International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

From Clicks to Clients: The Influence of Viral Marketing on Zoom Usage in Property Transactions in Indonesia

Binti Clara Lavenia[1], Edy Yulianto[2], Kadarisman Hidayat[3]

[1,2,3] Faculty of Administrative Sciences, Universitas Brawijaya

Abstract

The COVID-19 pandemic heavily impacted Indonesia's property industry, with technology playing a crucial role in helping the industry navigate through the pandemic. 45% of property agents utilize communication platforms of Zoom to facilitate live private home tours since the pandemic started. This study examines the direct impact of Viral Marketing (VM) on the Decision to Use Zoom (DU) as well as the indirect impact through Perceived Ease of Use (PE) and Perceived Usefulness (PU) within the Indonesian property market. Utilizing the Technology Acceptance Model (TAM), this study introduces mediating variables PU and PU that have not been examined in prior research while investigating the decision to use Zoom application during the COVID-19 pandemic in Malang, Indonesia. This study is distinct from previous studies that mainly concentrated on financial services, internet banking, and e-commerce, by exploring the utilization of Zoom in property transactions. Data was gathered from property developer consumers in Malang using online questionnaires and analyzed with Structural Equation Modeling (SEM). The findings revealed that while VM do not directly affect DU, it significantly influenced PE and PU. PU is found to significantly mediate the relationship between VM and DU, whereas PE do not directly impact DU. These results underscore the importance of VM and PU in decision-making regarding Zoom use. For better adoption rates, Zoom should enhance VM strategies and effectively communicate its benefit.

Keywords: Zoom; COVID-19; Viral Marketing; Technology Acceptance Model; Property Industry

1. Introduction

The current global landscape is dominated by the Covid-19 pandemic, which has compelled governments worldwide, including Indonesia, to implement various policies such as social distancing, lockdowns, work from home (WFH), online learning, and community activity restrictions (PPKM) to mitigate the spread and impact of the virus (Ausrianti et al., 2020; Lai et al., 2020). The situation has had a huge impact on different industries, including the property sector. Indonesia witnessed large decreases in property sales, especially in the residential market. The sales of residential properties saw a decrease, with prices decreasing by -43.19% (year over year) in the first quarter of 2020, in contrast to a gain of 1.19% (year over year) in the fourth quarter of 2019 (Swa.co.id, 2020).

Digital platforms and social media have become essential marketing tools for the real estate business as they adjust to the new normal and strive to maintain a presence in the market (Aditiasari, 2021). Developers now use online channels for sales advertising and consumer engagement, change in property

marketing tactics brought about by the pandemic's dramatic increase in internet usage, especially on social media (Mediaindonesia.com, 2023).

Technology played a crucial role in helping agents navigate the most challenging pandemic period. 96%, the majority of property agents agree that technology played a crucial role in sustaining their businesses amidst the pandemic. 45% of property agents utilize Zoom to facilitate live personalized tours (ACEABLE, 2024).

This is in line with findings from Zoom's survey regarding predictions of consumer behavior in conducting post-pandemic real estate transactions in 10 countries around the world. A total of 55% respondents revealed that they are more interested in conducting property transactions when it involved virtual tours, while only 45% preferred conducting property business physically without involving Zoom technology (Zoom, 2021).

Nevertheless, despite the clear trend towards digital marketing in the real estate industry, there is still a lack of study on the influence of these digital marketing tactics, specifically concerning platforms such as Zoom. Virtual tours, consultations, and marketing events are just a few examples of the property-related activities that are utilizing Zoom. However, there is an absence of empirical research explain how Viral Marketing (VM) through Zoom affects sales and customer behaviour.

This study's analysis on the Portal Garuda (http://garuda.ristekdikti.go.id/), an Indonesian publication search engine developed by the Ministry of Research, Technology, and Higher Education of the Republic of Indonesia, provides conclusive evidence. There is no scholarly articles were discovered discussing the impact of viral marketing on the decision to use Zoom Application (GARUDA, 2024). Despite being the present and future biggest communication platform to use in the property industry, there is a lack of discussion in journals regarding the decision to use Zoom application. The scarcity of study on this subject in Indonesia has resulted in an ambiguous understanding of the factors that influence the decision to use Zoom application, as seen by Indonesian customers.

In order to keep up with the changing real estate market, ongoing innovation in marketing techniques is essential due to the digital transformation of the property business and the evolving consumer behavior. As the world transitions towards Web 3.0 and the Metaverse, leveraging digital channels and harnessing the power of VM will be essential for staying competitive in the property sector (Kontan.co.id, 2022).

Virtual environments like as Zoom are utilized as effective marketing strategies in the property business (Gray, 2020). Virtual tours offer an immersive experience, enabling prospective buyers and renters to examine houses without leaving their homes. These tours provide panoramic views in all directions, beyond limitations of time and place. In addition, virtual staging improves digital showings by incorporating furniture and decorations, so making homes more noticeable. The COVID-19 epidemic accelerated the acceptance of virtual tours as a result of government limitations, rendering them vital aspect for property inspection (Gray, 2020).

Based on previous research conducted by Agesti et al. (2021), the findings indicate that VM positively influences consumers' purchase decisions. In other words, VM is capable of directing customers towards enhancing their purchase decisions or usage of a product or service. Another study by Nguyen et al. (2019) demonstrates that Perceived Usefulness (PU), Perceived Ease of Use (PE), and website trust are significant drivers of consumers' attitudes and intentions towards online food purchasing.

Viral marketing, acknowledged as a cost-efficient approach for reaching a wide audience, significantly impacts consumers' perceptions (Andini et al, 2014). Consumer perceptions and decision-making processes are influenced by viral content related to a product or service (Pescher et al., 2014). Viral

marketing strategies increase the level of recognition and knowledge about a product or service. Consumers perceive the product as easy to use when they are exposed to viral content since it increases the product's visibility and creates favorable association. The engaging and educational quality of viral information enhances the product's perceived ease of use, thereby boosting potential users' willingness to adopt it.

Moreover, viral marketing promotes the perception of usefulness. Consumers perceive the product to be useful because they acquire further insights and recommendations from fellow users (Galib et al., 2018). The perceived utility of the product is enhanced by the dissemination of viral material, which fosters a positive attitude towards its usefulness. Viral marketing enhances the perception of a product's benefits and efficacy by generating a positive buzz and providing relevant information. Viral marketing increases the perception of how easy it is to use and how beneficial a product or service is, which in turn affects people's decisions to use it.

The novelty of this study is justified by several factors. Firstly, it addresses a gap in previous research regarding the variables under study. Unlike earlier studies, this research incorporates Technology Acceptance Model (TAM) as mediating factors, namely PE and PU, instead of using them solely as main exogen variables (Al-sharafi et al., 2017; Devi et al., 2018; Galib et al., 2018). Secondly, this study examines digital communication products in the video-based communication sector, specifically for seminars, workshops, and meetings, in contrast to previous research, which primarily focused on financial sectors like internet banking (Al-sharafi et al., 2017; Li, 2013; Nasri & Charfeddine, 2012) and e-commerce (Andini et al., 2014; Fard & Marvi, 2020; Ngubelanga & Duffett, 2021; Santoso & Dwijayanti, 2022). In this research context, respondents utilize digital communication media for property transactions.

Based on the aforementioned background, the research problems can be formulated as follows. Firstly, the study seeks to ascertain whether there exists a significant influence of VM on the decision-making process regarding the usage of the Zoom application. Secondly, it aims to investigate if this influence is mediated by TAM variables (PE and PU). In addition, this study examines the influence of PE and PU on the decision to utilize the Zoom application (DU).

2. Literature Review

a. Consumer Usage Decision

Many factors, including economics, technology, culture, and advertising, have a role in shaping consumers' usage decision-making processes. It is important for consumers to analyze extensive information to develop attitudes and, eventually, purchase decisions (Alma, 2013). In their study, Peter & Olson (2014) provide a more detailed explanation of this process, describing it as the assimilation of information to assess many options and make a decision based on cognitive preferences, which in turn reflect behavioral intents. Similarly, Kotler & Armstrong (2016) argue the significance of deploying information and attitudes to evaluate various options and make well-informed choices. Machfoedz (2013) states that usage decisions include assessing different options according to unique needs and identifying the best and suitable option.

