Consumers have the desire to conduct further searches related to the product to be purchased.

## Theory User Experience

User Experience (UX) is the attitude, behavior and emotions experienced by users when interacting with a product, system, or service. This includes individual perceptions regarding the perceived benefits and convenience obtained from these interactions (Irwansyah, Novriando, & Apriandi, 2021). According to Deacon (2022) user experience is how users feel or experience a product, product development, or when using a product or service on a website. According to Hartson (2022) user experience is the totality of effects experienced by users before, during, and after interacting with products or systems in an environment. When a user uses a product, they can develop positive or negative feelings towards the product. According to Frank Guo (2022) user experience consists of four elements as follows:

1. Usability

Users can easily complete the desired task through the product. For example, when users want to send a message, they simply press the "message" button on the website feature.

2. Valuable

The features contained in the product must be relevant to the user's needs. Even though the product is user-friendly, if it does not meet the user's needs, its value will not be significant.

3. Ease of Access (Adoptability)

If a product has a high value but is difficult to access, it cannot be said to have a good user experience. The product should be easy to access, easy to buy, and easy to use so that users can easily start using it.

4. Desirability

Desirability is related to emotional pull, where users feel happy when using certain products. If a product fulfills all four elements, it can be concluded that the product has a good user experience.

The figure below shows the theoretical framework developed in this study. Specifically, the framework proposes that virtual reality is hypothesized to influence user experience which in turn shapes purchase intention.

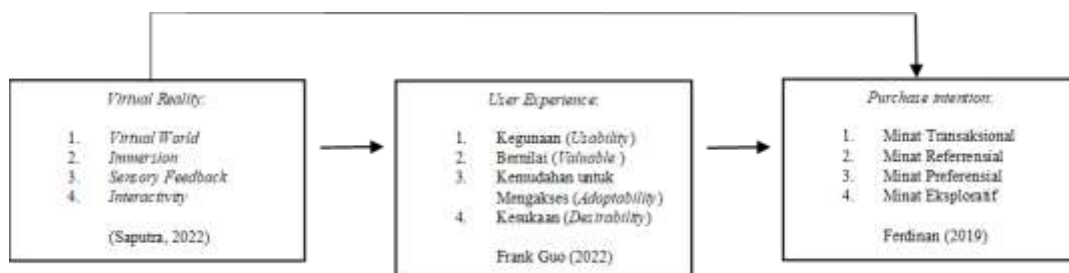


Figure 6. A Conceptual Framework

## **METHODOLOGY**

This study uses quantitative research methods to investigate the influence between virtual reality, user experience, and purchase intention. The sample population consists of registered students of Telkom university who own several Samsung products. The sample for this study will be selected using purposive sampling method, which involves incorporating certain criteria into the sampling process. The partial least squares (PLS) approach to Structural Equation Modeling (SEM) will be used to analyze the data collected. SEM-PLS is a statistical analysis method used to validate structural equation models that include latent variables.

## **RESULTS**

To achieve a good user experience, virtual reality must match the user's needs. This suitability determines the value of the virtual reality. If the virtual reality is easy to understand and use from the start, users will find it enjoyable to use. Finally, virtual reality should make it easier for users to complete tasks or achieve their goals (Martono, Eridani, & Isabella, 2020). Virtual reality technology has a positive impact on purchase intention in the technology and electronics industry. Similar research has been conducted several times in the tourism industry, where marketing in the technology and electronics industry has similarities with the tourism industry because both require environmental experiences (Alverina, 2023).

In research conducted by (Safitri, 2018) shows that there is a positive and significant effect of user experience on purchase intention. In previous research, user experience has an important role in influencing consumer purchase intentions. Apart from direct interaction with products or services, user experience also involves emotional aspects, impressions, and consumer involvement during the buying process. These interactions significantly influence attitudes, preferences and purchase intentions, so an in-depth study of user experience is needed to understand how consumers interact with a good or service. Research shows that a positive user experience can influence consumers' propensity to make purchases through e-commerce platforms (Wardani & Pebrianggara, 2024).

## **DISCUSSION**

The relationship between virtual reality and purchase intention is positive but not significant, indicating that the relationship is not significant directly. This indicates a mediating role in the relationship between virtual reality and purchase intention. In previous research, the use of VR to influence purchase intention is based on the S-O-R theory. This theory states that a stimulus influences consumer attitudes, responses, and emotional states (organisms), which ultimately results in a customer response. In this context, virtual reality acts as a stimulus and purchase intention as a response. Thus, the relationship between VR and purchase intention is positive and significant indirectly. To get a good user experience, a product must have a match between virtual reality features and user needs. This is then a parameter in determining whether a virtual reality is valuable or valuable. Next, if virtual reality is easy to understand or learn and easy to use the first time, then

virtual reality can make users feel happy when using it. And the last thing, virtual reality must be easy to use to complete or do the things the user wants (Martono, Eridani, & Isabella, 2020). One study showed that user experience has a significant positive impact on purchase intention. However, another study revealed that a negative user experience has a negative impact on purchase intent, as negative experiences can influence users' reactions and how they share their experiences with other potential consumers. This is due to the fact that positive and personal comments can foster customer trust when they make a purchase. Research shows that user experience affects purchase intention due to the positive responses and affirmations received (Wardani & Pebrianggara, 2024).

## **CONCLUSIONS AND RECOMMENDATIONS**

This study aims to analyze the effect of virtual reality technology on purchase intention through user experience as an intervening variable on the marketing strategy of Samsung products in virtual reality. With a positive user experience in using virtual reality, it is expected to increase consumer interest and attention to Samsung products. With this research, it is hoped that Samsung can provide a user experience by paying attention to usability, value, ease of access, liking to create a stronger purchase intention.

## **FURTHER STUDY**

The limitation of this study is the lack of references regarding the variables used because the virtual reality phenomenon is a new phenomenon so that not many researchers have examined this phenomenon.

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