Implementation of Delone and Mclean Model in Public Sector Institutions in Indonesia

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Abstract

The purpose of this study was to examine the dimensions of the Delone and Clean Model in Public Sector Institutions in Indonesia. The population in this study were the parties managing the regional financial information system totaling 612 people. The sampling technique uses saturated samples. The data analysis of this investigation used Smart PLS applications. The result showed that organizational support effect on user satisfaction with the l Public Sector Institutions in Indonesia. The result of this research showed that the organizational support benefits, user behavior has a result on user gratification with the Public Sector Institutions in Indonesia.

Keywords

Information system, organizational support, user satisfaction, intention to use

1.   Introduction

The purpose of Public Sector Institutions/local governments to invest large amounts of funds in developing financial information systems is to improve performance in managing state finances (Nasution et al., 2020). The Bogor City Government (2014) in its study explained that the district and city governments in Indonesia in the last ten years have continuously developed information technology

and information systems to support the implementation of E-government programs, including the Sragen city government from 2002 to 2006. has invested IDR 1.2 Trillion. In this study, it is known that each district and city government spends a budget of around 200 billion to 300 billion every year for the purpose of preparation and application of E-Government. The important components development applications and maintenance of information technology and information systems. Seddon (1997) estimates that worldwide spending on information technology investments is over one trillion US Dollars and continues to grow by 10 percent annually. It should be noted that not all of these investments were successful, many of them failed. For an organization, investing in information technology and information systems with large amounts of funds must be able to provide benefits and impacts for users and the organization as a whole, for this they need to evaluate and comprehend the dynamics that affects the achievement of information system presentations (Lassila & Branheau, 1999, Fionita et al (2020), El Sima et al., 2020 and Lubis et al., 2021). The model as empirical studies is that proposed by DeLone & Mclean (2003).

2.   Literature Review

2.1.   The Delone and Mclean Model

The archetypal for evaluating the accomplishment of a comprehensive statistics system is known The System Success Model which was well along refined in 2002. The main objectives of the proposed in 1992 was synthesize accomplishment information systems to create a comprehensive taxonomy to evaluate the determinants that affect the achievement of information systems.

The conflict between the process model and the causal model in assessing the accomplishment of information structures also affects the revision of the Model (Melone, 1990; Água & Morgado, 2020). It is not only a procedure exemplary but also a pivotal or alteration model that notices the success of covariance aspects to define the fundamental association between variables. For instance, advanced scheme excellence is predictable as prime higher which leads to an optimistic impact on separate efficiency which in turn results in an impact on the organization by increasing individual productivity. The model is consistent with investigation results Newman & Robey (1992) which shows that connexion drifts in the similar path by means of information processing. Seddon (1997) who argues that the Delone and Mclean Model which is both a process model as well as a causal model, is potentially confusing because the boxes and arrows in modification diagrams and process models signifies very dissimilar ideas and understood. Seddon (1997) then tries to offer several new variables to assess the success of information systems. Seddon (1997) also criticized that use is not a success variable of information systems because use is the impact that occurs also ignores the behavioral aspect in assessing the success of information systems. In 2003 DeLone and Mcleane perfected their proposed by evaluating impact of information systems. In addition, DeLone and Mcleane (2003) purpose to usage that results from their study.

The model reconsideration also answered by Seddon (1997) as well as improved the proposed information system. The 3 main components in DeLone & McLean (2003) consists of, namely benefit, production and utility. It maintains the causality model and revises use (use) into interest in using (Intention to use), this is supported byYoung & Benamati (2000)argues that the efficient usage of an e-commerce system ought to embrace the usage of information, transactional use, and the use of customer service. Lassila & Brancheau (1999) recognize system usage in different countries based on system usage at basic level and system usage at advanced level by measuring the amount of time used and not used compared to the expected results. The revised principle answered the criticism as stated by Seddon (1997) but differs in the contextual model, the information system success model still needs to be continuously studied by developing the covariants that influence it (Delone & Mclean, 2003; Iivari, 2005;Petter & McLean, 2009; Kefi & Koppel, 2011). Some researchers also argue about the trouble of relating the D & M Model to describe particular exploration context.

