Proceeding Paper

User Satisfaction on Utilization of Human Resources Information System (HRIS) in Public Organizations †

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Abstract: This study examines the relationship between Human Resources Information System(HRIS) application; system quality, information quality, service quality, and user satisfaction. The conceptual foundation for this paper is the DeLone and McLean information system success model (ISSM). This study contributes to existing research using the DeLone and McLean model applied in an Indonesian context. This research employs a descriptive analysis with a quantitative approach. The research sample consists of the whole utilization of HRIS that represented a division in public organizations exert in the security sector. The author uses the SPSS test in two stages: a validity and reliability test and a multiple regression analysis. The findings reveal that information quality and service quality partially influence user satisfaction.

Keywords: system information; HRIS; DeLone and McLean; user satisfaction

1. Introduction

In this decade, the utilization of Management Information Systems (MIS) tends to increase the management of information. This activity provided many influences on the improvement of business processes and excellence in operational organization. A computer-based Management Information System is required for the provision of accurate, precise, and prompt data. There are many challenges faced by applying the MIS system in an organization [1]. The information generated by a computerized system can assist public organizations in making the best decisions.

Human resource departments maintain personnel records, including personal background, abilities, and pay, etc. In the past, the company would track employee data using paper records and spreadsheets. This activity takes a long time and causes the existing data to be inaccurate [2]. Human resource development has five main activities: recruitment, training, placement, career development, and retention.

The development of an information system also affects the management of human resources. HRIS systems are computerized and interrelated, allowing a human resource department to go paperless for all or part of its operations. They provide solutions for a variety of tasks, including the management of jobs and skills within an organization, regular interviews and recruitment interviews, professional mobility, the monitoring of working hours and activities, and the administration of paid leave and reimbursements, etc. [3]. HRIS is designed to provide information needed in making decisions related to the development of human resources.

Evaluation of the implementation of HRIS needs to be performed to ensure that the system built is in accordance with the company's goals. Information systems are not purely technical systems; they are also social systems [4]. The key success factor in the implementation of an information system is user satisfaction.

There are many studies on user satisfaction with Information System(IS). User satisfaction is the most widely used measure to assess IS success because user satisfaction " is

an indicator with a high level of validity." The purpose of this study is to evaluate the user satisfaction of human resource information systems in public organizations.

2. Materials and Methods

2.1. Literature Review

2.1.1. Human Resource Information System

In several studies related to information systems that focus on managing human resources (HR), it can be concluded that this information system refers two different names; electronic human resource management (e-HRM) and human resource information system (HRIS). Despite the different names, these two definitions mean the same thing. The author takes the definition of Stroimer (2007) e-HRM "as the planning, implementation, and application of information technology for networking which assists at least two individuals or groups in their shared performance of Human Resource tasks" [5]. DeSanctis (1986) defined HRIS as a "specialized information system within the traditional functional areas of the organization, designed to support the planning, administration, decision-making, and control activities of human resource management" [6]. HRIS was defined by Tannenbaum (1990) as a technology-based system used to reliably capture, store, manipulate, analyze, retrieve, and disseminate information regarding an organization's human resources [7]. In simple terms, it can be concluded that HRIS or e-HRM are technology-based human resource management applications that are connected to the internet or are standalone and can be used for administrative activities or HR policy analysis.

2.1.2. DeLone and McLean Modification

An organization must evaluate the level of success in the implementation of an information system. DeLone and McLean's information system success model is one of the utilized models. The created model is the parsimony model, which is simple but comprehensive. The DeLone and McLean (1992) model proposed six interconnected variables to measure the performance of IS: system quality, information quality, system use, user satisfaction, organizational impact, and individual impact. According to the DeLone and McLean (1992) model, system quality, information quality, and service quality simultaneously affect "use" and user satisfaction as positive or negative. Use and user satisfaction affect individual impact and subsequently organizational impact [8].

DeLone and McLean (2003) provided a reformed version of their original model, taking into consideration both the evolving nature of IS and some of the critiques leveled against their 1992 model. The objections they take into account pertain to aspects of the quality dimension and the nature of the effects. DeLone and McLean developed their approach by combining all influences (organizational and individual) into a single component: net benefits [9]. Another major difference between the original model of DeLone and McLean (1992) and the updated model (2003) was the addition of service quality. The update model as follows in Figure 1:
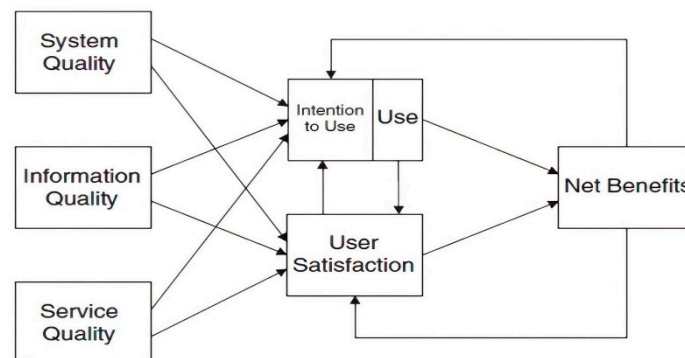

Figure 1. Updated IS Success Model (DeLone & McLean 2003).

