An Empirical Study on the Impacts of Quality Information and Competency of User on the Quality of Zakat Management Information System in Indonesia

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Abstract. The zakat management information system was built as a means of increasing the acceptance of zakat information delivery optimally. However, the implementation of zakat management information system requires support from the zakat institution itself, so that the institution can be used optimally. The purpose of this research was to examine the quality of management information system for Lembaga Zakat Indonesia (Indonesian zakat institution). The research method used was distributing questionnaires to respondents. The data collected were as many as 150 users of the zakat management information system at Lembaga Zakat Indonesia. The data were analyzed using the least squares structural equation modeling technique. The results of the study showed that the use of zakat management information system in zakat institution would ultimately improve the quality of zakat information itself. In implementing information system, zakat management requires support in the form of user competence, so that zakat management information system can be used optimally. The implication of these findings indicate that the use of zakat management information systems by zakat institutions will have an impact on the quality of information presented by zakat institution in management reporting, both from financial and non-financial reports.

Keyword: Zakat, Information, management system, accounting information

1. Introduction

Zakat is one of the Islam Pillars which is categorized as a form of mahda worship (pure worship) with a very strategic social function, which is to help improve people's welfare through social security contribution and reduce social inequality (Ahmad, Othman, & Salleh, 2015; Khamis, Mohd, Salleh, & Nawi, 2014). In addition, zakat at the macro level in a country with a Muslim population can be said to have an influence on economic growth in that country (Elsayed & Zainuddin, 2020; Mahat & Warokka, 2013). The success and effectiveness of zakat institutions in Muslim-majority countries is important, because this could be in line with the government's plans for economic and social development (bin Wan Yusoff, 2008)

Therefore, transparent and accountable management is needed, so that zakat can be distributed on target (Ali & Aziz, 2014). As an obligation for Muslims, zakat has enormous potential in a country like Indonesia, which has a Muslim population of around 112 million. Indonesia, as a country with the largest Muslim population in the world (Lessy, 2009) has the potential to manage zakat (Widiastuti, Cahyono, Zulaikha, Mawardi, & Al Mustofa, 2021) which can reach USD 600 million (Beik, 2015).

The large potential for zakat cannot be absorbed by zakat institutions in Indonesia. According to study, only 1% is received by zakat institutions (Canggih, Fikriyah, & Yasin, 2017). The absorption of zakat funds is caused by several factors, such as low public trust in zakat collection institutions (Canggih et al., 2017) and poor delivery of zakat information (Azra, 2011). The low level of public trust in zakat collection institutions in Indonesia indicates that zakat institutions need to improve the management of zakat funds in a more transparent and accountable manner (Purwatiningsih & Yahya, 2020). The problems of zakat institutions can be solved properly if the governance system can be implemented optimally (Widiastuti et al., 2021).

Indonesia, as the largest Muslim country, has made one of the efforts to optimize the governance system in order to maximize the potential of zakat in Indonesia in the collection and distribution of zakat, namely in the form of utilizing technology (Doktoralina & Bahari, 2018; Rachman & Salam, 2018), through the development of zakat management information system (ZMIS) or in zakat institution in Indonesia called as *Manajemen Informasi Zakat* (SIMBA) (Swandaru, 2019). The development of the zakat accounting information system in Indonesia is carried out by the national zakat institution to be implemented by all other zakat institutions. Implementation of a management information system in a non-profit organization can make it easier for the institution to document and analyze data, which in turn can determine a decision-making strategy (Dash & Mishra, 2014).

However, the zakat management information system in Indonesia has challenges in its implementation. A study by the Republic of Indonesia's *Badan Amil Zakat Nasional* (baznas) showed that on average the level of participation of zakat management organizations in using the zakat management information system has only reached 36 percent, of which 64 percent of the 514 zakat institutions in Indonesia have not actively used the ZMIS digital platform developed by Baznas. Several studies in Indonesia stated that there are several obstacles in the implementation of ZMIS, namely the absence of research and data collection regarding the potential of muzakki and mustahik candidates (Susani, 2011), leadership policy support, technological capabilities of ZMIS operators, as well as information technology and network infrastructure support (Mokoginta, 2020). In particular, Utami, Suryanto, Nasor, and Ghofur (2020) stated that the implementation of zakat in digital form lies in the imbalance of internet access in Indonesia.