This necessities additional validation expansion. Whyte et al, (1997) initiate that there were significant modifications stemming that could change views of which attribute was the most important measure of success. DeLone & McLean decide that the optimal accomplishment variable is frequently a purpose of the research objectives to which organizational context, behavior can be added.(Delone & Mclean, 2003). The research aims to build an DeLone and McLean model an integrated financial information system through user satisfaction (Muda et al., 2020; Briard et al., 2020) in local governments.

3.   Methods

This study was designed with a Sequential Explanatory. The primary data taken from users of regional financial information systems in 34 local governments in North Sumatra provincial government. This opinion assumes that the more samples taken will be more representative and the results can be generalized (Sekaran & Bougie, 2016; Areias & Eiriz, 2020). The variable uses the Thurstone scale is a scale used for measuring attitudes which is compiled by selecting items in the form of an interval scale (Krosnick, Judd, & Wittenbrink, 1975).

4. Findings and Discussion

4.1. Findings

4.1.1. Evaluation Model

The factors been tested in the Adamson & Shine study. 2003; Brown, Massey P., Montoya-Weiss & Burkman, 2002; O'Brien, 2006; Jiang, Klein, Carr, Klein & Carr, 2002; Kefi & Koppel, 2011. In accordance with research conducted by Donaldson & Davis, 1991; Ratnasingam, Gefen, & Straub, 2005; Staples, & Seddon, 2004; Government of Indonesia, P. (2010); Chang, Hwang, Hung & Li, 2007; Iivari, 2005;

Lu, Yu, & Liu, 2005; Dwivedin, Rana., Chen, & Williams, 2011. This variable in line with McLure Wasko, M. & Faraj., 2005; Lewis, Agarwal, & Sambamurthy, 2003; Karahanna, Straub, & Chervany, 1999; Malone, 2007; Lee & Kim, 1992; Triandis 1980; Venkatesh, Moris, Davis, 2012, Kotler & Armstrong 2001.

The performance expactancy, effort expecatany and social influence factors show valid results as that of Venkatesh, Moris, Davis, 2012; Zuiderwijk, Janssen 2015; Thomas, 2006; Lee, 2013. Likewise, the factors of various criteria have valid results by Lu, J., Yu, C., & Liu, C. 2005; McGill., Hobbs, & Klobas, 2003; Petter, S, & McLean, 2009, Lee & Wan, 2010.

4.1.2 Validity Test

Table 1. Test of Validity

Variable	AVE
Intention to use (Y)	0.935
Organizational Support (X)	0.977
User Satisfaction (Z)	0.986

Sources : SmartPLS Application (2021).

The value 0.5 is above the recommended one indicating that fulfillment of validity requirements (Hair et al., 2016). Besides, reliability testing was done owing to the Composite Reliability (CR) value.

5.3. The Evaluation

Based on Table 2 show that :

Table 2. The Reliability Examination

Variable	Combination of Reliability
Organizational Support (X)	0.992
User Satisfaction (Z)	0.996

Sources : SmartPLS Application (2021).

The suggested CR value is beyond 0.7 after meeting the CR reliability requirements.

Table 3. The CA Value

	C.A
Intention to use (Y)	0.977
User Satisfaction (Z)	0.995
Information System Reliability (X1)	0.997
Organizational Support (X)	0.988

Sources : SmartPLS Application (2021).

The recommended CA value is above 0.7. It is known that all CA values are > 0.7 after meeting the requirements. Using the Fornell-Larcker approach the validity isntested. The results of discriminant validity testing are presented in Table 4.

Table 4. Discriminant Validity Test

	Organizational Support (X$_2$)	User Satisfaction (Z)	*Intention to use* (Y)
The Organizational Support (X)	0.988		
The Intention to use (Y)	0.695		0.967
The Information System Reliability (X$_1$)	0.496		0.675
The User Satisfaction (Z)	0.511	0.993	0.716
The Benefits (X$_3$)	0.504	0.517	0.683
The User Behavior (X$_4$)	0.507	0.524	0.685

Sources : SmartPLS Application (2021).

