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Does IS Innovation Diffusion Contribute to Non-Financial Performance of Village Government?

ABSTRACT

The importance of IS innovation diffusion in determining the performance of an organization has been documented by previous research. However, a very limited previous study on this topic uses public organizations as research objects, like the village government. This study aims to know the role of a resources-based view and technology organization environment in explaining variation in village government performance. Specifically, this study analyzes the effect of IS innovation diffusion on the performance of the village government. Besides, this study also determines the role of organisational support and technology advantage in determining performance. Finally, this study also researched these variables as moderating variables between IS innovation diffusion and performance. The primary data was collected through a survey and analysed using the smart-pls. The result shows that one hypothesis supported that the technology advantage is significantly associated with the performance of the village government. This finding theoretically contributes to the technology organization environment. Practically, this finding can be applied by the village government to improve the performance from the TOE perspective.

Keywords: IS innovation diffusion, organization support, technology advantage, village government, Indonesia

1. Introduction

The e-government era has been accompanied by many transformations to public sector organisation administration (Zavattaro & Brainard, 2019). Public sector organizations have started adopting the digital government strategy to integrate with their customer and partner institutions. The IS has become a crucial part of the toolkit for public administrators, given the capability to integrate with their suppliers and customers (Mergel, 2013). Due to the rising utilization of technology in the government and the interplay between government and citizens via the website's government motivate alteration in the bureaucracy of internal government (Roengtam et al., 2017). İn this condition, the governments have to reconsider their designs of social medium and shift the rising demand for entrance to unfasten data and user involvement into a new structure that authorises society empowerment (Hossain et al., 2018). Web-based technology has two functions: internal and external. Internally, the application of the web and other communication and information technologies has become an efficient and effective managerial tool to gather, save, arrange and govern information and data (Adiputra et al., 2018). Externally, technology which is based on web can ease public connection within the society.

(Swanson & Ramiller, 2004) argue that IS innovation refers to the invention of digital and communications technology and its application. There are several benefits to why IS innovations need to be done in an organization. (Moghavvemi et al., 2012) state that IS innovation generates changes by making better its level of effectiveness or performance. İn addition, other experts inform that the information system is a source of the competitive advantage of an organization (Bharadwaj, 2000). Hence, IS innovation can create valuable resources and link to an organisation's performance. Innovations diffusion refers to the procedures through which new technology is embraced by many actors throughout the community – important for social, economic, and ecologically sustainable development (Palm, 2022). Experts have provided designs in particular dealing with innovation in information systems (Rogers, 1995). These designs were frequently directed as phase-based operations, such as the three phases of initiation, adoption, and implementation (Grover & Goslar, 1993). This diffusion procedure and the process is complex and dynamic; inspecting these procedures entails understanding the basic evolutionary shift across time (I. Wu & Chuang, 2010).

The previous research investigating the association between performance and IS innovation diffusion has been done largely (Ranganath et al., 2004; Tanriverdi, 2005; I. Wu & Chuang, 2010; I. L. Wu & Chen, 2014; Zaitul et al., 2022). (Ranganathan et al., 2004) investigate the diffusion of web technology for supply chain management (SCM) and performance. (Tanriverdi, 2005) research effect of e-knowledge management and performance of fortune 1000 companies. İn addition, (I. Wu & Chuang, 2010) determine the impact of e-supply chain management diffusion and performance. Hence, (I. L. Wu & Chen, 2014) researched the IS innovation diffusion and performance. They also test the TOE variables as moderating variables. Therefore, (Zaitul et al., 2022) found that the diffusion of IS innovation in the village (village-based tourism) government has a positive association with the internal process performance. Thus, they also conclude that technology advantage plays a full moderator between the diffusion and performance of the village-based tourism government. Future investigation is suggested to add another TOE variable as moderating variable and test using other village governments (not only village-based tourism (Zaitul et al., 2022). Further, the role of technology organization environment (TOE) variables: organization support and technology advantage as moderating variable between IS innovation diffusion and performance also have been conducted (Elbanna & Newman, 2022; García-Sánchez et al., 2018; Hsu et al., 2018; I. L. Wu & Chen, 2014). (García-Sánchez et al., 2018) Study the role of top management support (organization support) as independent and moderating variables on performance measured by reverse logistics. İn addition, (Hsu et al., 2018) investigate whether the organization's support contributes to service innovation and analyse its moderating role. Finally, (Elbanna & Newman, 2022) also examine the effect of organisational support on digital transformation and performance.