In addition, a factor that can influence the use of management information system is the lack of competent human resources related to information systems (Alrabei, 2014; Daoud & Triki, 2013; Marakas & O'Brien, 2013; Moeller, 2011). This phenomenon related to zakat and the limited research on zakat in Islamic banking, companies, agriculture and zakat institutions (Uyob, 2020), has stimulated the interest of researchers to look at developments in the use of management information system in zakat institution. Research on the application of SIMBA is still limited and specific to one city. Given

this urgency and the target of developing IT by Baznas through optimizing ZMIS at zakat institution (Baznas, 2022), researchers were interested in studying the implementation of ZMIS at *Lembaga Zakat Indonesia*.

2. Literature Review

2.1   Zakat Management Information System

BAZNAS Information Management System is a management information system built and developed for the purposes of storing data and information owned by BAZNAS nationally. Technically, the system is equipped with features for printing zakat deposit receipts, reporting features, issuing NPWZ (Zakat Identification Numbers), budget management, and so on (Baznas, 2022). With an internet-based and online-connected system, the BAZNAS information management system is designed to be used by all zakat bodies or institutions throughout Indonesia without having to go through a complicated installation process. SIMBA consists of two systems, namely the Operational Information System (SIO) and the Reporting Information System (SIP). SIMBA acts as a centralization of data on the collection and distribution of zakat, as well as a centralization of the number of mustahik and muzaki in each region (Baznas, 2022).

SIMBA from an information system perspective can be interpreted as a formal and organizational system designed to collect, process, store and distribute information from a sociotechnical perspective (Elsayed & Zainuddin, 2020). Information system can consist of task components, people, roles (functions) and technology. Specifically, the concept of a zakat information system can be interpreted as a system designed to process information related to the collection and distribution of zakat in a computerized and manual manner, in order to gain a competitive advantage and improve sustainable zakat performance(Elsayed & Zainuddin, 2020; Fajar & Amri, 2022).

Optimizing zakat can be done by increasing the quality and capacity of technology use (Widiastuti et al., 2021). Competent users will ultimately improve the quality of the information system itself (Daoud & Triki, 2013; Rainer & Prince, 2021). System users who have a high level of competence can help companies improve the quality of accounting information systems, manage financial performance and make business decisions (Pearlson, Saunders, & Galletta, 2016). It has been proven that there is a positive relationship between user competency and information system implementation success (Sedera, Gable, & Chan, 2004). Experience, training, and education are several important aspects of user competence (Nurhayati & Mulyani, 2015). In the end, competent information system users are important element for any institution that uses information systems in their functions and work (Eschenbrenner & Nah, 2014). The information system success model shows that incompetent information system users will affect the deployment of information systems (Weigel & Hazen, 2014). Therefore, user competence is crucial in maximizing the quality of information technology (Marcolin, Compeau, Munro, & Huff, 2000). Based on this, the hypothesis in this study is as follows:

H1: user competence significantly influences the quality of the Zakat Management Information System

2.2   Quality of Information

Many studies state that information and communication technology influences service quality and zakat management itself (Mutamimah, Alifah, Gunawan, & Adnjani, 2021; Yolanda, Zaenal, & Pramono, 2020). The quality of quality information has the characteristics of being accurate, relevant, timely and complete (Hall, 2011). The quality of information can be interpreted as the quality of information that has intrinsic properties (Mai, 2013). Quality information will produce data that can be used in the decision-making process (Fitrios, 2016; Romney, Steinbart, Mula, McNamara, & Tonkin, 2012), both in resolving conflicts or reducing information uncertainty (Hall, 2011; Meiryani, 2017). A quality information system will produce quality information (Gorla, Somers, & Wong, 2010; Laudon & Laudon,

