



## Digital Library in Education Administration Management

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### ABSTRAK

Perpustakaan digital menjadi solusi atas kelemahan perpustakaan konvensional, karena karakteristik koleksinya berbentuk digital sehingga memberikan kemudahan bagi pengguna dalam hal akses yang dapat dilakukan dimana saja dan kapan saja. Perpustakaan digital saat ini mengalami perkembangan yang cukup baik. Penerapannya juga ditemukan di berbagai perpustakaan, salah satunya perpustakaan sekolah, baik di SMP maupun SMA. Penelitian ini bertujuan untuk menganalisis efektifitas digital library dalam pengelolaan administrasi pendidikan di sekolah menengah atas ditinjau dari aspek context, input, process, dan product. Penelitian ini merupakan penelitian evaluasi dengan pendekatan kuantitatif. Populasi dalam penelitian ini yaitu tenaga kependidikan. Teknik sampling dilakukan secara random. Data dikumpulkan dengan mempergunakan kuesioner, dokumentasi dan wawancara. Adapun langkah-langkah analisis data adalah sebagai berikut; 1) Mengubah skor mentah kedalam skor Z (z-skor), 2) Mengubah skor masing-masing variabel CIPP menjadi T-Skor, 3) Menentukan arah T-Skor variabel Context, Input, Process dan Product, 4) menentukan arah T-skor ke kuadran Glickman. Hasil yang diperoleh secara keseluruhan evaluasi variabel context, input, process, dan product pada penggunaan digital library, ditemukan bahwa efektivitas penggunaan digital library tergolong efektif. Kendala yang dihadapi perpustakaan digital dalam mengelola administrasi pendidikan di sekolah menengah atas adalah belum adanya landasan hukum yang jelas, visi, misi, tujuan, dan juga pengelola perpustakaan digital tidak memiliki kualifikasi akademik sesuai dengan bidangnya.

### ABSTRACT

Digital libraries are a solution to the weaknesses of conventional libraries, because the characteristics of their collections are in digital form so as to provide convenience for users in terms of access that can be done anywhere and anytime. Digital libraries are currently experiencing a fairly good development. Its application is also found in various libraries, one of which is school libraries, both in junior and senior high schools. This study aims to analyze the effectiveness of digital libraries in the management of education administration in high school in terms of context, input, process, and product aspects. This research is an evaluation research with a quantitative approach. The population in this study is education staff. The sampling technique is done randomly. Data were collected using questionnaires, documentation and interviews. The steps for data analysis are as follows; 1) Change the raw score into a Z score (z-score), 2) Change the score of each CIPP variable into a T-Score, 3) Determine the direction of the T-Score for the Context, Input, Process and Product variables, 4) determine the direction of the T-Score score to the Glickman quadrant. The results obtained from the overall evaluation of the context, input, process, and product variables on the use of digital libraries, it was found that the effectiveness of using digital libraries was quite effective. The obstacles faced by digital libraries in managing education administration in high schools are the absence of a clear legal basis, vision, mission, goals, and also that digital library managers do not have academic qualifications according to their fields.

## 1. INTRODUCTION

The library is a work unit that develops duties and functions that are very noble as well as strategic, economical and democratic in an effort to educate the nation's life as stated in the preamble to the 1945

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Constitution (Eighmy-Brown et al., 2017; Fox & Marchionini, 1998). In the mandate of the Act, the library as a place for lifelong learning develops potential Public. Then it was also explained that as an effort to advance national culture, in an effort to increase the intelligence of the nation's life, it is necessary to cultivate a culture of reading pleasure through the development and preservation of libraries as a source of information in the form of written works, printed works, and or recorded works (Jeng, 2005; Liu et al., 2012; Park et al., 2009). Based on the Law of the Republic of Indonesia number 20 of 2003 concerning the National Education System, Article 1 paragraph 1 states that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, nation and state (Fahmi, 2002; Riyanto et al., 2019). So, to create a learning atmosphere and the learning process that runs optimally, adequate supporting facilities are needed. The relevant and significant means in realizing the said condition is the library.