Based on the prior research, studies on IS innovation diffusion and performance and the role of the TOE variables have been done using the private sector or companies. A very limited of previous studies applied to the public sector, especially the village government. The village government is Indonesia's lowest-tier government type (Antlöv et al., 2016). The IS innovation diffusion is working in this kind of organization. Therefore, it needs to study the effect of this diffusion on performance. This study aims to confirm the resources-based theory since the IS innovation diffusion produces the IS asset and IS capability (Santhanam & Hartono, 2003; Wade & Hulland, 2004). Assets are intangible or tangible resources employed in the procedures to generate, make, or deliver products/services to a community or marketplace. In addition, capabilities are related to repeatable activities in utilizing assets to design, manufacture, or provide services or products to a community (Grant, 1991; Wade & Hulland, 2004). İn addition, another objective of the study is to confirm whether the TOE framework can explain this phenomenon. Specifically, this study analyzes the effect of IS innovation diffusion on the performance of the village government. Besides, this study also determines the role of organisational support and technology advantage in determining performance. Finally, this study also researched these two variables as moderating variables between IS innovation diffusion and performace. This paper is oranised as follow: introduction, theory aspect, research method, result and discussion, and conclusion and recommendation.

2. Theory aspect

Performance is the outcome of the strategy implementation through resources used by an organization. Traditionally, the profit-oriented organization has employed financial performance. Even though the financial performance has several limitations, such as short-term and shareholder orientation, they were massively used. İn addition, in a conventional performance or achievement evaluation system, indicators of the last financial performance in a given period are announced rather than how the management can increase performance (Y. Lee & Moon, 2008). the non-financial performance gave managers or executives an extra “balanced” perspective of the performance of an organization (Kaplan & Norton, 1992). Hence, the conventional financial indicator or measures from accounting information systems, such as ROA and ROI, provide a limited and insufficient portrait of the organization or company's performance, and a dependency on such indicators prevents the generation of the value of

the future business (I. L. Wu & Chen, 2014). There are five issues regarding the financial measure(Kaplan & Norton, 1992): (i) financial measure leads to conflict among divisions, (ii) managers may feel encouraged to maximise the accounting profit at the expense of the long time value, (iii) and business unit may be not comparable. Therefore, the organization needs to have non-financial performance. (Frost, 2019) argues that non-financial performance could be from the view of learning and growth, internal process, customer, and society. İn this study, we use performance from a societal perspective. İn addition, it relates to the service attributes, customer or society relationships and organization reputation. The performance of the village government is the product of the IS innovation diffusion, technology advantages and organization support. Therefore, the resource-based theory (Barney, 1991) and technology organization environment (Tornatzky & Fleischer, 1990) are used to underpin these relationships.

IS innovation diffusion

The theory of innovation diffusion (IDT) underpins innovation diffusion. İt refers to the procedures by means of innovation conveyed across specific lines from time to time among the social system members (Rogers, 2003). The diffusion procedures or process is dynamic and complex, incriminates an expanding concept over time, and needs a multi-phase investigation to supply insight into the difficulties of executing IS innovation and how they can be resolved in an organization (I. L. Wu & Chen, 2014). The experts have identified the multi stages for innovation diffusion, such as two stages model: adoption, and implementation (Rogers, 2003), three stages model (Grover & Goslar, 1993), and four stages model (Swanson & Ramiller, 2004), five stages model (Meyer & Goes, 1988), and six stages model (Rajagopal, 2002). Many experts have defined the word innovation. For example, (Rogers, 1995) describes innovation as the premier or prematurely use of a plan or idea by one of a set of organisations with the same goals. The IS innovation refers to the communications and digital technology innovation and its application (Swanson & Ramiller, 2004). IT innovation in an organization generates changes by increasing its level of effectiveness or performance (Moghavvemi et al., 2012). (Bharadwaj, 2000) argue that the information system is a source of an organization's competitive advantage. (I. L. Wu & Chen, 2014) conclude that IS innovation is positioned to produce a unique and worthwhile resource connecting to firm performance. Previous studies using the village government as a research object were none. However, previous studies employing the economics institution as a research object has been done (Palm, 2022; Ranganathan et al., 2004; Tanriverdi, 2005; I. Wu & Chuang, 2010; I. L. Wu & Chen, 2014). İn addition, the most recent study using public sector institution found that diffusion of IS innovation has a positive impact on performance of the village based tourism government. Therefore, we posit the hypothesis for village government as follows.

