The 1st Proceeding of The International Conference on Business and Economics
Vol.1, No.1 January-June 2023
e-ISSN: XXXX-XXXX; p-ISSN: XXXX-XXXX, Page 188-203

ANALYSIS OF THE INFLUENCE OF HOSPITAL MANAGEMENT INFORMATION SYSTEM WITH STRUCTURAL EQUATION MODELING APPROACH (Case Study of Regional Hospital RAA Soewondo Pati)

Murti Wisnu Ragil Sastyawan
Industrial Engineering and Management, Diponegoro University, Jl. Prof. Soedarto, SH, Semarang, Central Java, Indonesia.
E-mail: wisnuragil09@gmail.com

Loekas Soesanto
Faculty of Agriculture, Jenderal Soedirman University, Jl. dr. Suparno, Purwokerto, Indonesia

Bambang Purwanggono
Industrial Engineering and Management, Diponegoro University, Jl. Prof. Soedarto, SH, Semarang, Central Java, Indonesia.

Arfan Bakhtiar
Industrial Engineering and Management, Diponegoro University, Jl. Prof. Soedarto, SH, Semarang, Central Java, Indonesia.

Abstract*. The information system is one of the strategic means in patient care-oriented management. So far, Regional Hospital RAA Soewondo Pati has never conducted an evaluation related to the management information system (HMIS), so it is not known that the existing system is effective and efficient to answer patient needs. The purpose of this study was to determine the effect of the hospital management information system with the structural equation modeling method approach. This research is a case study research with data collection method using a questionnaire. The data that has been collected is then analyzed using SEM analysis. The results of his research stated that the quality of the system had a significant positive effect on the use of information systems. There is a significant effect of system quality on user satisfaction. There is a significant positive effect between the quality of information on the intensity of the use of information. In this study, the intensity of the use of information systems does not play a role in increasing user satisfaction in using information systems. User satisfaction has a significant positive effect on net benefits.*

Keywords*: Hospital Management Information System, Information Quality, Service Quality, User Satisfaction, Net Benefits.*

Received on October 7th, 2022; Revised on November 2nd, 2022; December 23nd, 2022
* Murti Wisnu Ragil Sastyawan, wisnuragil09@gmail.com

The 1st Proceeding of The International Conference on Business and Economics
Vol.1, No.1 January-June 2023
e-ISSN: XXXX-XXXX; p-ISSN: XXXX-XXXX, Page 188-203

INTRODUCTION

Hospital is means health which carry out health services individual cover promotive, preventive, curative and rehabilitative services providing inpatient and outpatient services are also critical emergency (Hirshon et al., 2013; Wendimagegn and Bezuidenhout, 2019). Information systems and information technology become a major requirement on all aspects (Bhatnagar et al., 2016). Majority of companies compete for acquire system information which reliable to gain advantage competitive though must pay a large amount (Alghamdi and Bach, 2013: Susanto and Meiryani, 2019). The use of technology information communication has been implemented in various business aspects. Companies or institutions successfully integrating technology with business strategies show a significant increase in profits relevant (Peprah et al., 2017).

Hospital Management Information System (HMIS) is a computer system that handles and combines all process flows health service business in the form of a network of coordination, reporting and administrative procedures in order to obtain information quickly, precisely and accurately (Livinus et al., 2021). Successful system implementation is influenced by a variety of complex factors. Failed system implementations are generally occured because the system is not compatible with the business processes and information needed by the organization (Chen et al. 2009).

The quality of the system and the quality of information are relevant predictors for system user satisfaction (Kumala, 2015; Laumer et al., 2017). Meanwhile, system user satisfaction is also a relevant predictor for the intensity of system use and individual impact (Hou, 2012; Laumer et al., 2017). Hospital management information system (HMIS) that will influence to patient satisfaction directly (Polites and Karahanna, 2012). Destination from evaluation system reduce lost data in system which could cause loss as well as increase control in system for minimize error (Reber et al., 2019).

Based on the above background, this study aimed to determine the effect of the hospital management information system with the structural equation modeling method approach on the user satisfication.

