Determinants of Decision-making in Micro-small Enterprises' Adoption of Point-of-sale System

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ABSTRACT

MSEs must have instantaneous report delivery capabilities in order to make decisions more quickly and precisely. Point-of-sale system, an advancement in digital register machines, was developed to enable the goods inventory system's capacity to provide financial data in real time. Despite this, there are still several reasons why its use in MSEs is restricted. Therefore, this study investigates the factors that affect MSEs' decisions about POS implementation in their businesses. This research uses a causal methodology. This study makes use of an online survey that is given to the MSE community in Jakarta. The validity and reliability of the survey results were assessed before applying covariance-based SEM. The study's conclusions highlight several factors, such as relative advantage, trialability, ICT skills, organizational culture, and competitive environment.

1 INTRODUCTION

The COVID-19 outbreak has hit the world since December 2019 (WHO, 2020) and began to spread in Indonesia in March 2020. Business continuity was also affected by the pandemic. Business practitioners' perspectives are shifting, tending to choose short-term business over long-term (Beine & Dupuy, 2020). Therefore, practitioner understanding is needed to realize a digital accounting transformation strategy.

Accounting was originally the science of business-oriented bookkeeping (Goretzki et al., 2013). In its development, accounting shows a strengthening role as a business advisor (Morales & Lambert, 2013), a crucial role for companies to achieve competitive advantage (Duong et al., 2019; Gooderham et al., 2004). In Indonesia, this digital transformation continues to strengthen until it gets a big boost from the COVID -19

pandemic that forces businesses to go digital. Information must be available in real-time for decision making regarding resource allocation, as the only solution available for business continuity (Purbasari et al., 2022; Zamzami et al., 2022; Zhang et al., 2017), including MSMEs.

Regarding the digitization of information systems, Premkumar (2003) states that there are very few information systems that cover MSMEs. MSMEs must have their own organizational theory, because many studies that examine IS in companies developed in large companies are not suitable for use in MSMEs. For example, MSME decision-making is cantered on one or two people, bureaucracy is minimal, standard procedures are not well laid out, long-term planning is limited, there is a greater dependence on external expertise and services for information system operations. Problems, opportunities, and management in dealing with information systems in MSMEs are still limited studied in Indonesia. Therefore, it is necessary to examine what factors influence MSMEs to be able to adopt information systems, specifically in this study related to accounting information systems.

Premkumar (2003) stated that in implementing a system in MSMEs, there are 5 categories of factors that need to be identified, namely individual, task, structural or organizational, technological, and environmental factors. The following are indicators of each factor stated by Premkumar (2003). The results state that competitive advantage is the factor that most influences MSMEs in adopting IS. One of the IS in the organization that is integrated in SMEs is the cloud. Cloud is an integrated system that produces real-time reports based on the cloud. Some studies that examine the factors of MSMEs adopting the cloud are such as - Albar & Hoque, 2019; Anwer, 2019; Premkumar, 2003; Seethamraju, 2015; Shivam Gupta, Subhas C. Misra, Akash Singh, Vinod Kumar & Authors, 2015. Seethamraju (2015) identified several factors that influence MSMEs in adopting SaaS software, namely environmental factors, general benefits of cloud in MSMEs, IT readiness (resources), costs, change management, security, configuration and customization, and impact- potential process improvement, innovation and decision making. The findings resulted in a model that identified several factors into three groups, namely vendor, technology, and organizational factors.

Gupta et al. (2018) identified factors and ranked them based on MSME responses. The ranking of these factors starts from security, network, subscription costs, knowledge, perception, integration, application customization, term costs, performance, extraction, business complexity, integrity, review, legal issues, functional limitations, organizational challenges, migration, no IT competencies. Anwer (2019) identified these factors that influence MSMEs to adopt the cloud in developing countries. Consists of four main factors, namely diffusion of innovation, technology, organization, and environment. The results of Anwer (2019) state that there are seven factors that influence MSMEs to adopt the Cloud, namely compatibility, technological readiness (TR), technical barriers, top management support, business unit readiness, business unit size, and competitive pressure. With the cloud, it can review company performance for the better. (Albar & Hoque, 2019) Identified factors that influence MSMEs to adopt the cloud in Saudi Arabia, such as Diffusion of Innovation (DOI) and Technology-Organization-Environment (TOE). The results state that relative advantage, complexity, observability, technological capabilities, IT infrastructure, top management support, competitive environment are factors that significantly influence an organization adopting the cloud in Saudi Arabia.

Different from previous studies that use the cloud as SI in their business, this study analyses the intention to adopt information systems in lower-middle-scale MSMEs that use the point-of-sale terminals platform. Point of sale terminals were first introduced in

Nigeria as an electronic payment service at the cash register (Adeoti & Oshotimehin, 2011; Ayeni, 2016).

However, with the development of technology, POS terminals can be used to manage resources, inventory, and financial reports in micro-scale businesses. Some vendors call it a mini-ERP. Therefore, the purpose of this study is to examine the relationship between DOI (relative advantage, compatibility, complexity, trialability, observability) and TOE (technological, organizational, and environmental context) on POS adoption for MSMEs.

2. LITERATURE REVIEW

2.1. Diffusion of Innovation Theory

Diffusion is a process of innovation that is communicated through certain channels over time among members of the social system. (Rogers, 2003). The components of diffusion theory are 1) An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. If an idea appears new to an individual, it is an innovation regardless of its actual novelty. The rate of adoption of an innovation depends on its characteristics. There are five attributes of innovation, namely relative advantage, compatibility, complexity, trialability, and observability (the extent to which results can be seen); 2) Adopters, especially the degree of innovativeness of each adopter (relative closeness to others in adopting the innovation); 3) The social system, especially in terms of the structure of the system, its local informal opinion leaders, and potential adopters' perceptions of social pressures for adoption; 4) The individual adoption process, a stepwise model of awareness, persuasion, decision, implementation, and continuation; 5) The diffusion system, especially external change agents and paid change agents who, if well trained, seek out and properly intervene with client system opinion leaders, paraprofessional assistants, and innovation champions.

2.2. Technology-Organization-Environment (TOE)

Baker (2012) explained that TOE is an organizational level theory that explains how three main elements affect technology adoption and implementation. The three elements are technological context, organizational, and environmental.

