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The Influence of Organizational Innovation in the Use of Social Media Technology (SMT) by Students: A Resource-Based Theory Perspective as an Extension of the Technology Acceptance Model

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A B S T R A C T

The social environment certainly influences student behavior, including the behavior of using Social Media Technology (SMT). This study investigates whether organizational innovation, which is an important part of the student's social environment, influences student SMT usage. The Technology Acceptance Model (TAM) and its extension theory, Resource-Based Theory (RBT), are the basis for testing this influence. Based on SMT, the variables that influence SMT usage are (1) perceived ease of use, and (2) perceived usefulness, while based on the SMT perspective, it can be estimated that organizational innovation strengthens the relationship between perceived ease of use and SMT usage and between perceived usefulness and SMT usage. The study sample included 236 students residing throughout Indonesia. The study used SPSS 25 for descriptive statistics and AMOS 26 to test all hypotheses. The results showed that ease of use, usefulness, and organizational innovation influenced students' SMT usage. Organizational innovation also strengthened the relationship between ease of use and SMT usage, and usefulness and SMT usage.To the researcher's understanding, the originality of this study lies in the absence of research on student SMT use based on two theories: TAM and RBT. Furthermore, there has been no research on the organizational innovation variable related to SMT use.

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INTRODUCTION

In accordance with their age, student behavior is greatly influenced by their environment, including their social, economic, and cultural environments. In this study, one important part of this environment, namely the organizational innovation environment, is the focus of research in relation to student behavior in utilizing and using SMT. The use of SMT is a necessity according to the needs, development, and social, economic, and cultural progress of society. Currently, almost all students have used SMT, one of which is online-based public services such as registration, registration, single tuition fees (UKT), internet-based lecture systems, and mobile-based platforms. In addition, students also use various SMT that are common and commonly used by most people, namely WhatsApp, SMS Messages, Telegram, Facebook, Instagram, Twitter, LinkedIn, TikTok, YouTube, Game Snake, and others. Students tend to spend more time using these SMT than SMT directly related to their duties and responsibilities (Syafruddin and Haryani, 2024). Therefore, in this research, the SMT that is the object of research is a SMT that is not directly related to the tasks and responsibilities of students, namely a SMT that is commonly used by the community.

Academic research has mostly centered on the use of SMT for marketing purposes, with research demonstrating their impact on consumer purchasing decisions (Wang, Yu, & Wei, 2012). Other studies have shown that SMT Support brands by providing customer feedback (Breslauer & Smith, 2009; Christodoulides, 2009) or provide information for product development (Nunan & Yenicioglu, 2013). While the perceived relevance and value of SMT use are increasing (e-Marketer, 2013), research on SMT use by university students is still in its infancy and may be lacking. While there is some discussion on the extent of SMT use (Järvinen, Tollinen, Karjaluoto, & Jayawardhena, 2020; Michaelidou et al., 2021), There is little known about the elements that influence student SMT use. To investigate SMT utilization, this study applies prior theory, specifically the Technology Acceptance Model (TTM). However, this study does not confine itself to TAM, which has been questioned by Benbasat and Barki (2020) and Bagozzi (2020), and so expands the theory by identifying drivers of SMT use using resource-based theory (RBT).

Our study contributes to similar TAM-based research in three ways. It first creates and evaluates a model to describe the factors that influence SMT utilization. Second, it discovers and empirically tests novel determinants of SMT use, as well as existing variables. Third, it employs triangulation, integrating quantitative findings with qualitative data from interviews with student SMT users, to improve understanding of the causes of SMT use.

The discussion in this study begins with a literature review related to the use of SMT in the context of TAM, expanding it to RBT to identify various determinants that influence SMT. Following this literature review, several hypotheses are formulated, which are then discussed, the research methodology explained, and the results presented. The study also discusses the findings of the qualitative study, and finally, the limitations of the study and potential future research opportunities are discussed.

LITERATURE REVIEW

Social Media Technology

Social Media Technology (SMT) has attracted the attention of various parties, both academics and practitioners who are eager to understand the potential of SMT in supporting their responsibilities (Michaelidou et al., 2021; Yan, 2011). The benefits of using SMT in the tasks and responsibilities of marketing, sales, customer service, and product development have been tested significantly (Culnan, McHugh, & Zubillaga, 2010). Consumers believe SMT is more trustworthy than other information sponsored by corporations, and as a result, they are increasingly turning to SMT to learn more about products and services (Foux, 2006). Taking advantage of SMT's popularity and perceived trustworthiness, an increasing number of enterprises use SMT media to engage customers with their products and brands.