METHOD

This type of this research was case study (Starman, 2013; Takahashi and Araujo, 2020) at RAA Soewondo Pati Hospital. The hospital, based on qualitative data collected on employees and patients, has limitations in service to patients. So far, the hospital has never conducted an evaluation related to the management information system (HMIS). Data collection was carried out by distributing closed questionnaires given to 250 respondents at the hospital (Morgan and Harmon, 2001). The Slovin Method was used to determine the respondent. The data collected was then analyzed using SEM analysis (Yudatama et al., 2019).

RESULTS

1. Validity test

Confirmatory Factor Analysis (CFA) or analysis factor confirmation was used with the help of AMOS software. The CFA test was done by connecting all the constructs or variables in the research model. Then from the correlation results, the loading factor value, the critical ratio (CR) value, and the p value of the output regression weight were obtained (Fig 1). The output value was used as a criterion whether the items used in the study meet the specified validity criteria or not. The expected output value was a loading factor value of more than 0.7, and a p value of less than 0.05 (Table 1).

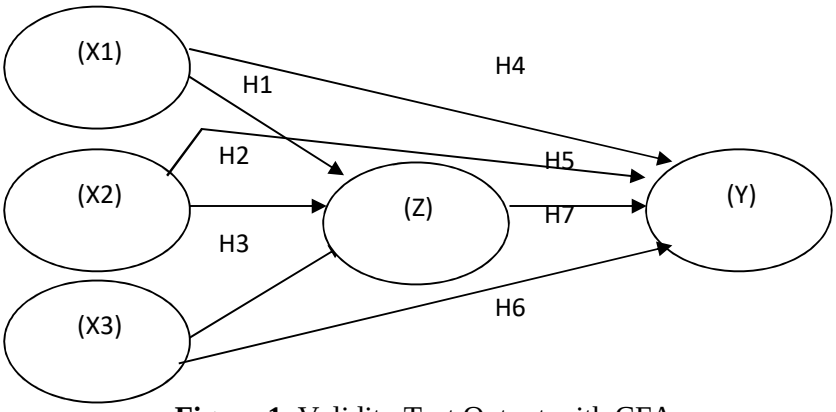

Figure 1. Validity Test Output with CFA

Table 1. Summary of Validity Test with CFA

No	Indicator	Loading Factor	Cut of Value	P-value	Cut of Value	Information
1	KS1	0.756	> 0.70	0.000	< 0.05	Valid
2	KS2	0.759	> 0.70	0.000	< 0.05	Valid
3	KS3	0.787	> 0.70	0.000	< 0.05	Valid
4	KS4	0.759	> 0.70	0.000	< 0.05	Valid
5	KS5	0.796	> 0.70	0.000	< 0.05	Valid
6	KI1	0.775	> 0.70	0.000	< 0.05	Valid
7	KI2	0.787	> 0.70	0.000	< 0.05	Valid
8	KI3	0.828	> 0.70	0.000	< 0.05	Valid
9	KI4	0.777	> 0.70	0.000	< 0.05	Valid
10	KL1	0.780	> 0.70	0.000	< 0.05	Valid
11	KL2	0.791	> 0.70	0.000	< 0.05	Valid
12	Peng1	0.780	> 0.70	0.000	< 0.05	Valid
13	Peng2	0.819	> 0.70	0.000	< 0.05	Valid
14	KP1	0.825	> 0.70	0.000	< 0.05	Valid
15	KP2	0.828	> 0.70	0.000	< 0.05	Valid
16	MB1	0.785	> 0.70	0.000	< 0.05	Valid
17	MB2	0.772	> 0.70	0.000	< 0.05	Valid

Based on Table 1 the loading factor value for all items used is in accordance with the cut of value which is greater than 0.7, also confirmed by the p-value for each the item value is less than alpha 0.05. The item used has measured the variable correctly, or in other words its validity is met.