2.1.3. Quality (System, Information, and Service)

The term "quality" refers to the direct characteristic of an object. In this context, "object" might refer to a variety of things, including a product, service, or condition, etc. Elshaer (2012) defined of quality as "a situation when a set of inherent characteristics consistently fulfil the continuously changing requirements of the organization's customers and other stakeholders" [10]. In other words, a product is considered to be of high quality provided its specifications meet the predetermined criteria.

System quality has attributes such as equipment availability, equipment reliability, ease of use, and response time, which are determining factors as to why system information is used or not used [11]. According to DeLone and Mclean (1992), system quality refers to the combination of software and hardware quality. The focus of system quality is on the performance of the system which refers to how the ability of the hardware and software, policies, and procedures for information systems in providing information to customers [12].

Information quality is defined as "a measure of the quality of (the IS) outputs, namely the quality of the information the system generates in reports and on-screen" (Gable et al., p. 389). The accuracy, completeness, consistency, ease of understanding, personalization, relevance, security, and timeliness of the information were evaluated to determine its quality [13].

Service quality is the user's perception of the services provided by public and private organizations. Initially, the service quality parameters were aimed at measuring customer satisfaction. According to DeLone and McLean (2003), service quality is more important than other applications because system users are now considered customers and not employees or internal users of the organization [14].

2.2. Methods

This type of research uses a quantitative approach with a survey method. This study aims to describe the relationship between the dependent variable and the independent variable. System quality, information quality, service quality, and user satisfaction were used in this study. This study relates to employee perceptions about user satisfaction on a human research information system (HRIS). Hence, in this questionnaire, the author uses a Likert scale with 4 scales. The Likert scale was used with modification to eliminate ambiguity in respondent responses, i.e., strongly disagree (1), disagree (2), agree (3), and strongly agree (4). The sampling method used in this study is non-probability sampling. Entire HRIS users in division of a ministry in the Republic of Indonesia were used as research samples. This method is known as saturated sampling. The research model in this study adopts research conducted by Montesdioca (2016) [15]. The model used is as follows in Figure 2:
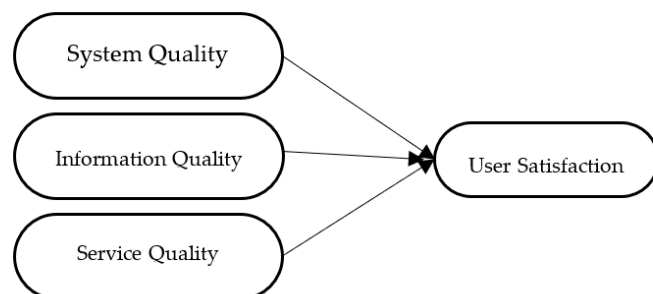

Figure 2. Research Model.

H1. *HRIS system quality: significant influence on HRIS user satisfaction.*

H2. *HRIS information quality: significant influence on HRIS user satisfaction.*

H3. *HRIS service quality: significant influence on HRIS user satisfaction.*

H4. *System quality, information quality, and service quality simultaneous effect on HRIS user satisfaction.*

3. Results

3.1. Respondent Profile

Respondents' profile can be seen in Table 1.

Table 1. Respondents' Profile.

Category		Freq	Percent
Gender	Male	29	33%
	Female	58	67%
Education level	S2/Master	6	7%
	S1/Bachelor	43	49%
	D3/Diploma	18	21%
	SMA/High School	20	23%
Age	20–30 years	28	32%
	31–41 years	20	23%
	>41 years	39	45%
Utilize HRIS	0 until 1 years	20	23%
	>1 years	67	77%

Table 1 demonstrates that 33 percent of respondents, or 29 individuals, are male, whereas 67 percent, or 58 individuals, are female. Based on Table 1 there were 43 people (49 percent) with a bachelor's degree, 6 people with a master's degree (seven percent), eighteen people with a diploma (21 percent), and 20 with a high school (23 percent). Twenty-eight people (32 percent) are between the ages of 20 and 30. Twenty people (23 percent) belong to the age range of 31 to 41 years, whereas 39 people (45 percent) are over the age of 41. The average number of people who have been using HRIS for more than a year is 67 (77 percent).

