EEAJ 12 (1) (2023) 59-68

Economic Education Analysis Journal

SINTA 3 Accredited

https://journal.unnes.ac.id/sju/index.php/eeaj

Effectiveness of Dynamic Archive System (SIKD) in Dynamic Archival Management in Vocational School

Arinta Kusumawardhani✉, Irsyadul Ibad, Chairul Huda Atma Dirgatama, Is Hadri Utomo, Retno Suryawati

DOI: 10.15294/eeaj.v12i1.64879

Administration Management Study Program, Vocational School, Universitas Sebelas Maret, Surakarta, Indonesia

Article History

Received: 11 January 2023
Approved: 20 February 2023
Published: 28 February 2023

Keywords

Dynamic Archive Information System; Effectiveness; E-Office

Abstract

This study aims to measure the level of effectiveness of the Dynamic Archival Information System (SIKD) in managing archives. The data analysis technique used in this research is descriptive qualitative with simple tabulation calculations. Data collection techniques used interviews, literature studies and questionnaires given to 33 respondents using SIKD with 6 dimensions of the Delone and Mclean models namely system quality, information quality, service quality, use, customer satisfaction and added benefits. The results showed that the dynamic archive information system (SIKD) implemented in the School of Vocation of Universitas Sebelas Maret has been good and effective to help manage the dynamic archive. The lowest score of 2.85 is obtained in service quality dimension, because there are some types of users that can use. The 90% respondents constituting 27 letter recorders highly affect the response based on the feedback given by Structural Official user type. An in-depth interview indicates that the constraint found related to the slow response is due to human resource or the preoccupation of structural officials. Meanwhile, the overall results of the calculations show that SIKD is effective in managing official scripts in vocational schools.

How to Cite

Kusumawardhani, et.al.. (2023). Effectiveness of Dynamic Archive System (SIKD) in Dynamic Archival Management in Vocational School. *Economic Education Analysis Journal*, 12 (1), 59-68.

© 2023 Universitas Negeri Semarang

✉ Correspondance Address:
Jl. Ir. Sutami 36A Kentingan, Jebres, Surakarta - Indonesia, 57126
Email: arintakusumawardhani@staff.uns.ac.id

p-ISSN 2252-6544
e-ISSN 2502-356X

INTRODUCTION

An institution or an organization, in implementing its programs and activities, is directed to keep achieving the specified goal and objective effectively. One of important factors affecting the achievement of organizational objective is orderliness and smooth office administration. Office administration is the activity of organizing offices to assist organizational leaders in making decisions and achieving organizational goals through administrative services (Nasution, 2016). The important objective of office administration is, among others, to provide data and information completely to those needing for the implementation of organizational task effectively and efficiently.

In industrial revolution era 4.0, people are getting more aware of the importance of data and information as the valuable organizational resource. It is because of at least two reasons. Firstly, the organizational activities are getting more complex than before. Secondly, the factor encouraging the attention to information is the more advanced information technology. It makes the information processing easier, quicker, and more appropriate. This development makes information the resource needing precise management.

Organizations are obliged to develop and utilize advances in information technology to improve management capabilities and distribute information to the public to support the implementation of good governance (Syairozi et al., 2021; Too & Weaver, 2014; Wu et al., 2015). It, of course, conforms to the characteristics of university in realizing its vision, mission, goal, and objective, to provide good service to its service users. Therefore, information management in university should be implemented absolutely.

Records management is a form of administrative work in the form of systematically compiling documents, archives are very influential in all activities related to the management of all fields contained in an office (Mahama, 2017; Pancaningsih, 2016; Pho & Tambo, 2014). A reliable, systematic, intact, and comprehensive archive management that is compatible to norm, standard, procedure, and criterion is one of aspects that should be met by an organization. In the context of university as public organization, archive is closely related to the official letter. The official letter is the management of written information including the organization of official letter (script) type, format, preparation, security, legalization, distribution, and storage, and media used in official affairs, while the official script is written information serving as an official communication instrument made and/or issued by the authorized officers in university environment.