Technological context - includes all technologies relevant to the company - both technologies already in use and those available on the market but not yet used. The process of adopting technology by companies is very important, because the technology sets the limits of the scope and rate of technological change that can be carried out by the company. Innovations that exist but have not yet been used, can impact a company's innovation – both by limiting what is possible and the ways in which technology can enable the Company to evolve and adapt (Baker, 2012).

Innovations are divided into three groups, namely incremental, synthetic, and discontinuous. Incremental innovation introduces new features of existing technology, such as a newer version of the same ERP system. Synthetic innovation is the midpoint of change where ideas and technologies are combined in a new way, such as e-learning activities at universities. While discontinuous innovation is a significant deviation from the current technology or process (Baker, 2012).

Organizational context - refers to the characteristics and resources of the organization, including relationships between employees, intra-firm communication processes, firm size, and the number of resources. Environmental context - includes industry structure, presence or absence of technology service providers (infrastructure), and regulation (Baker, 2012).

2.3. Cloud Point of Sale

Point of sale is an innovation of cash registers that can be accessed through a model with the help of an internet network. Point of sale providers in Indonesia such as Pawoo, Moka, Majoo, qasir, and others provide a uniform interface by highlighting a one-stop system that can provide several results such as cash flow reports, financial reports, customer flow rates, and daily business activities. However, it has challenges in terms of security, privacy, bandwidth and data relocation, data administration and synchronization, energy effectiveness, and heterogeneity (Paramita, 2019; Prihatiningtias & Wardhani, 2021).

2.4. Previous Research and Research Framework

This research is a combination of research models (AL-Shboul, 2019; Albar & Hoque, 2019; Alshamaila et al., 2013; Premkumar, 2003) to identify which factors most dominate MSMEs to adopt Point of Sale terminals applications, namely Individual factors, diffusion of innovation, and TOE. To identify which factors most, dominate MSMEs to adopt Point of Sale terminals applications, namely Individual factors, diffusion of innovation, and TOE.

Adeoti & Oshotimehin (2011) found that factors such as nativity, security, ease of use, availability, convenience, intention to use, technology complexity are some of the factors that influence the use of POS terminals. Efforts to improve transaction security, technology availability and ease of use are recommended to drastically reduce excess cash flow especially in developing countries (Akerejola et al., 2019). Infrastructure and security influence MSMEs to adopt POS. Prihatiningtias & Wardhani (2021) stated that the continued use of POS does not significantly affect the financial performance of MSMEs. Because POS is only a tool for providing financial information. However, it has a significant effect on non-financial performance, because with the POS business operations become well managed and structured. Pandemic covid19 significantly affects financial and non-financial performance, this is due to a decrease in revenue. Alshamaila et al. (2013) stated that. The main factors that play an important role in adopting cloud computing by MSMEs are relative advantage, uncertainty, derestriction, compatibility, trialability, size, top management support, prior experience, innovativeness, industry, market scope, supplier effort, and external computing support. Research by Ifinedo (2011) stated that relative advantage, compatibility, complexity, management support, organizational readiness, customers, partners, competition pressure, and government support affect the intention to use IEBT MSMEs based on the maritime region. Albar & Hoque (2019) stated that relative advantage, complexity, observability, ICT skills, ICT Infrastructure, top management support, regulatory environment, and competitive environment have an influence on Cloud-based ERP. Paramita (2019) stated that the most important factors for MSMEs in Surabaya to adopt POS are ease of use, security, and internet connection. The use of cloud computing will be a solution for MSMEs in the future if the internet network in Indonesia becomes faster and more reliable.

Seethamraju (2015) stated that the cloud is very helpful, reducing capital costs, but if it requires customization, it will affect additional costs. However, there is no pressure from competitors to require them to adopt cloud ERP. Ruivo et al. (2012) stated that companies with more trained users tend to use cloud ERP more often, as do companies that face higher levels of competitive pressure. technological characteristics compatibility and efficiency depend on system stability, which takes time from IT and often from suppliers. ERP with less customization is more suitable for users who are

familiar with the system. User and functional manager satisfaction are closely related to the technological features of ERP adoption. Technological product characteristics are the main drivers of ERP use among Portuguese SMEs (Premkumar, 2003). The main factors of technology use in MSMEs are compatibility, management support, competitive advantage, size. (Indarti & Langenberg, 2004) Factors that significantly affect the success of MSMEs are education and capital sources. The education in question is self-education obtained from entrepreneurial experience. Capital from the family is the main source to support the success of MSMEs.

2.5. Relationship between Diffusion of Innovation and Cloud Point of Sale Adoption

Relationship between Diffusion of Innovation and Cloud Point of Sale Adoption Diffusion of innovation has five characteristics, namely relative advantage, compatibility, complexity, trialability, observability. Relative advantage explains that how an innovation can be considered better than the idea it replaces. Previous research has proven that relative advantage with the decision to adopt information technology. Previous research explains that adopting SI is believed to help save time, money, facilitate better communication, and produce more efficient synchronization than previous SI (Albar & Hoque, 2019; Ifinedo, 2011; Ruivo et al., 2012). Thus, the more businesses see the relative advantages in an innovation, the likelihood of adopting the innovation will increase (Alshamaila et al., 2013).

Compatibility explains how an innovation is considered consistent with the existing values, past experiences, and needs of potential adopters. Alshamaila et al. (2013) explained that compatibility is the most significant driving factor in the post-adoption stage of innovation. Business owners tend to worry that the innovations adopted are inconsistent with the technology needs for their organization, but from the developer side, they continue to make improvements in terms of compatibility in order to achieve a high level of integrity of the new technology (Alshamaila et al., 2013; Ruivo et al., 2012).

Complexity explains the extent to which innovations are relatively difficult for users to understand. Adoption of SI innovation will be less likely if SI is more challenging to use. SI innovation must be user-friendly to increase its adoption (Purwaningsih & Budyastuti, 2019; Z & Putra, 2019). This explains that complexity is negatively related to the intention to adopt SI by users, as stated by: Albar & Hoque, 2019; Alshamaila et al., 2013; Ruivo et al., 2012.