2016). Therefore, the application of a zakat management information system will produce quality reporting information. Xu, Benbasat, and Cenfetelli (2013) stated that there is an interconnected integration between the quality of information system and information quality. Based on this, the hypothesis in this study is as follows:

H2: The quality of the Zakat Management Information System significantly influences the quality of zakat reporting information

3. Methodology

3.1   Research Design and Type, and Data Collection Technique

This study used a survey method by distributing questionnaires as a data collection tool. The questionnaire distributed to ZMIS respondents at BAZNAS with measurement indicators for each construct of the research variables is shown in Table 1. The population of this study were all users of zakat accounting information systems in the Java area. Sampling technique used slovin and obtained a sample of 150 people. Data analysis utilized verification to determine the relationship of variables through hypothesis testing using structural Equation Modeling (SEM) with Partial Least Square (PLS) approach. It consists of two types of evaluation, namely the evaluation of the measurement model and the evaluation of the structural model.

Tabel 1. Operational Variabel

Variable	Indicator
System User Competence (Sysc) (Lee, 2010; Levy, 2009)	Educational background supports the use of zakat accounting information system in completing work.
	Experience supports the use of zakat accounting information system in completing work.
	Expertise supports the use of zakat accounting information system in completing work.
	Analytical skills support solving problems related to problems in the operation of zakat accounting information systems.
Zakat Management Information System (ZMIS) (Yigitbasioglu, 2016)	The zakat accounting information system used has been harmoniously integrated between system components (hardware, software, brainware, operating procedures, databases and communication networks) in producing accounting information as needed.
	The zakat accounting information system used has shown a harmonious attachment between one sub-system and another
	The zakat accounting information system used can be accessed easily
	The zakat accounting information system used can be accessed anywhere and anytime as needed
	The zakat accounting information system used has easy facilities/features/menus, which are adapted to changing needs
	The zakat accounting information system used has facilities/features/menus that are easily adapted to environmental changes
Quality of Reporting Information (qrfm) (Hall, 2011)	The accounting information generated by the zakat accounting information system is in accordance with the facts and actual circumstances
	The accounting information generated by the zakat accounting information system is able to provide information (reports) that can be trusted/free from material errors.
	The accounting information generated by the zakat accounting information system is in accordance with the needs in completing the work
	The accounting information generated by the zakat accounting information system is in accordance with the problems faced

Variable	Indicator
	Accounting information generated by the zakat accounting information system is always available when the information is needed for decision making.
	The accounting information generated by the zakat accounting information system is always up to date
	Accounting information generated by the zakat accounting information system is always completely available
	Accounting information generated by the accounting information system is always obtained in full

3.2   The respondents

The number of respondents in this study were 150 respondents. The description of the respondents in this study is shown in Table 2, with the largest number of distribution being male (78.95), educational qualification was dominated by bachelor's degree (56.14%), educational background was dominated non-economic (77.17%), and work experience was dominated by < 1 year (35.09%).

Table 2: The characteristics of respondents

1. Gender		2. Education	
Male	78,95%	Economics & Accounting	22,81%
Female	21,05%	Non Economic	77,17%
3. Qualification		4. Working Experience	
Senior High School	17,54%	< 1 year	35,09%
Diploma	7,01%	1 – 5 year	33,33%
Bachelor's degree (S1)	56,14%	6 -10 year	21,05%
Postgraduante (S2)	12,28%	10 year	10,53%
Doctoral (S3)	7,01%		

4. Result

4.1   Reliability and Validity Tests

To assess the acceptability of constructs for structural model analysis, reliability and validity tests were conducted. Testing for reliability was done using the Cronbach alpha (CA) and the Fornell-Larcker composite reliability (CR) score. By calculating the loading factor and mean variance retrieved, a validity test was carried out (AVE). The factor loading and AVE scores of all factors that satisfy the suggested threshold are 0.5 or above (Joe F Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014), and the recommended CA and CR scores for each construct are above 0.70 (Fornell & Larcker, 1981; Nunnally, 1975). Each construct's reliability and validity test findings in Table 3 passed muster regarding all requirements. This show that the research data passed the validity and reliability checks.