Overall, the official letters in National Archive Regulation No.7 of 2018 about the Official Letter consists of: a. Official Direction composed of: (1) Official Regulation (regulation, guideline, instruction, standard operating procedure, circular); (2) Ministerial Decision; (3) Letter of Assignment; b. Official Correspondences consisting of: (1) Internal Memo; (2) Disposition; (3) Memo; (4) Entrustment Letter; (5) Invitation; c. Special Letter consisting of: (1) Memorandum of Understanding (MoU); (2) Treaty (National and International Treaties); (3) Power of attorney; (4) Authorization Letter; (5) Recommendation Letter; (6) Record; (7) Covering Letter; (8) Statement; (9) Announcement; (10) Minutes of Meeting; d. Report, and e. Staff Review. The official letters are used by each of work unit in Universitas Sebelas Maret environment. The problems found in the management of official letters are related to the delayed letter delivery, the error in directing the letter to the addressed work unit according to the purpose of letter, and the leakage of information contained in the letter.

Considering this, Universitas Sebelas Maret considers the need for the implementation of e-government through a strategy of reinforcing ICT-based archive system. Therefore, UNS has launched e-Office application, entitled Dynamic Archive Information System (Indonesian: "Sistem Informasi Kearsipan Dinamis", thereafter called SIKD) of

UNS on September 25, 2018. This application is designed by Republic of Indonesia's National Archive, developed by UNS named "E-Office Sistem Informasi Kearsipan Dinamis" (SIKD) UNS, an application used to manage dynamic archives and correspondences in the attempt of supporting management process business in Universitas Sebelas Maret (Sebelas Maret University). Through this Office SIKD UNS, users can manage incoming mail, outgoing mail, e-disposition (online disposition), letter bundling, and etc, related to the electronic letter management process in Universitas Sebelas Maret more effectively and efficiently, according to the archiving convention and norm.

Information technology continues to develop every year and when it is implemented in organizations, information systems can cause problems. In some cases, an information system implementation that is not carried out properly is likely to result in user failure and then disrupt the performance of the organization (Pratomo et al., 2021). An evaluation has never been conducted so far on the successful SIKD use. Thus, whether or not this system has been effective and efficient to address the need of work unit in Universitas Sebelas Maret environment has not been known yet.

Evaluation needs to be managed, so that it can be seen whether the system is successful enough from the user's point of view or whether the system needs to be improved to perform better, this is necessary to fulfill the desired benefits (Amalina & Suryani, 2022). One of work units having used SKID is Vocational School, in which this new faculty holds 24 study programs or departments geographically distributed in two locations: Kentingan and Tirtomoyo. This SIKD application use will, of course, help communication between work units in Vocational School recalling their distant locations. For that reason, this study is conducted to measure the effectiveness of SIKD use in managing the official letters.

To measure such effectiveness, DeLone and McLean's information system success measurement model is used in this study. This model is selected because it is considered as capable of explaining the evaluation of system from the user aspect, user satisfaction (Jeyaraj, 2020). The Delone and McLean model has been widely used for testing several technologies in various fields of study, including digital library system (Alzahrani et al., 2019), e-government (Neil & Ocholla, 2013), banking system contexts (Jaafreh, 2017), state owned enterprise (Amalina & Suryani, 2022) and e- learning contexts (Sabeh et al., 2021). The result of evaluation is expectedly usable to be the guidance to improve or to optimize the function of SIKD. The aim of this research to measure the level of effectiveness of the Dynamic Archival Information System (SIKD) Universitas Sebelas Maret in managing archives.

METHODS

This type of research is descriptive analytic research with a qualitative approach with the aim of obtaining a picture or description of an actual situation (Cahyani et al., 2020). This selection of research design is inseparable from the objective of research, to measure the effectiveness of SIKD use in the management of official letters by presenting figures and analysis using statistics. This research took place in the School of Vocation, Universitas Sebelas Maret in June-August 2021.

Table 1. Number of Employees in the School of Vocation of UNS

No	Types of SIKD Users	Quantity
1	Structural Official	3
2	Secretary/ Administrative Officer	2
3	Letter Recorder	27
4	Letter Organizer	1
	Total	33 employees

Source: UPT Kearsipan UNS, 2019

The population of research consisted of all employees of the School of Vocation of Universitas Sebelas Maret. They included 33 employees classified by types of SIKD users, as shown in Table 1.