Trialability describes how an innovation can be tested in a limited way. During the adoption decision process, reinvention may occur during trials of new technologies. This can affect the speed of adoption among businesses in a positive way. If it is slow, there tends to be less uncertainty. Because they know from the innovator how effective the technology is. Thus, trialability tends to be more significant when exploring new innovations (Alshamaila et al., 2013; Rogers, 2003). Based on the above framework, the following hypothesis can be drawn:

H1: Relative advantage has a positive effect on the decision to adopt cloud POS
H2: Compatibility has a positive impact on the decision to adopt cloud POS.
H3: Complexity has a negative impact on the decision to adopt cloud POS.
H4: Trialability has a positive impact on the decision to adopt cloud POS.

2.6. Relationship between TOE and Point of Sales Adoption

Viewed from the context of technology if adopted by the organization can have a greater impact and can be smaller depending on how the organization reacts to it (Baker, 2012). Albar & Hoque (2019) stated that the technological context includes ICT infrastructure and employee ICT skills. Cloud ERP implementation is based on the ICT infrastructure of an organization that facilitates the flow of information within an organization. POS services can move quickly through the cloud if cloud providers and cloud POS users have adequate bandwidth with high-speed Internet. Organizations must ensure that adequate bandwidth for Internet connectivity is available to adopt cloud POS. Although cloud POS is undoubtedly an innovative and labour- saving technology, its implementation is disruptive and challenging due to the ICT skills required. (Lutovac & Manojlov, 2012) found that if employees in a company do not have ICT skills, they will be unhappy and have no motivation to devote additional time by participating in the implementation of POS solutions.

Previous studies on ERP adoption have identified a set of organizational characteristics that can describe why an organization will accept or reject an innovation (Al-Jabri & Roztocki, 2015). The most cited organizational characteristics in cloud adoption are top management support and organizational culture (Ram et al., 2013). In cloud adoption, top-level management support is considered the most important determinant of success. Top-level management in an organization enables the resources required in cloud adoption and approves projects before execution. (Albar & Hoque, 2019) found that cloud adoption is influenced by the level of support provided by upper management.

The relationship between organizational culture and information systems is important for organizations to achieve the potential benefits promised by the system. Organizational culture is a key driver and inhibitor of the adoption of innovative technologies such as cloud POS (Son & Lee, 2011). Organizational culture influences employee attitudes towards POS adoption and contributes to successful implementation.

Judging from the environmental context, competitive pressure from competitors can have a direct effect on making decisions to use IT. Competitors will put strong pressure on organizations to look for new alternatives in order to increase their production. In the context of small businesses, competitive pressure is the most important determinant in determining IT adoption (Albar & Hoque, 2019; Alshamaila et al., 2013; Anwer, 2019; Ruivo et al., 2012).

In addition to competitive pressures, rules, regulations, instructions, policies, and initiatives that support MSMEs adopt cloud-based. Studies (Albar & Hoque, 2019; Anwer, 2019) suggested that government regulations have a significant impact on e-business adoption in developing countries compared to developed countries. An additional study highlights that Saudi SMEs are supported by the government in cloud adoption. When the government supports the use of IT innovation, business people will tend to adopt IT. Because the government has the ability to pressure companies to use certain technological innovations (Setiany et al., 2022). As Indonesian MSEs are required to report taxes, the impact is that MSEs require financial reports as a tax reporting requirement. The point of sale application will make it easier for MSEs to prepare financial reports, thus the tendency to adopt POS will be higher. Based on the above framework, the following hypothesis can be concluded:

H5: ICT skills have a positive effect on the decision to adopt cloud POS
H6: ICT Infrastructure has a positive effect on the decision to adopt cloud POS
H7: Top Management affects the decision to adopt cloud POS
H8: Organizational culture affects the decision to adopt cloud POS

H9: Competitive environment has a positive effect on the decision to adopt cloud POS
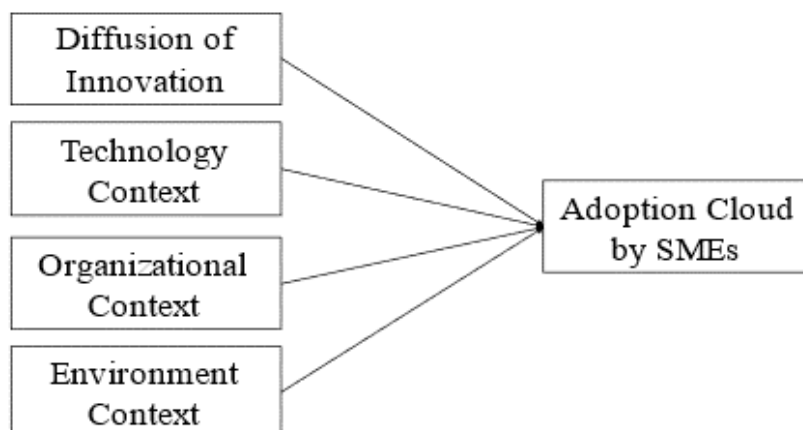H10: Regulatory support has a positive effect on the decision to adopt cloud POS

Figure 2 Framework of Thought

3. RESEARCH METHODS

This research is causal research with a survey design. The sample in this study were MSEs that adopted POS in their business. The sampling technique used a nonprobability purposive sampling method. The data collection method uses a self-administered survey, namely a questionnaire. The data collection period was carried out for two months from May to June. There were 159 responses, but not all could be analysed because they did not meet the criteria. Based on an error rate of 5 percent of the sample size of 148, the corresponding power is 0.80.

Respondent characteristics include age, gender, latest education, type of business, position, annual turnover, length of business, and type of Point of Sale (POS) used. Most respondents were aged 21 years to 30 years, namely 42 percent. 72 percent were female. 39 percent had a high school education. Most respondents have a culinary business, such as a cafe, 64 percent. 66 percent are staff or employees. Most respondents have a turnover of less than Rp 300,000,000.00 per year, as many as 67 percent. The length of business ranges from 1 to 5 years. Most respondents use the moka platform for transaction recording, namely 24 percent.