Libraries are very strategically presented in supporting learning because they are one source of learning that can be utilized by both educators and students. Libraries in the context of the era of globalization and information are needed as an effort to trigger student competence in various fields of competence. Libraries have a very strategic role and function in supporting education and learning in schools (Ashiq et al., 2022; Chisita et al., 2022). Libraries help the students to do independent learning (Butson et al., 2020; Lotfy et al., 2022). The library does not only function as a place to borrow books, but can be developed into a modern learning house (Cox, 2019; Einarsson & Hertzum, 2020). The library as a modern learning house functions as a source of information, education, and research as well as a place for book collections (Avando Bastari et al., 2021; Wijayanti et al., 2019). However, behind its strategic role and function, the library has several weaknesses, namely: (1) a large collection of books that require a large space, (2) there are many possibilities for books to be lost because the borrower does not return the book, the borrower loses the book, and destroys the book, (3) the book is damaged because it has been a long time (cover is off, some pages are missing and torn).

In addition, technological developments from time to time are increasingly sophisticated, as well as advances in information technology are also increasingly significant and completely virtual, causing information to explode and scatter. The development of the internet, which is followed by the availability of increasingly diverse digital resources, has created people's behavior, expectations and perceptions of information and knowledge (Aharony, 2014; Beer & Mulder, 2020; Miniawi & Brenjeky, 2015; Woessner et al., 2021). User information needs are also increasingly widespread and diverse, this requires fast and accurate access to information retrieval. The internet offers a wide and varied information network and can be accessed easily, so that information can be obtained quickly. This is also a drawback of conventional libraries. In this regard, library management must get attention as the times change and technology develops. Especially during the current pandemic, where since the spread of Coronas Virus Disease 2019 (COVID-19) has provided its own challenges for educational institutions (Jena, 2020; Onyema et al., 2020; Pelikan et al., 2021). In accordance with (Regulation, 2020) regarding the implementation of education policies during the emergency period of the spread of COVID-19, it is recommended to carry out the learning process from home through online learning (Alchamdani et al., 2020; Selvaraj et al., 2021). Automatically the library function will be not optimal and no one will visit the library.

To overcome these problems, librarians intelligently think about evolving for the sake of improving library services and library progress, so digital libraries are created. Digital library is a solution to the weakness of conventional libraries, because the characteristics of the collection are in digital form so as to provide convenience for users in terms of access that can be done anywhere and anytime (Ashiq et al., 2022; Chisita et al., 2022; Soyemi et al., 2018). Digital libraries are currently experiencing a fairly good development. Its application is also found in various libraries, one of which is the school library, both in junior and senior high schools (Fahmi, 2002; Liu et al., 2012; Park et al., 2009). School libraries are now increasingly aggressive in their evolution to the form of digital libraries. The school's digital library is now not just a mere concept, but has begun to be realized. This is marked by the increasing number of naming digital libraries in school libraries.

Based on initial observations, SMA Negeri 2 Tejakula, Buleleng Regency, has started using a digital library. At SMA Negeri 2 Tejakula, they have started using digital libraries since the 2020/2021 school year. The use of digital libraries is motivated by the current pandemic situation which requires the learning process from home, because of this the principal took swift action by starting to use digital libraries to support learning references, with this digital library it is hoped that it will make it easier for students to find references for study books. However, behind the convenience offered, digital library is constrained by several things, namely: (1) the collection of books in the digital library is still limited, (2) books that have been borrowed cannot be read by other students, so students have to queue to read books that have been borrowed, especially if the collection is there are only a few books, and (3) the lack of competence of human

resources who manage IT so that the digital library is not fully optimal, (4) the internet network is bad/difficult to signal slow access to the digital library for students whose houses are still in rural villages, (5) digital applications libraries that have expired usage limits cause the collection of books in the application to be lost, so library managers must be smart in choosing effective and efficient applications, and (6) funding for digital libraries is still minimal.

Research on digital libraries has recently been carried out, including evaluating the characteristics of digital libraries in UNIMED digital libraries (Syahdatul, 2019), evaluation of the service quality of the ijateng digital library using the digiqua method (Octaviani & Dewi, 2019) and evaluation of the service quality of the ijateng digital library using the digiqua method (Masrek, M. N., & Gaskin, 2016). In this study, the author tries to evaluate the influence of digital libraries in the management of education administration at SMA Negeri 2 Tejakula, Buleleng Regency using the CIPP model. The CIPP model consists of 4 evaluation components according to the name of the model itself which stands for Context, Input, Process, Product (Agung & Koyan, 2016). Based on this explanation, the researcher are interested in conduct research with aims to analyze the effectiveness of digital libraries in the management of education administration in high school in terms of context, input, process, and product aspects.