Empirical research demonstrates that adopting and implementing SMT can considerably benefit organizations. Specifically, scientific research indicates that SMT can generate more favorable consumer brand perceptions and purchase intentions are higher than in traditional digital media (Colliander & Dahlen, 2011). SMT and social networking sites, in particular, have been widely employed as marketing communications tools due to their ability to spread viral messages (Bampo, Ewing, Mather, Stewart, & Wallace, 2008) and build stronger customer communities (Trusov et al., 2009). Within businesses, SMT has the ability to develop individual competencies that can be transformed into valuable resources, resulting in a competitive advantage and improved performance (Lau, 2011; Leonidou, Palihawadana, and Theodosiou, 2011).

Despite the previously stated promise of SMT and the necessity for a dedicated department to optimize and maximize the value generated from it, organizational management tends not to evaluate the effectiveness of SMT use (Michaelidou et al., 2011). Existing studies indicate that conventional cultures are not suitable environments for SMT use. Conversely, dynamic and highly interactive environments are very suitable for SMT use (Borders, Johnston, & Rigdon, 2001; Hoffman & Fodor, 2010).

Around 2010, research on the use of SMT in organizations largely focused on the business context (Michaelidou et al., 2011). In this study, empirical evidence showed that marketing through SMT significantly influenced customer engagement. Other studies highlighted the significant role of the Internet in the context of business engagement (Bauer, Grether, & Leach, 2002; Walters, 2008). Management has beginning to recognise the value of such tools (SMT) in acquiring new customers and maintaining connections with existing customers (Brennan & Croft, 2012; Michaelidou et al., 2011). This study is consistent with previous research on the Internet's role as a medium for facilitating connection building. Walters (2008) argues that both business and non-business organizations can implement three value-added strategies when using SMT: information-rich strategies, relational exchange strategies, and shared learning strategies. Consistent with the above evidence, it is clear that the use of SMT is also relevant and valuable in both business and non-business contexts, SMT implementation is slower in non-business groups (Michaelidou et al., 2011). This

research focuses on the use of SMT in non-business organizations, particularly by students. In non-business organizations and educational institutions, various individuals almost certainly use SMT. Specifically, the research focuses on whether the social and cultural environments, specifically the organizational innovation environment, play a significant role in student SMT use.

Technology Acceptance Model (TAM)

Previous research based on the TAM conceptual model has investigated how technological innovation and environmental characteristics influence the adoption and use of information technology (Davis, 1989; Rogers, 2010; Wamba & Carter, 2013). However, general information technology in business organizations is fundamentally different from SMT, which is considered more interactive and engaging, especially in terms of communicate with consumers and suppliers (Wamba & Carter, 2013). In addition, general technology commonly used in organizations is considered more complex than SMT. Common technology in organizations includes various graphic-based applications, and therefore the scientific approach to studying and investigating SMT must also be different from research on the use of common technology (Porter & Dunthu, 2006; Rogers, 1995). As a result, this study employs the Technology Acceptance Model (TAM) to investigate SMT use by individuals in organizations, while addressing criticisms about TAM's limitations by emphasizing the need for additional research focusing on other predictors of SMT use.

Davis (1989) invented TAM to anticipate the adoption of new information technologies, and it has subsequently gained a lot of attention in academia. TAM is the dominating model and theory for predicting and explaining technology adoption, in contrast to alternative theories and models (Information Diffusion Theory, Agarwal & Prasad, 1998a; Moore & Benbasat, 1991; Rogers, 2010) (Bagozzi, 2007; Lee et al., 2003; Venkatesh, Davis, & Morris, 2007). TAM, known for its simplicity, has been shown to consistently predict a significant fraction of the variance in technology use (Bagozzi, 2007; Venkatesh & Davis, 2000), and it gives broad context and generalizability to studies (Venkatesh et al., 2007). This model has been applied in various technological contexts (email, voice mail, text, graphics, online shopping, etc.) to predict individual technology users in organizations in both business and non-business environments (Adams, Nelson, & Todd, 1992; Avlonitis & Panagopoulos, 2005; Ha & Stoel, 2009; Hernández-Ortega, Jiménez-Martínez, & Martín-DeHoyos, 2008; Holden & Karsh, 2010; Hu, Chau, Sheng, &SMT, 1999; Kim, Lee, & Law, 2008; Lederer, Maupin, Sena, & Zhuang, 2000; McKechnie, Winklhofer, & Ennew, 2006; Pavlou, 2003; Porter & Donthu, 2006; Venkatesh & Davis, 2000; Vijayasarathy, 2004). Venkatesh et al. (2007) provide a summary of research conducted in the field of technology adoption and encourage further research to utilize existing knowledge.

This study forecasts that SMT will differ from other technologies employed by business organizations, such as automation systems (Jones, Sundaram, & Chin, 2002), mobile information technology (Lee & Park, 2008), and other software (Avlonits & Panagopoulos, 2005). These distinctions include the

fact that SMT does not require a significant initial investment, unlike other technologies, that the SMT platform is not owned by the company and is not under corporate control (Christodoulides, 2009), and that SMT content is typically produced collaboratively by individuals within the organization and external stakeholders such as potential and existing customers (Singh & Sonnenburg, 2012).