Because in this case all employees of the School of Vocation of UNS are SIKD users, the respondents know the condition of official letter management in the School of Vocation of Universitas Sebelas Maret. Meanwhile, the techniques of collecting data used were questionnaire, interview, and documentation study. The questionnaire instrument used contains one variable using Delone & McLean (2003) theory on criteria and indicators of effectiveness. The instrument measurement scale used was Likert scale.

Likert scale is used to measure respondents' opinion, argument, and perception on the variables studied. Through the scale, the variable used will be elaborated into variable indicator, and then the indicator is used to underlie the arrangement of instrument items into statement form. The answer to each of instrument items has some value levels, from very positive to very negative or vice versa, and for qualitative analysis purpose, the answers to each instrument item are scored as follows in Table 2.

Table 2. Score of Questionnaire Instrument Items

Score	Information	Answer
5	Strongly Agree	SA
4	Agree	A
3	Neutral	N
2	Disagree	D
1	Strongly Disagree	SD

Source: Sugiyono, 2012

Table 3. Outline of Instrument

Variable	Indicator and Criteria of Effectiveness	Sub Indicator	Statement Item
Criteria and indicator of the information system effectiveness according to DeLone and McLean (2003)	Quality of System	Ease of use Flexibility Reliability Response time Security	1,2,3,4,5
	Quality of information	Information availability/completeness (Completeness) Ease of understanding Information presentation (format) Need relevance (relevance) Information accuracy (accurate)	6,7,8,9,10
	Service Quality	System assurance (assurance) Empathy Responsiveness	11,12,13
	Used	Frequency of use Nature of use	14,15
	Customer satisfaction	Efficiency Effectiveness Overall satisfaction	16,17,18
	Added value	Productivity performance improvement	19,20,21

Source: DeLone &McLean, 2003

The outline of research instruments used to measure the effectiveness of Dynamic Archive Information System (SIKD) in managing the official archive letter in the School of Vocation of Universitas Sebelas Maret is presented in the Table 3.

Technique of analyzing data used is statistic descriptive one, in which this statistic is the one used to analyze data collected just the way they are, without drawing a generalized conclusion. In this research, the author prepares a simple tabulation, and the data obtained were processed into percentage using the following formula:

$$P = fi/(\sum fi) \times 100\ \%$$

Where:

P = Proportion of respondents that choose certain category.

$f\imath$ = Number of respondents that choose certain category.

$\sum fi$ = Number of respondents

Then, the score of respondents' answer to the question given is weighted with the following formula:

$$x = (\sum fi.wi)/(\sum fi)$$

Where:

x = weighted average

fi = frequency

wi = weight

Thereafter, the scoring scale interval is used to decide the position of respondents' response using score of each variable. Next, the scale interval is calculated using the following formula:

$$Rs = (R\ (bobot))/M$$

Where:

R (weight) = Largest Weight-Smallest Weight

M = Number of weight categories

Likert scale interval used in this research is 1 to 5; therefore, the scoring scale interval obtained is:

$$Rs = (5 - 1)/5 = 0{,}8$$

Thus, the position of decision is:

Where:

STE = Very ineffective (scale 1.00 – 1.79)

TE = Ineffective (scale 1.80 – 2.59)

CE = Fairly effective (scale 2.60 – 3.39)

E = Effective (scale 3.40 – 4.19)

SE = Very Effective (scale 4.20 – 5.00)

Each of instruments used will be analyzed separately using average score method to find out the effectiveness of each instrument, and then the mean score will be put onto the scale interval of decision position ranging from very ineffective to very effective.

RESULTS AND DISCUSSION

Considering the analysis on the effectiveness of dynamic archive system in the School of Vocation of Universitas Sebelas Maret, score of 3.78 (effective) is obtained in system quality dimension. The users perceive well the ease of use, meaning that the application system has high quality in satisfying the users through the ease in using it affecting the users in doing the task of managing official letter. Response time (access speed) provided by the application system is good, meaning that the application has had optimum speed in improving the user satisfaction in doing the official letter managing process. The users perceive well the reliability of application, meaning that the application has good resistance to damage or error.