H1: The diffusion of IS innovation is related to the performance of the village government.

Technology advantage

The diffusion of IS innovation in an organization needs to consider the technology organization environment or TOE framework/model to result in implementation success (Premkumar & Roberts, 1999). This model identified one of its variables: technology advantage. Technology advantage is from the word of technology in TOE. (Wang et al., 2010) proposed the technology characteristics (compatibility, complexity relative, and advantage) as determinants of radio frequency identification diffusion (RFID). The degree to which an innovation is viewed as supplying greater organizational welfare than the idea it replaces or the status quo is the definition of relative advantage (Rogers, 1995). İn addition, it is sensible that organizations contemplate the advantages that arise from adopting innovations (Wang et al., 2010).

Evaluating the advantages of the new technology is a part of rational adoption decisions in an organization (Premkumar & Roberts, 1999). İn addition, (Premkumar & Roberts, 1999) adds that the ICT provides several benefits to adopters: time information available for decision making, better

customer service, reduced turn-around time, and reduced cost and. No previous studies investigated the relationship between technology advantage and the performance of the village government. However, several studies analyse the effect of technology advantage and performance on other objects. For example, (I. L. Wu & Chen, 2014) found a relationship between technology advantage and performance. İn addition, (Eisend et al., 2016) investigated the marketing relative advantage over technology ability in affecting the performance of the new product and found that technology advantage is measured by relative advantage in new product performance. Hence, (Erskine et al., 2019) conclude that technology advantage (using a heats map) contributes to the task's technology relevance and performance of decision-making. Finally, (Japutra et al., 2022) found that the relative advantage improves customer engagement behaviour with mobile commerce applications and affects marketing performance. Therefore, the technological advantage contributes to the performance of an organization, such as the village government. İn addition, (I. L. Wu & Chen, 2014) also proposed that the technology advantage play moderating role between IS innovation diffusion and the organization's performance. Finally, (Zaitul et al., 2022) conclude that technology advantage moderates the association between the diffusion of IS innovation and the organisational performance of the village-based tourism government. Hence, we posit two hypotheses in this section.

H2: Technology advantage is related to the performance of the village government
H3: technology advantage moderates the relationship between IS innovation diffusion and the performance of the village government.

Organization support

the second TOE variable is from an organisational aspect, such as organizational support. Organizational support through top management is crucial in adopting new technologies and has been revealed to be positive (Grover & Goslar, 1993; Premkumar & Roberts, 1999). Organizational support through the support of top management is crucially necessary for the fruitful execution of any system (Lederer & Mendelow, 1988). İt can advance support, commitment, a long-term strategic vision, and an initiative to generate constructive circumstances for innovation (S. Lee & Kim, 2007; Mcginnis & Ackelsberg, 1983). Hence, (Grover & Goslar, 1993) add that organisational support is crucial for producing a supportive atmosphere and supplying sufficient assets for implementing new technology. Previous studies about the role of organization support in IS innovation diffusion or technology adoption and performance of the village government were none. İn fact, the previous studies using the private sector or company were limited. (I. L. Wu & Chen, 2014) conducted the same study and analysed the role of organisational support and its effect on performance. In addition, they also investigate the role of organization support as moderating variable between IS innovation diffusion and performance (I. L. Wu & Chen, 2014). (García-Sánchez et al., 2018) found that there is a role of top management support (organization support) toward performance measured by reverse logistics. İn addition, top management support also plays a moderating variable between technological skill and reverse logistics as a proxy for performance (García-Sánchez et al., 2018). Hence, (Hsu et al., 2018) also found that top management support contributes to service innovation. Then, leading management support moderates the association between technology adoption openness and service innovation (Hsu et al., 2018). Finally, digital transformation supports top management (Elbanna & Newman, 2022). Based on the argumentation above, we develop the following hypotheses. The research framework is shown in Figure 1 below.

H4: organization support influences the performance of the village government
H5: organization support moderates the relationship between IS innovation diffusion and the performance of the village government.