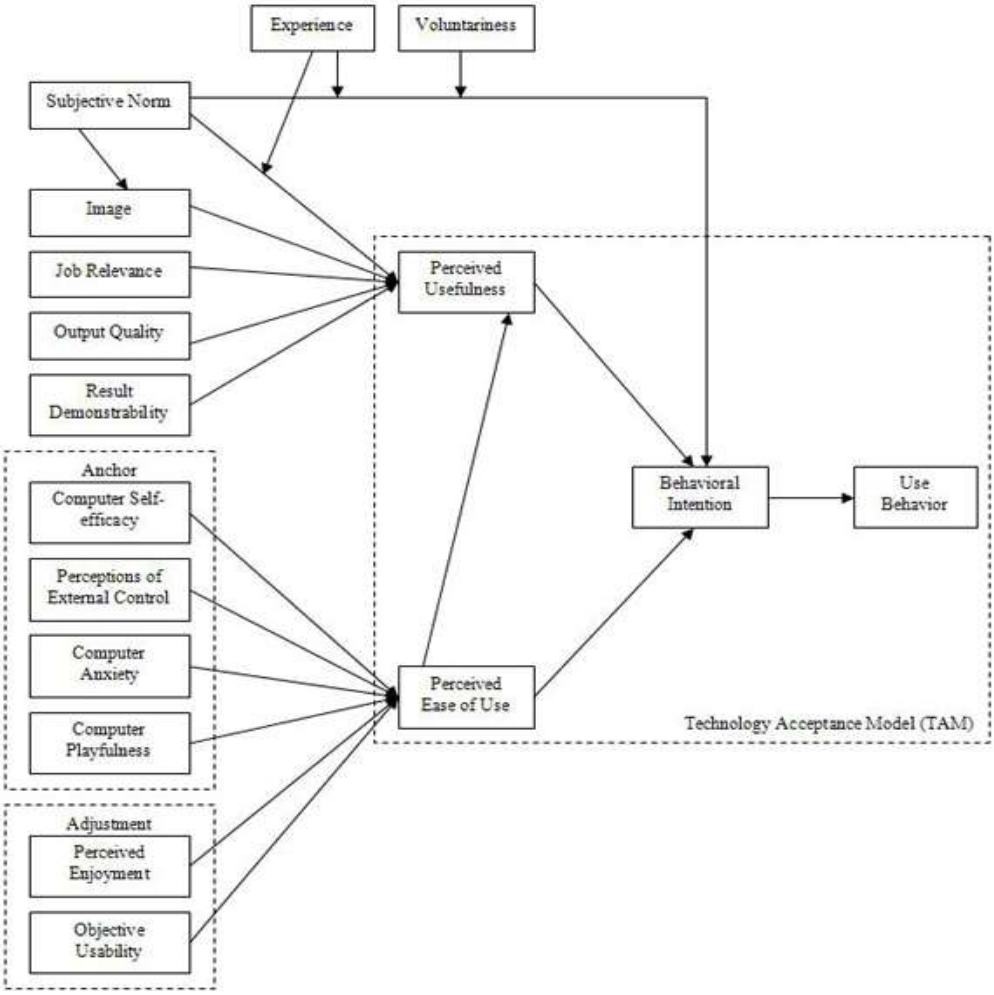
Schiffman et al. (2010) classify consumer decision-making into three categories: extensive problem solving (evaluating numerous brands for new product categories), limited problem solving (using basic criteria within familiar categories), and routinized response behavior (habitual choices based on established criteria). The depth of consumer problem-solving levels depends on the clarity of selection

criteria, the amount of information available for each product, and the range of products under consideration, with extensive problem solving necessitating more information gathering compared to routine decision-making behaviors.

b. Technology Acceptance Model

The Technology Acceptance Model (TAM), initially proposed by Davis (1989), is an adaptation of the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB). TAM has successfully elucidated the context of social psychological research by linking behavioral intention and actual behavior and has been effectively implemented in various human behaviors (Nasri & Charfeddine, 2012). TAM aims to provide a parsimonious explanation of the determinants of technology user behavior towards the acceptance of information technology itself (F. D. Davis, 1989). TAM incorporates two main perceptions into the TRA model, namely PU and PE (F. D. Davis et al., 1989). According to TAM, the use of technology systems is directly or indirectly influenced by user interest behavior, user attitude, perceived system benefits, and perceived system ease of use (Park et al., 2012). TAM 3 discusses the reciprocal relationships of constructs (nomological network) determining why individuals adopt and use Information Technology (IT). TAM 3 comprises 17 variables interconnected with each other, as depicted in Figure 1, which presents the conceptual framework of TAM 3 (Venkatesh & Bala, 2008).

Figure 1: Conceptual Framework of TAM 3



Source: (Venkantesh and Bala, 2008)

This study use two main TAM factors that affect app usage decisions which are Perceived Ease of Use (PE) and Perceived Usefulness (PU). PE is the level at which an individual believes that technology is easy to understand (F. D. Davis, 1989). This definition is also supported by Stefany et al. (2021), who states that the perception of the ease of use of a technology is defined as a measure of an individual's belief that the technology can be easily understood and used. PE refers to how users perceive the ease with which they can interact with an information system. It is essentially the human perception of the system's user-friendliness and simplicity. Users assess whether they find the system easy to navigate, understand, and utilize in their tasks. Ease of use is a concept that has received attention in user satisfaction in the flow of information system and e-commerce research. All the same, a system that is easy to use will increase the intention to use as a benefit of a system that is easier to use (K. Davis & Newsroom, 2006).

On the other hand, PU is a level at which an individual believes that the use of a particular technology will enhance their job performance (K. Davis & Newsroom, 2006). Dalcher & Shine (2003) define PU as the construct of an individual's belief that the use of a specific technology will enhance their performance. From these two definitions, it can be inferred that PU reflects the extent to which users believe that employing an information system will enhance their job performance. This component focuses on users' perceptions of the system's utility and effectiveness in facilitating their work-related activities. Users evaluate whether the system offers tangible benefits and contributes positively to their tasks and objectives. Venkatesh & Bala (2008) asserts that there is a significant influence of benefits in understanding individual responses to information technology.

c. Viral Marketing

Viral Marketing (VM), as described in academic literature, relies on customers to digitally spread marketing messages within their social networks, functioning as a networking-focused promotional tool within internet-based Word of Mouth marketing (Ali Hasan, 2010; Andini et al., 2014). This strategy aims to rapidly disseminate messages from one individual to another, enhancing brand awareness through efficient transmission of information on digital platforms such as social applications, often coupled with product advertisements. The foundational structure of VM encompasses Active VM, where users autonomously propagate new phenomena, aiding producers in sales and assisting consumers in purchasing decisions, and Frictionless VM, which operates without necessitating active customer involvement, emphasizing the importance of creating quality products for recognition and propagation within the digital realm (Skrob, 2005).

d. Hypothesis Development

VM is a communication and distribution concept that relies on customers to transmit marketing messages digitally through electronic messages to other potential customers within their social scope and encourage these potential customers to transmit the same product messages (Andini et al., 2014). Effective VM can have an impact on consumers' decisions to use the Zoom application. This hypothesis is supported by Devi et al. (2018) who find that VM significantly influences Decision to Use Applications (DU). Therefore, based on the above description, a hypothesis can be formulated as follows:

H1: There is a significant influence of VM on DU

VM is a communication and distribution concept relying on customers to digitally transmit product marketing messages through electronic messages to other potential customers within their social scope, thereby inducing these potential customers to transmit the same product messages (Andini et al., 2014).