Perceived Usefulness, Perceived Ease of Use and Use of SMT

Previous TAM research have shown that technology usefulness and perceived ease of use are determinants of attitudes and usage intentions, which then lead to the adoption and use of a certain technology. Perceived usefulness is the degree to which a person believes that using a technology will improve his or her performance (Davis, Bagozzi, & Warshaw, 2012), whereas perceived ease of use is the degree to which a person believes that using a technology will save him or her time or effort (Davis et al., 2012; Ha & Stoel, 2014). Venkatesh and Davis (2000) modified the SMT to incorporate additional variables of perceived usefulness and usage intentions, drawing on Fishbein and Ajzen's (1975) Theory of Reasoned Action, which emphasizes the role of external social factors in forecasting action (social norms). This extension of the SMT focuses on affect, subjective norms (Theory of Reasoned Action, Fishbein & Ajzen, 1975), voluntariness, and experience rather than technology-related attitudes. Consistent with this expansion of SMT, recent research (Park, 2009; Pentina, Koh, & Le, 2012) demonstrates the impact of social influence on perceived usefulness and adoption intentions.

Venkatesh and Davis (2010) also included job relevance, output quality, and image of success as major predictors of perceived usefulness, and they evaluated their study model in four distinct businesses utilizing mandatory and voluntary technology contexts. The results of the study demonstrated and provided empirical support for the expansion of SMT, but the study showed that subjective norms were only a significant predictor of long-term intention to adopt when technology use was mandated (Venkatesh & Davis, 2000). Venkatesh and Davis' (2000) findings across four organizational contexts revealed that perceived usefulness was consistently the strongest predictor of intention to adopt technology in both required and voluntary settings. It is further explained that perceived usefulness is seen as a stronger predictor of technology use or adoption (Chen, Gillenson, & Sherrell, 2002; Davis, 1989; Koufaris, 2002; Pavlou, 2003; Porter & Donthu, 2006; Shih, 2004), compared to perceived ease of use, both in organizational and consumer contexts and for various types of technologies including online technologies. Xiao's (2010) research has found that perceived usefulness explains more than 50% of the variation in online shopping intentions, while perceived ease of use is the strongest predictor of perceived usefulness. Davis (1989) suggests that user willingness or intention to adopt A new technology is evaluated mostly on its perceived usefulness in executing tasks, rather than whether it is regarded to be easy or difficult to use. However, in these literature models, perceived usefulness and perceived ease of use are both strong predictors of new technology acceptance and use. Furthermore, TAM has

demonstrated that perceived ease of use is significantly related to perceived usefulness. Therefore, consumers are more likely to find a technology beneficial if it is simple to use. The association between these elements has been substantially supported by empirical study in a number of contexts, including SMT (Amin, 2007; Hong, Thong, Wong, &SMT, 2002; Thong, Hong, SMT, 2004). In an effort to verify and develop existing hypotheses, in the context of this study, it is predicted and investigated that perceived usefulness and perceived ease of use in educational institutions will have a positive effect on SMT use, with the following hypothesis formulated.

H1: Perceived usefulness in educational institutions will have a positive influence on the use of SMT.

H2: Perceived ease of use in educational institutions will have a positive influence on the use of SMT.

H3: Perceived ease of use in educational institutions will have a positive effect on the perceived usefulness of SMT.

Organizational Innovation and SMT Use

Previous studies have suggested that TAM-based research should focus more on other predictors to examine perceived technology usefulness in an effort to gain deeper insights and address the limitations of existing SMT research (Benbasat & Barki, 2007). Therefore, additional variables are needed to predict SMT use, particularly in situations and contexts where SMT users are voluntary users (Ha & Stoel, 2009; Vijayasarathy, 2004). Research in this domain has identified additional predictors of perceived technology use and intention to adopt online technologies in particular. Specifically, Porter and Donthu (2016) examined and modeled the relationship between race and income, and perceived usefulness, related to internet adoption and use. The results showed that lower-income individuals perceived internet use as less useful. Similarly, Ha and Stoel's (2009) TAM-based study identified trust and satisfaction as predictors of internet use. Additional factors such as access barriers (Porter & Donthu, 2006), compatibility, privacy, and security (Vijayasarathy, 2004) have also been identified as predictors of attitudes and intentions to use SMT, particularly in online shopping and the internet.

While research on internet and online shopping (SMT) based on and implementing TAM is well established, to the researcher's knowledge no research has examined and modeled the adoption of SMT by educational institutions based on TAM and another theory, RBT. Existing research has identified and tested that knowledge, cost, and compatibility factors are predictors of SMT adoption and use for business purposes (Davis et al., 2012; Venkatesh et al., 2017).