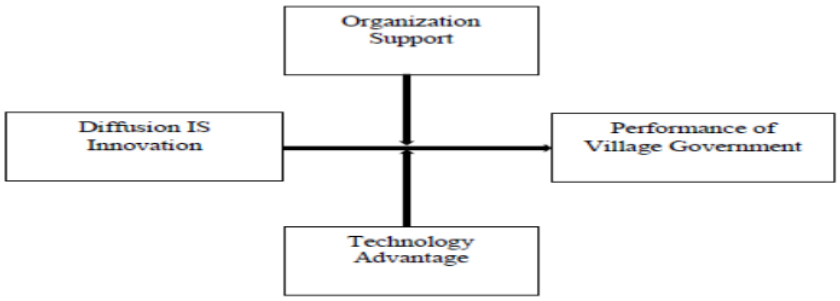

Figure 1. Research Framework

3. Research method

This study involves forty-seven village governments in pariaman city, excluding the village-based tourism government. Four respondents from four divisions represent each village government: secretariat, general affair, planning affair dan financial affair. The primary data using questionnaires is collected through a survey. Surveyors visit the village government office, leave four questioneers and ask them to fill out. They are given one week time to finish it. A week later, the surveyor collected the questionnaires from the office—three variables were used in this study: dependent, independent, and moderating. Society perspective performance is the dependent variable of this study. This variable is measured by eight indicators (items) developed by experts and previous studies (Ellingson & Wambsganss, 2001; Hoque & James, 2000; Maiga & Jacobs, 2003; Solano et al., 2013; Yeniyurt, 2003). The independent variable is the diffusion of IS innovation. There are two dimensions for these variables: (i) the extent to which the users' behaviours across various IS innovations and (ii) various diffusion stages (Fichman, 2001) with seven items. Finally, moderating variables are technology advantage (three items) and organization support (three items) which were adopted from previous studies (Premkumar & Roberts, 1999; Wang et al., 2010). The detail of the measurement of variables is shown in table 1 below. Five Likert scales are used to respon to respondents: starting from very disagree (1) to very agree (5). The data is examined by employin the structural equation model (SEM-PLS) since this study is to develop the model (Chin, 1998) of the relationship between diffusion of IS innovation and performance using the TOE and resources-based theory. İn addition, smart-pls are employed, and there are two assessments when using the smart-pls: structural model and measurement model evaluation or assessment (Hair et al., 2017).

Table 1. Measurement of Variables

Variable	Code	Item	References
Diffusion of IS innovation	disi1	Uses a computerized system to support the routine work of employees	Fichman (2001), and Wu and Chen (2014)
	disi2	Uses a system to communicate with the community and other institutions	
	disi3	Uses a decision-making support system to support managerial decision-making by the leadership	
	disi4	Uses a knowledge management system to manage employees' intellectual assets	
	disi5	Employees use new technology in their work	
	disi6	Employee routine work is carried out using new technology	

	disi7	Government activities using new technology	Premkumar and Roberts (1999), Wu and Chen (2014), and Wang et al. (2010)
Organization support	ors1	The village head likes investing in new technology	
	ors2	The village head encourages employees to use new technology in their routine work	
	ors3	The village head considers new technology as a tegic issue	
Society perspective performance	socper1	An increase in the quality of services provided to rural communities	Ellingson and Wambsganss (2001), Hoque and James (2000), Maiga and Jacobs (2003), Solano et al. (2013), Wu and Chen (2014), and Yeniyurt (2003)
	socper2	An increase in the quality of services provided to rural communities	
	socper3	An increase in the usefulness of services provided to rural communities	
	socper4	An increase in village community satisfaction	
	socper5	A decrease in the waiting period for the completion of services/services to the community	
	socper6	A decrease in the number of public complaints about the services provided	
	socper7	An increase in the promotion of the image and reputation of the village government	
	socper8	An increase in recognition (recognition) of village government services	
Technology advantage	tad1	New technology helps village administrations to communicate better with other institutions and communities	Premkumar and Roberts (1999), Wu and Chen (2014), and Wang et al. (2010)
	tad2	New technology helps the village government to get timely information for decision making	
	tad3	New technology helps the village government to improve its performance	

4. Result and discussion

Result

One hundred and eighty-seven of the forty-seven village government respondents participated in this study. Table 2 indicates that the demographic data consists of five segments: sex, education, position, experience, and age. According to sex, 20.86% of respondents are male, and the rest are female (79.14%). Female dominates the sample. Based on the result, respondents with an education level bachelor is the majority (62.03%), and the rest is another education level, such as senior high school (27.81%), diploma (7.49%), and postgraduate (1.07%). Regarding the position in the office, 25.13% of respondents are secretary, general, and finance, respectively. İn addition, a respondent from a planning affair is 24.61% due to one questioneer uncomplete. There are three categories for experiences: less than five years (45.98%), in the range of 5 to 10 years (32.09%), and above 12 years (21.93%). Finally, respondent age has four categories, and the respondent is dominated by the age of 31-40 years old (41.71%), followed by the age 22-30 years old (32.62%), the rest the age 41-50 years old (16.04), and the age above 50 years old (9.63%).