Application usage decision of Zoom is influenced by effective VM through the mediation of PE. Stefany et al. (2021) define PE as the degree to which a person believes a technology is easily understood and used. Research conducted by Andini et al. (2014), Fard & Marvi (2020), and Rachmad & Sutarso (2023) provides evidence supporting the idea that VM has a significant impact on DU through PE. Thus, this study proposes the following hypothesis:

H2: There is a significant influence of VM on the DU through PE

Andini et al. (2014) state VM is a marketing and communication concept that relies on consumers to spread marketing messages digitally through electronic methods to other potential consumers in their social circles, and then to encourage these potential consumers to spread the same product messages even farther. Effective VM can impact consumers' decisions to utilize applications such as Zoom by influencing PU. Dalcher & Shine (2003) define PU as an individual's belief construct that the use of a particular technology will enhance their performance. This hypotehsis is supported by the findings of Fard & Marvi (2020), John et al. (2022), Ngubelanga & Duffett (2021), and Tariyal et al. (2022) asserting that VM significantly influences DU through PU. Therefore, based on the aforementioned exposition, a hypothesis can be formulated as follows:

H3: There is a significant influence of VM on DU through PU

PE is the degree to which an individual believes that technology is easy to understand (K. Davis & Newsroom, 2006). The intensity of usage and interaction between users and the system can also indicate ease of use. Ease of use is a concept that has received attention in user satisfaction within the streams of information system and e-commerce research. All else being equal, a system that is easy to use will increase the intention to use as a benefit of a system that is easier to use (K. Davis & Newsroom, 2006).

Good PE will be able to impact consumers in deciding to use Zoom application. According to Nugroho (2003), usage decision is an integration process that combines attitude and knowledge to evaluate two or more alternative behaviors, and choosing one among them. This is supported by Artanti et al. (2019), Osman et al. (2018), and Rahmiati & Yuannita (2019) who find that PE significantly influences DU. Therefore, from the above discussion, a hypothesis can be formulated as follows:

H4: There is a significant influence of PE on DU

PU is a level at which an individual believes that the use of a particular technology will enhance their job performance (K. Davis & Newsroom, 2006). The PU of a system relates to its productivity and effectiveness in tasks overall, aimed at improving the performance of individuals using the system. Venkatesh & Bala (2008) states that there is a significant influence of benefits on individual responses to information technology.

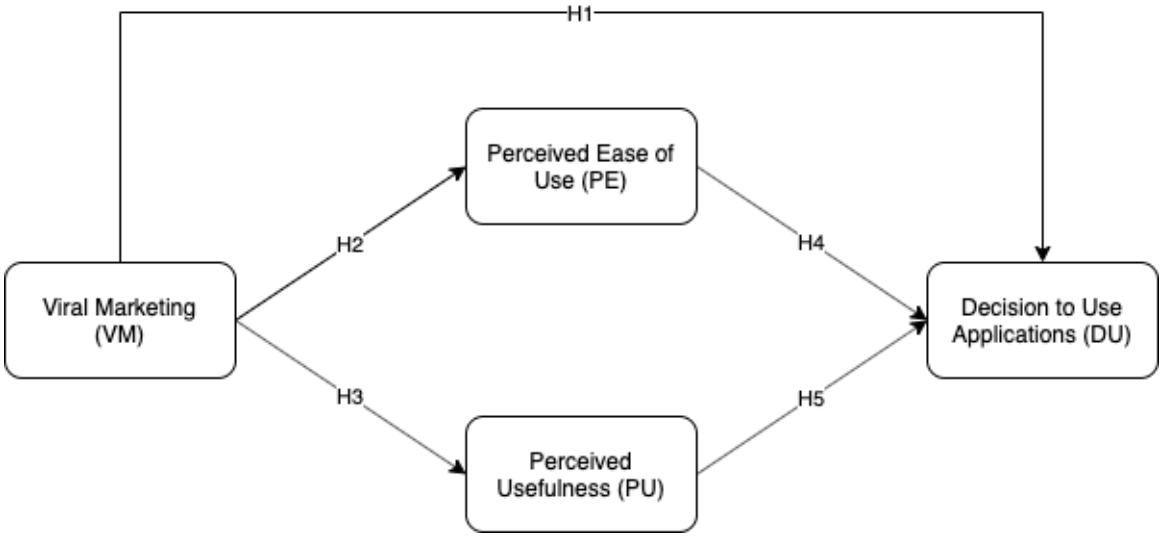
A good PU can have an impact on consumers' decisions to use the Zoom application. According to Kotler & Armstrong (2016), usage decision is part of consumer behavior, which is the study of how individuals, groups, and organizations select, buy, use, and how goods, services, ideas, or experiences satisfy their needs and desires.

This hypothesis is supported by Al-sharafi et al. (2017), Osman et al. (2018), and Rahmiati & Yuannita (2019) who find that PU significantly influences the DU. Therefore, based on the above discussion, a hypothesis can be formulated as follows:

H5: There is a significant influence of PU on DU

Based on the description provided in the background, problem formulation, and conceptual framework, the hypothesis proposed in this research can be observed in Figure 2 as follows.

Figure 2: Research Model



3. Research Method

In this study, explanatory research is employed with a quantitative approach. The research is conducted in the Malang Raya region, comprising the cities of Malang and Batu, and Malang Regency. The research duration spans 2 (two) months, with 1 month for data collection and 1 month for data processing. The research conducted from October to November 2023.

The population consists of property developer consumers in Malang Raya, particularly those who purchased houses using the Zoom application for video conferencing, with an unspecified number. The characteristics of the population include consumers who purchased houses in Malang Raya, utilized both conventional and Sharia property developers, made purchases between 2020-2022 (during COVID-19), and used the Zoom application for decision-making during the pandemic. To ensure housing consumers meet these criteria, this study verifies through specific questions. Affirmative responses qualify individuals as respondents.

As the exact population size is unknown, this study applies Machin et al. (2011) method to determine the sample size. The minimum sample size is calculated using Machin's formula to be 106 respondents. Nonprobability sampling, specifically purposive sampling, is utilized. Purposive sampling selects samples based on above specific criteria determined by this study, ensuring relevance to the research objectives.

Data collection involves surveying respondents through online questionnaires distributed via Google Forms to property developer consumers in Malang Raya who purchased houses using the Zoom application. The questionnaire addresses variables including VM, Decision to Use Application, PE, and PU. After initial testing with 30 respondents, the questionnaire is distributed to the sample of 142 respondents over a month.

A Likert scale with five response levels is employed for data measurement (1=" strongly disagree," 5=" strongly agree"). Inferential statistical analysis, specifically Structural Equation Modeling (SEM), is employed to test hypotheses. SEM PLS analysis includes outer (Validity and Reliability of instrument) and inner model analyses. Hypothesis testing evaluates the partial influence of exogenous variables on endogenous variables using t-values from bootstrapping, with significance tested at a 0.05 level.

4. Result

a. Respondent's profile

Table 1: Respondent's Profile

Variable	Category	Frequency	Percentage (%)
Gender	Female	83	58.45
	Male	59	41.55
Age (Year)	23-26	22	15.49
	27-30	57	40.14
	31-34	31	21.83
	35-38	19	13.38
	39-42	6	4.23
	43-45	4	2.82
	46-48	2	1.41
	49-51	0	0.00
	52-54	1	0.70
Income (Million Rupiah)	3 - 5.9	31	21.83
	6 - 8.9	60	42.25
	9 - 11.9	8	5.63
	12 - 14.9	9	6.34
	15 - 17.9	17	11.97
	18 - 20.9	10	7.04
	21 - 23.9	3	2.11
	24 - 26.9	1	0.70
	27 - 30	3	2.11

Based on the processed data, the distribution of respondents according to gender, age, and income in this study is presented in Table 1. Table 1 illustrates that the majority of respondents are female, accounting for 58.45%, followed by males at 41.55%. The processed data also reveal the distribution of respondents based on age. The largest age group among respondents is 27-30 years, constituting 40.14% of the total. The second largest age group comprises respondents aged 31-34 years, representing 21.83%. Furthermore, respondents aged 23-26 years account for 15.49%, those aged 35-38 years constitute 13.38%, 39-42 years represent 4.23%, 43-45 years account for 2.82%, 46-48 years make up 1.41%, while the age group of 52-54 years represents 0.70%. Notably, respondents aged 49-51 years make up 0% or 0 respondents. Table 1 also indicates that the highest percentage of respondents in this study falls within the income range of Rp 6,000,000 - Rp 8,999,999, comprising 42.25% of the total respondents, totaling 60 individuals. The lowest number of respondents is one person within the income range of Rp 24,000,000 - Rp 26,999,999, representing 0.70% of the total.