For non-business purposes, it can be stated that in addition to the various predictors discussed above, an individual's culture and social environment are inevitable factors that influence the adoption and use of SMT. In this study, the environmental factor predicted to influence the use of SMT is the organizational environment. Referring to the resource-based organizational theory (Grant, 1996; Rumelt, 1984; Teece & Pisano, 1994; Wernerfelt, 1995), it can be explained and

concluded that the adoption and use of technology (SMT) are decisions that are highly dependent on the environment and innovative climate within the organization. This organizational innovation environment is what drives new technologies and fosters specialized knowledge, and which serves to increase the organization's capacity and capabilities.

Previous research based on resource-based theory (RBT) within the context of business interests suggests that motivation for SMT adoption and use is an organizational characteristic or capability that should continually improve and subsequently contribute to generating specific forms of customer value (Barney, Wright, & Ketchen, 2001). Specifically, organizational innovation can be understood as a key and fundamental organizational capability that demonstrates an organization's openness in the context of adopting new technologies, to novel concepts and solutions (Kunz, Schmitt, & Meyer, 2019; Wamba & Carter, 2021). SMT and other innovative corporate companies are more likely to use technology, according to earlier research (Michaelidou et al., 2022). According to a different study by Wamba and Carter (2023), creative companies are more likely to use social media platforms like Facebook, LinkedIn, and Twitter. The study also found that assertive innovation is positively associated with Twitter adoption in SMEs and also impacts improved customer relationships.

In contrast to previous research that found that the level of adoption and use of social media (SMT) in business organizations has demonstrated its benefits, Michaelidou's research (2019) argues that in the context of public, non-business organizations, organizational innovation factors have an important role that influences the adoption and use of RBT. Other research (Agarwal & Prasad, 2021) estimates that organizational innovation not only has a direct impact on the adoption and use of RBT, but also to mitigate the association between perceived utility and perceived usability with RBT uptake and use. In particular, it is anticipated that the aforementioned link will be strengthened or weakened depending on the extent of organizational innovation.

In addition to the above, considering that students' behavior and attitudes towards SMT differ from those of other SMT users, this study estimates and predicts that a conducive organizational innovation environment will force and require students to focus on their main tasks and responsibilities, namely reading and understanding lecture materials in detail and accurately. Conversely, a less conducive organizational innovation environment will provide opportunities and flexibility for students to utilize SMT for their "pleasure and satisfaction." Meanwhile, for other RBT users, a conducive organizational innovation environment will force and require them to utilize SMT to improve their performance. From this description, the formulation of the hypothesis related to student RBT use is as follows.

H4: The level of organizational innovation in educational institutions has a negative effect on the use of SMT.

Complementing Hypothesis 4 above, this study also estimates and predicts that organizational innovation not only has a direct impact on the adoption and use of RBT but also moderates the relationship between perceived

usefulness and perceived ease of use with RBT adoption and use (Agarwal & Prasad, 2021). In line with Hypothesis 4, the following hypothesis is formulated.

H5a: The level of organizational innovation in educational institutions strengthens the relationship between perceived usefulness and SMT usage.

H5b: The level of organizational innovation in educational institutions strengthens the relationship between perceived ease of use and SMT usage.

Theoretical Model and Hypothesis

Referring to the literature review and arguments and hypothesis formulation above, in this study with the situation or context of non-business (public) organizations, educational institutions, the theoretical model can be summarized in Figure 1 below. The following figure shows that the formulation of hypotheses 1, 2, and 3 is based on TAM, while the formulation of hypotheses 4, 5a, and 5b is based on the extension of TAM, namely RBT.

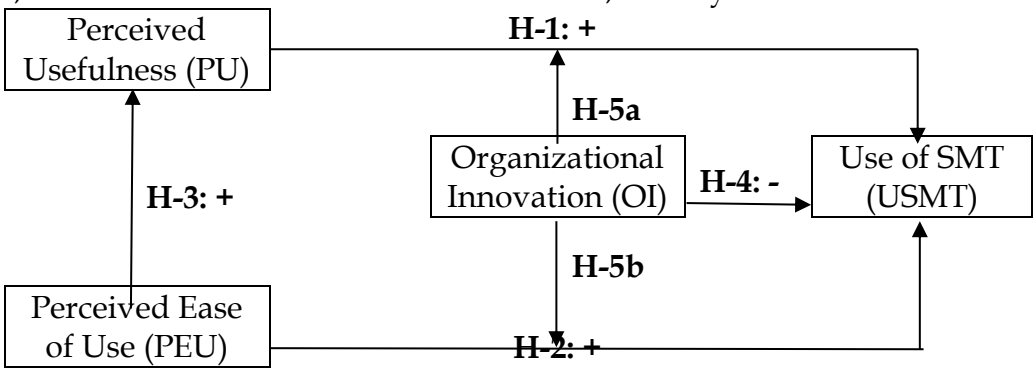

Figure 1. Theoretical Model

Figure 1. above explains the formulation of a theoretical model for the adoption and use of SMT in the context of non-public organizations such as educational institutions. In line with TAM, perceived usefulness will positively influence student SMT use. Similarly, ease of use also positively influences SMT use, and ease of use also positively influences SMT usefulness.