Good perception is also given by the users to flexibility, meaning that users assume that the application system has good ability of making some changes related to the official letter managing process. The application system has good security as well, meaning that the data is stored securely by the application system and confidentiality is secured. According to Kim and Lee in Salim et al. (2021) system quality such as stability, accessibility, response speed, and reliability affect user satis-

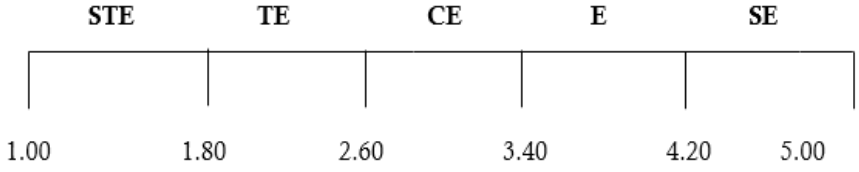

Table 4. System Quality

No	System Quality	Mean Score
1	SIKD application is user friendly	3.61
2	SIKD application facilitates the users to select the type of official letter.	4.00
3	SIKD application runs smoothly	4.30
4	SIKD application can be accessed quickly	3.00
5	SIKD application has a protected database security	4.00
	Mean	3.78

Source: Processed primary data, 2022

Table 5. Information Quality

No	Information Quality	Mean Score
1	Information provided by SIKD application has been completed	4.21
2	Information of provided by SIKD is understandable	4.00
3	The format of information on official letter in SIKD application Has been compatible to the arrangement of letters	3.78
4	Features provided by SIKD application can be adjusted with the users' need	4.18
5	Information on the official letters in SIKD application reflects its purpose clearly	3.12
	Mean	3.85

Source: Processed primary data, 2022

faction in using information systems. Vocational school employees will achieve satisfaction as SIKD users to improve their performance. SIKD must meet several criteria, namely the quality of the system that is easy to use, the speed of response, flexibility, and system security that avoids illegal things.

The quality of information produced by a system can be used as a standard measure of user satisfaction in information systems. If information system users believe that the information generated from the system is optimal, they will be satisfied using the system (Pawirosumarto, 2016). The result of descriptive analysis shows that information quality scores 3.85 (effective). The users have good perception on compatibility, meaning that the information provided has reflected the actual condition. The users perceive well the information available, meaning that the users can acquire information related to the official letters whenever it is needed.

Good perception is also given by the users on the need relevance, meaning that the display of information produced by the dynamic archive information of the School of Vocation of Universitas Sebelas Maret has been as needed. The users also perceive well the completeness of information provided, meaning that all displays of information produced by the application system have been completed as needed. The users perceive well the quality of information because the completeness of information display has been compatible.

Service quality, as suggested by Parasuraman (2000) builds on the comparison between what should be offered with what is provided. In the service quality dimension,

there is score of 3.70 belonging to effective category, indicating that the users can perceive the system assurance corresponding to the standard of letter management procedure, the dynamic archive information system application in the Vocational School of UNS has also given the users the comfort when they implement the process of managing the official letters. In the service quality dimension, the result belongs to "fairly effective" scale with score of 2.85 in responsiveness item.

The result of in-depth interview with the users indicates that it is because of the human resource factor within it. When the user types of administrative staff, letter recorder, and letter organizer apply for the official letter management to the Structural Official users, they (structural official users) are not responsive in giving feedback through SIKD application. Although SIKD access has been given to Structural Officials in the form of mobile/ android application, their preoccupation with job still inhibits their responsive performance. Considering the use dimension scoring 3.90 belonging to effective category, it can be seen that the users have been accustomed with (nature of use) and have used SIKD frequently (frequency of use) as the means of arranging, applying for, and managing the official letters to facilitate their job.