Table 2. Demographic data of the respondent

demographic data	category	Frequency	Per cent
Sex	male	39	20,86
	female	148	79,14
Education	diploma	17	7,49
	bachelor	116	62,03
	postgraduate	2	1,07
	others	52	27,81
position	secretary	47	25,13
	general affair	47	25,13
	planning affair	46	24,59
	finance affair	47	25,13
experience	< 5 years	86	45,98
	5-10 year	60	32,09
	> 10 years	41	21,93
age	22- 30-year-old	61	32,62
	31–40-year-old	78	41,71
	41- 50-year-old	30	16,04
	> 50-year-old	18	9,63

The following analysis is a measurement model assessment. Since smart-pls has two evaluations: measurement model and structural model assessment (Hair et al., 2017; Vinzi et al., 2010). measurement model assessment composes two validity: convergent and discriminant validity. We start with measurement model assessment, and the result of the convergent validity is demonstrated in table 2 below. The performance of the village government from a society/community perspective (Hoque & Adams, 2011) originally has eight indicators (socper1-socper8). The final algorithm produces three indicators left with outer loading above 0.700 (Hulland, 1999). This latent variable (construct) has high indicator reliability (above 0.700) and satisfied average variance extracted (above 0.500). Therefore, this construct achieves the validity requirements (Bagozzi & Yi, 1988; Jörg Henseler, 2010). The second latent variable is the diffusion of IS innovation. This variable has seven indicators, and the final algorithm deletes one item due to its low loading factor (below 0.70). as shown in table 3, all outer loading for this variable with six indicators is higher than 0.700. in addition, indicator reliability results using Cronbach alpha and composite reliability also achieve the requirement. Hence, the average variance extracted (AVE) indicate a value above 0.500. therefore, this latent variable satisfied the convergent validity provision.

Table 3. Convergent validity

variable	item	outer loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
moderating 1	disi * ors	1.462	1.000	1.000	1.000
moderating 2	disi * tag	1.660	1.000	1.000	1.000
diffusion of IS innovation	disi2	0.750	0.916	0.933	0.701
	disi3	0.848			
	disi4	0.810			
	disi5	0.887			
	disi6	0.873			
	disi7	0.848			
	ors1	0.921	0.870	0.917	0.787

organization support	ors2	0.933			
	ors3	0.803			
society perspective performance	socper1	0.897			
	socper2	0.911	0.889	0.931	0.818
	socper3	0.905			
technology advantage	tad1	0.930			
	tad2	0.937	0.930	0.955	0.877
	tad3	0.943			

The third latent variable in this study is organisational support. This construct has three indicators, and all indicator has outer loading above 0.700. in addition, the indicator reliability using Cronbach alpha and composite reliability shows that the variable satisfied the indicator reliability requirement (above 0.700). Hence, the average variance extracted (AVE) achieves the standard (above 0.50). Therefore, we can conclude that this latent variable satisfies the convergent validity requisite. The last latent variable is technology advantage. This construct has three indicators, and the algorithms produce all valid indicators due to their outer loading above 0.700. Based on the argumentation above, we can conclude that all latent variables and their hand has a necessary convergent validity.

Table 4. Fornell-Lacker criterion

variable	mod1	mod2	DISI	ORS	SOCPER	TAG
Moderating Effect 1	**1.000**					
Moderating Effect 2	0.664	**1.000**				
diffusion of IS innovation	-0.302	-0.303	**0.837**			
organization support	-0.281	-0.233	0.561	**0.887**		
society perspective performance	-0.048	-0.040	0.324	0.311	**0.905**	
technology advantage	-0.264	-0.408	0.650	0.651	0.392	**0.937**

The second validity assessment for the measurement model is discriminant validity. There are three types of this assessment. The first type is the Fornell-Lacker criterion (Fornell & Larcker, 1981), and the result of this validity test is shown in table 4. The bold number should be greater than the number below and left side. The square root of the construct's AVE creates the bold number. İn addition, another number is the correlation between the particular construct and other constructs. For example, 0.837 is a square root of DISI's AVE, and 0.561 is a coefficient correlation of DISI with ORS. All latent variables achieve the necessary discriminant validity based on the Fornell-Lacker criterion.