3.1. Mesurement

This study adopted the questionnaire from (Albar & Hoque, 2019). Question items modified according to the needs of this study. The measurement scale used a 5-point Likert- type scale, from 1 "strongly disagree" to 5 "strongly agree". The questionnaire was tested for validity using outer loading and discriminant. Meanwhile, to test reliability using Cronbach alpha and composite reliability.

3.2. Validity Test

Validity consists of internal and external validity. External validity indicates that the results can be generalized to all different objects, situations, and times. While internal validity shows the ability of research instruments to measure what should be measured from a concept (Jogianto, 2011).

Internal validity consists of qualitative and construct validity. Qualitative validity consists of face and content validity. This validity can be done based on the opinions and evaluations of a panel of experts or by others. This instrument has gone through a

peer panel discussion process regarding grammar, translation from the adoption of the original English instrument.

Table 1 Characteristics of Respondents

No	Information	General		
		Total		%
1	Age	20 years and below	21	14.00
		21 - 30 years	63	42.00
		31 - 40 years	39	26.00
		41 - 50 years	14	9.33
		50 years and above	11	7.33
2	Gender	Male	40	26.67
		Female	108	72.00
3	Last Education	Junior high school	1	0.67
		Senior high school	57	38.00
		Vocation	33	22.00
		Undergraduate	46	30.67
		Postgraduate	11	7.33
		Doctoral	0	0.00
4	Business Type	Culinary	96	64.00
		Retail	12	8.00
		Retail, Laundry	5	3.33
		Online shop	22	14.67
		Pharmacies/Medicine Stores	8	5.33
5	Position	Owner	50	33.33
		Staff	98	65.33
6	Annual Turnover	Less than 300 million	99	66.00
		300 million - 2.5 billion	38	25.33
		More than 2.5 billion	11	7.33
7	Length of business	under 1 year	15	10.00
		1 - 5 years	81	54.00
		6 - 10 years	45	30.00
		11 - 15 years	7	4.67
8	POS	Qasir	6	4.00
		Majoo	11	7.33
		Tokoko	9	6.00
		Netzme Store	13	8.67
		HelloBill	12	8.00
		Rene POS	23	15.33

Meanwhile, construct validity shows how well the results obtained from using a measurement are in accordance with the theories used to define a construct. Construct validity can be measured by convergent validity and discriminant validity (Jogianto, 2011). Convergent validity relates to the principle that the measures of a construct should be highly correlated (Jogianto, 2011). Hair stated that loading > 0.50 is considered practically significant. However, the higher the factor loading value, the more important the role of loading in representing the factor matrix. Therefore, the rule of thumb used in convergent validity is outer loading> 0.70.

Based on table 1, it can be seen that the outer loading for DOI and TOE indicators, such as RA, CO, CM, TR, IS, II, TM, OC, RE, CE, and IA have values above 0.70. Thus, the variable indicators can be declared valid.

Discriminant validity relates to the principle that measures of different constructs should not be highly correlated. Discriminant validity occurs if two different instruments measuring two or more predicted uncorrelated constructs produce uncorrelated scores. Discriminant validity test can be seen from the AVE value. Table 3 shows the value of discriminant validity, the results show that the construct gauges are only highly correlated on the same construct. Meanwhile, with different constructs, the value is low.

3.3. Reliability Test

Reliability test to measure the internal consistency of measuring instruments. Reliability shows the accuracy, consistency, and accuracy of a measuring instrument in making measurements. Reliability is measured by two methods, namely Cronbach's alpha, and composite reliability. Cronbach's alpha measures the lower limit of the reliability value of a construct. Composite reliability measures the true value of construct reliability (Jogianto, 2011). Hair (Jogianto, 2011) states that the rule of thumb Cronbach's alpha and composite reliability must be more than 0.7. Table 2 is data processing that shows Cronbach's alpha and composite reliability scores. The results of data processing show that both Cronbach's alpha and composite reliability have a value of more than 0.7. Thus, the measuring instrument used in this study has good accuracy, consistency, and accuracy in making measurements.

Table 2 Validity and Reliability Analysis

Variable & Indicator	Item	Statements	Outer Loading	CA	CR
Relative Advantages	RA1	POS will improve our business efficiency	0.906	0.843	0.905
	RA2	POS will improve our business performance	0.908		
	RA3	POS provides timely information for decision-making	0.798		
Compatibility	CM1	POS is compatible with current business activities	0.904	0.874	0.922
	CM2	POS is compatible with current business values and objectives	0.904		
	CM3	POS is compatible with current work styles	0.872		
Complexity	CO1	POS is difficult to use	0.898	0.891	0.929
	CO2	Integrating POS in our business is difficult	0.960		
	CO3	Our business may experience some difficulties in maintaining POS	0.845		

Table 2 (Cont) Validity and Reliability Analysis

Trialability	TR1	Our effort to experiment with POS before deciding whether to use it	0.817	0.751	0.857
	TR2	We were allowed to use the POS service experimentally long enough to understand how it fits into our business.	0.829		
	TR3	It is easy to correct mistakes when using POS.	0.804		
Technology Context	IS1	Our employees are generally aware of the POS function	0.846	0.805	0.884
	IS2	Our employees are well trained in using POS	0.904		
	IS3	Our business is supported by specialized employees regarding POS	0.787		
	II1	Our business has a good ICT infrastructure to implement POS	0.890	0.876	0.923
	II2	Our business has IT resources available to implement POS (computers and internet)	0.912		
	II3	There is an alignment between IT and business strategy in adopting POS in our business.	0.883		
Organizational Context	TM1	Our senior manager enthusiastically articulates the purpose of using POS	0.906	0.920	0.949
	TM2	Your senior managers are actively formulating strategies for POS utilization.	0.943		
	TM3	Our senior managers actively set the goals and standards for the POS program.	0.934		
	OC1	Our place of business is responsive and flexible in adopting POS	0.864	0.837	0.901
	OC2	There is an agreement on how we operate the POS	0.856		
	OC3	Business goals and objectives communicated at every stage of adopting a POS	0.882		
Environment Context	RE1	Government regulations support initiatives and implementation	0.852	0.755	0.859
	RE2	The government encourages the use of POS	0.824		
	RE3	Businesses require environmental stewardship in using POS	0.780		