b. Reliability and Validity

By examining the correlations between the item scores, which were calculated using SmartPLS, the study assessed convergent validity (Hair & Alamer, 2022). If the loading factors were greater than 0.7, the study determined that the indicator validity was strong and eliminated the items with lower values from the measurement model. In order to strengthen the convergent validity, the study also employed the

Average Variance Extracted (AVE) over 0.5. Table 2 indicates that every item is convergently valid. The degree of accuracy and consistency of a research tool is its reliability (Heale & Twycross, 2015). If an instrument is dependable, it should produce comparable outcomes in the same circumstance. This study employed SmartPLS to compute Cronbach's alphas (CA) using a 0.6 value cutoff in order to verify the reliability of the instrument (Ghozali & Latan, 2015). Based on Table 2, all the items are considered as reliable.

Table 2: Item Measurement Validity and Reliability

Variabel	Item	Loading (>0.60)	CA (>0.60)	AVE (>0.50)
VM	VM.1	0.885	0.911	0.618
	VM.2	0.797		
	VM.3	0.769		
	VM.4	0.728		
	VM.5	0.785		
	VM.6	0.740		
	VM.7	0.787		
	VM.8	0.788		
PE	PE.1	0.783	0.921	0.645
	PE.10	0.779		
	PE.2	0.821		
	PE.3	0.798		
	PE.4	0.794		
	PE.7	0.815		
	PE.8	0.793		
	PE.9	0.841		
PU	PU.1	0.793	0.921	0.614
	PU.10	0.844		
	PU.2	0.752		
	PU.4	0.836		
	PU.5	0.721		
	PU.6	0.780		
	PU.7	0.793		
	PU.8	0.751		
	PU.9	0.774		
DU	DU.1	0.788	0.947	0.610
	DU.10	0.766		
	DU.11	0.753		
	DU.13	0.795		
	DU.14	0.773		
	DU.2	0.776		
	DU.3	0.809		

Variabel	Item	Loading (>0.60)	CA (>0.60)	AVE (>0.50)
	DU.4	0.747		
	DU.5	0.740		
	DU.6	0.802		
	DU.7	0.812		
	DU.8	0.787		
	DU.9	0.803		

Table 2 illustrates the Loading Factor values (Convergent Validity) of each item from the variables VM, PE, PU, and Application Usage Decision exceeding 0.60. Loading factor values > 0.60 can be considered valid. Thus, all construct items are considered valid. The Cronbach's Alpha values in Table 2 for all variables are greater than 0.6. Therefore, based on Cronbach's Alpha calculations, all items measuring the variables VM, PE, PU, and Application Usage Decision are considered reliable. It can also be observed that the variables VM, PE, PU, and Application Usage Decision yield Average Variance Extracted (AVE) values greater than 0.5. Consequently, items measuring the variables VM, PE, PU, and Application Usage Decision are considered valid.

c. Discriminant Validity

Table 3: Cross Loading Result

	DU	PE	PU	VM
VM.1	0.342	0.398	0.431	**0.885**
VM.2	0.268	0.307	0.301	**0.797**
VM.3	0.283	0.275	0.352	**0.769**
VM.4	0.321	0.340	0.342	**0.728**
VM.5	0.232	0.425	0.291	**0.785**
VM.6	0.183	0.297	0.301	**0.740**
VM.7	0.371	0.389	0.410	**0.787**
VM.8	0.370	0.365	0.364	**0.788**
DU.1	0.788	0.090	0.447	0.173
DU.10	**0.766**	0.153	0.445	0.256
DU.11	**0.753**	0.255	0.563	0.352
DU.13	**0.795**	0.264	0.505	0.315
DU.14	**0.773**	0.210	0.453	0.349
DU.2	**0.776**	0.244	0.534	0.357
DU.3	**0.809**	0.256	0.615	0.394
DU.4	**0.747**	0.026	0.460	0.205
DU.5	**0.740**	0.168	0.412	0.250
DU.6	**0.802**	0.233	0.544	0.329
DU.7	**0.812**	0.159	0.559	0.284
DU.8	**0.787**	0.334	0.546	0.286
DU.9	**0.803**	0.246	0.506	0.289

	DU	PE	PU	VM
PE.1	0.223	**0.783**	0.235	0.400
PE.10	0.287	**0.779**	0.239	0.266
PE.2	0.260	**0.821**	0.182	0.337
PE.3	0.147	**0.798**	0.138	0.318
PE.4	0.151	**0.794**	0.235	0.385
PE.7	0.171	**0.815**	0.076	0.350
PE.8	0.168	**0.793**	0.123	0.335
PE.9	0.285	**0.841**	0.235	0.452
PU.1	0.555	0.153	**0.793**	0.362
PU.10	0.584	0.227	**0.844**	0.386
PU.2	0.429	0.184	**0.752**	0.284
PU.4	0.577	0.324	**0.836**	0.472
PU.5	0.391	0.087	**0.721**	0.246
PU.6	0.487	0.137	**0.780**	0.312
PU.7	0.529	0.210	**0.793**	0.375
PU.8	0.562	0.115	**0.751**	0.284
PU.9	0.465	0.153	**0.774**	0.396

Table 3 reveals that all items comprising each variable in the present study (items highlighted in bold) have demonstrated discriminant validity by exhibiting the highest outer loading values for their respective individual variables, without significant loading on other variables they construct. Consequently, all items within each variable under investigation have satisfied the criterion for discriminant validity.

d. Hypothesis Testing

The hypothesis testing was conducted to examine whether there is a direct influence from exogenous variables on endogenous variables and indirect influence of from exogenous variables on endogenous thorugh mediating variables. In this study, testing criteria indicate that if the p-value ≤ the significance level (alpha = 5%), then there is a significant influence from exogenous variables on endogenous variables. The results of hypothesis testing can be found in the following table 4.

Table 4: Path Coefficient Results

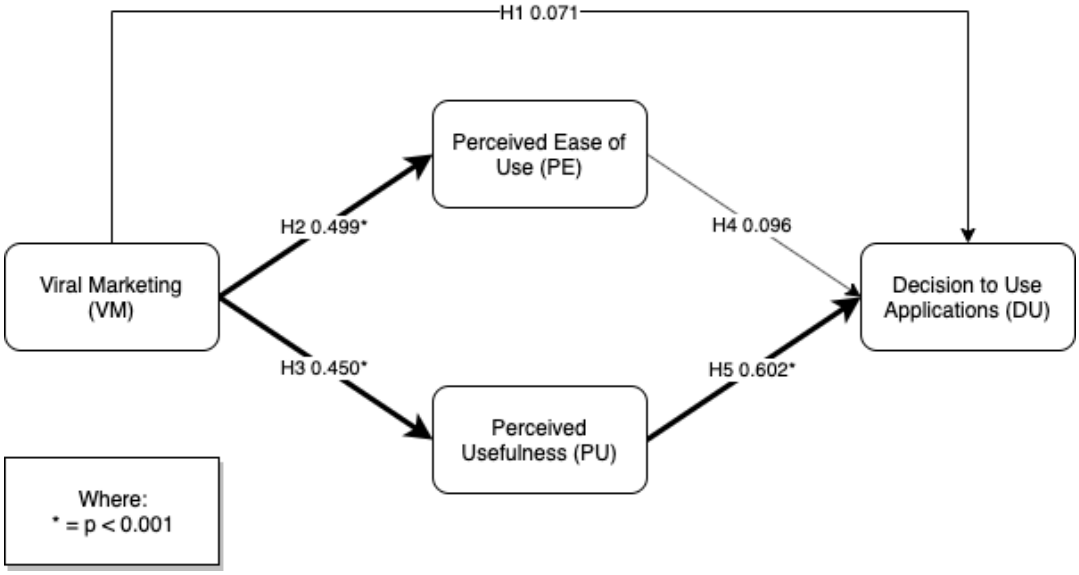
Exo	Med	End	Coefficient	P Values
VM	-	**DU**	0.071	0.240
VM	-	**PE**	0.449	**0.000***
VM	-	**PU**	0.450	**0.000***
PE	-	**DU**	0.096	0.113
PU	-	**DU**	0.602	**0.000***
VM	**PE**	**DU**	0.043	0.167
VM	**PU**	**DU**	0.271	**0.005***