Table 6. Service Quality

No	Service Quality	Mean Score
1	SIKD application service has been consistent with the standard operating procedure of letter management	3.96
2	SIKD application service provides comfortable management of official letter	3.81
3	SIKD application service facilitates the users to get fast feedback	2.85
	Mean	3.54

Source: Processed primary data, 2022

Table 7. Use

No	Use	Mean Score
1	I often used SID application	3.39
2	I have been accustomed with using SIKD application	4.42
	Mean	3.90

Source: Processed primary data, 2022

Table 8. User Satisfaction

No	User Satisfaction	Mean Score
1	I think SIKD application makes the working process more efficient	3.87
2	I think SIKD application makes the working process more effective	3.78
3	Overall, I feel satisfied with using SIKD application	4.03
	Mean	3.89

Source: Processed primary data, 2022

Table 9. Added Value

No	Added Value	Mean Score
1	Using SIKD application, my knowledge and ability related to the official letter improve	3.39
2	Using SIKD application, I can complete my job timely	4.06
	Mean	3.72

Source: Processed primary data, 2022

The customer satisfaction dimension scores 3.89 (effective), meaning that the users perceive that SID application provides efficiency and effectiveness in their working process; for that reason, the users feel overall satisfaction in using the dynamic archive system application. Several previous studies have found that there is a strong relationship between user satisfaction and perceived information system use. User satisfaction refers to the successful relationship between the information system and its users (Gorla & Somers, 2014; Rana et al., 2015; Zahari et al., 2017). A good system is viewed not only from its sophistication but also from the acceptance and the perception of users who feel satisfied with the information system provided.

The added value dimension scores 3.72 (effective), meaning that having the users utilized the dynamic archive information system (SIKD), their archive managing ability will improve and so will their work productivity. Briggs (2003); Dwivedi et al. (2015) say that to the users a successful information system will improve the individual's performance, while to structural users the cost reduction is an important point in a successful information system. Considering the result of research, the dynamic archive information system implemented in the School of Vocation of Universitas Sebelas Maret has effectively helped the users manage the official letters or dynamic archives based on 6 (six) dimensions: system quality, information quality, service quality, use, customer satisfaction, and added value.

CONCLUSION

Based on the result of research, it can be seen that the dynamic archive information system (SIKD) implemented in the School of Vocation of Universitas Sebelas Maret has been good and effective to help manage the dynamic archive. The lowest score of 2.85 is obtained in service quality dimension with responsiveness item. It is because there are some types of users that can use SIKD in the School of Vocation of Universitas Sebelas Maret. The 90% respondents constituting 27 letter recorders highly affect the response based on the feedback given by Structural Official user type. An in-depth interview with the Structural Official user type indicates that the constraint found related to the slow response is due to human resource or the preoccupation of Structural Officials.

The recommendations from the results of this study are that a more in-depth study is needed in further research regarding other factors that can affect the effectiveness of the dynamic archival information system (SIKD) at the Vocational School of Universitas Sebelas Maret using a quantitative approach. Recommendations for university must also always develop existing information systems so that services to users can be maximized.

REFERENCES

Alzahrani, A. I., Mahmud, I., Ramayah, T., Alfaraj, O., & Alalwan, N. (2019). Modelling digital library success using the DeLone

and McLean information system success model. *Journal of Librarianship and Information Science,* 51(2), 291–306. https://doi.org/10.1177/0961000617726123

Amalina, D., & Suryani, E. (2022). Evaluating the Success of E-Invoice Implementation at a State-Owned Enterprise Using DeLone & McLean IS Success Model. *IPTEK Journal of Proceedings Series,* 0(1), 388. https://doi.org/10.12962/j23546026.y2020i1.11937

Briggs, R.O. (2003). Information Systems Success. *Journal of Management Information Systems,* 19(4), 5–8. https://doi.org/10.1080/07421222.2003.11045744

Cahyani, A. P. P., Hakam, F., & Nurbaya, F. (2020). Evaluasi Penerapan Sistem Informasi Manajemen Puskesmas (Simpus) Dengan Metode Hot-Fit Di Puskesmas Gatak. *Jurnal Manajemen Informasi dan Administrasi Kesehatan (JMIAK)*, 3(2). https://doi.org/10.32585/jmiak.v3i2.1003

Delone, W. H., & McLean, E. R. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems*, 19(4), 9–30. https://doi.org/10.1080/07421222.2003.11045748

Dwivedi, Y. K., Wastell, D., Laumer, S., Henriksen, H. Z., Myers, M. D., Bunker, D., ... & Srivastava, S. C. (2015). Research on information systems failures and successes: Status update and future directions. *Information systems frontiers*, 17, 143-157.

