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Does e-service for research and community service boost the performance of university lecturers?

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Article Info	ABSTRACT
	Indonesian universities are implementing various strategies to improve the quality and quantity of scientific publications. Sriwijaya University has restructured its research and community service grant services by implementing e-services through the new generation management information system of the institute of research and community service (SIM LPPM NG). Numerous studies have been performed to determine the factors that influence lecturer performance, particularly in scientific journals. The purpose of this research is to utilize a model to investigate the impact of system quality, information quality, and service quality on user satisfaction and performance. For partial least squares structural equation modelling (PLS-SEM), 280 respondents comprised the dataset. The results demonstrated that system quality, information quality, and service quality influence user satisfaction. Individual performance is influenced by the level of user satisfaction. According to the findings of this study, the DeLone and McLean information system success model can be used to evaluate obligatory e-services that are integrated.

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1. INTRODUCTION

Research and development are essential indicators of a nation's development. The importance of research and development stems from the fact that a country's discoveries, technologies, and knowledge stem from the success of its research and development efforts [1], [2]. To achieve this, publication in international scientific journals is required. This journal serves as a platform for academics and researchers to achieve self-actualization in advancing science and achieving international recognition [3].

Indonesian scientific publications occupy the greatest position among the Association of Southeast Asian Nations (ASEAN) countries in 2021, with 27.9%, followed by Malaysia with 26.1%, and Laos in last place with 0.2% [4]. According to the research and innovation agency, the number of articles published in Indonesia in 2017 was 753, in 2018 it was 1111, in 2019 it was 1588, in 2020 it was 1847, and in 2021 it reduced to 1513 from 2019 and 2020, which totaled 1847 [4]. According to the quality composition of Lecturer Published Journals for 2017-2021, 49.2% of lecturers publish their articles in conference proceedings, 11.1% in non Q, 5.5% in quartile 4 (Q4), 13.56% in quartile 3, 10.4% in quartile 2, and 10.2% in quartile 1 [4].

Every institution of higher education in Indonesia must increase the competitiveness of scientific publications. As one of Indonesia's higher education institutions, Sriwijaya University is obligated to contribute to this accomplishment. In order to accomplish Sriwijaya University's mission in the framework of

excellent research and community service and to boost the research productivity of lecturers at Sriwijaya University, Sriwijaya University allocated special funds for these two activities.

In accordance with the complexity and breadth of the implementation of research and community service at Sriwijaya University, the Institute for Research and Community Service (LPPM) has enhanced the information and communication technology-based management system for research and community service (ICT). The system is known as the New Generation Management Information System of the Institute of Research and Community Service (SIM LPPM NG) [5]. With SIM LPPM NG, this application, the submission and selection of proposals, monitoring and evaluating execution, final reports, budget utilization, and reporting of research outcomes and community service may be managed with openness, efficiency, and accountability.

The growth of information and communication technology has made available a number of options for enhancing the operation of public services that are increasingly based on good governance [6], [7]. In the implementation of e-services, the availability of human resources, money, rules, facilities, and infrastructure are necessities [8]–[10]. Electronic services are information systems that utilize information and communication technology to increase public administration efficiency and policy effectiveness, as well as the convenience, performance, and accessibility of government services to foreign and external users [11], [12].

E-service is a form of service implementation that can improve the quality of public services through the use of technology and communication in order to meet the demands and requirements of the public for rapid data processing and accurate information [13]. E-services are required to improve government administration's efficiency, effectiveness, transparency, and accountability [13]. In the context of the deployment or application of information technology (IT) within the government, the term e-service is frequently used. The significance of the utilization aspect of e-services, which includes information disclosure, services, and systems organized by the government to meet the quality of each user's system, information quality, and service quality, where each user has a varying level of satisfaction with the applications used [14]. Numerous government agencies, private institutions, institutions, and universities have taken the initiative to develop public services through communication and information networks, including the LPPM, Sriwijaya University, which uses the SIM LPPM NG to support the implementation of research and service for educational institutions.

This research is essential for analyzing the causes of end-user satisfaction with information systems and their implications for individuals, as well as measuring the effectiveness of an information system's implementation. Satisfaction is frequently employed as a surrogate for the success of an information system in comparison to other surrogates such as utilization and perceived advantages [14], [15]. The greater the quality of information produced by a source, the greater the user satisfaction [16], [17]. If the end user of an information system believes that the information generated by the system is of high quality, then the end user will be pleased with the system [14].

2.   LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The DeLone and McLean [14] model is the most extensively deployed model in information systems research among the various effective models of information systems. DeLone and McLean [14] presented a paradigm for measuring the success of an information system. This model tries to synthesize the success of information systems and classify them exhaustively in order to evaluate the elements that influence the success of information systems. Individually or collectively, the effect of the quality of the system on the quality of the information has an effect on customer satisfaction and usage [14]. The original success model by DeLone and McLean [14] provides a complete framework for measuring the performance of an information system. Based on empirical and theoretical inputs from scholars who have tested or discussed the original concept, the model is revised. System quality, Information quality, Service quality, Use and User satisfaction, and Net benefits comprise the new model [14].