Table 5. Cross loading

item/variable	mod1	mod2	DISI	ORS	SOCPER	TAG
Moderating Effect 1	**1.000**	0.664	-0.302	-0.281	-0.048	-0.264
Moderating Effect 2	0.664	**1.000**	-0.303	-0.233	-0.040	-0.408
disi2	-0.173	-0.293	**0.750**	0.329	0.168	0.503
disi3	-0.249	-0.317	**0.848**	0.484	0.273	0.605
disi4	-0.279	-0.304	**0.810**	0.573	0.225	0.625
disi5	-0.284	-0.214	**0.887**	0.474	0.395	0.540
disi6	-0.224	-0.210	**0.873**	0.460	0.252	0.501
disi7	-0.289	-0.233	**0.848**	0.493	0.212	0.512
ors1	-0.279	-0.169	0.520	**0.921**	0.308	0.594

ors2	-0.265	-0.270	0.546	**0.933**	0.315	0.658
ors3	-0.180	-0.169	0.398	**0.803**	0.157	0.430
socper1	-0.018	-0.011	0.336	0.309	**0.897**	0.339
socper2	-0.066	-0.066	0.307	0.234	**0.911**	0.389
socper3	-0.047	-0.031	0.230	0.305	**0.905**	0.332
tad1	-0.253	-0.398	0.610	0.596	0.347	**0.930**
tad2	-0.263	-0.391	0.612	0.653	0.388	**0.937**
tad3	-0.227	-0.357	0.604	0.576	0.363	**0.943**

The second assessment for discriminant validity is cross-loading. This analysis aims to avoid an indicator loading to more than one construct. İf any indicator loads to more than one construct, the discriminant validi does not achieve. The cross-loading result is produced by running the algorithm menu in smart-pls. The result of the cross-loading can be seen in table 5. The indicator of performance, socper1-socper3, loading to the construct of society perspective performance with loading factors 0.897, 0.911, and 0.905, respectively. These loading factors are higher than their loading to technology advantage: 0.339, 0.389, and 0.332, respectively. The detail of cross-loading for each latent variable is demonstrated in table 4. The third assessment for discriminant validity is htmt. The result of htmt is shown in table 5. Based on table 6, all latent variables have a value of htmt lower than 0.85, which is cut off to decide whether it supports the discriminant validity (Kline, 1998). İn brief, the htmt support the discriminant validity.

Table 6. HTMT

variable	mod1	mod2	DISI	ORS	SOCPER	TAG
Moderating Effect 1						
Moderating Effect 2	0.664					
diffusion of IS innovation	0.311	0.326				
organization support	0.290	0.244	0.612			
society perspective performance	0.051	0.042	0.333	0.333		
technology advantage	0.274	0.423	0.707	0.698	0.429	

The measurement model assessment is completed, and the measurement model can be seen in figure 2 below. The second assessment in smart-pls is structural model assessment. This assessment is to test the hypothesis. However, we need to gain information about the predictive relevance of the model since this study is to develop the model based on the resources-based theory and technology organization environment (TOE). The blindfolding menu produces the predictive power (Q square). The above Q square indicates that the exogenous variable has a predictive relevance to the endogenous variable under consideration. The result shows that the value of the Q square is 0.141 (see Figure 3) and is categorised as medium predictive relevance (Jorg Henseler et al., 2009). The second structural model assessment is predictive power. PLS-SEM aims to maximise the R square of endogenous variables in the path model (Hair et al., 2017). Figure 2 indicates this model's value of R square (0.182). In addition, 0.182 is grouped into moderate (Cohen, 1992). Therefore, the variation in an endogenous variable can be explained by 18.2% of the exogenous variables.