## 2. METHOD

This research is an evaluation research with a quantitative approach. The location of this research is SMA Negeri 2 Tejakula. The population in this study is education staff at SMA Negeri 2 Tejakula. The sampling technique is done randomly. Data were collected using questionnaires, documentation and interviews. The steps for data analysis are as follows; 1) Change the raw score into a Z score (z-score), 2) Change the score of each CIPP variable into a T-Score, 3) Determine the direction of the T-Score for the Cotext, Input, Process and Product variables, 4) determine the direction of the T-Score score to the Glickman quadrant.

The data on the results of the context variables, the results of the input variables, the results of the process variables, and the results of the product variables were obtained from giving questionnaires to teachers at SMA Negeri 2 Tejakula. Questionnaires were given after observations were made at school. In addition to giving questionnaires, to support the data from the questionnaires, interviews were also conducted. The interview subjects were: the principal, and the head of curriculum affairs.

In analyzing data regarding the evaluation of the use of digital libraries in SMA Negeri in Buleleng Regency, he wanted to answer five problems, namely: (1) analyzing the effectiveness of digital libraries in the management of education administration at SMA Negeri 2 Tejakula in terms of context, (2) analyzing the effectiveness of digital libraries in management of education administration at SMA Negeri 2 Tejakula in terms of input, (3) analyzing the effectiveness of digital libraries in the management of education administration at SMA Negeri 2 Tejakula in terms of process, (4) analyzing the effectiveness of digital libraries in managing education administration at SMA Negeri 2 Tejakula in terms of the product, (5) analyzing the results of the joint evaluation of the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula in terms of context, input, process, product. (6) to find out the obstacles in the use of digital libraries in the management of education administration at SMA Negeri 2 Tejakula.

## 3. RESULT AND DISCUSSION

### Result

To facilitate the description of each variable, a summary of descriptive statistics is presented as shown in Table 1.

**Table 1. Summary of Context, Input, Process and Product Variable Statistics**

Variable Statistic	Context	Input	Proses	Product
Mean	33.120	43.600	53.720	22.080
Median	32.000	44.000	55.000	22.000
Mode	32.0	44.0	56.0	22.0
Standard Deviation	1.8330	2.7538	3.2599	.9967
Varian	3.360	7.583	10.627	.993
Range	8.0	16.0	12.0	5.0
Minimum Score	32.0	35.0	46.0	20.0
Maximum Score	40.0	51.0	58.0	25.0
Total	828.0	1090.0	1343.0	552.0

Then to answering the first problem, it can be verified from the results of data analysis calculations. After the raw data context variables are transformed into T-Scores can be summarized in [Table 2](#).

**Table 2. Recapitulation of Context Variable Calculation Results**

Variabel	Frequency			Note
	f (+)	f (-)	Result	
Context	8	17	-	Negative
	Result		-	Negative

Based on [Table 2](#), it appears that in the context variable resulting in negative. Thus, it can be stated that the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula in terms of context is less effective. To find out the weaknesses that occur in the context variable, it can be seen in the per item analysis of each questionnaire item, while the results are as shown in [Table 3](#).

**Table 3. Recapitulation of Each Item of the Context Variable**

Item No	Score (X)	T score direction (+,-)
1	109	-
2	102	-
3	104	-
4	103	-
5	103	-
6	103	-
7	102	-
8	102	-
	JML +	0
	JML -	8
	Result	Positive

To answer the second problem, it can be verified from the calculation results of data analysis. After the raw data of the input variables are transformed into T-Scores, it can be summarized in [Table 4](#).

**Table 4. Recapitulation of Calculation Results of Input Variable**

Variabel	Frequency			Note
	f (+)	f (-)	Result	
Input	18	7	+	Positive
	Result		+	Positive

Based on [Table 4](#), it appears that in the input variable, resulting effective. Thus, it can be stated that the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula in terms of input is classified as effective. To find out the weaknesses that occur in the input variables, it can be seen in the per item analysis of each questionnaire item, while the results are show in [Table 5](#).