Where:

Exo=Exogen
Med=Mediator
End=Endogen
**=Significant*

Based on Table 4, the results of hypothesis testing can be delineated as follows:

Figure 3: Research Model with path coefficient result



H1: VM has a significant influence on DU.
Based on the results of the first hypothesis testing, it is indicated that the influence of the VM variable on DU shows a p-value of 0.240. This testing result suggests that the p-value > significance level (alpha = 5%), meaning it is greater than 0.05, indicating insignificance. This outcome indicates that VM has a positive and not significant influence of 0.071 (β=0.071) on DU, thus rejecting the first hypothesis proposed in this study.
H2: VM has a significant influence on PE.
Based on the results of the second hypothesis testing, it is shown that the influence of the VM variable on PE demonstrates a p-value of <0.001. This testing result indicates that the p-value < significance level (alpha = 5%), meaning it is less than 0.05, indicating significance. This outcome reveals that VM has a positive and significant influence of 0.449 (β=0.449) on PE, hence accepting the second hypothesis proposed in this study.
H3: VM has a significant influence on PU.
Based on the results of the third hypothesis testing, it is found that the influence of the VM variable on PU displays a p-value of <0.001. This testing result indicates that the p-value < significance level (alpha = 5%), meaning it is less than 0.05, indicating significance. This finding illustrates that VM has a positive and significant influence of 0.450 (β=0.450) on PU, thus accepting the third hypothesis proposed in this study.
H4: PE has a significant influence on DU.
Based on the results of the fourth hypothesis testing, it is demonstrated that the influence of the PE variable on DU indicates a p-value of 0.113. This testing result suggests that the p-value > significance

level (alpha = 5%), meaning it is greater than 0.05, indicating insignificance. This outcome shows that PE has a positive influence of 0.096 (β=0.096) but is not significant on DU, thus rejecting the fourth hypothesis proposed in this study .

H5: PU has a significant influence on DU.

Based on the results of the fifth hypothesis testing, it is indicated that the influence of the PU variable on DU shows a p-value of <0.001. This testing result suggests that the p-value < significance level (alpha = 5%), meaning it is less than 0.05, indicating significance. This finding indicates that PU has a positive and significant influence of 0.602 (β=0.602) on DU, hence accepting the fifth hypothesis proposed in this study.

Indirect Effects

The impact of VM on DU through PE shows an indirect path coefficient of 0.043, with a p-value score of 0.167. This value exceeds 0.05, indicating insignificance. These findings suggest that PE has an insignificant influence as a mediator between VM and DU.

The influence of VM on DU through PU reveals an indirect path coefficient of 0.271, with a p-value score of 0.005. This value is less than 0.05, indicating significance. These results indicate that PU significantly mediates the relationship between VM and DU.

5. Discussion

Based on the analysis results, it is found that the VM variable has a positive but not significant effect on the DU. This is evident from the path coefficient value of 0.071 between these two variables. The positive direction of the relationship indicates that better VM leads to better DU. However, the path analysis shows a probability of 0.240 with alpha 0.05 (0.05 < 0.240), proving that H0 is accepted and H1 is rejected. This indicates that the VM variable has a positive but not significant effect on the DU. This insignificant effect suggests that VM is not one of the main variables that significantly influence the increase in DU.

This research is supported by previous studies stating that VM has an insignificant effect on Application Usage Decision, as found by Iriani et al. (2021) and Rachmad & Sutarso (2023). Rachmad & Sutarso (2023) found that the influence of VM was not significant on the intention to use skincare products. This indicates that well-received viral messages, high quantity, and credible sources cannot guarantee that users will purchase and use a product. There are other factors considered by users before using a product, such as pricing schemes, features, and the presence of alternative products/applications (Rachmad & Sutarso, 2023). In the context of this study, viral messages received by potential Zoom application users cannot guarantee their automatic use of the Zoom application. There are several factors they consider, such as pricing schemes, the limited free call time of only 45 minutes for Zoom usage, and the presence of other similar applications such as Google Meet or Microsoft Teams that offer longer calls than Zoom for their free versions.

This study analysis, as reported in Table 4, identified a positive and statistically significant relationship of VM toward PE. The coefficient (0.449) demonstrates that increased VM intensity directly corresponds to a higher PE for products or services. Furthermore, the p-value being less than 0.001 confirms the statistical significance of this association. These findings highlight VM as a key factor that significantly influences the PE.

This study aligns with existing research (Fard & Marvi, 2020; Rachmad & Sutarso, 2023) which found the positive influence of VM on PE in smartphone application contexts. The purchase of smartphone

applications is significantly influenced by PE (Fard & Marvi, 2020). Users of smartphones see purchasing smartphone applications as easy if they receive a strong VM. This study finding extend previous researches' discovery to the Zoom application, exposing that VM can enhance user PE for Zoom. This effect is driven by VM's ability to increase user awareness, thereby simplifying Zoom's perceived usability.

This study revealed a significant positive influence of VM toward PU. This association was quantified by a correlation coefficient of 0.450, suggesting that higher VM scores improves PU of Zoom customers. Furthermore, the statistically significant p-value of 0.001 indicates a significant relationship between these variables. This implies that VM is a key factor influencing PU.

Previous research by Fard & Marvi (2020), John et al. (2022), Ngubelanga & Duffett (2021), and Tariyal et al. (2022) supports this finding. People that get powerful VM messages are more likely to be willing to use mentioned mobile commerce apps in the VM (Ngubelanga & Duffett, 2021). Based on the results of this study, VM can boost Zoom's PU by raising the app's awareness among users in general, specifically to real estate buyers. This can enhance the level of awareness among prospective users regarding the advantages of the Zoom application in facilitating real-estate purchasing processes.

Based on statistical analysis with an original sample of 0.096 and a p-value of 0.113, it can be concluded that there is an insignificant relationship between PE and DU for Zoom. This means that PE has a positive but not significant influence on DU for Zoom. PE can be one of the factors that can increase DU for Zoom, but its influence is not significant. This insignificant influence indicates that PE is not one of the main variables that significantly influence the increase in DU for Zoom.

This research aligns with previous studies stating that PE has an insignificant effect on DU, as found by Al-sharafi et al. (2017) and Devi et al. (2018). (Devi et al., 2018) found that consumers aged 20-30 (Generation Z and millennials), who are considered tech-savvy, do not encounter significant difficulties in using technology such as the Go-Jek application. Whether the use of the Go-Jek application is difficult or easy, its customers will still use the Go-Jek application (Devi et al., 2018). In the context of this study, the majority of the respondents' age groups were 27-30 years old (40.14%), 31-34 years old (21.83%), and 23-26 years old (15.49%), thus still considered tech-savvy. When deciding to use the Zoom application, this age group no longer considers the ease of use of the application, but rather the usefulness of the features that can facilitate their lives.

Based on statistical analysis, there is a significant relationship between PU and Application Usage Decision for Zoom ($p = 0.001$). The Zoom application usage decisions and perceived usefulness (PU) showed a positive relationship of 0.602 according to our investigation. According to this result, those who have higher PU scores for Zoom are more inclined to utilize the app than people who have lower PU values. PU is a vital determinant why people choose to use Zoom.

