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Implementation of the library automation system in high schools in Surabaya City

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Abstract

Background of the study: High school-level school libraries in the city of Surabaya have begun to develop services and facilities, one of which is by building a library automation system. Problems arise about the orientation of the development carried out whether it aims to build benefits or only to meet the needs of the library.

Purpose: The purpose of this study is to describe the implementation of the library automation system development that has been carried out by senior high schools in the city of Surabaya

Method: The method used in this research is a quantitative approach focusing on the type of descriptive quantitative. The study used a sample of 60 respondents taken from a specified population of 266 high school library managers. The sampling technique used snowball sampling, then data collection using a questionnaire distributed via google form over three weeks.

Findings: all variables used gave positive results because the value of the mode generated from each variable showed an answer which could mean that the respondents agreed with the variables that supported the implementation of the high school library automation system in Surabaya.

Conclusion: This study resulted in the finding that the library manager has carried out the implementation because of the benefits generated by the library automation system.

Keywords: *school library, library automation system, senior high schools*

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Introduction

The development of library automation systems has been widely carried out by university library managers, public libraries and at the school library level. Nowadays, building automation systems can be done easily by library managers because there are many library automation applications (software) that can be used for free by library managers. Library automation applications such as SLiMS, Inlislite, Koha, Greenlight and so on can be used freely by library managers to create library automation systems. The ease of features in each application provides many choices for library managers to have the right application to use in their library.

The development of automation systems in libraries has indeed begun to be carried out by school library managers, this can be seen from conversations between school library managers in scientific discussion forums and social media group forums who often share information related to the management of automation systems in each library. The development of an automation system, especially in school libraries, certainly provides new challenges for school library managers who have limited human resources, but the existence of an automation system can reduce the workload of library managers who have a double workload in managing school libraries. The library automation system that runs in school libraries does have an impact on library performance, but the development of the library automation system raises a question mark, especially regarding the implementation of the automation system that takes place in school libraries.

The implementation of library automation systems, especially in schools, is an interesting problem to study, this is because the development of automation systems in school libraries has become a policy that must be implemented because of the interest in the ease of managing library information and is also supported by library accreditation. Limited human resources in school libraries have raised questions about the implementation of school library automation systems, whether this development is truly sustainable or simply fulfills accreditation obligations. Developing a library automation system is not just about choosing the applications to use, procuring computers and other supporting devices, installing and submitting collection data, but the development of an automation system can run on target if it is also supported by the skills of library managers in understanding the objectives of developing a library automation system.

Research on the implementation of library automation systems has been widely carried out by the academic community, where many of the research titles on implementation focus on the implementation of one of the library automation system applications (software). Research regarding the application of library automation systems was carried out by Azwar (2015), where the research focused on the application of library automation systems at the Faculty of Adab and Humanities, UIN Alauddin Makassar. This research uses a qualitative phenomenological approach to reveal the implementation of library automation systems. The results of the research explain that the library of the Faculty of Humanities and Humanities at UIN Alauddin Makassar has implemented an automation system, but the system that is running is only used to process library materials, meanwhile the library automation system that is running uses the SLiMS application.

The next research was from Asari, Kurniawan, & Andajani (2020), who conducted research on the implementation of Inlislite automation-based library management. This research more specifically discusses library automation systems using one of the library automation applications (software). The aim of this research emphasizes analyzing the quality of implementation of Inlislite-based library automation starting from system quality and implementation process constraints. The method used is descriptive qualitative, while the research results explain that the Inlislite system still has shortcomings such as the information

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content in Inlislite is still not good and this system still has limitations in the installation process because it can only be installed on the Windows operating system.

Research on the implementation of library automation was also conducted by Khoriyah & Haq (2020), where the research examined the implementation of the library automation system at UNAIR. The methodology used in this research is descriptive qualitative, this method was chosen because the researcher wanted to describe the implementation of the library automation system that has been running for a long time in the UNAIR library. The results of this research explain that the automation system developed by the UNAIR library is directed towards Inlislite, meanwhile there are several obstacles to the implementation of the automation system there, such as power outages and an unstable internet network which hampers the information retrieval process carried out by library users, besides that it often An error occurred during collection data entry, resulting in a discrepancy between the real data and the information provided to library users.