**Table 5. Recapitulation per Item of Each Input Variable**

Item No	Score (X)	T score direction (+,-)
1	124	+
2	102	-
3	101	-
4	102	-
5	95	+
6	95	+
7	103	-

Item No	Score (X)	T score direction (+,-)
8	104	-
9	94	+
10	95	+
11	100	+
	JML +	6
	JML -	5
	Result	Positive

In answering the third problem, it can be verified from the calculation results of data analysis. After the raw data of the process variables are transformed into T-Scores, it can be summarized in [Table 6](#).

**Table 6. Recapitulation of Process Variable Calculation Results**

Variable	Frequency			Note
	f (+)	f (-)	Result	
Process	24	1	+	Positive
	Result		+	Positive

Based on [Table 6](#), it can be seen that in the process variable,  $\Sigma (+) = 24 > \Sigma (-) = 1$ , resulting in (+) (effective). Thus, it can be stated that the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula in terms of the process is considered effective. To find out the weaknesses that occur in the process variables, it can be seen in the per item analysis of each questionnaire item, while the results are show in [Table 7](#).

**Table 7. Recapitulation Per Item of Each Process Questionnaire Item**

Item No	Score (X)	T Score Direction (+,-)
1	114	+
2	113	+
3	116	+
4	104	-
5	115	+
6	118	+
7	114	+
8	102	-
9	101	-
10	102	-
11	122	+
12	122	+
	JML +	8
	JML -	4
	Result	Positive

To answer the fourth problem, it can be verified from the results of data analysis calculations. After the raw data of the product variables are transformed into the T-Score, it can be summarized in [Table 8](#).

**Table 8. Recapitulation of Product Variable Calculation Results**

Variable	Frequency			Note
	f (+)	f (-)	Hasil	
Product	23	2	+	Positive
	Result		+	Positive

Based on Table 8, it appears that in the product variable resulting in effective. Thus, it can be stated that the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula in terms of product is quite effective. To find out the weaknesses that occur in the product variable, it can be seen in the per item analysis of each questionnaire item, while the results are shown in Table 9.

**Table 9. Recapitulation of Each Item of the Product Variable**

Item No	Score (X)	T Score Direction (+,-)
1	116	+
2	103	-
3	122	+
4	122	+
5	105	-
	JML +	3
	JML -	2
	HASIL	NEGATIF

To answer the fifth problem, it can be verified from the recapitulation of the calculation results of context, input, process and product variables simultaneously, which can be seen in Table 10.

**Table 10. Context, Input, Process, and Product Questionnaire Recapitulation**

No.	Variable	Frequency			Note
		f (+)	f (-)	Result	
1.	Context	8	17	-	Negatif
2.	Input	18	7	+	Positif
3.	Proses	24	1	+	Positif
4.	Product	23	2	+	Positif
	<b>Hasil</b>			- + + +	Efektif

**Discussion**

Based on the results of research on the effectiveness of digital libraries in the management of education administration at SMA Negeri 2 Tejakula, it was found that the effectiveness was classified as effective (-+++). Judging from each variable in evaluating the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula, it was found that the context variable was found in the negative category (-), the input variable was positive (+), the process variable was positive (+), and the variable was positive (+). positive product (+). In the context variable, the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula was declared negative, but when viewed from the 8 statements given to respondents, 0 statements were responded positively and 8 were negative. When viewed on each dimension, it appears that all dimensions are in the category of not being effective. This means that the understanding of IT managers and teaching staff towards leadership policies is quite good (Díez et al., 2020; Sammons, 2010). The vision, mission, and goals of the digital library in managing education administration at SMA Negeri 2 Tejakula are difficult to understand and apply well to the digital library in managing education administration at SMA Negeri 2 Tejakula.