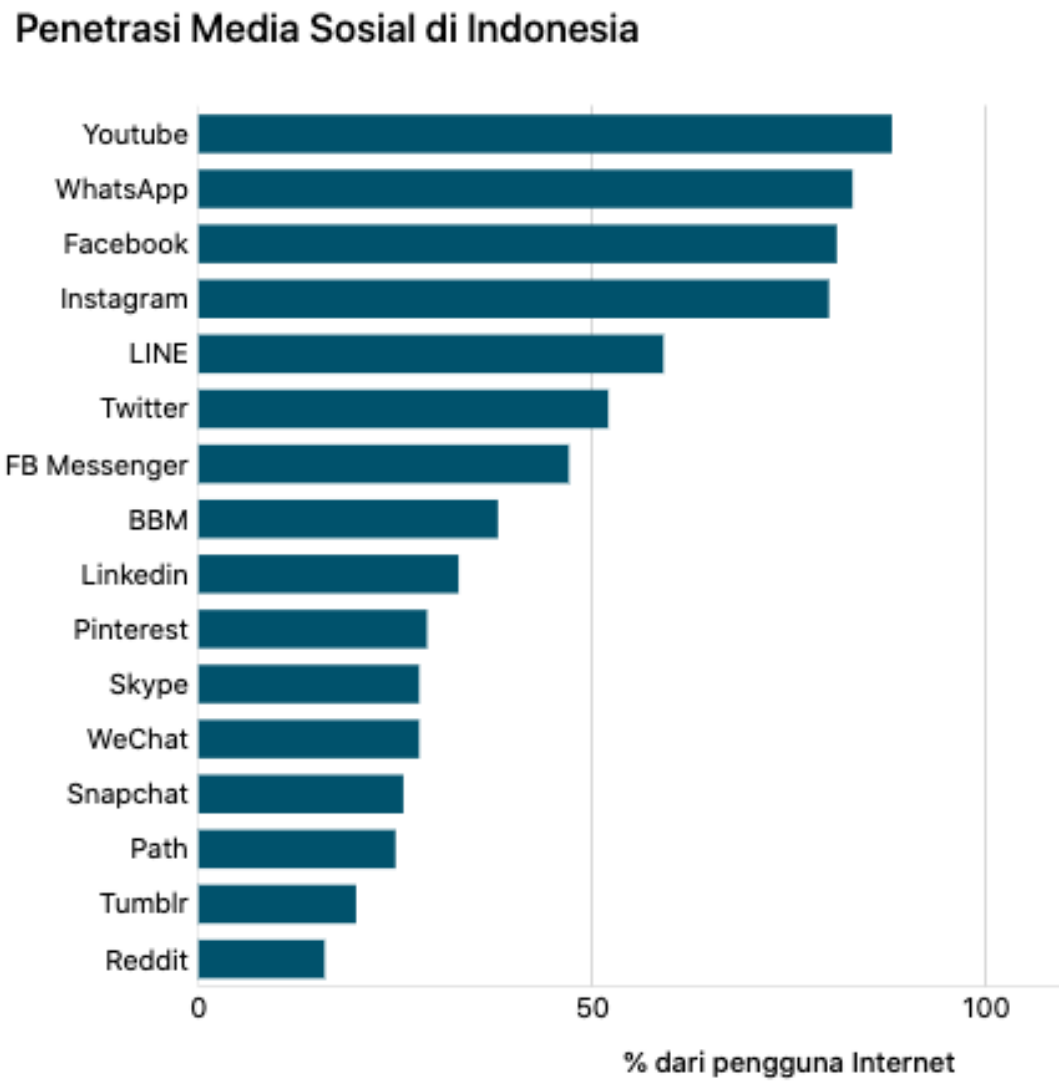
Perceived Usefulness (PU) and the degree of engagement in e-commerce (the actual use) are positively correlated (Rahmiati & Yuannita, 2019). This is consistent with the results of the study by Osman et al. (2018), which identified PU as a key determinant that decides which applications users will deploy. This relationship is further supported by earlier research, customers that have high PU toward an application will utilize that application (Al-sharafi et al., 2017; Selim, 2003), in the context of this study is Zoom application.

From the analysis results, it is known that both the direct influence of VM on DU and the indirect influence of VM on DU through the PE variable are not significant, with p-values of 0.240 and 0.167 respectively. This means that the PE variable is not a mediating variable between VM and DU. PE is not

one of the important factors mediating the relationship between VM and Application Usage Decision for Zoom.

This occurs because PU has a greater influence on influencing DU, meaning that respondents in this study pay more attention to the usefulness of an application before deciding to use it. This is related to the high digital literacy possessed by the respondents in this study, who are considered tech-savvy (mostly aged 27-30 years), so they are not very influenced by VM in terms of the ease of use of the application (Devi et al., 2018).

Figure 4: Percentage of Application Users in Indonesia

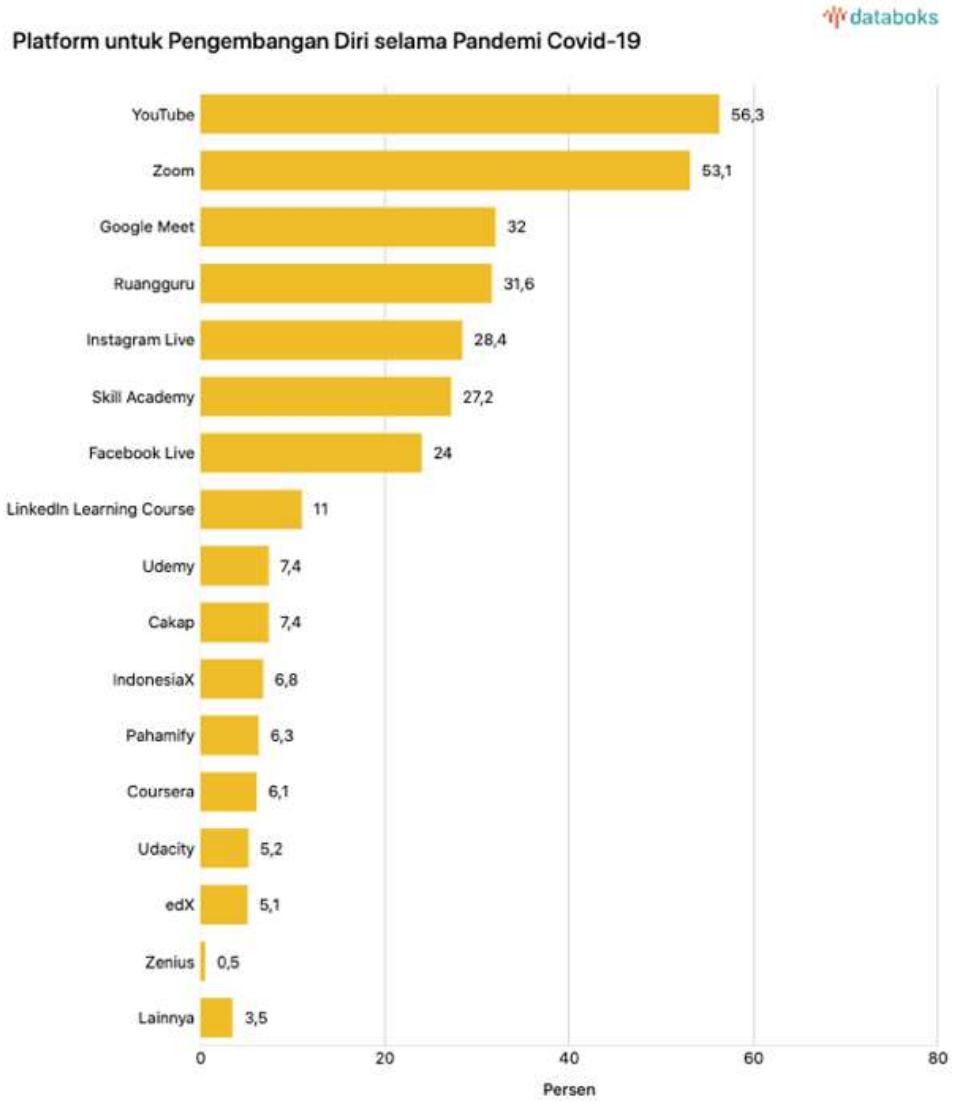


Source: Jayani (2019)

Before Covid-19, Indonesian society generally already had applications for Video Calls, namely WhatsApp, as evidenced by data found by Hootsuite that WhatsApp was the most widely used application number 2 after YouTube in Indonesia as of January 2019 (Jayani, 2019).