− Hypothesis formulation

The satisfaction of users who are satisfied with a good system will affect the quality of decisions made as a result of the information supplied by a good system. Utilizations of a high-quality system are extremely advantageous for their consumers. System quality is the user's appraisal of the technical capabilities and usefulness of the system; if the system does not function properly, the data's accuracy, completeness, and format will be compromised [14], [15]. System quality is the degree to which the qualities and characteristics of an information system facilitate its use. System quality includes usability, system adaptability, system dependability, learning simplicity, and reaction time [18], [19]. If end users believe that the quality of the SIM LPPM NG at Sriwijaya University is high, then system users will likely be satisfied with the system. Based on empirical evidence, the hypotheses can be formulated is H1: The relationship

between system quality and user satisfaction for the LPPM NG SIM application at the LPPM Sriwijaya University is good.

Prior research has demonstrated that user satisfaction is impacted by information and system quality [20], [21]. The level of user satisfaction with information system applications will rise with the quality of the information. The quality of information has a significant impact on customer satisfaction [14], [22], [23]. A high level of system quality and information that is accurate, timely, and of high quality will boost user satisfaction. On the basis of empirical evidence, the hypothesis can be stated is H2: User satisfaction with the LPPM NG SIM application at LPPM Sriwijaya University is positively influenced by the quality of the information (information system).

If system quality, information quality, and service quality can fulfill user needs and their consequences for individual performance, user satisfaction will grow. Several studies demonstrate a positive correlation between customer satisfaction and individual performance [24], [25]. The indirect effect of performance expectations and effort on information system user satisfaction mediated by attitude variables in users on individual and organizational impacts, and performance expectations, effort expectations influence system user satisfaction through attitudes toward use, and user satisfaction influence individual and organizational impacts [26], [27]. Other research has found that satisfaction with e-service portals somewhat mediates the connection between success characteristics and the propensity to repeat the portal. Information quality, system quality, and social impact (but not perceived effectiveness) were identified as obstacles to e-service portal uptake and satisfaction [28], [29]. Therefore, it may be interpreted that individual performance can increase if individuals experience satisfaction and preference for e-services based on characteristics of information quality, system quality, and service quality, the following hypothesis is formulated with the help of empirical research, H3: The impact of service quality on user satisfaction for the LPPM NG SIM application at LPPM Sriwijaya University is good and H4: User satisfaction influence individual performance positively and significantly.

3.   METHOD

This is an explanatory quantitative study utilizing partial least squares structural equation modelling (PLS-SEM) [30]. This study refers to the DeLone and McLean [14] model, which employs some variables including information quality, system quality, service quality, user satisfaction, and individual performance. The research instrument used in this study consists of a questionnaire that measures five variables: system quality (X1), information quality (X2), service quality (X3), user satisfaction (Y1), and individual performance (Y2). The measurements were adapted from [14], [31]. This study's population is based on the user of the SIM LPPM NG Sriwijaya University in 2021, specifically 925 individuals. Since the number of samples is typically relatively big, a formula is required to obtain a small sample that is representative of the complete population. This study's sample calculations indicate that there were 280 individuals.

For data analysis, this study employed the PLS-SEM [31]. In PLS-SEM, the structural model is evaluated using the coefficient of determination (R^2 value) for the dependent construct, the path coefficient value, or the t-value for each path in the significance test between structural model constructs. The coefficient of determination is a measure of a model's prediction ability, defined as the squared correlation between the actual specific endogenous construct and the projected value. The objective of PLS-SEM is to optimize R^2 for the endogenous latent variables in the pathway model. While the precise meaning of the R^2 number varies on the specific model and research field, R^2 values of 0.75, 0.50, and 0.25 for endogenous constructs might be characterized as substantial, moderate, and weak, respectively [30].

The path coefficient or inner model value reflects the significance level in hypothesis testing. The path coefficient score or inner model shown by the T-statistic value must be greater than 1.96 for the two-tailed hypothesis and greater than 1.64 for the one-tailed hypothesis for hypothesis testing at 5% alpha and 80% power [30]. In this work, component-based SEM with PLS was chosen as the analytical method. In this study, the partial least squares technique was selected since it is commonly used for complicated causal-predictive analysis and is ideal for predictive applications and theory development. This study was assisted by SmartPLS version 3.0.

4.   RESULTS AND DISCUSSION
4.1. Characteristics of respondents

This study included academics and educational personnel from Sriwijaya University who were the SIM LPPM NG subscribers. In 2021, the sampling method utilized stratified random sampling based on the E-Service Management website's user statistics from the SIM LPPM NG Sriwijaya University. To determine the general characteristics of the respondents in this study, they are presented in tabular format depending on their various compositions. Faculty, gender, age, and familiarity with the the SIM LPPM NG application at

Sriwijaya University constituted the composition of respondents in this study. From Table 1, most of the respondents, if viewed by faculty, used the SIM LPPM NG the most, namely the Faculty of Teaching and Education as many as 56 people or 20%, and the least, namely the Faculty of Public Health as many as 11 people or 3.92%. This is because the number of lecturers in the faculty of teacher training and education is more than other faculties.