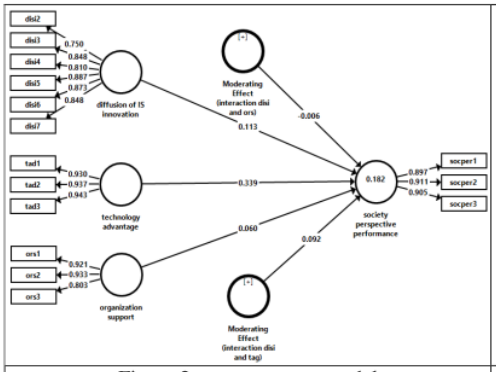

Figure 2. measurement model

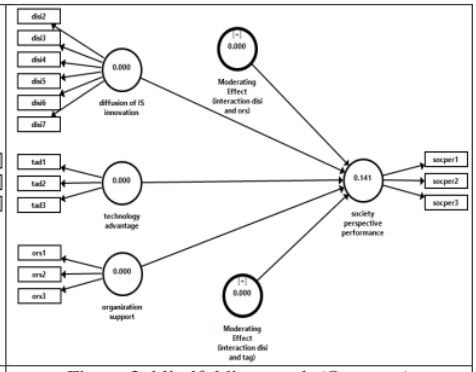

Figure 3. blindfolding result (Q square)

The bootstrapping result is depicted in table 6 below. The first result informs the effect of the diffusion of IS innovation on society perspective performance. The p-value indicates above 0.05 (β=0.113, p-value=0.113), and it can be concluded that there is no effect of diffusion of IS innovation on society perspective performance. Hence, the second analysis is to see the impact of the organization's support on society's perspective performance. The value also indicates above 0.05 (β=0.060, p-value=0.592) and means that organisational support does not have a significant relationship with society's performance. Thus, the third analysis investigates the relationship between technology advantage and society's performance. The result shows that there is a significant association between technology advantage and society perspective performance (β=0.339, p-value=0.002) at 1%. The direction of the relationship is positive. Thus, it means that high technology advantage improves society's perspective performance. The role of the organization support and technology advantage as moderating variables is not documented empirically due to their p-value greater than 5%. The detail of the bootstrapping result can be seen in table 7 and figure 4 for the structural model.

Table 7. Bootstrapping result

Relationship	Original Sample (O)	T Statistics (|O/STDEV|)	P Values	Decision
Moderating Effect (interaction disi and ors) -> society perspective performance	-0.006	0.096	0.923	Not supported
Moderating Effect (interaction disi and tag) -> society perspective performance	0.092	1.578	0.115	Not supported
diffusion of IS innovation -> society perspective performance	0.113	1.425	0.155	Not supported
organization support -> society perspective performance	0.060	0.536	0.592	Not supported
technology advantage -> society perspective performance	0.339	3.177	0.002	Supported

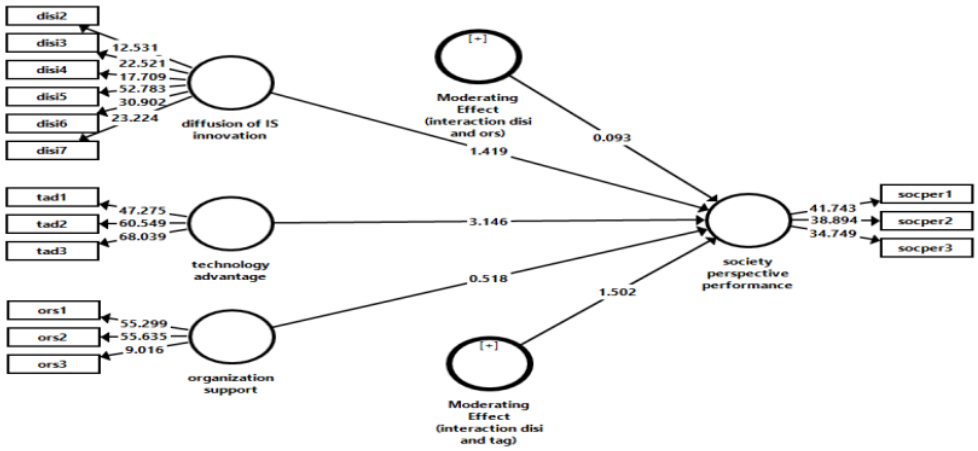

Figure 4. Structural model

Discussion

This study has five hypotheses. One hypothesis is supported, and it means that there is a significant positive relationship between technology advantage and the performance of the village government. The TOE framework can explain this significant relationship. Therefore, the village government perceived the technology to benefit the government more (Rogers, 1995). İn addition, the village government evaluated the advantage of new technology before they adopted it (Premkumar & Roberts, 1999). Hence, technology adoption in village government is perceiv as reduced turn-around time; better customer service declined cost and time information available for decision making (Premkumar & Roberts, 1999). This finding is consistent with previous works (Eisend et al., 2016; Erskine et al., 2019; Japu et al., 2022; I. L. Wu & Chen, 2014) and contradict the finding of (Zaitul et al., 2022), who found that there is a direct relationship the technol advantage and performance of the village based tourism government. (Eisend et al., 2016) found that the relative advantage of marketing over technology capabilities influences new product performance. nce, (Erskine et al., 2019) conclude that technology advantage (using heats map) contributes to the task technology fit and decision-making performance. Finally, (Japutra et al., 2022) found that the relative advantage improves customer enggagement behavior wiht mobile commerce applications and affects marketing performance.