1

Figure 5: Percentage of Application Users During the Covid-19 Pandemic



Source: Ryza (2020)

This position was replaced by Zoom during the pandemic period in 2020 (Ryza, 2020). In terms of ease of use, WhatsApp is certainly easier to use than Zoom, but it was limited in features at that time, only being able to make limited calls with a maximum of 8 people. So when Zoom increased its usage and became a topic of conversation during the Covid-19 spread period, people were no longer amazed by its ease of use, but they were more concerned with the features and usefulness offered by Zoom, such as Video Conferencing with more participants than WhatsApp Video Call. Thus, based on this research, it is found that VM must be linked to the usefulness of application features in order to have a significant and positive impact on increasing the Usefulness of Zoom Application Usage Decision.

6. Conclusion and Recommendation

Conclusions

Based on the research findings and hypothesis testing, it can be concluded that the influence of VM on DU is not significant, leading to the rejection of the first hypothesis. This suggests that a strong and

widespread VM message does not necessarily lead consumers to use the Zoom application. Consumers tend to prioritize the functional attributes and utility of the application.

However, VM has a significant positive effect on PE, supporting the acceptance of the second hypothesis. This indicates that strong VM contributes to shaping users' perceptions of the ease of use of the Zoom application.

Moreover, the research findings reveal that VM has a significant positive effect on PU, thus supporting the acceptance of the third hypothesis. This suggests that VM messages on social media regarding the Zoom application can enhance users' perceptions of its usefulness.

On the other hand, PE has a positive but not significant effect on DU, leading to the rejection of the fourth hypothesis. This implies that users' perception of the ease of use of the Zoom application is not a primary consideration for tech-savvy respondents in this study.

Finally, PU significantly influences DU, supporting the acceptance of the fifth hypothesis. This indicates that users who perceive Zoom's usefulness positively are more likely to decide to use the application.

The research findings suggest that DU is significantly influenced by VM through the mediating role of PU. While the direct influence of PE and VM on DU is not significant, the mediating role of PU fully mediates the relationship between VM and DU.

Therefore, to enhance DU, the Zoom application should focus on improving VM and PU among potential users. Zoom should extensively communicate the benefits and utility of the application to consumers, considering that PE has a positive but not significant effect on DU. This aligns with previous research findings indicating that users prioritize the personal benefits they can gain from using an application over the ease of use.

To effectively communicate these benefits, Zoom can utilize various strategies such as promoting the application's benefits on social media platforms and offering free trials for its paid features.

Recommendations

The study revealed that the majority of respondents learned about the Zoom application primarily through VM on social media. Consequently, utilizing social media platforms to communicate the benefits of the application is likely to increase user adoption. Strategies aimed at enhancing perceptions of Zoom's utility include explaining key features, hosting webinars focusing on productivity and collaboration, sharing success stories of users, creating infographics, writing informative articles, producing podcasts or audio interviews, and offering free trials of premium features.

Further recommendations underscore the importance of VM in attracting users by effectively communicating the utility of Zoom. The study found that VM significantly influences Application Usage Decision through the mediation of PU. Thus, VM emerges as a potent tool for conveying the application's utility. Strategies to enhance VM effectiveness include creating personalized content, offering incentives for referrals, organizing quizzes or contests, engaging influencers, creating specific hashtags, and facilitating communities.

It is recommended for Zoom as a company to utilize social media, offline and online workshops to educate people about Zoom's uses and benefits. The content and workshops will help provide more awareness about Zoom's usefulness, since it is crucial to show off its advantages to invite more users and retain the existing users.

Additionally, the study found that Perceived Ease of Use does not significantly mediate the relationship between VM and Application Usage Decision. Thus, emphasizing utility over ease of use is crucial.

Future research could explore Customer Trust as a mediator between VM and Application Usage Decision, as suggested by (Al-sharafi et al., 2017).

7. REFERENCES

1. Aditiasari, D. (2021). Kekuatan Digital dan Media Sosial Jadi Juru Selamat Sektor Perumahan. Detikfinance. https://finance.detik.com/properti/d-5373620/kekuatan-digital-dan-media-sosial-jadi-juru-selamat-sektor-perumahan
2. Agesti, N., Ridwan, M. S., & Budiarti, E. (2021). International Journal of Multicultural and Multireligious Understanding The Effect of VM , Online Customer Review , Price Perception , Trust on Purchase Decisions with Lifestyle as Intervening Variables in the Marketplace Shopee in Surabaya C. International Journal of Multicultural and Multireligious Understanding, 8(3), 496–507. http://dx.doi.org/10.18415/ijmmu.v8i3.2526
3. Al-sharafi, M. A., Arshah, R. A., Herzallah, F. A. T., & Alajmi, Q. (2017). The Effect of Perceived Ease of Use and Usefulness on Customers Intention to Use Online Banking Services: The Mediating Role of Perceived Trust. International Journal of Innovative Computing, 7(1), 9–14.
4. Ali Hasan, S. E. (2010). Marketing dari mulut ke mulut. Media Pressindo.
5. Alma, B. (2013). Manajemen Pemasaran dan Pemasaran Jasa, Cetakan Kesepuluh. Penerbit: Alfabeta, Bandung.
6. Andini, N., Suharyono, & Sunarti. (2014). PENGARUH VM TERHADAP KEPERCAYAAN PELANGGANDAN KEPUTUSAN PEMBELIAN (Studi Pada Mahasiswa Fakultas Ilmu AdministrasiUniversitas Brawijaya Angkatan 2013 yang Melakukan Pembelian Online MelaluiMedia Sosial Instagram). Jurnal Administrasi Bisnis, 11(1), 1–6.
7. Artanti, Y., Hari Prasetyo, F., & Sulistyowati, R. (2019). How Social Media Marketing Influences Online Purchasing Decision: Study of the VM and Perceived Ease of Use. KnE Social Sciences, 3(11), 988. https://doi.org/10.18502/kss.v3i11.4066
8. Ausrianti, R., Andayani, R. P., Surya, D. O., & Suryani, U. (2020). Edukasi pencegahan penularan Covid 19 serta dukungan kesehatan jiwa dan psikososial pada pengemudi ojek online. Jurnal Peduli Masyarakat, 2(2), 59–64.
9. Awaludin, M. N., & Sukmono, S. (2020). the Effect of Social Media Marketing and Brand Awarness on Purchase Decisions With VM As Intervening Variables on Janji Jiwa Coffee Consumers Among Students Using Social Media Area Jabodeta. AFEBI Management and Business Review, 5(1), 54. https://doi.org/10.47312/ambr.v5i1.303
10. Dalcher, I., & Shine, J. (2003). Extending the New Technology Acceptance Model to Measure the End User Information Systems Satisfaction in a Mandatory Environment: A Bank's Treasury. Technology Analysis & Strategic Management, 15(4), 441–455. https://doi.org/10.1080/0953732030000136033
11. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly: Management Information Systems, 13(3), 319–339. https://doi.org/10.2307/249008
12. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. Management Science, 35(8), 982–1003.
13. Davis, K., & Newsroom, J. W. (2006). Seri Ilmu dan Manajemen Bisnis (terjemahan Sofyan Cikmat). In Elex Media computindo: Jakarta.