	CE1	The use of POS is a strategic requirement to compete in the market	0.877	0.829	0.889
	CE2	Our business will be at a competitivedisadvantage if we do not use POS	0.855		
	CE3	We believe we will lose market share if we do not adopt POS	0.825		
Adoption	IA1	We strongly intend to use POS	0.922	0.891	0.932
	IA2	We like the idea of using POS	0.918		
	IA3	Overall, we welcome the implementation ofthe use of POS	0.878		

Table 3 Discriminant Analysis

	CE	CM	CO	IA	II	IS	OC	RA	RE	TM	TR
CE	0.852										
CM	0.453	0.894									
CO	-0.187	-0.117	0.902								
IA	0.476	0.477	-0.092	0.906							
II	0.484	0.518	-0.098	0.565	0.895						
IS	0.449	0.558	-0.096	0.456	0.713	0.847					
OC	0.497	0.543	-0.045	0.650	0.746	0.734	0.867				
RA	0.418	0.775	-0.130	0.538	0.554	0.496	0.488	0.872			
RE	0.444	0.475	0.098	0.555	0.521	0.436	0.566	0.443	0.819		
TM	0.408	0.393	-0.154	0.430	0.587	0.564	0.655	0.383	0.475	0.928	
TR	0.341	0.643	-0.015	0.628	0.537	0.623	0.567	0.610	0.512	0.422	0.817

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Table 4 explains the descriptive statistics of respondents' responses. The average relative advantage of respondents is 11.2635 with a standard deviation of 1.87849. The actual average value is above the theoretical average, this shows that respondents tend to perceive that cloud POS is an efficient system. However, respondents' responses have a very low level of consensus because the standard deviation value is quite high. The average compatibility of respondents is 11.1486 with a standard deviation of 1.88934. The actual average value is above the theoretical average, this shows that respondents tend to perceive that cloud POS is a system that is compatible with their business. However, respondents' responses have a very low level of consensus because the standard deviation value is quite high. The average complexity of respondents is 6.7703 with a standard deviation of 2.70574. The actual average value is below the theoretical average, this shows that respondents tend to perceive that cloud POS is a system that is not so difficult to use. However, respondents' responses have a very low level of consensus because the standard deviation value is quite high. The average trialability of respondents is 10.7230 with a standard deviation of 1.88015. The actual average value is above the theoretical average, this shows that respondents tend to perceive that cloud POS is a system that is tested before establishing use in their business. However,

respondents' responses have a very low level of consensus because the standard deviation value is quite high.

The average perceived ICT skill of respondents is 10.3311 with a standard deviation of 2.24787. The actual average value is above the theoretical average, this shows that the tendency of users to have ICT skills in using cloud POS. However, respondents' responses have a very low level of consensus because the standard deviation value is quite high. The average perception of respondents' ICT infrastructure is 10.6622 with a standard deviation of 2.11105. The actual average value is above the theoretical average, this shows that the tendency of respondents to state that their place has sufficient ICT infrastructure to use cloud POS. However, respondents' responses have a very low level of consensus because the standard deviation value is quite high.

The average perception of respondents' top management is 10.4730 with a standard deviation of 2.22064. The actual average value is above the theoretical average, this shows that the tendency of respondents is that top management provides support in using cloud POS. However, respondents' responses have a very low level of consensus because the standard deviation value is quite high. The average perception of respondents' organizational culture is 10.5473 with a standard deviation of 2.15184. The actual average value is above the theoretical average, this shows that the tendency of respondent's states that the organizational culture of the business place supports the use of cloud POS. However, respondents' responses have a very low level of consensus because the standard deviation value is quite high.

Table 4 Descriptive Statistics

	N	Range Theory	Actual Range	Mean Theory	Mean Actual	Std. Deviation
RA	148	3-15	6-15	9	11.2635	1.87849
CM	148	3-15	6-15	9	11.1486	1.88934
CO	148	3-15	3-14	9	6.7703	2.70574
TR	148	3-15	6-15	9	10.7230	1.88015
IS	148	3-15	3-15	9	10.3311	2.24787
II	148	3-15	4-15	9	10.6622	2.11105
TM	148	3-15	4-15	9	10.4730	2.22064
OC	148	3-15	3-15	9	10.5473	2.15184
RE	148	3-15	7-15	9	10.7635	1.74325
CE	148	3-15	3-15	9	9.5946	2.31481
IA	148	3-15	6-15	9	11.2500	2.00976
VALID N (LISTWISE)	148					

4.2. Inner Model Testing

The structural model is evaluated using R^2 to measure the level of variation in changes in the independent variable on the dependent variable and t-value to test the significance between constructs in the structural model (Jogianto, 2011). Table 5 shows the R^2 value of the research model of the relationship between relative advantages, compatibility, complexity, trialability, ICT skills, ICT infrastructure, top management, organizational culture, regulatory environment, competitive environment to Adoption Intention has an R square of 0.615. This means that the variability of Adoption Intention which can be explained by relative advantages, compatibility, complexity, trialability, ICT skill, ICT

infrastructure, top management, organizational culture, regulatory environment, competitive environment is 61.5 percent.

A model can be said to be fit if it has an SRMR value of less than 0.10 (Ringle et al., 2015). SRMR measures the difference between the observed correlation and the model implied correlation matrix, so as to avoid model misspecification. Table 5 shows that the SRMR with a value of 0.070, thus it can be said that this research model is fit.

Table 5 Inner Model Testing

	SATURATED MODEL	ESTIMATED MODEL
SRMR	0.070	0.070
D_ULS	2.737	2.737
D_G	1.397	1.397
CHI-SQUARE	1155.200	1155.200
NFI	0.709	0.709
	R SQUARE	R SQUARE ADJUSTED
IA	0.615	0.587

The coefficient parameter of the relationship between relative advantage and intention to adopt cloud POS is 0.198, meaning that there is a positive relationship between relative advantage and intention to adopt cloud POS. The higher the level of relative advantage of an application, the higher the individual to adopt it. The t statistic value shows a result of 2.162 which is greater than 1.96 and a p value of 0.031 which is smaller than 0.05. So that hypothesis 1 is accepted.