2. Reliability Test

The method used for reliability testing in this study is the construct reliability method. The basis for calculating construct reliability is the loading factor value generated from the output of Amos analysis, which is then calculated using a formula to calculate construct reliability. Test gain complete reliability is shown in Table 2

Table 2. Summary of Reliability Test with Construct Reliability

No	Variable	*Construct Reliability*	*Cut of Value*	Information
1	System Quality	0.983	0.70	Reliable
2	Information Quality	0.983	0.70	Reliable
3	Service Quality	0.964	0.70	Reliable
4	Use	0.969	0.70	Reliable
5	Usage Satisfaction	0.978	0.70	Reliable
6	Net Benefits	0.961	0.70	Reliable

Based on Table 2, the value of construct reliability produced, namely that each variable value is greater than 0.7, which means that the research instrument has met the required reliability, or in other words, the research instrument has good consistency.

3. Structural Equational Modeling (SEM-AMOS)

a. SEM Assumption Evaluation

1) Data Normality Evaluation

Implementation of the univariate evaluation of the normality of the data through scrutiny of cr value from skewness and the kurtosis of each indicator. If the value of cr is below cut of value ±2.58 so the data is proven b normal distribution. The normality test data are presented in Table 3 below bottom.

Table 3. Normality Test

Indicator	min	Max	skew	cr	kurtosis	cr
MB2	1,000	5,000	-.043	-.276	-.604	-1.951
MB1	2,000	5,000	.158	1.023	-.524	-1.693
Peng2	2,000	5,000	.187	1,207	-.501	-1.616
Peng1	1,000	5,000	-.078	-.500	-.112	-.361
KP1	2,000	5,000	.344	2.223	-.312	-1.006
KP2	2,000	5,000	.299	1,930	-.535	-1,725
KL1	1,000	5,000	.315	2.035	-1.241	-4.006
KL2	2,000	5,000	.476	3.074	-.024	-.077
KI1	1,000	5,000	.131	.843	.442	1.425
KI2	1,000	5,000	.272	1,759	-.057	-.183
KI3	1,000	5,000	.673	4.344	-.464	-1,499
KI4	2,000	5,000	.525	3.391	-.102	-.328
KS1	1,000	5,000	.175	1,128	.029	.093
KS2	1,000	5,000	.324	2.090	-.659	-2.127
KS3	1,000	5,000	.297	1,917	.202	.652
KS4	1,000	5,000	.330	2.128	-.388	-1.254
KS5	2,000	5,000	.234	1.513	-.760	-2.452
Multivariate					-.524	-.163

Based on Table 3, the value of cr kurtosis and skewness for almost all indicators there is no above ±2,58 together degrees the significance is 0.01 (1 %). There is only a value of cr skewness or kurtosis greater than ±2.58, namely the indicators KL1, KL2, KI3 and KI4. Acquisition carries meaning if the majority of the data are univariately normal. Some indicators that are not normal do not really affect the results, so they are still in the tolerable category.

Normality of multivariate data is the same kind of univariate, by paying attention to the value of cr, but overall, the value can be directly seen in the multivariate line of the Amos application output for normality tests. Based on the results of the analysis, the value of cr for multivariate is -0.163, this value is smaller than the specified critical value (2.58), so that the assumption of

multivariate normality has been met. Thus, either univariate or multivariate data normality is met.

2) Outliers Evaluation

a) Univariate outliers

Implementation of univariate outliers on each indicator of the research variable was through the help of the SPSS 20.00 program, the data to be considered i is value Z-score. If found Z score ≥±3.0 so there are outliers in models. The complete univariate outliers are shown in Table 4.

Table 4. Univariate Outlier Test Results

Indicator	Minimum	Maximum	Information
Zscore(KS1)	-2.66255	2.21392	Outlier free
Zscore(KS2)	-2.00422	1.97241	Outlier free
Zscore(KS3)	-2.49060	2.41216	Outlier free
Zscore(KS4)	-2.05510	2.19097	Outlier free
Zscore(KS5)	-1.38494	1.91254	Outlier free
Zscore(KI1)	-2.65433	2.32565	Outlier free
Zscore(KI2)	-2.59482	2.54343	Outlier free
Zscore(KI3)	-1.68153	2.27501	Outlier free
Zscore(KI4)	-1.35032	2.29263	Outlier free
Zscore(KL1)	-1.93165	2.25848	Outlier free
Zscore(KL2)	-1.35395	2.50712	Outlier free
Zscore(Peng1)	-2.67927	2.15696	Outlier free
Zscore(Peng2)	-1.56510	2.06903	Outlier free
Zscore(KP1)	-1.65063	2.04481	Outlier free
Zscore(KP2)	-1.39663	2.13022	Outlier free
Zscore(MB1)	-1.70811	1.89044	Outlier free
Zscore(MB2)	-2.32323	1.71015	Outlier free