3.2. Validity and Reability

3.2.1. Validity

Validity test was conducted with a sample of 87 respondents using an SPSS program. An instrument was considered valid if the results were $r_{value} \geq r_{table}$.

Based on the Table 2, existing variables produce $r_{value} \geq r_{table}$ (0.2108). Thus, it can be concluded that all variables can be declared valid.

3.2.2. Reliability

Based on the Table 3, the reliability test value of three independent and one dependent variable is known. It can be concluded that the four indicators are "reliable" or "consistent" because the cronbach alpha value is exceed 0.60.

3.3. Multiple Regression Analysis

3.3.1. F Test

Based on the F test results, see Table 4, it can be seen that the sig value is less than 0.05, indicating that H_0 is rejected. In other words, system quality, information quality, and service quality have a significant influence on HRIS user satisfaction simultaneously.

3.3.2. T Test

Based on the *t*-test results in Table 5, it can be seen that hypothesis 1 has a *p* value > 0.05, indicating that H_1 rejected. It can be determined that the system's quality has no partial significant effect on user satisfaction. For hypothesis 2, it has a *p* value < 0.05 and its mean H_0 rejected. It can be concluded that the information quality has a partial significant

effect on user satisfaction. For hypothesis 3, it has a *p* value < 0.05, and its mean H_0 rejected. It can be concluded that service quality has a partial significant effect on user satisfaction.

Table 2. Validity test.

Indicator		r-Test
Quality Sistem (QS)	QS1	0.700 **
	QS2	0.751 **
	QS3	0.763 **
	QS4	0.642 **
	QS5	0.704 **
Information Quality (QI)	QI1	0.633 **
	QI2	0.633 **
	QI3	0.803 **
	QI4	0.779 **
	QI5	0.785 **
	QI6	0.654 **
Sevice Quality (SQ)	SQ1	0.690 **
	SQ2	0.769 **
	SQ3	0.766 **
	SQ4	0.786 **
	SQ5	0.828 **
User Satisfaction(US)	US1	0.684 **
	US2	0.875 **
	US3	0.836 **
	US4	0.833 **

**. Correlation is significant at the 0.01 level (2-tailed)

Table 3. Reliability test.

Indicator	Cronbach Alpha
System Quality (QS)	0.745
Information Quality (QI)	0.817
Service Quality (SQ)	0.824
User Satisfaction (US)	0.824

Table 4. F test.

Model		F	Sig.
1	Regression	38.952	0.000(a)
	Residual		
	Total		

Table 5. T Test.

Model		t	Sig.
1	(Constant)	1.737	0.086
	QS	1.922	0.058
	QI	2.405	0.018
	SQ	3.795	0.000

The coefficient of determination is seen in Table 6. Based on Table 6 R Square value is 0.765. This value indicates that 76.5 percent of the variance in user satisfaction it can be predicted from system quality, information quality, and service quality simultaneously; 24.6 percent is influenced by other variants.

Table 6. Model Summary.

Model	R	R Square
1	0.765a	0.585

Based on the test results, see Table 7. The equation regression is written as follows:

$$US = 1.886 + 0.161 \text{ QS} + 0.186 \text{ QI} + 0.313 \text{ SQ} \tag{1}$$

Table 7. Regression.

Model		Unstandardized Coefficients	
		B	**Std. Error**
1	(Constant)	1.886	2.923
	QS	0.161	0.111
	QI	0.186	0.118
	SQ	0.313	0.123

Based on equation regression 1 this indicates that user satisfaction (US) is 1.886, assuming system quality (QS), information quality (QI), and service quality (SQ) are indeed 0. The equation regression 1 shows the β1 value = 0.161, a one point increase in system quality (QS), can be predicted increases of 0.161 points in user satisfaction (US). The β2 value equals 0.186, followed by a one point increase in information quality (QI), can be predicted increases of 0.186 points in user satisfaction(US). The β3 value = 0.313, a one point increase in the service quality(SQ), can be predicted increases of 0.313 points in user satisfaction(US).

4. Discussion

Based on Table 5, this study confirms that there are two significant variable, i.e: service quality (SQ) and information quality (QI). The coefficient value of the service quality (0.313, $p < 0.05$) is higher than other variables. We consider the public organization has been implemented a service excellent to HRIS user. Proven with the helpdesk support and training utilization HRIS applications. This finding is accordance with Widiastuti [16], that service quality influences HRIS user satisfaction. When users are satisfied, the level of system usage increase.

The coefficient value of information quality (0.186, $p < 0.05$). This study confirms the research of Seddon and Kiew (1996), who argued that quality of information has a positive influence on user satisfaction. The positive influence is because most HRIS users can use the information that is generated by the system and assist users in the capacity of human resources [17]. Based on open questions, it can be seen that this system is considered not to meet expectations due to a slow support network.

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