4.2   Multicollinearity Test

The variance inflation factor was used to perform the multicollinearity test (VIF). The multicollinearity test findings shown in Table 3 demonstrated that the collinearity issue had no detrimental effects on the study's structural model because the constructs' VIF values were below the maximum threshold of 10.(O'brien, 2007).

Table 3: Reliability, validity, and multicollinearity tests

Dimension	Reliability		Validity		VIF	
	CA	CR	Loading Factor	AVE	zmis	qrfm
System User Competence (Sysc)	0.928	0.948		0.820	1.000	
K1			0.845			
K2			0.910			
K3			0.956			
K4			0.908			
Zakat Management Information System (ZMIS)	0.920	0.938		0.715		1.000
KSIA1			0.805			
KSIA2			0.846			
KSIA3			0.844			
KSIA4			0.906			
KSIA5			0.827			
KSIA6			0.842			
Quality of Reporting Information (qrfm)	0.919	0.936		0.649		
KIA1			0.575			
KIA2			0.703			
KIA3			0.811			
KIA4			0.800			
KIA5			0.864			
KIA6			0.832			
KIA7			0.890			
KIA8			0.918			

4.3   Discriminant Validity Test

The square root of the factor's AVE score, whose value must be greater than the cross-correlation between these factors (Fornell & Larcker, 1981)., was used in this study's test for discriminant validity. According to Table 4's results for the discriminant validity test, discriminant validity was assured because the AVE scores for these components were higher than their squared cross-correlations.

Table 4. Discriminant Validity test results

	qrfm	sycs	zmis
qrfm	0.806		
sycs	0.630	0.905	
zmis	0.737	0.608	0.846

4.4   Structural model analysis

The study went on to evaluate the structural model after putting the construct through reliability and validity tests, discriminant validity tests, and multicollinearity tests. The Bootstrap Smart-PLS approach

was then used to evaluate the proposed hypothesis. The findings of the structural model based on the PLS algorithm that depicts the link between exogenous and endogenous constructs are presented in Figure 1 and Table 5.
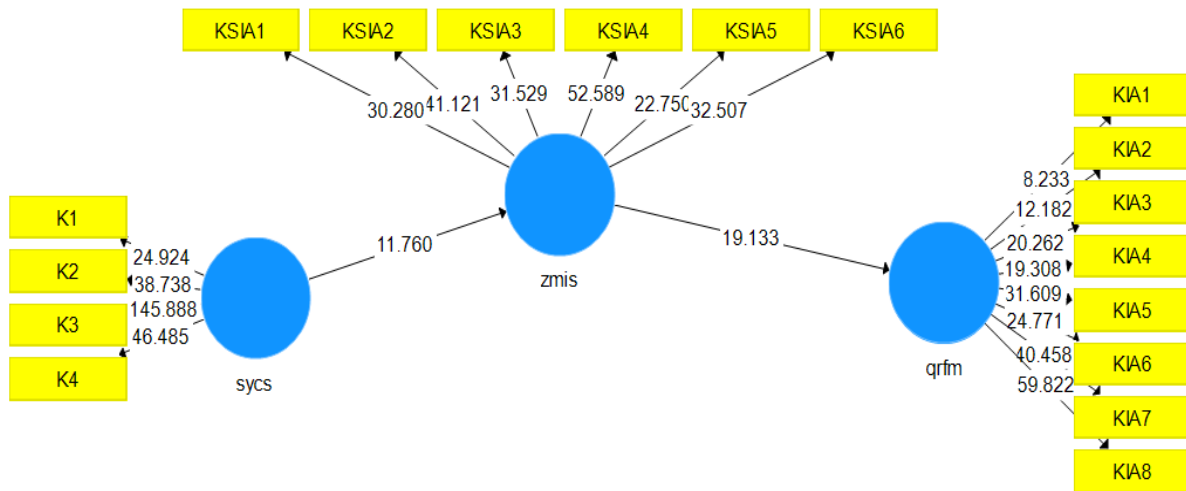