Based on Table 4, it can be understood that the Zscore value of all of them was not found above ± 3.0, so the univariate model was declared free from outliers.

b) Multivariate Outliers

Chi-square value is found past how to calculate through excel formula, yes, "CHISQ. INV (probability, deg_freedom)", where found gain calculating excel value X2 (250; 0.01) = 200.939. Summary of multivariate outliers test results can be noticed via Table 5.

Table 5. Multivariate Outlier Test Results

Observation number	Mahalanobis d-squared	p1	p2
217	**38,426**	.002	.416
131	37,237	.003	.184
33	35,365	.006	.164
189	34,889	.006	.079
73	32,015	.015	.321
174	30.025	.026	.640
34	29,661	.029	.586
152	28,518	.039	.767
28	28.203	.043	.741
48	27,991	.045	.692
136	27,961	.045	.585
44	27,587	.050	.599
160	27,421	.052	.545
228	27,181	.055	.524
219	26,961	.059	.501

Based on Table 5, there is no data classified as multivariate outliers. The highest Mahalanobis value is (38.426) which is below the Chi Square value (200.939), so the multivariate data is explained apart from outliers.

b. Evaluation of Goodness Of Fit Index

Obtaining the calculation of the statistical suitability test of the model completely can be noticed via Table 6.

Table 6. Goodness of fi structural equational modeling index

Goodness of fit index	*Cut-of value*	Analysis result	Information
X^2 *- Chi-square*	200.939	126.107	Well
Significance probability	≥0.05	0.100	Well
RMSEA	≤0.08	0.027	Well
GFI	≥0.90	0.942	Well
AGFI	≥0.90	0.918	Well
CMIN/DF	≤2.00	1,179	Well
TLI	≥0.95	0.991	Well
CFI	≥0.95	0.993	Well

Based on Table 6, the model is stated in the fit category, all the goodness of fit index criteria are in the good category, or are in accordance with the recommended cut of value.

c. Hypothesis testing

The following are the results of the SEM analysis in the form of the CR value and the displayed P-value to assess whether the proposed hypothesis is accepted or rejected. The expected value to accept the hypothesis is that the CR is greater than 1.96 and the p-value is less than 0.05. On the other hand, if the CR value is less than 1.96 and the p-value is greater than 0.05, the hypothesis will be rejected. More details can be seen in Figure 2 and Table 7.