The input variables in this study generally support the existence of a digital library in the management of education administration at SMA Negeri 2 Tejakula. This can be seen from all input statements that get positive (+) results, namely from 11 statements given to respondents, 6 statements are responded positively and 5 are negative. Evaluation indicators that received positive responses from respondents were: Development Team's Ability Readiness, Funding, Physical facilities/facilities, and digital library completeness/guidelines. This indicates that the digital library in the management of education administration at SMA Negeri 2 Tejakula is going quite well and is positively appreciated by users, in this case education staff and educators (Fahmi, 2002; Park et al., 2009). While the evaluation indicators that need special attention due to getting a negative response are indicators on context variables, namely leadership policies, vision, mission, goals and HR competency needs. The results of the analysis show that the context variable in the evaluation of the digital library in the management of education administration at SMA Negeri 2 Tejakula has not been effective. This means that the implementation of digital libraries in the management of education administration at SMA Negeri 2 Tejakula does not yet have a clear legal basis,

vision, mission, goals, and also digital library managers do not have academic qualifications in accordance with their fields. This is because of changes in learning that require switching to digital due to the covid-19 pandemic, as a result administrative management must also be done digitally (Díez et al., 2020; Lawrence & Tar, 2018). This situation requires all education personnel to move quickly to understand digital technology, and also to mobilize all education personnel to assist all school programs.

The process variables in this study are generally classified as effective. This can be proven from the 12 statements given to respondents, 8 were positive and 4 were negative. This can be proven from all statements given to respondents who responded positively. Overall process activities from the digital library in the management of education administration at SMA Negeri 2 Tejakula have been going very well. This means that the understanding of the education staff in using the digital library is very good, the education staff is given direction regarding the use of the digital library. The existence of a manual is also very helpful in understanding education staff by using a digital library (Littlejohn et al., 2012; Park et al., 2009). With a digital library, students are also able to develop themselves by learning independently (Rokhim et al., 2020; Sari et al., 2019). Product variables in this study are generally classified as effective in supporting the effectiveness of digital libraries in the management of education administration at SMA Negeri 2 Tejakula by respondents from 5 statements, 3 statements are positive and 2 are negative. Evaluation of product variables helps in making decisions that are used to review a plan. From the results of the study, the dimensions determined as a reference for the success of the effectiveness of digital libraries in the management of education administration at SMA Negeri 2 Tejakula are the implementation of the use of digital libraries in the management of education administration by education staff and educators. The questionnaires that have been distributed, it appears that most of the education staff and educators support the use of digital libraries in the management of educational administration, this indicates the quality of the services provided is good, although there are small obstacles that occur during its implementation. However, it can be handled properly, thus creating satisfaction for users (Ashiq et al., 2022; Rahim & Hulukati, 2021).

It is supported by some previous study related to digital libraries in the management of education administration. The first study aims to examine the determinants of user satisfaction in the context of academic web digital library (DL) (Masrek, M. N., & Gaskin, 2016). The findings indicate that information quality, systems quality, service quality, perceived usefulness, perceived ease of use and cognitive absorption are significant predictor of users' satisfaction with the web DL. It is in line with other study that describes the library's position during the crisis and illustrates the uncharted challenges that the pandemic has posed to its digital services (Lyman, 2017). This study aims to make other university libraries aware of what the library has implemented with providing digital services to its teaching faculty and students during the pandemic. It also describes the challenges and implications for the library professionals working in-house and remotely.

The implication of this research is to provide an overview of digital libraries during the pandemic, complete with the challenges faced. Some suggestions that can be given are: 1) Education staff are advised to increase their curiosity about the management of information technology, so that they are familiar with other digital learning and technology systems, 2) Other researchers are advised to develop this research, in order to provide an overview or evaluation of program implementation programs related to other information technology management programs. The limitation of this study lies in the subjects involved which are only limited to one school. It is hoped that future research will be able to deepen and expand research related to digital libraries.

#### 4. CONCLUSION

Based on the research that has been done, it can be concluded several things as follows: The effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula in terms of context, the results are not yet effective, the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula is reviewed from the input, the results obtained are effective, the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula in terms of the process, the results are effective, the effectiveness of the digital library in the management of education administration at SMA Negeri 2 Tejakula in terms of the product, the results obtained effective. The results of a joint evaluation of the digital library in the management of education administration at SMA Negeri 2 Tejakula in terms of context, input, process, product obtained effective results. The obstacles faced in the digital library in managing education administration at SMA Negeri 2 Tejakula are the absence of a clear legal basis, vision, mission, goals, and also the digital library manager does not have academic qualifications in accordance with their field.

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