Fig. 1. Research Model Structure

Table 5. Regression results

Hypothesis	Sample Mean	St. Dev.	T-Statistics	p-value	Result
sycs -> zmis	**0.61**	**0.052**	**11.760**	**0.000**	**Significant**
zmis -> qrfm	**0.73**	**0.039**	**19.133**	**0.000**	**Significant**
R2 zmis	0.370				
R2 qrfm	0.543				
Q2 zmis	0.244				
Q2 qrfm	0.320				

Testing the research model used the coefficient of determination test (R^2) (Joseph F Hair Jr, Hult, Ringle, & Sarstedt, 2021). The result of the R^2 test on zmis was 0.370 (37%), meaning that the exogenous variable was explained by 0.370 (37%) in the endogenous variable "zakat management information system". Furthermore, the R^2 test result on qrfm was 0.244 (24.4%), meaning that the exogenous variable model was explained by 0.244 (24.4%) in the endogenous variable "Quality of Reporting Information". The next test was to test the suitability of the model using cross-validated redundancy (Q^2). The model used was considered appropriate if the Q^2 value was greater than zero (Joseph F Hair Jr et al., 2021; Owusu, Bekoe, Koomson, & Simpson, 2019). The result of the Q^2 test on ZMIS and QRFM showed the results above zero, namely 0.244 and 0.320. Therefore, this research model could be concluded as appropriate or fit.

Regression analysis in table 5 showed that user competence (sycs) had a role in the successful implementation of the zakat management information system (zmis) ($p<0.05$). Subsequent test on the implementation of the zakat management information system (zmis) showed that the use of the zakat management information system would improve the quality of zakat reporting information (qrfm) ($p < 0.05$).

5. Discussion

Table 5 shows that the competence of system users had a significant effect on the quality of the Zakat Management Information System, with a p-value of 0.005 (lower than 0.05). These findings provide

empirical evidence that the more competent the system users are, the better the quality of the information system(Daoud & Triki, 2013; Rainer & Prince, 2021). These results support several previous studies which stated that the better the user's competency, the better the quality of the information system (Marakas & O'Brien, 2013). Therefore, competence plays an important role in a company (Kolibáčová, 2014). Given the importance of competence in supporting system implementation in an organization, Baznas as a national zakat institution, apart from encouraging system development, must have a roadmap in the form of full implementation regarding the use of the system, so that the system can be implemented optimally. System development in BAZNAS must be included in the competency development of system users. The preparation of a system development roadmap is carried out within the framework of long-term planning which allows for setting strategic goals and potential for technology, product and development of new services (Vishnevskiy, Karasev, & Meissner, 2016). In the end, using the right technology will create efficient use of ZMIS (Wahab & Rahman, 2013), so that zakat institutions will avoid excessive staff hiring (Hamzah & Krishnan, 2016)) and high operational costs (Rusydiana & Al Farisi, 2016).

The result of the second test show that ZMIS had a positive effect on the Quality of Reporting Information. The result of this test is in line with several previous studies related to the quality of information in various organizations (Al-Hiyari, Al-Mashregy, Mat, & Alekam, 2013; Fitrios, 2016; Mutamimah et al., 2021; Yolanda et al., 2020). The success of ZMIS implementation at Baznas will ultimately increase zakat receipts optimally.

6. Conclusion

The findings of this study indicated that the implementation of ZMIS in zakat institutions was influenced by the competence of ZMIS users. In addition, the use of ZMIS in zakat institutions had a positive impact on the quality of information reporting. It is hoped that through this research, Baznas as the national zakat institution will increase socialization and intensive training for zakat institutions that already use the zakat information management system. Socialization and training organized by BAZNAS need to be included in the roadmap for the development of a zakat information management system, so that user competence can be seen and measured in order to support efficient use of the system. Thus, the system used by zakat institutions will have an impact on the quality of information presented by zakat institutions in management reporting, both from financial and non-financial reports.

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