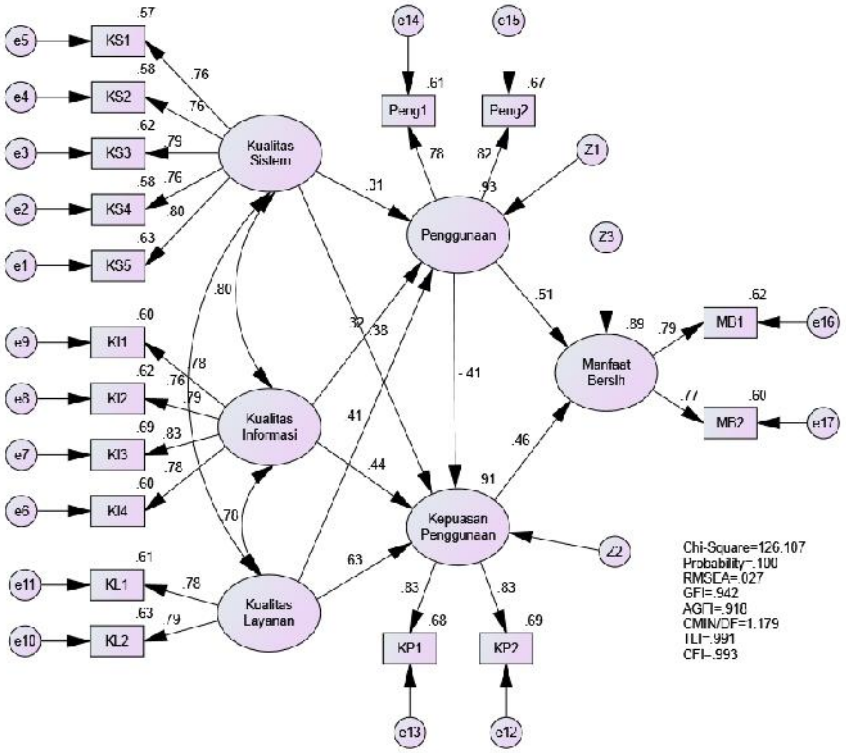

Figure 2. SEM Output for Hypothesis Testing

Table 7. Results of structural equational modeling analysis for hypothesis testing

Hypothesis & Rank	CR	Cut of Value	P-value	Cut of Value	Hypothesis Conclusion
H1: The system quality variable is suspected to have a significant effect on the use (2)	3.308	> 1.96	0.000	< 0.05	**Received**
H2: The system quality variable is suspected to have a significant effect on user satisfaction (8)	2.164	> 1.96	0.030	< 0.05	**Received**
H3: The information quality variable is suspected to have a significant effect on the use (3)	3.068	> 1.96	0.002	< 0.05	**Received**
H4: The information quality variable is suspected to have a significant effect on user satisfaction (6)	2.403	> 1.96	0.016	< 0.05	**Received**
H5: Service quality variable is suspected to have a significant effect on usage (1)	3.805	> 1.96	0.000	< 0.05	**Received**
H6: Service quality variable is suspected to have a significant effect on user satisfaction (7)	2,332	> 1.96	0.020	< 0.05	**Received**
H7: The variable of use is suspected to have a significant effect on user satisfaction (9)	-0.849	> 1.96	0.396	< 0.05	**Rejected**
H8: The variable of use is suspected to have a significant effect on net benefits (4)	2,978	> 1.96	0.003	< 0.05	**Received**
H9: User satisfaction variable is suspected to have a significant effect on net benefits (5)	2,688	> 1.96	0.007	< 0.05	**Received**

Based on Table 7, the CR value of the influence of system quality on usage is 3.308 with a p-value of 0.000. The value of CR and p-value for the system quality variable on the use is in accordance with the specified cut of value, namely CR me more than 1.96 while the p-value is below 0.05. A positive CR value indicates that the quality of the system has a positive effect on usage. Referring to the statistical results, the first hypothesis is accepted.

The CR value of the influence of system quality on user satisfaction is 2.164 with a p-value of 0.030 (Table 7). The CR value and p-value for the system quality variable on user satisfaction are in accordance with the cut of value specified, namely CR exceeding 1.96 while p-value is below 0.05. A positive CR value indicates that the quality of the system has a positive effect on user satisfaction. Referring to the statistical results, the second hypothesis is accepted.

The CR value of the influence of information quality on usage is 3.068 with a p-value of 0.002 (Table 7). The CR value and p-value for the variable quality of information on use are in accordance with the specified cut of value, namely CR me more than 1.96 while the p-value is below 0.05. A positive CR value indicates that the quality of information has a positive effect on usage. Referring to the statistical results, the third hypothesis is accepted.

Based on Table 7, the CR value of the influence of information quality on user satisfaction is 2.403 with a p-value of 0.016. The CR value and p-value for the variable of information quality on user satisfaction are in accordance with the cut of value determined, namely CR exceeds 1.96 while the p-value is below 0.05. A positive CR value indicates that the quality of information has a positive effect on user satisfaction. Referring to the statistical results, the fourth hypothesis is accepted.