A study on the implementation of a library automation system was also carried out by Mahedy (2015), this study emphasized the implementation of a SLiMS-based library automation system carried out by the UNDIKSHA library. This research uses a literature study approach to examine the problems raised in the crime. The results presented in this study are about the advantages and disadvantages of SLiMS as open source software. The advantages presented in this study include; 1) SLiMS can be downloaded for free, 2) is able to fulfill library service automation, 3) SLiMS is a local product, 4) SLiMS was developed using a programming language that is easy to understand, 5) is compatible, and 6) has complete reporting and documentation features. This study also explains the shortcomings of SLiMS including; The SLiMS automation system cannot be operated on all web browsers.

Previous research as used in this research provides insight into the implementation conditions of library automation systems which differ from one location to another. The main theme used in this research certainly has similarities with previous research used as a reference source, however there are differences between this research and others, namely in terms of the use of methodology and research objectives. This research does not seek answers to field phenomena related to the implementation of automation systems but rather describes the conditions for implementing automation systems in school libraries through statistical data.

This research focuses on studying the implementation of school library automation systems in the city of Surabaya. This study was chosen because the problem of implementing automation systems, especially in school libraries, needs to be researched more comprehensively, especially to analyze the benefits obtained by high school library managers in the city of Surabaya when implementing library automation systems. school. This research chose the high school library as the research object considering that the needs of users, especially students, are greater than those of middle and elementary schools, therefore of course library managers must prepare good information system infrastructure for the service process and dissemination of information for students.

This research aims to raise and answer issues regarding the usefulness and objectives that have resulted from the implementation of school library automation systems so that the implementation of automation systems is not carried out based on compulsion or following patterns carried out by other libraries, therefore a single problem formulation regarding this research is raised. namely about how to implement the library automation system carried out by high schools, especially in the city of Surabaya.

Method

This research uses a quantitative descriptive approach, this approach is often used in research in the library sector such as that carried out by Aswinna & Rahmi (2021), which aims

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to explain preliminary data findings that can be used as a basis for conducting further research.

Population and Sample

The population was taken from data collected through the digital database page of the Ministry of Education and Culture in 2021 which states that there are 266 high schools in the city of Surabaya. Determining the sample uses nonprobability sampling, namely the snowball sampling approach. This technique was chosen because it can help the process of distributing research questionnaires through the network of school librarians owned by ATPUSI Surabaya. In the process of distributing the questionnaire, which was assisted by the ATPUSI Surabaya team, 60 respondents responded to the questionnaire distributed via Google Form over a period of three weeks. The final number of respondents was used as the research sample, this refers to Roscoe's statement in Sugiyono (2019), which provides an explanation that the sample size in quantitative research can be said to be suitable for use, one of which is if the sample size ranges from 30 to 500 respondents.

Operational definition

The operational definition used in the process of creating research instruments (questionnaires) refers to the objectives of developing a library automation system put forward by Lasa HS in his book on the Indonesian librarianship dictionary published in 2009 and later quoted by Azwar (2015), there are around eight important points as objectives from automation system development including; Lighten work load; Save costs and energy for librarians; Improving the quality of service for library users; Provide consistent work results; Fulfilling needs that cannot be obtained in conventional libraries; Improve library imaging; Increasing library competitiveness; and Increasing collaboration between libraries.

Data analysis

At the data analysis stage, the first process carried out was to carry out validity and reliability tests on the research instruments. Even though this research is a descriptive research study, it is very important to carry out validity and reliability tests to see the consistency or effectiveness of each research indicator. In the validity test according to Riyanto & Hatmawan (2020), an indicator is declared valid if it has a significance value ≤ 0.05, while if the indicator shows a value ≥ 0.05 then it is declared invalid so that the indicator or statement can be reduced. The validity of the instrument can also be seen from the magnitude of the r-calculated value when compared with the r-table value. Significance testing can be carried out with criteria using r-table at the 0.05 level, then explains that each indicator is declared valid if the r-count value > r-table and vice versa if r-count < r-table then the indicator item is declared invalid. The reliability test was carried out by referring to Ghozali in Riyanto and Hatmawan (2020; 75) which explains that a variable can be declared reliable if it has a Cronbach Alpha (α) value > 0.7.

The research instrument was designed using a Likert scale with a value of 1 to 5, including; (1) Strongly Disagree; (2) Disagree; (3) Neutral; (4) Agree; and (5) Strongly Agree. The research instrument was outlined in the form of a questionnaire created using Google Form.

Data analysis in this study used statistical tests based on the SPSS application. The results of the statistical tests were then described according to existing findings and supported by interpretations adjusted to the results of the data analysis. According to Putri, Araiku, & Sari (2020), they also provide an opinion about descriptive statistics as an analysis technique which only aims to explain or provide an overview of the object being studied without emphasizing meaning or conclusions.