When viewed by age (Table 2), the SIM LPPM NG users for more than 40 years have used the application with a percentage of 61.7% or as many as 173 people. Respondents aged between 30-40 years were 99 people or 25.2% while respondents who were under 30 years old were only 8 users or 22.4%. Educators and educational staff who use the SIM LPPM NG at Sriwijaya University, when viewed by gender, consist of 103 males (36.78%) and 177 females (63.22%). Based on the composition of respondents using the SIM LPPM NG application, judging from the duration of using the application, it was recorded that 275 people or 98. 21% had the experience of more than one year using the application, this is because one of the Tridharma of higher education is to conduct research and service every year, so that every year educators are required to conduct research and community service.

Table 1. Respondents by faculty

Faculty	Frequency	Percentage (%)
Faculty of economics	39	13.92
Faculty of law	13	4.64
Faculty of engineering	47	16.78
Medical school	24	8.57
Faculty of agriculture	31	11.07
Faculty of teacher training and education	56	20
Faculty of social and political sciences	15	5.35
Faculty of mathematics and natural science	29	10. 35
Faculty of computer science	13	4.64
Faculty of public health	11	3.92
Education staff	2	0.71

Table 2. Respondents' demography

Age	Frequency	Percentage (%)
< 30 years	8	22.4
30 - 40 years	99	25.2
< 40 years	173	61.7
Sex		
Male	103	36.78
Female	177	63.22
Duration of using the information system		
< 1 year	5	1.78
> 1 year	275	98. 21

4.2. Outer model testing
4.2.1. Validity test

The validity test in this study used convergent validity and discriminant validity tests. Convergent validity in PLS is evaluated based the loading factor (correlation between item/component scores and construct scores) of the construct-measuring indicators. According to Hair *et al.* [30], a loading factor of 0.30 is considered to have fulfilled the minimum level, a loading factor of 0.40 is better, and a loading factor > 0.50 is deemed to be a noteworthy particle. For convergent validity, the rule of thumb is outer loading > 0.70, community > 0.50, and average variance extracted (AVE) > 0.50 [30]. As shown in Table 3, individual performance variables have an AVE of 0.738, whereas user satisfaction measures have an AVE of 0.752, system quality variables have an AVE of 0.542, information quality variables have an AVE of 0.642, and service quality variables have an AVE of 0.649. All AVE values in each construct are more than 0.5, indicating that the constructs produce valid results or that the indicators have good convergent validity based on the AVE parameter [30].

The subsequent step is outer loading, which is a component of convergent validity testing. The outer loading value is displayed in each variable's indicator. According to Hair *et al.* [30], a loading factor of 0.30 is considered to have fulfilled the minimum level, a loading factor of 0.40 is considered to be better, and a loading factor > 0.50 is deemed to be a noteworthy particle. For convergent validity, the rule of thumb is outer loading > 0.70, community > 0.50, and average variance extracted (AVE) > 0.50 [30]. This study model contains twenty-five indicators. The system quality variable (X1) has four indications, the information quality variable (X2) has five indicators, the service quality variable (X3) has six markers, the user

satisfaction variable (Y1) has four indicators, and the individual performance variable (Y2) has six indicators [30]. Table 4 shows that the outer loading value of all indicators shows a value of more than 0.7 (> 0.7), which means that all these indicators are said to be valid.

Furthermore, discriminant validity is a measuring model with reflecting indicators evaluated based on cross-loading measures with constructs [30]. If the correlation between the construct and the measurement items is stronger than the correlation between the construct and the measures of other constructs, this implies that latent constructs predict the size of their block better than the size of other blocks [30]. Table 5 demonstrates that the cross-loading value of each indicator for each variable is greater than that of the other indicators, it is possible to conclude that the discrimination test has been satisfied and pronounced valid.

Table 3. AVE

Variables	AVE
System quality	0.542
Information quality	0.642
Service quality	0.649
User satisfaction	0.752
Individual performance	0.738

Table 4. Outer loading

	System quality	Information quality	Service quality	User satisfaction	Individual performance
X1.1	0.757	-	-	-	-
X1.2	0.738	-	-	-	-
X1.3	0.749	-	-	-	-
X1.4	0.700	-	-	-	-
X2.1	-	0.807	-	-	-
X2.2	-	0.838	-	-	-
X2.3	-	0.776	-	-	-
X2.4	-	0.847	-	-	-
X2.5	-	0.732	-	-	-
X3.1	-	-	0.734	-	-
X3.2	-	-	0.819	-	-
X3.3	-	-	0.817	-	-
X3.4	-	-	0.842	-	-
X3.5	-	-	0.857	-	-
X3.6	-	-	0.758	-	-
Y1.1	-	-	-	0.838	-
Y1.2	-	-	-	0.905	-
Y1 3	-	-	-	0.889	-
Y1.4	-	-	-	0.836	-
Y2.1	-	-	-	-	0.838
Y2.2	-	-	-	-	0.879
Y2.3	-	-	-	-	0.890
Y2.4	-	-	-	-	0.883
Y2.5	-	-	-	-	0.879
Y2.6	-	-	-	-	0.781