The coefficient parameter of the relationship between compatibility and intention to adopt cloud POS is -0.188, meaning that there is a negative relationship between compatibility and intention to adopt cloud POS. The lower the level of compatibility of an application, the higher the individual to adopt it. However, the statistical t value shows a result of 1.612 which is smaller than 1.96 and a p value of 0.108 which is greater than 0.05. So, hypothesis 2 is rejected.

The coefficient parameter of the relationship between complexity and the intention to adopt cloud POS is -0.079, meaning that there is a negative relationship between complexity and the intention to adopt cloud POS. The lower the level of complexity of an application, the higher the individual to adopt it. However, the statistical t value shows a result of 0.998 which is smaller than 1.96 and a p value of 0.319 which is greater than 0.05. So that hypothesis 3 is rejected.

The coefficient parameter of the trialability relationship with the intention to adopt cloud POS is 0.402, meaning that there is a positive relationship between trialability and the intention to adopt cloud POS. The higher the level of trialability of an application, the higher the individual to adopt it. The t statistic value shows a result of 4.897 which is greater than 1.96 and a p value of 0.000 which is smaller than 0.05. So that hypothesis 4 is accepted.

The coefficient parameter for the relationship between ICT skills and the intention to adopt cloud POS is -0.279, meaning that there is a negative relationship between ICT skills and the intention to adopt cloud POS. The lower the ICT skill level of an application, the higher the individual's intention to adopt it. The statistical t value shows a result of 2.685 which is greater than 1,96 and a p value of 0.008 which is smaller than 0.05. So that hypothesis 5 is accepted.

The coefficient parameter of the relationship between ICT infrastructure and the intention to adopt cloud POS is 0.080, meaning that there is a positive relationship between ICT infrastructure and the intention to adopt cloud POS. The higher the level of ICT infrastructure of an application, the higher the individual to adopt it. The t statistic value shows a result of 0.733 which is smaller than 1.96 and a p value of 0.464 which is greater than 0.05. So that hypothesis 6 is rejected.

The coefficient parameter for the relationship between top management and the intention to adopt cloud POS is -0.078, meaning that there is a negative relationship between top management and the intention to adopt cloud POS. The lower the level of top management of an application, the higher the individual to adopt it. The statistical t value shows a result of 1.125 which is smaller than 1,96 and a p value of 0.261 which is greater than 0.05. So that hypothesis 7 is rejected.

The coefficient parameter of the relationship between organizational culture and the intention to adopt cloud POS is 0.462, meaning that there is a positive relationship between organizational culture and the intention to adopt cloud POS. The higher the level of organizational culture of an application, the higher the individual to adopt it. The t statistic value shows a result of 5.361 which is greater than 1.96 and a p value of 0.000 which is smaller than 0.05. So that hypothesis 8 is accepted.

The coefficient parameter of the competitive environment relationship with the intention to adopt cloud POS is 0.149, meaning that there is a positive relationship between the competitive environment and the intention to adopt cloud POS. The higher the level of competitive environment of an application, the higher the individual to adopt it. The t statistic value shows a result of 2.202 which is greater than 1.96 and a p value of 0.028 which is smaller than 0.05. So that hypothesis 9 is accepted.

The coefficient parameter of the relationship between regulatory support and the intention to adopt cloud POS is 0.148, meaning that there is a positive relationship between regulatory support and the intention to adopt cloud POS. The higher the level of regulatory support for an application, the higher the individual to adopt it. The t statistic value shows a result of 1.815 which is smaller than 1.96 and a p value of 0.070 which is greater than 0.05. So that hypothesis 10 is accepted.

Table 6 Parameter Coefficient

	Estimated Coefficient	Sample Mean(M)	Standard Deviation (Stdev)	T Stat	P Values
CE -> IA	0,149	0,144	0,068	2,202	0,028**
CM -> IA	-0,188	-0,188	0,117	1,612	0,108
CO -> IA	-0,079	-0,078	0,079	0,998	0,319
II -> IA	0,080	0,073	0,109	0,733	0,464
IS -> IA	0,279	0,260	0,104	2,685	0,008***
OC -> IA	0,462	0,453	0,086	5,361	0,000***
RA -> IA	0,198	0,205	0,092	2,162	0,031**
RE -> IA	0,148	0,142	0,082	1,815	0,070*
TM -> IA	-0,078	-0,077	0,069	1,125	0,261
TR -> IA	0,402	0,404	0,082	4,897	0,000***

*** Sig 10%; ICT Skills, Organizational culture, Trialability
** Sig 5%; Competitive Environment, Relative Advatages
 * Sig 10%; Regulatory support

4.3. Discussion

The results showed that relative advantage has a significant effect on the intention to adopt POS. This shows that financial system innovation in MSEs is needed. The development of digitalization requires MSEs to compete. With the POS innovations provided that can produce real-time financial reports, owners will be able to make decisions more quickly for business continuity. As stated by Albar & Hoque (2019) that information system innovation can convince users to save time, money, facilitate better communication, and produce synchronization more efficiently than the previous system. Therefore, it will increase the user's desire for system adoption.

The results showed that compatibility does not significantly affect the intention to adopt POS. Based on respondents' responses, the POS used tends to be compatible, this can be seen from the average value of responses above the theoretical average. However, it is not proven as a factor that influences users to adopt POS. This shows that the consistency of POS innovation development is not a factor in MSE decisions to choose the POS used. So that this research is not in line with the results of past research (Alshamaila et al., 2013; Ruivo et al., 2012).

The research results show that complexity does not significantly affect the intention to adopt POS for MSEs. Based on the average respondent's response, the POS used in their business tends to be non-complex and easy to use. The level of POS complexity is not a determining factor for MSEs' intention to adopt POS. So that the findings of this study are not in line with the findings of past studies (Albar & Hoque, 2019; Alshamaila et al., 2013; Ruivo et al., 2012).

The results of this study indicate that trialability has a significant effect on the intention of MSEs to adopt POS. This indicates that when the management or owner chooses the POS to be adopted, it is necessary to test the system with business conditions. So that it can find out which system is more appropriate to adopt, thus the purpose of using POS can be achieved. This research is supported by the findings of past studies (Alshamaila et al., 2013; Rogers, 2003).