In line with the literature review, this study expects that in organizations perceived by students as more intensive and extensive in their organizational innovation, students will be more likely to reduce their SMT use. This argument aligns with the logic developed by Hall & Khan (2021) that students will use other information technologies that align with their duties and responsibilities as students. Consistent with this logic, the level of organizational innovation within an educational institution will strengthen the relationship between perceived usefulness and student SMT use. The level of organizational innovation within an educational institution also strengthens the relationship between perceived ease of use and student SMT use.

METHODOLOGY

The structured questionnaire consisted of four sections, each containing seven items. A six-point Likert scale was used to collect data related to three variables, specifically for the SMT usage variable, with the number of SMT items used. In addition, the study also conducted direct interviews with several

students for qualitative analysis. The formulation of questions related to the ease of use and usefulness of SMT variables was based on and adapted from research by Vankatesh & Davis (2000). Meanwhile, there was one question related to the organizational innovation variable. For this, the researcher referred to and adapted research by Ellonen, Blomqvist & Puumalainen (2008).

The data used in this study came from 243 students selected using convenience random sampling. To obtain this primary data, a designed questionnaire was distributed to respondents under the guidance of the researcher. Respondents were selected and assigned using a convenience random sampling method and were selected intentionally. All respondents were accounting students using SMT in higher education institutions domiciled throughout Indonesia. Of the 243 accounting students who participated in the study, 236 completed and usable questionnaires were complete.

Respondents (students) were provided with to eliminate misunderstanding and reduce the potential of errors, provide accurate information about the items prior to conducting the questionnaire. Furthermore, students were asked to describe their SMT usage and location. To complement the quantitative analysis, the study also conducted interviews with open-ended questions for the qualitative analysis.

RESEARCH RESULT AND DISCUSSION

Demographic Data

The summary of the data tabulation Table 1 illustrates that respondents live all over Indonesia, although the data is not broken down by province or district/city. The majority of responders live in Central Java, with the fewest in Banten, Bali, West Nusa Tenggara, Central Kalimantan, and Aceh provinces. In terms of *gender* , women (73%) outnumber men (27%), and their ages range from 18 to 22 years. More details are provided in the following table.

Table 1. Respondent Demographic Information

Province		Regency or City				
BANTEN	0.4%	Tangerang	South Tangerang			
WEST JAVA	7.6%	Cilegon	Bogor	Bekasi	Bogor	Bekasi City
		Bandung	Cirebon	Cirebon City	Depok City	Bandung
Jakarta	4.3%					
Jambi	2.7%	Jambi City				
Central Java	54.5%	Semarang	Semarang	Pati	Purworejo	Purwodadi
		Sragen	Salatiga	Surakarta	Batang	Sragen
		Sukoharjo	Pekalongan	Demak	Kudus	Cilacap
		Rembang	Wonosobo	Purwokerto	Wonosobo	Boyolali
		Grobogan	Pemalang	Temanggung	Blora	Wonogiri
		Jepara	Tegal	Karanganyar	Klaten	
East Java	18.5%	Blitar	Nganjuk	Jombang	Madiun	Kendal

		Sidoarjo	Kediri		
Riau	0.8%	Siak	Pekanbaru		
North Sumtra	3.2%	Medan	Dairi	Simalungun	
Yogyakarta	5.4%	Sleman			
Bali	1.6%	Bangli			
Central Kalimantan	0.4%	Pangkalan Bun	Banjarbaru		
West Nusa Tenggara	0.3%	Sumba	Lombok		
Aceh	0.3%	Sabang			
236	100%				
Man	27%	64			
Woman	73%	172			
Age	18 - 22 years old				

Source: Survey Instrument

The respondents above adopted and used SMT in the form of WhatsApp, SMS Messages, Telegram, Facebook, Instagram, Twitter, LinkedIn, TikTok, Youtube, Snake Game, and other types of games.

Reliability and Validity Test

The results of the data reliability test are shown in Table 2 below.

Table 2. Composite Reliability

Factors (Variables)	CR	AVE
PU	0.840	0.631
PEU	0.907	0.781
OI	0.889	0.742
USMT	0.856	0.627

Source: IBM Statistics SPSS 25

Researchers measure data dependability using composite reliability (CR) and value average variance extracted (AVE). Table 2 demonstrates that none of each variable's CR values are less than 0.70. The research data can be considered as reliable (Henseller et al. 2009; MacKinnon, 2008; Hair et al., 1998; Fornell & Larcker 1981). The validity test refers to Hair et al. (2014) that an AVE value of more than 0.5 means that convergent validity has been fulfilled.