The CR value of the effect of service quality on usage is 3.805 with a p-value of 0.000 (Tabel 7). The CR value and p-value for the service quality variable on usage are in accordance with the specified cut of value, namely the CR exceeds 1.96 while the p-value is below 0.05. A positive CR value indicates that service quality has a positive effect on usage. Referring to the statistical results, the fifth hypothesis is accepted.

Based on Table 7, the CR value of the effect of service quality on user satisfaction is 2,332 with a p-value of 0.020. The CR value and p-value for the service quality variable on user satisfaction are in accordance with the specified cut of value, namely the CR exceeds 1.96 while the p-value is below 0.05. A positive CR value indicates that service quality has a positive effect on user satisfaction. Referring to the statistical results, the sixth hypothesis is accepted.

The CR value of the effect of usage on user satisfaction is -0.849 with a p-value of 0.396 (Tabel 7). The CR value and p-value for the variable of use on user satisfaction are not in accordance with the specified cut of value, namely CR exceeds 1.96 while below 0.05. The results show that the use of t k does not have an impact mean on user satisfaction. Referring to the statistical results, the seventh hypothesis is rejected.

Based on Table 7, the CR value of the effect of use on net benefits is 2,978 with a p-value of 0.003. The CR value and p-value for the variable of use of net benefits are in accordance with the specified cut of value, namely CR exceeds 1.96 while p-value is below 0.05. A positive CR value indicates that the use has a positive effect on net benefits. Referring to the statistical results, the eighth hypothesis is accepted.

Based on Table 7, the CR value of the effect of user satisfaction on net benefits is 2,688 with a p-value of 0.007. The value of CR and p-value for the variable of user satisfaction with net benefits is in accordance with the cut of value determined, namely CR exceeds 1.96 while p-value is below 0.05. A positive CR value indicates that user satisfaction has a positive effect on net benefits. Referring to the statistical results, the ninth hypothesis is accepted.

DISCUSSION

a. The effect of system quality on the use of information systems at RAA Soewondo Pati. Hospital

   This study confirms the first hypothesis that system quality has a significant positive effect on the use of information systems. This means that the better the system quality of an information system will increase the intensity of use of the information system itself. According to Trisnawati et al. (2017), that retermining the determinants of information technology acceptance becomes integral to the development of information systems, making significant investments in IT facilities useful and valuable to organizations. The survey results show that respondents' perceptions of the quality of the system at RAA Soewondo Hospital are quite good.

b. Effect of system quality on user satisfaction of information systems at RAA Soewondo Pati. Hospital

   Consistent with the hypothesis which states that there is a significant effect of system quality on user satisfaction, this study provides empirical support that information system user satisfaction in regional hospital RAA Soewondo Pati will increase when the quality of the system presented is getting better. This is in accordance with Kalankesh et al. (2020) that factors influencing user satisfaction with information systems can be categorized in seven dimensions: Information quality, system quality, vendor support quality, system use, perceived usefulness, user

characteristics, and organizational structure & management style. The results of a survey of 250 respondents, the majority gave answers that they quite agree that the quality of the RAA Soewondo Hospital system was good.

c. Effect of information quality on use

This study found a significant positive effect of information quality on the intensity of information use. The results of this study confirm the third hypothesis, that the better quality of the information contained in an information system, the higher the intensity of users in utilizing or using the information system. This is in accordance with the opinion of Laumer et al. (2017), that better guide organizations improve the information quality as an important dimension of IS success.

d. Effect of information quality on user satisfaction

The results of the analysis provide evidence that the quality of information has a significant positive effect on user satisfaction. The results of this study answer and justify hypothesis 4. These results indicate that the better the quality of the information in the information system of Regional Hospital RAA Soewondo, the higher the satisfaction felt by users when using the information system. This is supported by Laumer et al. (2017) and Trisnawati et al. (2017) that the better information quality, the higher the user satisfaction.

e. Effect of service quality on usage

This study supports hypothesis 5 which states that "service quality is thought to have a significant effect on usage". This study provides empirical evidence that improving the quality of services in the information system of Regional Hospital RAA Soewondo will increase the intensity of the use of the information system. The higher personalization of computer self-efficacy as ecternal factor and trust, the easier information system being used by users (Livinus et al., 2021).