4.2.2. Reliability evaluation

The reliability test, according to Hair *et al.* [30], demonstrates the precision, consistency, and accuracy of a measuring device when performing measurements [30]. The test of dependability relies on two methods: Cronbach's alpha and composite reliability. Cronbach's alpha assesses the lower limit of a construct's reliability value, whereas composite reliability evaluates the construct's actual reliability value. As a general rule. The Cronbach's alpha value must be larger than 0.7 and the composite reliability value must be greater than 0.6. Table 6 displays the results of Cronbach's alpha and composite reliability.

The reliability of internal consistency must exceed 0.708. Considering Cronbach's alpha as a conservative measure of reliability for internal consistency [30]. Table 6 demonstrates that Cronbach's alpha values for each construct satisfy the criteria for reliability because all variables are greater than 0.7. The system quality variable (X_1) has a Cronbach's alpha of 0.718, the information quality variable (X_2) has a Cronbach's alpha of 0.860, the service quality variable (X_3) has a Cronbach's alpha of 0.8921, user satisfaction (Y_1) has a Cronbach's alpha of 0.890, and individual performance (Y_2) has a Cronbach's alpha of 0.929 [30]. According to Table 7, the system quality variable (X_1) has a composite reliability of 0.825, the information quality variable (X_2) has a composite reliability of 0.899, the service quality variable (X_3) has a composite reliability of 0.917, the user satisfaction variable (Y_1) has a composite reliability of 0.924, and the individual performance variable (Y_2) has a composite reliability of 0.944 (Table 7).

Table 5. Cross loading

	System quality	Information quality	Service quality	User satisfaction	Individual performance
X1.1	0.757	0.539	0.497	0.555	0.440
X1.2	0.738	0.524	0.494	0.565	0.481
X1.3	0.749	0.604	0.541	0.547	0.518
X1.4	0.700	0.583	0.473	0.479	0.463
X2.1	0.596	0.807	0.483	0.551	0.540
X2.2	0.611	0.838	0.503	0.622	0.603
X2.3	0.560	0.776	0.489	0.568	0.543
X2.4	0.682	0.847	0.554	0.649	0.616
X2.5	0.596	0.732	0.443	0.574	0.502
X3.1	0.577	0.582	0.734	0.630	0.530
X3.2	0.564	0.519	0.819	0.577	0.509
X3.3	0.566	0.496	0.817	0.563	0.520
X3.4	0.518	0.443	0.842	0.524	0.454
X3.5	0.547	0.484	0.857	0.547	0.483
X3.6	0.501	0.438	0.758	0.522	0.473
Y1.1	0.617	0.636	0.657	0.838	0.644
Y1.2	0.646	0.674	0.619	0.905	0.669
Y1 3	0.630	0.635	0.575	0.889	0.676
Y1.4	0.643	0.629	0.578	0.836	0.634
Y2.1	0.562	0.620	0.522	0.704	0.838
Y2.2	0.541	0.606	0.525	0.646	0.879
Y2.3	0.533	0.623	0.549	0.630	0.890
Y2.4	0.577	0.629	0.542	0.658	0.883
Y2.5	0.599	0.596	0.536	0.659	0.879
Y2.6	0.512	0.539	0.513	0.592	0.781

Table 6. Cronbach's alpha

Variabel	Cronbach's Alpha
System quality	0.718
Information quality	0.860
Service quality	0.891
User satisfaction	0.890
Individual performance	0.929

Table 7. Composite reliability

Variables	Composite reliability
System quality	0.825
Information quality	0.899
Service quality	0.917
User satisfaction	0.924
Individual performance	0.944

4.3. Structural model (inner model)

In PLS, the structural model is evaluated using the coefficient of determination (R2 value) for the dependent construct, the path coefficient value, or the t-value for each path in the significance test between structural model constructs. In general, R2 values of 0.75, 0.50, and 0.25 for endogenous constructs can be defined as considerable, moderate, and weak, respectively [30]. However, the exact interpretation of the R2 value varies on the specific model and research topic. According to Table 8, the R-square value for the variable Y_1 (user satisfaction) is 0.66. The R-square result reveals that system quality satisfaction, information quality, and service quality can affect 66.5% of the user variable (Y1). The R-square value for individual performance (Y_2) is 0.572, showing that user satisfaction influences individual performance (Y2) by 57.2%. It may be inferred that the variables X_1, X_2, and X_3 can explain user satisfaction by 66.5% (moderate) and that user satisfaction can explain individual performance by 57.2% for the variable Y_1 (moderate).