The results of this study indicate that ICT skills have a significant effect on the decision to adopt POS. This shows that POS user skills are important when adopting POS, as stated by Albar & Hoque (2019) if employees do not have the skills to explain POS, it will hinder the implementation of POS in business. Therefore, it is necessary for employees to have skills in using it so that POS becomes useful.

The results of this study indicate that ICT infrastructure does not significantly affect the decision to adopt POS. This may be due to the adequate infrastructure conditions, such as the internet network in the city area is evenly distributed and smartphones can be a medium. Thus, it is no longer the main factor to consider. So, this research is not in line with the findings of Albar & Hoque (2019).

The results of this study indicate that top management does not significantly affect the decision to adopt POS. However, organizational culture has a significant effect on the decision to adopt POS. This shows that organizational culture is a determining factor compared to top management. If organizational culture has become the main point in determining adoption or not, top management is not a determining factor anymore. Because top management will follow the culture in the organization. As stated by Son & Lee (2011) that organizational culture is the main driver and inhibitor in adopting innovative technology.

Judging from the environmental context, competitive pressure significantly affects the decision to adopt POS. Conversely, regulation is not significant, this shows that competitor pressure in business is the main factor for a business to adopt POS. because the existence of posts provides real-time information that can be a reference in making

decisions quickly and accurately. So, this research supports the findings of prior research (Albar & Hoque, 2019; Alshamaila et al., 2013; Anwer, 2019; Ruivo et al., 2012).

4.4. Conclusion

The Covid-19 pandemic demands digital development to be very fast, including in business activities for micro, small and medium enterprises. This also has an impact on the higher level of competition faced by MSEs so that they must be able to present real-time reports so that decision making becomes faster and more precise. Therefore, the existence of POS as a development of digital register machines provides convenience in the inventory system to be able to present real-time financial reports. However, its adoption for MSEs is still limited due to several factors. Thus, this study aims to examine the factors supporting MSE decision making in adopting POS in their business. This research method is clausal. This research uses direct and online surveys by sending google form links through various MSE communities in Jakarta. The results showed that some of the factors that influence MSEs in adopting POS are relative advantage, trialability, ICT skills, organization culture, and competitive environment.

This research has the implication that the development of innovation will encourage MSEs to change to adapt to these developments. The development of technological innovation in the MSEs environment has resulted in MSEs also developing which has an impact on making appropriate and fast decisions with the POS system. A system is adopted by MSEs if it can be tested in their business units, whether it is suitable or not will be a consideration for MSEs to adopt it. This becomes input for system developers to provide a trial version. Most of those who work in MSEs are employees with a high school education background. This research shows that with an education level that is not too high, system users must have the ability to be able to operate a POS system which is important. Because having system operational capabilities will make it easier to operate the system. The results of this research provide evidence that environmental factors greatly influence MSEs adopting POS systems, both from regulations and the competitive environment of MSEs. This shows that MSEs adapt to how their environment develops using a neater financial recording system. Thus, the government's role is to require tax reporting, MSEs will look for a system that is cheap and easy to operate that produces reports according to their needs.

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REFERENCES

[1] Adeoti, O. ., & Oshotimehin, K. . (2011). Factors Influencing Consumers Adoption of Point of Sale Terminals in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences*, *2*(5), 388–392.

[2] Akerejola, W. O., Okpara, E. U., Ohikhena, P., & Emenike, P. O. (2019). Availability of Infrastructure and Adoption of Point of Sales of Selected Small and Medium Enterprises (SMEs) in Lagos State, Nigeria. *International Journal of Academic Research in Business and Social Sciences*, *9*(1), 137–150.

https://doi.org/10.6007/ijarbss/v9-i1/5370

[3] Al-Jabri, I. M., & Roztocki, N. (2015). Adoption of ERP systems: Does information transparency matter? *Telematics and Informatics*, *32*(2), 300–310. https://doi.org/10.1016/j.tele.2014.09.005

[4] AL-Shboul, M. A. (2019). Towards better understanding of determinants logistical factors in SMEs for cloud ERP adoption in developing economies. *Business Process Management Journal*, *25*(5), 887–907. https://doi.org/10.1108/BPMJ-01-2018-0004

[5] Albar, A. M., & Hoque, M. R. (2019). Factors affecting cloud ERP adoption in Saudi Arabia: An empirical study. *Information Development*, *35*(I), 150–164. https://doi.org/10.1177/0266666917735677

[6] Alshamaila, Y., Papagiannidis, S., & Li, F. (2013). Cloud computing adoption by SMEs in the north east of England: A multi-perspective framework. *Journal of Enterprise Information Management*, *26*(3), 250–275. https://doi.org/10.1108/17410391311325225

[7] Anwer, A.-S. M. (2019). Towards better understanding of determinants logistical factors in SMEs for cloud ERP adoption in developing economies. *Business Process Management Journal*, *25*(5), 887–907. https://doi.org/10.1108/BPMJ-01-2018-0004

[8] Ayeni, A. O. (2016). Analysis of The Adoption and Usage of Pos Terminals by Hotels in Jos Metropolis , North Central Nigeria. *Academic Open Business & Management Research Journal*, *1*(1), 1–14.

[9] Baker, J. (2012). The Technology–Organization–Environment Framework. In *Springer* (Vol. 28, p. 461). https://doi.org/10.1007/978-1-4419-6108-2

[10] Beine, M., & Dupuy, A. (2020). *COVID-19 might affect the economic recovery and the long-run economic situation through its impact on individual preferences*.