Gorla, N., & Somers, T. M. (2014). The impact of IT outsourcing on information systems success. *Information & management,* 51(3), 320-335.

Jaafreh, D. A. B. (2017). *Evaluation Information System Success: Applied DeLone and McLean Information System Success Model in Context Banking System in KSA*. I R, 6.

Jeyaraj, A. (2020). DeLone & McLean models of information system success: Critical meta-review and research directions. *International Journal of Information Management,* 54, 102139. https://doi.org/10.1016/j.ijinfomgt.2020.102139

Mahama, A. (2017). Challenges of records management in higher education in Ghana: The case of University for Development Studies. *International Journal of Educational Policy Research and Review,* 4(3), 29-41.

Nasution, F. H. (2016). *Peran Administrasi Perkantoran Dalam Dunia Bisnis.*

Neil, E., & Ocholla, D. N. (2013). P*roceedings of 13th annual IS conference: Empowering and inspiring current information studies worldwide.* Department of Information Studies, University of Zululand.

Parasuraman, A. (2000). Technology Readiness Index (Tri): A Multiple-Item Scale to Measure Readiness to Embrace New Technologies. *Journal of Service Research*, 2(4), 307–320. https://doi.org/10.1177/109467050024001

Pawirosumarto, S. (2016). Pengaruh Kualitas Sistem, Kualitas Informasi, Dan Kualitas Layanan Terhadap Kepuasan Pengguna Sistem E-Learning. 3.

Pho, H. T., & Tambo, T. (2014). Integrated management systems and workflow-based electronic document management: An empirical study. *Journal of Industrial Engineering and Management (JIEM),* 7(1), 194-217.

Pratomo, A. H., Agusdin, R. P., Prian, S., & Cahyana, N. H. (2021). Implementation Delone & Mclean Is Success Model for Research and Community Service Management Information System Evaluation. 7(2).

Rana, N. P., Dwivedi, Y. K., Williams, M. D., & Weerakkody, V. (2015). Investigating success of an e-government initiative: Validation of an integrated IS success model. *Information systems frontiers,* 17, 127-142.

Sabeh, H. N., Husin, M. H., Kee, D. M. H., Baharudin, A. S., & Abdullah, R. (2021). A Systematic Review of the DeLone and McLean Model of Information Systems Success in an E-Learning Context (2010–2020). *IEEE Access*, 9, 81210–81235. https://doi.org/10.1109/ACCESS.2021.3084815

Salim, M., Alfansi, L., Anggarawati, S., Saputra, F. E., & Afandy, C. (2021). The role of perceived usefulness in moderating the relationship between the DeLone and McLean model and user satisfaction. *Uncertain Supply Chain Management,* 9(3), 755–766. https://doi.org/10.5267/j.uscm.2021.4.002

Sugiyono. 2012. *Metode Penelitian Kuantitatif Kualitatif dan R&D.* Bandung: Alfabeta.

Too, E. G., & Weaver, P. (2014). The management of project management: A conceptual framework for project governance. *International journal of project management,* 32(8), 1382-1394.

Syairozi, M. I., Pambudy, A. P., & Yaskun, M. (2021). Analisis Penerapan Good Governance Alam Sistem Informasi Keuangan Daerah.

Wu, S. P. J., Straub, D. W., & Liang, T. P. (2015). How information technology governance mechanisms and strategic alignment influence organizational performance. *MIS quarterly*, 39(2), 497-518.

Zahari, A. S. M., Harun, M. A., & Baniamin, R. M. R. (2017). User Satisfaction on Human Resource Management Information System (HRMIS): A Case Study at Terengganu Police Contingent, Malaysia.