Table 8. R-square

	R-square
User satisfaction	0.665
Individual performance	0.572

The path coefficient or inner model value reflects the significance level in hypothesis testing. The path coefficient score or inner model shown by the T-statistic value must be greater than 1.96 for the two-tailed hypothesis and greater than 1.64 for the one-tailed hypothesis for hypothesis testing at 5% alpha and 80% power [30]. The bootstrapping approach is used to minimize the anomalous distribution of research data when testing hypotheses; this is done in order to test hypotheses. Table 9 displays the following outcomes of data processing using bootstrapping. Using the PLS-SEM analysis approach to test the hypothesis, if the path coefficients exhibit a T-statistic greater than 1.96, it can be concluded that the association between latent variables is significant, and the hypothesis can be accepted. The variable system quality has a positive effect on user satisfaction, according to H1. Table 9 demonstrates that the value of the service quality variable on user satisfaction has a path coefficient of 0.239 and a T-statistic value of 3.711, indicating that the coefficient value is positive, and the T-statistic value is greater than 1.960, indicating that there is a positive relationship and it can be concluded that the quality of the system affects user satisfaction; therefore, H1 can be accepted. The variable information quality has a positive effect on user satisfaction, according to H2.

Table 9 reveals that the information quality variable's effect on user satisfaction has a coefficient of 0.368 and a T-statistic of 5.811. This value indicates that the coefficient value is positive and the T-statistic value is greater than 1.96, indicating that a positive link exists; hence, H2 can be accepted. The variable service quality has a positive effect on user satisfaction, according to H3. Table 10 reveals that the service quality variable's effect on user satisfaction has a coefficient of 0.310 and a T-statistic of 5.76. This value indicates that the coefficient value is positive and the T-statistic value is greater than 1.96, indicating that a positive link exists; hence, H3 can be accepted. The variable user satisfaction has a favorable effect on individual performance, according to H4. The table of path coefficients reveals that the variable value of user satisfaction has a coefficient value of 0.3756 and a T-statistic value of 25.959. This value indicates that the coefficient value is positive and the T-statistic value is greater than 1.96, indicating a positive association; hence, H4 can be accepted.

Table 9. Path coefficients

Hypotheses	Original sample (O)	T statistics (IO/STDEVI)	P value
H1: System quality to user satisfaction	0.239	3.711	0.000
H2: Information quality to user satisfaction	0.368	5.811	0.000
H3: Service quality to user satisfaction	0.310	5.766	0.000
H4: User satisfaction to individual performance	0.756	25.959	0.000

4.4. Discussion

E-service is described as the use of digital technology to revolutionize government processes in an effort to improve effectiveness, efficiency, and service delivery [6]. E-service refers to the use of IT to improve the efficiency and openness of government operations [8]. Information management systems and public service procedures are reformed and the utilization of information and communication technologies is optimized through e-service development. This e-service was implemented at Sriwijaya University through the development of the SIM LPPM NG application, which aims to make it easier for professors to acquire information about grants and apply for these awards. In addition, the SIM LPPM NG Sriwijaya University administered funds that had been awarded in prior years.

This study discovers that system quality influences user satisfaction significantly and positively. This indicates that the quality of the system is simple to comprehend, users require little effort to accomplish other tasks that are likely to enhance their overall performance, user ease and comfort, system reliability, and intuitive, intelligent, and responsive system features and quality, enhancing user satisfaction [9], [10], [32]. The well-prepared and high-quality nature of the system is evidence of the satisfaction of e-service users, mainly educators, and education professionals. Lecturers as users of this application observe that the SIM LPPM NG Sriwijaya University application has a user interface that is intuitive and meets the needs of system users in completing research and service performance, both in uploading proposals, progress reports, final reports to research outputs or outward dedication.

Additionally, the SIM LPPM NG application system at Sriwijaya University has intuitive, sophisticated, and responsive system features that enable anyone to use the application to support the work of educators and education staff to conduct research and community service, the implications of which can improve individual performance in terms of publications in reputable international journals and accredited national journals. This study discovered that system quality has an effect on user satisfaction. For pragmatic reasons, system quality impacts user satisfaction since the LPPM executes maintenance based on the evolution of user requirements. According to a study conducted by DeLone and McLean [14], these outcomes demonstrate that the greater the quality of the e-service, the greater the satisfaction of the system's users. System quality, according to DeLone and McLean [14], is a combined measure of the performance of

hardware and software in an e-service. This study's findings are consistent with the previous studies, providing empirical evidence that system quality influences user satisfaction. It is anticipated that the quality of the information utilized will have an impact on the level of customer satisfaction with the e-service [12], [13], [33]. The outcomes of this investigation also provide empirical evidence against DeLone and McLean's [14] prior research.