Meanwhile, the researcher refers to the discriminant validity test (Fornell & Lacker, 1981) compared the AVE value with the correlation values of other variables. Hair et al. (2014) recommended that the square root of the AVE value be greater than the correlation values between the other variable constructs. Table 3 displays the discriminant validity values, demonstrating that each factor meets the necessary criteria.

Table 3. Validity Test

	PU	PEU	OI	USMT
PU	0.882**			
PEU	0.197	0.776***		
OI	-0.397	-0.042	0.869**	
USMT	0.298	0.146	-0.066	0.861*

Source: IBM Statistics SPSS 25

Data Normality

According to Tabachnick and Fidell (2001), the skewness and kurtosis values of each item must be within the range of -4 to +4. Results from the H test Table 4 demonstrates that all of the data followed a normal distribution. The kurtosis score in Table 4 indicates that the study data is above the Sposito et al. (1983) threshold (3.3), implying that it meets the data normality standards.

Table 4. Data Normality

Factor	Items	N	Average	Standard Deviation (Statistics)	Skewness (Statistic)	Kurtosis (Statistics)
PU	PU1	236	4.94	1,011	-0.025	-0.371
	PU2	236	4.74	1,051	-0.041	-0.685
PEU	PEU1	236	4.93	1,036	-0.455	-0.231
	PEU2	236	4.98	1,048	-0.284	-0.21
	PEU3	236	5.91	1,053	-0.34	-0.533
OI	OI1	236	2.15	1,021	-1,097	1,423
USMT	USMT1	236	6.46	1,051	-1.157	0.355

Source: IBM Statistics SPSS 25

Model Evaluation

Exploratory Factor Analysis (AFE)

In general, four (four) assumptions are used to assess Exploratory Factor Analysis (AFE): (1) sample adequacy, (2) minimum Eigen value of each factor, (3) sample size, namely 50% factor loading of each item as a threshold, and (4) varimax rotation as factor interpretation (Field, 2000). (2010), when the Kaiser-Meyer-Olkin (KMO) and Barlett's Test of Sphericity yield significant results. The indicators are shown in Table 5 below.

Table 5. Exploratory Factor Analysis (AFE)

Factor	Items	FL	AVE	Alpha
PU	Kg1	0.845		
	Kg2	0.824	0.87	0.912
PEU	PEU1	0.815		
	PEU2	0.834		
	PEU3	0.834	0.83	0.896
OI	OI1	0.871	0.72	0.902
USMT	USMT1	0.875	0.81	0.879
Kaisers Mayers-Olkin (KMO) – 0.883				
Barlett's Test of Spericity = Sig 0.000				
DF = 190				

Source: IBM Statistics SPSS 25

Table 5 shows that the KMO measurement index (overall = 0.883) indicates that it meets the recommended threshold of 0.5 (Hair et al., 1998) and Bartlett's Test of Sphericity (p = 0.000) indicates its significance. After the researcher tested the AFE matrix pattern on each question indicator, the results showed that each indicator had a factor loading value.more than 0.5, which means it has high significance (Hair et al., 2010). Factor loading (FL) values range from 0.815 to 0.875. Furthermore, according to Nunnaly & Berstein (1994), each factor's reliability value (Cronbach's Alpha) is greater than 0.7, indicating a high degree of reliability.

However, the findings of the AFE test indicate that the factor analysis met the present requirements. The three identified factor models can explain 74.40% of the overall variation in the data, according to Eigenvalues larger than one (Table 6). These results imply that the chosen model has predictive value for students' acceptance and usage of SMT. The data passed the factor analysis test overall and is prepared for further testing, such as SEM and Confirmatory Factor Analysis (FFA).

Table 6. Total Explained Variance

EV	PV (%)	CV (%)
5,894	29.5	29.5
2,477	12.4	41.9
1,945	9.7	51.6

EV = Eigen Value
PV = Percent of Variance
CV = Cumulative Variance

Source: IBM Statistics SPSS 25

Analysis (FFA)

Table 7 shows a Confirmatory Factor Analysis (FFA) that was performed to confirm the factor structure of a set of observational data.

Table 7. Confirmatory Factor Analysis (FFA)

GFI	Value	Acceptance rate	Reference
Chi-square/df	2,187	<5.0	Marsh & Hocevar (1985)
CFI	0.949	>0.90	Bentler (1990)
RMR	0.061	<0.08	Hu & Bentler (1999)
GFI	0.921	>0.90	Joreskog & Sorbom (1993)
AGFI	0.871	>0.85	Anderson & Gerbig (1984)
RMSEA	0.066	<0.08	Browne & Cudeck (1993)
SRMR	0.063	<0.08	

CFI = Comparative Fit Index
RMR = Root Mean Residual
GFI = Goodness of Fit Index
AGFI = Adjusted Goodness of Fit Index
RMSEA = Root Means Square Error of Approximation
SRMR = Square Root Mean Residual

Source: Structural Equation Modeling (AMOS 26)

FFA enables researchers to confirm the current variables' correlation with their corresponding factors. A Chi-Square value of 2.187 (less than 5.0) indicates that the model is fit (Marsh and Hocevar, 1985). A goodness of fit index (GFI) of 0.921 above the 0.90 criterion established by Jorgeskog and Sorbom (1993), indicating that the model is fit. Overall, the fit signals demonstrate Goodness of Fit (GoF) model fit. Table 7 shows the results of the AFK test, which is required for the existence of a default model for GoF.