[11] Duong, T. H. I., Fledsberg, K., & Chi, D. (2019). *Digitalization of the Accounting Industry*. 105. https://uia.brage.unit.no/uia-xmlui/bitstream/handle/11250/2624790/Duong, Diem Chi Thi og Fledsberg, Kristine.pdf?sequence=1&isAllowed=y

[12] Gooderham, P. N., Tobiassen, A., Døving, E., & Nordhaug, O. (2004). Accountants as sources of business advice for small firms. *International Small Business Journal*, *22*(1), 5–22. https://doi.org/10.1177/0266242604039478

[13] Goretzki, L., Strauss, E., & Weber, J. (2013). An institutional perspective on the changes in management accountants' professional role. *Management Accounting Research*, *24*(1), 41–63. https://doi.org/10.1016/j.mar.2012.11.002

[14] Gupta, S., Misra, S. C., Kock, N., & Roubaud, D. (2018). Organizational, technological and extrinsic factors in the implementation of cloud ERP in SMEs. *Journal of Organizational Change Management*, *31*(1), 83–102. https://doi.org/10.1108/JOCM-06-2017-0230

[15] Ifinedo, P. (2011). An empirical analysis of factors influencing internet/e-business technologies adoption by smes in Canada. *International Journal of Information Technology and Decision Making*, *10*(4), 731–766. https://doi.org/10.1142/S0219622011004543

[16] Indarti, N., & Langenberg, M. (2004). Factors affecting business success among SMEs: empirical evidences from Indonesia. *Second Bi-Annual European Summer …*, *August*, 1–15. http://www.utwente.nl/mb/nikos/archief/esu2004/papers/indartilangenberg.pdf

[17] Jogianto. (2011). *Konsep dan Aplikasi Structural Equation Modeling: Berbasis Varian dalam Penelitian Bisnis*. UPP STIM YKPN.

[18] Lutovac, M., & Manojlov, D. (2012). The Successful Methodology for Enterprise Resource Planning (ERP) Implementation. *Journal of Modern Accounting and Auditing*, *8*(12), 1838–1847.

[19] Morales, J., & Lambert, C. (2013). Dirty work and the construction of identity. An ethnographic study of management accounting practices. *Accounting, Organizations and Society*, *38*(3), 228–244. https://doi.org/10.1016/j.aos.2013.04.001

[20] Paramita, A. S. (2019). Cloud computing-based point-of-sales readiness for Surabaya's small/medium enterprises. *International Journal of Advanced Trends in Computer Science and Engineering*, *8*(1.5 Special Issue), 333–338. https://doi.org/10.30534/ijatcse/2019/5581.52019

[21] Premkumar, G. (2003). A meta-analysis of research on information technology implementation in small business. *Journal of Organizational Computing and Electronic Commerce*, *13*(2), 91–121. https://doi.org/10.1207/S15327744JOCE1302_2

[22] Prihatiningtias, Y. W., & Wardhani, M. R. (2021). Understanding the effect of sustained use of cloud-based point of sales on SMEs performance during covid-19 pandemic. *The Indonesian Accounting Review*, *11*(1), 33. https://doi.org/10.14414/tiar.v11i1.2300

[23] Purbasari, R., Munajat, E., Fauzan, F., Kostini, N., & Sukmadewi, R. (2022). Mapping Actors in the Digital Innovation Ecosystem to Support Innovation in Digital Startup. *Review of Integrative Business and Economics Research*, *12*(4), 134–148.

[24] Purwaningsih, S., & Budyastuti, T. (2019). Factors Affecting the Decisions of Using Point of Sales at MSMEs in Jakarta Barat. *International Journal of Academic Research in Accounting*, *9*(2), 1–10. https://doi.org/10.6007/IJARAFMS/v9-i2/6020

[25] Ram, J., Corkindale, D., & Wu, M. L. (2013). Implementation critical success factors (CSFs) for ERP: Do they contribute to implementation success and post-implementation performance? *International Journal of Production Economics*, *144*(1), 157–174. https://doi.org/10.1016/j.ijpe.2013.01.032

[26] Ringle, C. M. ., Wende, S., & Becker, J.-M. (2015). *Model Fit - SmartPLS*. SmartPLS 3. Boenningstedt: SmartPLS. . https://www.smartpls.com/documentation/algorithms-and-techniques/model-fit

[27] Rogers, E. M. . (2003). *Diffusion of Innovation , 5 th ed* . (Issue 5th edition).

[28] Ruivo, P., Oliveira, T., & Neto, M. (2012). ERP post-adoption: Use and value - An empirical study on Portuguese SMEs. *Lecture Notes in Business Information Processing*, *129 LNBIP*, 67–81. https://doi.org/10.1007/978-3-642-33244-9_5

[29] Seethamraju, R. (2015). Adoption of Software as a Service (SaaS) Enterprise Resource Planning (ERP) Systems in Small and Medium Sized Enterprises (SMEs). *Information Systems Frontiers*, *17*(3), 475–492. https://doi.org/10.1007/s10796-014-9506-5

[30] Setiany, Nurul Hidayah, Annisa Hakim Zamzami, & Zamri Ahmad. (2022). Government Ownership, Media Exposure and Firm Characteristics on Carbon Emission Disclosure: The Case of Indonesia Manufacturing Industry. *Review of Integrative Business and Economics Research*, *Vol. 11*, *Issue 2*(2), 193–203.

[31] Shivam Gupta, Subhas C. Misra, Akash Singh, Vinod Kumar, U. K., & Authors, F. (2015). *Article information : Identification of Challenges and their Ranking in the Implementation of Cloud ERP : A Comparative Study for SMEs and Large Organizations*.

[32] Son, I., & Lee, D. (2011). Assessing A New IT Service Model, Cloud Computing Recommended Citation ASSESSING A NEW IT SERVICE MODEL: CLOUD COMPUTING. *Assessing A New IT Service Model*, 179. http://aisel.aisnet.org/pacis2011/179

[33] WHO. (2020). *Transmisi SARS-CoV-2: implikasi terhadap kewaspadaan pencegahan infeksi*. 1–10.

[34] Z, A. H., & Putra, Y. M. (2019). INTENSITY OF TAXPAYERS USING E-FILING (Empirical Testing of Taxpayers in Jakarta, Bogor, Depok, Tangerang, and. *International Journal of Multidisciplinary Research*, *5*(July), 154–161.

[35] Zamzami, A. H., Mahliza, F., Ali, A. J., & Nugroho, L. (2022). Pandemic Covid-19, Revolution Industry 4.0 and Digital Entrepreneur Trending. *Journal of Islamic Economics and Social Science (JIESS)*, *2*(2), 133. https://doi.org/10.22441/jiess.2021.v2i2.007

[36] Zhang, L., Pei, D., & Vasarhelyi, M. A. (2017). Toward a new business reporting model. *Journal of Emerging Technologies in Accounting*, *14*(2), 1–15. https://doi.org/10.2308/jeta-10570