14. Devi, K. M. ., Anggraini, N. P. ., Suarjana, I. ., Mendra, I. ., & Gama, I. G. (2018). The Effect of Perceived Ease of Use and VM on Decision of Use and Customer Satisfaction Go-Jek in Denpasar. The 9th International Conference of Rural Research and Planning Group, 295–303.
15. Fard, M. H., & Marvi, R. (2020). VM and purchase intentions of mobile applications users. International Journal of Emerging Markets, 15(2), 287–301. https://doi.org/10.1108/IJOEM-06-2018-0291
16. Galib, M. H., Hammou, K. A., & Steiger, J. (2018). Predicting Consumer Behavior: An Extension of Technology Acceptance Model. International Journal of Marketing Studies, 10(3), 73. https://doi.org/10.5539/ijms.v10n3p73
17. Ghozali, I., & Latan, H. (2015). Partial least squares konsep, teknik dan aplikasi menggunakan program SmartPLS 3.0 untuk penelitian empiris (2nd ed.). Badan Penerbit Universitas Diponegoro.
18. Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. Research Methods in Applied Linguistics, 1(3), 100027. https://doi.org/10.1016/j.rmal.2022.100027
19. Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. Evidenced Based Nursing, 18(3), 66–67.
20. Iriani, S. S., Nuswantara, D. A., Kartika, A. D., & Purwohandoko, P. (2021). The Impact of Government Regulations on Consumers Behaviour during the COVID-19 Pandemic: A Case Study in Indonesia. Journal of Asian Finance, Economics and Business, 8(4), 939–948. https://doi.org/10.13106/jafeb.2021.vol8.no4.0939
21. Jayani, D. H. (2019). Akses Dibatasi, Berapa Pengguna WhatsApp di Indonesia? In Databoks. https://databoks.katadata.co.id/datapublish/2019/05/23/whatsapp-pengirim-pesan-paling-populer-di-dunia
22. John, S. P., Walford, R., & Purayidathil, J. (2022). Factors Affecting the Adoption of Social Media in Marketing of Higher Education: An Empirical Analysis. FIIB Business Review, 11(4), 422–437. https://doi.org/10.1177/23197145211072198
23. Kementerian Pekerjaan Umum dan Perumahan Rakyat. (2020). Launching SSB dan SBUM Dalam Rangka Stimulus Fiskal Berupa Subsidi Perumahan Tahun 2020. Direktorat Jenderal Pembiayaan Infrastruktur Pekerjaan Umum Dan Perumahan. https://pembiayaan.pu.go.id/news/detail/69/Launching-SSB-dan-SBUM-Dalam-Rangka-Stimulus-Fiskal-Berupa-Subsidi-Perumahan-Tahun-2020
24. Kontan.co.id. (2022). Beyond 360 Indonesia Pasarkan Properti Secara Virtual dan Digital. Kontan.Co.Id. https://industri.kontan.co.id/news/beyond-360-indonesia-pasarkan-properti-secara-virtual-dan-digital
25. Kotler, P., & Armstrong, G. (2016). Principles of Marketing sixteenth edition. pearson.
26. Lai, C.-C., Shih, T.-P., Ko, W.-C., Tang, H.-J., & Hsueh, P.-R. (2020). Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. International Journal of Antimicrobial Agents, 55(3), 105924.
27. Li, C.-F. (2013). The Revised Technology Acceptance Model and the Impact of Individual Differences in Assessing Internet Banking Use in Taiwan. International Journal of Business & Information, 8(1).
28. Machfoedz, M. (2013). Pengantar Pemasaran Modern. Akademi Manajemen Pemasaran. Yogyakarta: YPKPN.

29. Machin, D., Campbell, M. J., Tan, S. B., & Tan, S. H. (2011). Sample size tables for clinical studies. John Wiley & Sons.
30. Mediaindonesia.com. (2023). Memanfaatkan Media Sosial untuk Pemasaran Bisnis Masa Kini. Media Indonesia. https://mediaindonesia.com/humaniora/562980/memanfaatkan-media-sosial-untuk-pemasaran-bisnis-masa-kini
31. Nasri, W., & Charfeddine, L. (2012). Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behavior. The Journal of High Technology Management Research, 23(1), 1–14. https://doi.org/10.1016/j.hitech.2012.03.001
32. Ngubelanga, A., & Duffett, R. (2021). Modeling mobile commerce applications' antecedents of customer satisfaction among millennials: An extended tam perspective. Sustainability (Switzerland), 13(11), 1–29. https://doi.org/10.3390/su13115973
33. Nguyen, T. T. H., Nguyen, N., Nguyen, T. B. L., Phan, T. T. H., Bui, L. P., & Moon, H. C. (2019). Investigating consumer attitude and intention towards online food purchasing in an emerging economy: An extended TAM approach. Foods, 8(11), 576.
34. Nugroho, J. S. (2003). Perilaku konsumen: Konsep dan implikasi untuk strategi dan penelitian pemasaran. Jakarta: Penerbit Prenada Media.
35. Osman, M. N., Anwar, M. K., & Ishak, H. (2018). The impact of VM on consumers purchase decision in the Northern Region. Jurnal Intelek, 13(2), 22–28.
36. Park, S. Y., Nam, M., & Cha, S. (2012). University students' behavioral intention to use mobile learning: Evaluating the technology acceptance model. British Journal of Educational Technology, 43(4), 592–605.
37. Peter, J. P., & Olson, J. C. (2014). Consumer behavior & marketing strategy. McGraw-hill.
38. Rachmad, K. R. B., & Sutarso, Y. (2023). PENGARUH KETERLIBATAN PELANGGAN, SIKAP PEMBELIAN, DAN PERSEPSI KEMUDAHAN PENGGUNAAN APLIKASI SOCIOLLA TERHADAP NIAT BELI PRODUK SKINCARE MELALUI PEMASARAN VIRAL SEBAGAI VARIABEL INTERVENING. 10(1), 53–65.
39. Rahmiati, R., & Yuannita, I. I. (2019). The influence of trust, perceived usefulness, perceived ease of use, and attitude on purchase intention. Jurnal Kajian Manajemen Bisnis, 8(1), 27–34. https://doi.org/10.24036/jkmb.10884800
40. Ryza, P. (2020). Pengembangan Diri Jadi Pilihan Aktivitas di Tengah Pandemi. Dailysocial.Id. https://dailysocial.id/post/pengembangan-diri-aktivitas-pandemi
41. Santoso, D. S. A., & Dwijayanti, R. (2022). Pengaruh VM Terhadap Keputusan Pembelian Dengan Kepercayaan Konsumen Sebagai Variabel Intervening (Studi Kasus Pada Mahasiswa Jurusan Pendidikan Ekonomi Universitas Negeri Surabaya Pembeli Aksesoris Handphone Di Shopee). Jurnal Pendidikan Tata Niaga (JPTN), 10(1), 1545–1553. https://doi.org/10.26740/jptn.v10n1.p1545-1553
42. Schiffman, L. G., Kanuk, L. L., & Kumar, S. R. (2010). Consumer Behavior (10th ed.). Pearson Prentice Hall.
43. Selim, H. M. (2003). An empirical investigation of student acceptance of course websites. Computers and Education, 40(4), 343–360. https://doi.org/10.1016/S0360-1315(02)00142-2
44. Skrob, J. R. (2005). Open Source and VM: The VM concept as a model for open source software to reach the critical mass for global brand awareness based on the example of TYPO3. University of Applied Science Kufstein, Austria.

45. Stefany, B. A., Wibowo, F. M., & Wiguna, C. (2021). Analisis Kepuasan Pengguna Aplikasi Wisata Brebes Dengan Metode Technology Acceptance Model (TAM). Journal of Information Systems and Informatics, 3(1), 172–184. https://doi.org/10.33557/journalisi.v3i1.107
46. Swa.co.id. (2020). Penjualan Properti Residensial Minus -43,19% di Triwulan I/2020. SWA. https://swa.co.id/read/258517/penjualan-properti-residensial-minus-4319-di-triwulan-i-2020
47. Tariyal, A., Bisht, S., Rana, V., Roy, S., & Pratap, S. (2022). Utilitarian and Hedonic Values of eWOM Media and Online Booking Decisions for Tourist Destinations in India. Journal of Open Innovation: Technology, Market, and Complexity, 8(3), 137. https://doi.org/10.3390/joitmc8030137
48. Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. Decision Sciences, 39(2), 273–315.