Furthermore, four hypotheses are rejected in th study. The first finding indicates no significant effect on IS innovation diffusion and performance. The result is not aligned with the past research finding (Palm, 2022; Ranganathan et al., 2004; Tanriverdi, 2005; I. Wu & Chuang, 2010; I. L. Wu & Chen, 2014; Zaitul et al., 2022). Therefore, the village government has a diffusion process and implementation of the technology. Still, this diffusion did not create change by improving the performance and effectiveness as expected by an expert (Moghavvemi et al., 2012). İn addition, this diffusion of IS innovation failed to create a unique and valuable resource to improve the village government's performance, as suggested by the previous researcher (I. L. Wu & Chen, 2014). Therefore, this finding failed to confirm the resources-based theory (Barney, 1991).

The third finding asserts that organisational support does not impact the village gover ent's performance. These findings are supported by previous researchers (Elbanna & Newman, 2022; García-Sánchez et al., 2018; Hsu et al., 2018; Jane Lenard et al., 2014). İn addition, (I. L. Wu & Chen, 2014) conclude that organisational support plays a role during IS innovation diffusion, significantly affecting performance. (García-Sánchez et al., 2018) found that there is a role of top management support

(organization support) toward performance measured by reverse logistics. Hence, (Hsu et al., 2018) also found that top management support contributes to service innovation. Finally, top management support is also found in digital transformation (Elbanna & Newman, 2022). This finding also indicates that the organization did not provide a long-term strategic vision, initiative, support, and commitment to creating a positive environment for innovation (Mcginnis & Ackelsberg, 1983). Therefore, this study fails to confirm the Theory of Technolgy Organization environment (Tornatzky & Fleischer, 1990).

The role of TOE variables (technology advantage and organization support) fails to moderate the relationship between IS innovation diffusion and the performance of the village government. Therefore, these findings are inconsistent with previous results (García-Sánchez et al., 2018; Hsu et al., 2018; I. L. Wu & Chen, 2014; Zaitul et al., 2022). (I. L. Wu & Chen, 2014) conclude that the technology advantage play is moderating role between IS innovation diffusion and performance. İn addition, (I. L. Wu & Chen, 2014) also documented the role of organization support as moderating variable between IS innovation diffusion and performance (I. L. Wu & Chen, 2014). İn addition, top management support also plays a moderating variable between technological skill and reverse logistics as a proxy for performance (García-Sánchez et al., 2018). Finally, (Hsu et al., 2018) found that top management support also moderates the relationship between the openness of technology adoption and service innovation. Therefore, this study fails to confirm that the integration of TOE and resources-based theory can solve the performance problem of the village government.

5. Conclusion and recommendation

There are a bundle of studies regarding the IS innovation diffusion and performance of the organization. İn fact, the previous survey also analyses the role of the variables from TOE as moderating variables between this diffusion and performance. However, previous study pays less attention to the public sector organization, such as the village government. This study aims to see the role of a resources-based view and technology organization environment in explaining variation in village government performance. Specifically, this study analyzes the effect of IS innovation diffusion on the performance of the village government. Besides, this study also determines the role of organisational support and technology advantage in determining performance. Finally, this study also researched these variables as moderating variables between IS innovation diffusion and performance. The result shows that one hypothesis supported that the technology advantage is significantly associated with the performance of the village government. This finding theoretically contributes to the technology organization environment. Practically, this finding can be used by the village government to improve performance. Therefore, they must use the new technology to communicate better with the partner institution, provide timely information for decision-making, and support the village government to improve performance. This study has several limitations and offers future research avenues. First, this study was conducted in one city with a limited sample. Therefore, the next investigator can expand the area scope and the sample size to have a robust result. Second, this study analyzes the performance of the village government from limited variables from RBV and TOE. Thus, future research can expand this research by adding other variables from these theories. Finally, this study explains the performance of the village government from these two theories. Hence, future research can see why the village government's performance varies from other perspectives such as resources dependent theory or agency theory.

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