Table 7 shows an Adjusted Goodness of Fit Index (AGFI) value of 0.871, which is larger than 0.85 and indicates an excellent fit. Anderson and Gerbig (1984) define good as acceptable. Furthermore, the Comparative Fit Index (CFI) score of 0.949 exceeds the 0.9 cut-off value (Bentler, 1990). The Root Mean Residual (RMR) in this AFK test is 0.061, which is less than 0.08 (Hu & Bentler 1999).

Furthermore, the Root Means Square Error of Approximation (RMSEA) is 0.066 < 0.08 (Browne & Cudeck 1993). Browne and Cudeck (1993) found that the most recent GoF index, the Square Root Mean Residual (SRMR) of 0.063, was less than 0.08. It is possible to infer that all GoF indices met the appropriateness criterion (good fit) and described a good and acceptable model fit.

Collinearity Tests

For make sure whether has happen multicollinearity or no, value tolerance and the value of the variance inflation factor (FIV) has been counted in Table 8. The test results demonstrate that the FIV variable has a value greater than 0.10, with a maximum value of 1.389, indicating no multicollinearity (<10). According to Hair et al., 1998, a FIV value of 1 shows no connection, a value between 1 and 5 suggests a moderate correlation, and a value greater than 5 indicates a significant correlation.

Table 8. Variance Inflation Factor and Tolerance in Multicollinearity

	Tolerance	FIV
PU	0.955	1,047
PEU	0.974	1,026
OI	0.859	1,164
USMT	0.720	1,389

Source: IBM Statistics SPSS 25

Common Method Bias (CMB)

According to the CMB (Harman's single factor test) results in Table 9, the percentage of single factor analysis was less than 50%, or just 26.342%, indicating no bias (Aguirre-Urreta & Hu, 2019). This ratio shows that a single component cannot account for the majority of the present volatility. Use Harman's single factor test to see if one component can explain most of the variance.

Table 9. Common method bias test

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,894	29,468	29,468	5,288	26,442	26,342

Source: IBM Statistics SPSS 25

Structural Model

This study employs a multivariate analysis technique (covariance-based structural equation modeling) to determine the impact of three parameters on SMT adoption. Table 10 presents the statistical test findings, as well as structural parameter estimations and hypothesis testing outcomes. According to Hair et al.'s (2014) criteria, a relationship between variables is considered significant if the probability value (p-value) is less than 0.05 (<0.05), and not significant if the p-value is larger than 0.05 (>0.05).

Table 10. Regression Weights: (Group number 1 - Default model)

Connection	Hypothesis	Estimate	SE	CR	P	Label
USMT ← PU	H1	0.346	0.221	2,320	0.023	Supported
USMT ← PEU	H2	0.321	0.051	2,221	0.028	Supported
PU ← PEU	H3	0.397	0.064	1,981	0.031	Supported
USMT ← IO	H4	-0.413	0.119	2,327	0.026	Supported

PU-USMT ← IO	H5a	0.471	0.109	3,606	0.027	Supported
PEU-USMT ← IO	H5b	0.421	0.092	2,906	0.029	Supported

Source: Structural Equation Modeling (AMOS 26)

The study's findings demonstrate that the three factors, PU, PEU, and OI, all have p-values less than 0.05, indicating that each independent variable has a significant effect on the dependent variable, supporting hypotheses H1, H2, H3, and H4. Meanwhile, the organizational innovation (IO) variable significantly strengthens the relationship between usefulness and SMT use, and between ease of use and SMT use, with p -values smaller than 0.05, which means it supports H5a and H5b. In addition to being shown in Table 10 above, the results of the structural equation model are shown in Figure 2 below