Information quality is the user's perception of the success of an e-service, in this case, the SIM LPPM NG. When user pleasure is employed as a measure of e-service success, information quality is a major predictor of success [13], [33]. The quality of information is dependent on user perceptions of the quality of information supplied by technology-based e-services used to support an organization's operational activities [34]. The results of this study are consistent with previous findings [16], [20], [25], which provide empirical evidence that information quality influences user satisfaction. It may be assumed that the higher the quality of the information used, the greater the level of satisfaction with the application. Previous research discovered a substantial correlation between information quality and e-service user satisfaction [16]. Furthermore, this study supports DeLone and McLean's [14] e-service success model by presenting system quality outcomes that affect user satisfaction.

The concept of service quality is a comparison between the customer's expectations and their actual assessment of the service provided [29], [35], [36]. E-service provides a concrete perception of the services supplied by e-service application software suppliers, in this case, the services perceived by educators and education staff as users of the SIM LPPM NG application system at Sriwijaya University. The results of the hypothesis test indicate that service quality influences user satisfaction; the higher the quality of service given by the LPPM Sriwijaya University, the greater the users satisfaction of the SIM LPPM NG. This study confirms the previous findings, which provide empirical evidence that service quality influences consumer satisfaction [14]–[16]. In addition, the findings of this study complement the e-service success model proposed by DeLone and McLean [14], which asserts that service quality influences customer satisfaction. This study's respondents provide empirical evidence that service quality influences user satisfaction. This demonstrates that the user satisfaction of the SIM LPPM NG has increased because of officers providing services in accordance with the expectations of lecturers and education professionals.

User satisfaction is one of the most essential indicators of the success of an e-service. User satisfaction is utilized to measure the level of satisfaction of e-service users with the system and its output [14], [15]. Due to participation in system development, user satisfaction with an information system is a manifestation of the congruence between one's expectations and the outcomes obtained [20], [21], [37]. Individual performance, as defined by DeLone and McLean [14], is the balance between the positive and negative effects of e-services on users, service providers, organizations, markets, and society. Individual performance is the most essential indicator of an e-success, as it defines the entire impact of an e-service on its users [31], [38].

5.   CONCLUSION

This study intends to assess the success of user satisfaction factors and their implications for individual performance in the the SIM LPPM NG at Sriwijaya University, as well as the relationship between user satisfaction and individual performance. System quality, information quality, and service quality are the characteristics that determine user satisfaction in this study. The following are the study's conclusions: The relationship between system quality, information quality, service quality, and user satisfaction is complex. Individual performance is influenced by the level of user satisfaction. All variables are more than 0.7, meeting the conditions for a trustworthy Cronbach's alpha value in each construct. Each construct has a value of more than 0.6, hence its dependability in evaluating user satisfaction can be considered high. Variables X_1, X_2, and X_3 may account for 66.5% of the variance in user satisfaction, while variable Y_1 can account for 57.2% of the variance in individual performance (moderate). The route coefficient value indicates that the T-statistic is greater than 1.96. The significance of the association between the latent variables allows us to accept the hypothesis. All four of the researcher's stated hypotheses are valid.

Theoretically, this research has supported DeLone and McLean's model. This study's findings imply that DeLone and McLean's model can be utilized to evaluate required integrated e-services. This study provides empirical evidence that system quality, information quality, and service quality can accurately predict user satisfaction, and that user satisfaction can accurately predict individual performance in improving the publication of credible and accredited papers. This study has a number of limitations, including the following: Due to the limited number of researchers per the scheme, the researchers took samples based on faculties rather than research schemes and faculties. This research was conducted exclusively at Sriwijaya University (single case). In journals accredited by Sqopus and Sinta, empirical data has not been used to evaluate individual performance.

REFERENCES

[1] F. I. Maulana, G. Zamahsari, I. Ananta Wijaya, D. R. Budi Raharja, and V. Widartha, "Knowledge MOOCs publication in Indonesia - a research positioning through bibliometric analysis," in *6th International Conference on Sustainable Information Engineering and Technology 2021*, New York, NY, USA: ACM, Sep. 2021, pp. 113–117. doi: 10.1145/3479645.3479651.

[2] A. Purwanto *et al.*, "Indonesian doctoral students article publication barriers in international high impact journals: a mixed methods research," *Systematic Reviews in Pharmacy*, vol. 11, no. 7, pp. 547–555, 2020, doi: 10.31838/srp.2020.7.79.

[3] M. M. Aminy, A. Azhar, and S. Ariawan, "Visualizing lecturers' publications submitted to institutional repository during the COVID-19 pandemic: a case of Mataram State Islamic University, Indonesia," *Library Philosophy and Practice*, pp. 1–11, 2021.

[4] Badan Riset dan Inovasi Nasional, "Recapitulation of Indonesian Publications (in Indonesian)." Jakarta, 2021.

[5] U. Sriwijaya, "Management information system for research and community service next generation (SIM LPPM NG) (in Indonesian)." Universitas Sriwijaya.