The AVE value it has met the requirements of discriminant validity.

5.4. Direct Effect Hypothesis Testing (Inner Model)

Table 5 show that :

Table 5. Value of Significance Test

	Standard Deviation	***T* Statistics**	***P* Values**	**Conclusion**
User Satisfaction (Z) -> Intention to use (Y)	0.080	3.287	0.001	Accepted
Organizational Support (X$_2$) -> User Satisfaction (Z)	0.077	2,522	0.012	Accepted
Organizational Support (X$_2$) -> Intention to use (Y)	0.071	3.379	0.001	Accepted

Sources : SmartPLS Application (2021).

Grounded on the results in Table 5, the following outcomes are achieved. Organizational support has a impact on User Satisfaction with a coefficient. Organizational support has a positive effect on intention to use with a path coefficient value and. User Satisfaction has a positive effect on intention to use.

5.5. Determination Square(R2)

The following of result of r-square show in Table 6.

Table 6. The Coefficient

	R Square
User Satisfaction (Z)	0.427
Intention to use (Y)	0.789

Sources : SmartPLS Application (2021).

5.6 Testing Mediation

The result show :

Table 7. The Value

	Std. Dev	*T* count	*P* Values	Conclusion
Organizational Support (X$_2$) -> User Satisfaction (Z) -> Intention to use (Y)	0.056	2,463	0.014	Accepted

Sources : SmartPLS Application (2021).

The following is the F-square Table 8 in this study:

Table 8. F-Square

	Intention to Use (Y)	User Satisfaction (Z)
Organizational Support (X)	0.163	0.041
Intention to Use (Y)		
User Satisfaction (Z)	0.187	

Sources : SmartPLS Application (2021).

According to Table 8, the independen variable to impact on user satisfaction is in the medium category. Meanwhile, the influence of organizational support is included in the strong category. The total effect can be seen in Table 9 as follows:

Table 9. Total Effect

	The Intention to use	The User Satisfaction
The User Satisfaction (Z)	0.269	0.206
The Organizational Support (X)	0.291	0.193
The Intention to Use (Y)	0.265	0.210

Sources : SmartPLS Application (2021).

4.2. Discussion

The calculation consequences illutrates. This is also supported by the research of Thompson et al., (1991), Winarko and Mahadewi (2013) and Kasmana (2013). These results also support the innovation Diffusion Theory (IDT) developed by Roger's in 1962, where early adapters or the fastest adoption of information systems in new technological innovations. The Model of PC Utalization (MPCU) states that information support is able to influence social factors in the form of internalization of norms, roles, and values. The consequences of this analysis indicate that organizational support has an consequence on purpose to use through user satisfaction which is showed by the path coefficient value of 0.139 and the P-Values value of 0.014 <0.05. This finding is in line with the Theory of Attitude and Behavior points that the use of information technology is influenced by social norms in the workplace. This suggests that the organizational environment will encourage individual attitudes towards the use of the system (Triandis, 1980, Muda et al., 2019). Thus, if the user is satisfied, it will be able to generate user interest in using the system repeatedly. Organizations design work systems to unify the elements that enable and encourageemployees to contribute effectively and to the best of

their abilities.(Kovalev et al., 2020). The development of organizational support is triggered by the tendency of employees to set organizational characteristics to resemble humans. The employee believes that his organization will accommodate him if he has a problem or will forgive if he has a mistake. (Huang et al., 2020). The support from the leadership of this section can be a factor that is very important in determining the success of information systems. According to Warae and Suroso (2021), top management support also has an influence on the use of accounting information systems. Top management activities in general and directing the course of the organization (Jimada-Ojuolape & Tea, 2020).

5. Conclusion

In accordance with the statistical tests, the conclusions are drawn organizational have significant effect on user Satisfaction. The User Satisfaction is significant in mediating the effect of organizational support on intention to use. This research to support that achieve a successful model it does not automatically result from the introduction of new technologies, but from a series of coordinated efforts that are in line with the organization's main strategy, such as process improvement, staff training, or better organizational standards.

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