f. The influence of service quality on user satisfaction

Based on the results of the analysis, service quality has a significant positive effect on user satisfaction of information systems. This means that the better the quality of services presented in an information system, it will increase user satisfaction in using the information system. Customer satisfaction had a positive and significant effect on the continued use of the products or service. According to Albari (2019), service

quality has the biggest positive influence on customer satisfaction, while product quality contributes highest to loyalty. Thus hypothesis six is supported.

g. Effect of usage on user satisfaction

This study did not find any significant effect of the intensity of the use of information systems on the satisfaction of information system users at RAA Soewondo Pati Hospital. Thus hypothesis seven is not supported. This shows that the high intensity of use an information system is not a guarantee for users to feel satisfaction with the information system. According to Vaezi et al. (2016) that the roots of user satisfaction in IS research as it relates to satisfaction in marketing. Supperted by Kalankesh et al. (2020) that user satisfaction has been considered as the measure of information system effectiveness success.

h. Effect of usage on net benefits

The results of this study are in line with the formulation of the eighth hypothesis which states that the intensity of use has a significant effect on net benefits. Empirical findings in this study indicate that the use has a significant positive effect on net benefits. This means that the increasing frequency of users in using the information system of RAA Soewondo Pati Hospital will make users more aware of the information presented in the information system. The successful of information system more affected by user satisfaction based on the information quality, system quality, service quality, also user satisfaction, and net benefit (Sardjono et al., 2022).

i. Effect of user satisfaction on net benefits

This study succeeded in providing empirical support for hypothesis nine that user satisfaction has a significant positive effect on net benefits. This shows that the higher the satisfaction felt by the users of the RAA Soewondo Pati Hospital information system, the greater the net benefits felt by the users. This is in line with the opinion of Lee and Jeon (2020) that information quality, system quality, and service quality have a positive effect on user satisfaction, and the subsequent user satisfaction has a positive effect on net benefits.

CONCLUSION

The results of the survey of respondents indicating the majority agree that RAA Soewondo Pati Hospital can provide complete data and information according to the needs of respondents and to be appropriate and useful. Respondents agree that RAA Soewondo Pati Hospital provides output information in a timely manner and the information is easily understood. RAA Soewondo Pati Hospital continues to improve the quality of its information system services providing empathy and understanding the needs of respondents. The efforts of Regional Hospital RAA Soewondo Pati in improving the quality of service is to provide information system services, to provide complete and accurate information, and to continue to encourage user satisfaction in using the information system.

REFERENCE

Albari, A.K. (2019). The influence of product quality, service quality and price on customer satisfaction and loyalty. AJEFB-Asian Journal of Entrepreneurship and Family Business III(01), 49-64.

Alghamdi, H. & Bach, C. (2013). Quality US competitive advantage. International Journal of Management & Information Technology 8(1), 1265-1272. DOI: 10.24297/ijmit.v8i1.690.

Bhatnagar, R., Kumar, A. & Gupta, S. (2016). Role of information systems in an university setup – A case study. International Journal of Computer Science and Electronics Engineering (IJCSEE) 4(3), 151-156.

Chen, C.C., Law, C., & Yang, S.C. (2009). Managing ERP implementation failure: A project management perspective. IEEE Transactions on Engineering Management 56(1),157-170. DOI: 10.1109/TEM.2008.2009802.

Hirshon, J.M., Risko, N., Calvello, E.J.B., de Ramirez, S.S., Narayan, M., Theodosis, C., & O'Neill, J. (2013). Health systems and services: The role of acute care. Bull World Health Organ. 91(5), 386–388. DOI: 10.2471/BLT.12.112664.

Hou, J. (2012). Examining the effect of user satisfaction on system usage and individual performance with business intelligence systems: An empirical study of Taiwan's electronics industry. International Journal of Information Management 32(6), 560–573. DOI:10.1016/j.ijinfomgt.2012.03.001.