[6] T. Kvasnicova, I. Kremenova, and J. Fabus, "From an analysis of e-services definitions and classifications to the proposal of new e-service classification," *Procedia Economics and Finance*, vol. 39, pp. 192–196, 2016, doi: 10.1016/s2212-5671(16)30282-9.

[7] Y. Purbokusumo and A. D. Santoso, "Predictor for local government social media use in Indonesia," *Digital Policy, Regulation and Governance*, vol. 23, no. 6, pp. 533–552, 2021, doi: 10.1108/DPRG-12-2018-0082.

[8] H. S. A. Nawi, O. Ibrahim, and A. A. Rahman, "Public e-service sustainability failure factors: An exploratory study," in *Proceedings - Pacific Asia Conference on Information Systems, PACIS 2013*, 2013.

[9] M. Elbeck and B. A. V. Schee, "E-service delivery in higher education: meeting MBA student expectations," in *Marketing Strategies for Higher Education Institutions: Technological Considerations and Practices*, IGI Global, 2013, pp. 194–204. doi: 10.4018/978-1-4666-4014-6.ch014.

[10] I. T. I. Al-Nuaimi, A. K. B. Mahmood, and H. H. Jebur, "Proposed conceptual model for E-service quality in Malaysian universities," in *2014 International Conference on Computer and Information Sciences, ICCOINS 2014 - A Conference of World Engineering, Science and Technology Congress, ESTCON 2014 - Proceedings*, IEEE, Jun. 2014, pp. 1–6. doi: 10.1109/ICCOINS.2014.6868427.

[11] A. Terzoli, I. Siebörger, M. Tsietsi, and S. Gumbo, "Digital inclusion: A model for e-Infrastructure and e-Services in developing countries," in *Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, LNICST*, vol. 250, 2018, pp. 85–98. doi: 10.1007/978-3-319-98827-6_7.

[12] E. Wihlborg, "Legitimate e-Government - Public e-services as a facilitator of political legitimacy," in *Proceedings of the Annual Hawaii International Conference on System Sciences*, IEEE, Jan. 2014, pp. 2148–2157. doi: 10.1109/HICSS.2014.271.

[13] K. Axelsson, U. Melin, and I. Lindgren, "Public e-services for agency efficiency and citizen benefit - findings from a stakeholder centered analysis," *Government Information Quarterly*, vol. 30, no. 1, pp. 10–22, Jan. 2013, doi: 10.1016/j.giq.2012.08.002.

[14] W. H. DeLon and E. R. McLean, "The DeLone and McLean model of information systems success : a ten-year update," *Journal of Management Information Systems*, vol. 19, no. 4, pp. 9–30, 2003, doi: 10.1080/07421222.2003.11045748.

[15] W. H. DeLone and E. R. McLean, "Measuring e-commerce success: applying the DeLone and mclean information systems success model," *International Journal of Electronic Commerce*, vol. 9, no. 1, pp. 31–47, Oct. 2004, doi: 10.1080/10864415.2004.11044317.

[16] Z. A. Al-sulami and H. S. Hashim, "Measuring the success of e-government systems: applying the success model of the Delone and Mclean information system," *Journal of Theoretical and Applied Information Technology*, vol. 96, p. 22, 2018, [Online]. Available: www.jatit.org

[17] R. Putra, K. M. Sobri, Azhar, and A. D. Santoso, "Antecedents of e-government perceived net benefits: a study of e-filing in Indonesia," *Telkomnika (Telecommunication Computing Electronics and Control)*, vol. 20, no. 5, pp. 1016–1025, Oct. 2022, doi: 10.12928/TELKOMNIKA.v20i5.22560.

[18] I. B. R. Suardana, L. K. B. Martini, N. S. Subawa, and M. Setini, "Quality factors in technology system capability decision interest in transactions using mobile banking," *International Journal of Data and Network Science*, vol. 6, no. 1, pp. 1–8, 2022, doi: 10.5267/j.ijdns.2021.11.003.

[19] M. M. O. Mansour, "Acceptance of mobile banking in Islamic banks: Integration of DeLone and McLean IS model and unified theory of acceptance and use of technology," *International Journal of Business Excellence*, vol. 21, no. 4, pp. 564–584, 2020, doi: 10.1504/IJBEX.2020.108552.

[20] A. S. P. Putra, J. T. Darsono, and H. Respati, "Understanding influence system quality, information quality and service quality toward user satisfaction ERP system," *IOSR Journal of Business and Management (IOSR-JBM)*, vol. 19, pp. 70–76, 2017, doi: 10.9790/487X-1908067076.

[21] A. A. Longaray, T. M. Castelli, C. R. Maia, and V. G. Tondolo, "Study about the evaluation of internet banking and mobile banking users' satisfaction in Brazil," *Revista Brasileira de Marketing*, vol. 20, no. 1, Mar. 2021, doi: 10.5585/remark.v20i1.14590.