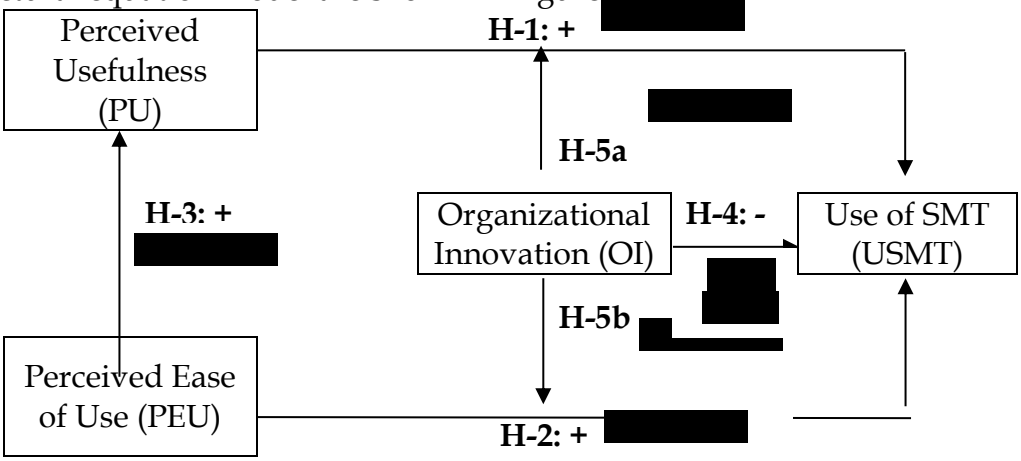

Figure 2. Hypothesis Testing Results

Qualitative Analysis

To complement the quantitative analysis above, this study also conducted a qualitative analysis as a form of research characterized by triangulation. There were 9 students who were randomly selected to be interviewed regarding the use of SMT, and specifically related to their understanding and perception of organizational innovation where they study. The questions ranged from (1) which SMT they adopted and used, (2) how long they used SMT in one day, one week, and during college holidays, (3) how and what they understood and believed about the organizational environment and culture of the educational institution where they studied, and (4) whether the organizational environment and culture of the educational institution where they studied influenced the use of SMT.

Based on the interviews, it can be explained that in general, what is important and urgent to be revealed in this study is that students feel confident that lectures are about listening to lecturers' explanations, while assignments from lecturers can be completed in collaboration with their friends by obtaining "answers" to these assignments through googling, or by using the latest technology, artificial intelligence (AI). Thus, they have enough time to utilize social media technology (SMT), because lecture assignments can be completed with the help of friends or googling and AI. They feel and are confident that existing and conventional education models can be implemented with good results as indicated by a very good achievement index.

Based on the interviews, it can be concluded that the culture and organizational environment in which students study and conduct research have not changed much over time, which can be positively addressed by high academic achievement. The culture and learning environment are relatively undynamic, requiring no significant effort from students to achieve good academic performance.

CONCLUSIONS AND RECOMMENDATIONS

The study found that usability had a substantial beneficial effect ($\beta = 0.346$, CR = 2.320, and $p = 0.023$) on SMT use in Indonesian Education. This result is congruent with comparable investigations conducted by Shankar and Datta (2018), Zhou (2013), Lu et al. (2011), and Srivastava et al. (2010). Ease of use has a strong beneficial impact on SMT use in Indonesian education ($\beta = 0.321$, CR = 2.221, and $p = 0.028$). Kesharwani and Bisht (2012) and Cho (2004) conducted similar investigations that are consistent and in line with this one. Organizational innovation has a significant negative impact on the usage of SMT ($\beta = -0.413$, CR = 2.327, $p = 0.026$). Similar study (Kesharwani & Bisht, 2012; Vankatesh & Davis, 2000) is consistent and supports this finding.

Furthermore, related to the third hypothesis, it shows that ease of use has a significant and positive influence ($\beta = 0.397$, CR = 1.981, and $p = 0.031$) on the Kg SMT of Indonesian Education students. This study is consistent and in accordance with similar studies (Kesharwani & Bisht, 2012; Wang et al. ,2003). Related to hypotheses 5a and 5b, the results of the study indicate that organizational innovation will strengthen the relationship between the usefulness of SMT and its use with significant and positive indications ($\beta = 0.471$, CR = 2.906, and $p = 0.02$). Meanwhile, related to hypothesis 5b, the results of the study indicate that organizational innovation strengthens the relationship between the ease of use of SMT and its use with significant and positive indications ($\beta = 0.421$, CR = 2.906, and $p = 0.029$). Similar studies (Apanasevic et al., 2012 ;Kim et al., 2010) are in accordance and consistent with this study.

Qualitative analysis was conducted to triangulate the research. Student interviews revealed that the culture and organizational environment of Indonesian educational institutions are not conducive to the exploitation and development of students' potential, thus providing them with sufficient capabilities and capacity to adapt to the work environment. Consequently, there is a high level of SMT usage that is unsupportive and unrelated to students' duties and responsibilities.

ADVANCED RESEARCH

This study contributes to the limited research on SMT within the context of educational institutions and builds on previous research models (Michaelidou et al., 2021; Venkatesh & Davis, 2000), which are generally based on TAM. Another contribution is the identification and testing of organizational innovation variables in educational institutions, which appear to be still very limited. In addition to the contributions, the research was conducted with a

relatively small sample size for a quantitative study. Therefore, future research will focus on a much larger sample size.

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