Kalankesh, L.R., Nasiry, Z., Fein, R.A., & Damanabi, S. (2020). Factors influencing user satisfaction with information systems: A systematic review. Galen Medical Journal 9, 1686. DOI: 10.31661/gmj.v9i0.1686.

Kumala, R.A. (2015). The impact of information quality and system quality on user satisfaction in web-based information system (Study on the Employees of Bank Rakyat Indonesia Malang). Jurnal Administrasi Bisnis (JAB) 2(2), 1-12.

Laumer, S., Maier, C., & Weitzel, T. (2017). Information quality, user satisfaction, and the manifestation of workarounds: A qualitative and quantitative study of enterprise content management system users. European Journal of Information Systems 26(4), 333-360. DOI: 10.1057/s41303-016-0029-7.

Lee, E.-Y. & Jeon, Y.J.J. (2020). The difference of user satisfaction and net benefit of a mobile learning management system according to self-directed learning: An investigation of cyber university students in hospitality. Sustainability 12, 2672. DOI: 10.3390/su12072672.

Livinus, V., Adhikara, M.F.A., & Kusumapradja, R. (2021). Hospital Management Information System Usefulness in The Health Services Industry at Indonesia: Mandatory or Voluntary? Jurnal Medicoeticolegal dan Manajemen Rumah Sakit 10(1), 1-12. DOI:10.18196/jmmr.v10i1.10296.

Morgan, G.A. & Harmon, R.J. (2001). Data collection techniques. Journal of the American Academy of Child and Adolescent Psychiatry 40(8), 973-6. DOI:10.1097/00004583-200108000-00020.

Peprah, W.K., Ocansey, E.O.N.D., & Ask, O.A.K (2017). The influence of culture on global marketing strategies: A confirmatory study. The International Journal of Business & Management 5(10), 150-155.

Polites, G.L. & Karahanna, E. (2012). Shackled to the status quo: The inhibiting effects of incumbent system habit, switching costs, and inertia on new system acceptance. MIS Quarterly 36(1), 21-42. DOI: 10.2307/41410404.

Reber, E., Gomes, F., Vasiloglou, M.F., Schuetz, P., & Stanga, Z. (2019). Nutritional risk screening and assessment. J Clin Med. 8(7), 1065. Doi: 10.3390/jcm8071065.

Sardjono, W., Kristin, D.M., Putra, G.R., Salim, G., & Subiyantoro, S. (2022). Evaluation model of yachters information system implementation success using Delone and McLean to increase organization performance. ICIC Express Letters 16(2), 205-213. DOI: 10.24507/icicel.16.02.205.

Starman, A.B. (2013). The case study as a type of qualitative research. Journal of Contemporary Educational Studies 1, 28–43.

Susanto, A. & Meiryani. (2019). Information system for competitive advantage. International Journal of Scientific & Technology Research 8(01), 151-153.

Takahashi, A.R.W. & Araujo, L. (2020). Case study research: opening up research opportunities. RAUSP Management Journal, 55(1), 100-111. DOI: 10.1108/RAUSP-05-2019-0109.

Trisnawati, N., Baridwan, Z., & Haridadi, B. (2017). Information system quality influence on organization performance: A modification of technology-based information system acceptance and success model. Russian Journal of Agricultural and Socio-Economic Sciences 72(12), 107-114. DOI:10.18551/rjoas.2017-12.13

Vaezi, R., Mills, A., Chin, W.W., & Zafar, H. (2016). User satisfaction research in information systems: historical roots and approaches. Communications of the Association for Information Systems 38, 501-532. DOI:10.17705/1CAIS.03827.

Wendimagegn, N.F. & Bezuidenhout, M.C. (2019). Integrating promotive, preventive, and curative health care services at hospitals and health centers in Addis Ababa, Ethiopia. J Multidiscip Healthc. 12, 243–255. Doi: 10.2147/JMDH.S193370.

Yudatama, U., Hidayanto, A.N., Nazief, B.A.A., & Phusavat, K. (2019). Data to model the effect of awareness on the success of IT Governance implementation: A partial least squares structural equation modeling approach (PLS-SEM). Data Brief. 25, 104333. Doi: 10.1016/j.dib.2019.104333.