[22] M. Guntur, B. Purwandari, T. Raharjo, I. Solichah, and L. Kumaralalita, "Critical success factors for information systems development: a case study in e-government," in *Proceedings of the 2nd International Conference on Business and Information Management - ICBIM*, New York, NY, USA: ACM, Sep. 2018, pp. 29–33. doi: 10.1145/3278252.3278288.

[23] A.-K. M.K, H. H, and M. R, "Information systems success model: a review of literature," *International Journal of Innovation, Creativity and Change*, vol. 12, no. 8, pp. 397–419, 2020.

[24] R. B. Mostafa, "Mobile banking service quality: a new avenue for customer value co-creation," *International Journal of Bank Marketing*, vol. 38, no. 5, pp. 1107–1132, May 2020, doi: 10.1108/IJBM-11-2019-0421.

[25] H. Sofyani, H. A. Riyadh, and H. Fahlevi, "Improving service quality, accountability and transparency of local government: the intervening role of information technology governance," *Cogent Business and Management*, vol. 7, no. 1, pp. 1–20, Jan. 2020, doi: 10.1080/23311975.2020.1735690.

[26] B. Wehner, "Success measurement of social capital in enterprise social networks," *26th European Conference on Information Systems: Beyond Digitization - Facets of Socio-Technical Change, ECIS 2018*, 2018.

[27] E. Ziemba, R. Zelazny, T. Papaj, and M. Jadamus-Hacura, "Factors influencing the success of E-government," *Journal of Computer Information Systems*, vol. 56, no. 2, pp. 156–167, Apr. 2016, doi: 10.1080/08874417.2016.1117378.

[28] N. P. Rana, Y. K. Dwivedi, M. D. Williams, and V. Weerakkody, "Investigating success of an e-government initiative: validation of an integrated IS success model," *Information Systems Frontiers*, vol. 17, no. 1, pp. 127–142, Feb. 2015, doi: 10.1007/s10796-014-9504-7.

[29] H. Khatib, H. Lee, C. Suh, and V. Weerakkody, "e-Government systems success and user acceptance in developing countries: the

role of perceived support quality," *Asia Pacific Journal of Information Systems*, vol. 29, no. 1, pp. 1–34, Mar. 2019, doi: 10.14329/apjis.2019.29.1.1.

[30] J. F. Hair, G. T. M. Hult, C. M. Ringle, M. Sarstedt, N. P. Danks, and S. Ray, *Partial least squares structural equation modeling (PLS-SEM) using R*, vol. 46, no. 1–2. in Classroom Companion: Business, vol. 46. Cham: Springer International Publishing, 2021. doi: 10.1007/978-3-030-80519-7.

[31] A. Suryanto *et al.*, "Study of working from home: the impact of ICT anxiety and smartphone addiction on lecturers at NIPA school of administration on job performance," *Heliyon*, vol. 8, no. 12, pp. 1–13, Dec. 2022, doi: 10.1016/j.heliyon.2022.e11980.

[32] A. Ramtohul and K. M. S. Soyjaudah, "Service-orientation method to realise government e-services in SADC," *Vine*, vol. 43, no. 2, pp. 237–258, May 2013, doi: 10.1108/03055721311329972.

[33] A. Ramtohul and K. M. S. Soyjaudah, "Information security governance for e-services in southern African developing countries e-Government projects," *Journal of Science and Technology Policy Management*, vol. 7, no. 1, pp. 26–42, Mar. 2016, doi: 10.1108/JSTPM-04-2014-0014.

[34] S. A. Gyamfi and P. O. Gyaase, "Virtualization of university education: the impact of ICT-mediated learning environment on students' performance," *International Journal of E-Services and Mobile Applications*, vol. 9, no. 4, pp. 24–40, Oct. 2017, doi: 10.4018/IJESMA.2017100102.

[35] K. V. Elumalai *et al.*, "Factors affecting the quality of e-learning during the COVID-19 pandemic from the perspective of higher education students," *Journal of Information Technology Education: Research*, vol. 19, pp. 731–753, 2019, doi: 10.28945/4628.

[36] M. Gupta and K. Bhatt, "A multidimensional measure of system quality – an empirical study in context of mobile banking apps in India," *International Journal of Business Information Systems*, vol. 38, no. 1, pp. 1–16, 2021, doi: 10.1504/IJBIS.2021.118636.

[37] K. Al-Zu'bi and J. A. Al-Gasawneh, "An integrated model of mobile banking service quality and customers' satisfaction: evidence from Jordanian mobile banking users," *International Journal of Data and Network Science*, vol. 6, no. 4, pp. 1609–1618, 2022, doi: 10.5267/j.ijdns.2022.4.017.

[38] R. Restu and S. Sriadhi, "Lecturer performance and its determining factors in a blended learning system during the COVID-19 pandemic," *TEM Journal*, vol. 11, no. 4, pp. 1680–1686, Nov. 2022, doi: 10.18421/TEM114-32.

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