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Result and Discussion

The research instrument containing variables with several statement items has entered the validity and reliability testing stage, the results of the testing are compiled and can be seen in the following table:

Table 1. Validity test on research instruments

No	Variable	Sign Value	Information
1	Lighten Work Load (MBP)	0,000 ≤ 0,05	Valid
2	Saving Costs and Energy for Librarians (MBEP)	0,000 ≤ 0,05	Valid
3	Improving Service Quality (MKL)	0,000 ≤ 0,05	Valid
4	Providing Consistent Work Results (MHPK)	0,000 ≤ 0,05	Valid
5	Meeting the Needs of Modern Libraries (MKPM)	0,000 ≤ 0,05	Valid
6	Improving Library Image (MCP)	0,000 ≤ 0,05	Valid
7	Increasing Library Competitiveness (MDSP)	0,000 ≤ 0,05	Valid
8	Increasing Cooperation Between Libraries (MKAP)	0,000 ≤ 0,05	Valid

Source: primary data processing, 2022

The validity test results shown in table 1 are a combination of the assessments of all indicators that have been declared to meet the validity requirements because they have a significance value of ≤ 0.05. None of the indicators was wasted because they had positive values, apart from that the results of the r-calculated values for all indicator items also showed positive validity, namely all items produced an r-calculated value > 0.254 which is the value from the r-table. The questionnaire indicator items have shown positive validity results so that all items are used entirely in the research data analysis stage. The calculation results that show positive numbers on the research indicators mean that all variables are declared valid as shown in table 1.

Reliability testing is carried out after the research indicators have completed the validity testing stage and show positive results. Indicators with positive values are then tested for reliability while those declared invalid will be removed. At this stage all indicators are declared valid so that reliability tests can be carried out on all indicators. The results of the reliability tests can be seen in table 2 below:

Table 2. Reliability test on research instruments

No	Indicator	Sign Value	Information	No	Indicator	Sign Value	Information
1	MBK1	0,953 > 0,7	Reliable	16	MHPK4	0,951 > 0,7	Reliable
2	MBK2	0,952 > 0,7	Reliable	17	MKPM1	0,952 > 0,7	Reliable
3	MBK3	0,953 > 0,7	Reliable	18	MKPM2	0,953 > 0,7	Reliable
4	MBK4	0,952 > 0,7	Reliable	19	MKPM3	0,952 > 0,7	Reliable
5	MBEP1	0,953 > 0,7	Reliable	20	MKPM4	0,952 > 0,7	Reliable
6	MBEP2	0,954 > 0,7	Reliable	21	MCP1	0,952 > 0,7	Reliable
7	MBEP3	0,950 > 0,7	Reliable	22	MCP2	0,953 > 0,7	Reliable
8	MBEP4	0,950 > 0,7	Reliable	23	MCP3	0,952 > 0,7	Reliable
9	MKL1	0,952 > 0,7	Reliable	24	MCP4	0,951 > 0,7	Reliable
10	MKL2	0,952 > 0,7	Reliable	25	MDSP1	0,952 > 0,7	Reliable
11	MKL3	0,951 > 0,7	Reliable	26	MDSP2	0,951 > 0,7	Reliable
12	MKL4	0,952 > 0,7	Reliable	27	MDSP3	0,953 > 0,7	Reliable
13	MHPK1	0,952 > 0,7	Reliable	28	MDSP4	0,951 > 0,7	Reliable
14	MHPK2	0,951 > 0,7	Reliable	29	MKAP1	0,952 > 0,7	Reliable
15	MHPK3	0,951 > 0,7	Reliable	30	MKAP2	0,950 > 0,7	Reliable

Source: primary data processing, 2022

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All question items have a Cronbach Alpha (α) value of 0.9 so that this number meets the reliability requirements because the Cronbach Alpha (α) value must be greater than 0.7 (α > 0.7). The results of the reliability and validity tests on all question items were declared positive so that all items could be used to enter the advanced data analysis stage.

Analysis of school library system implementation

The stage of data analysis after all indicators are declared valid and reliable is to analyze the characteristics of the implementation of the library automation system carried out in high schools in the city of Surabaya. In this sub-discussion characteristics are determined based on the variables used in the research questionnaire, the variables used refer to the objectives of developing a school library automation system as explained in the operational definition including; lighten the workload, save costs and energy for librarians, improve service quality, provide consistent work results, meet the needs of modern libraries, improve the image of libraries, increase library competitiveness, and increase collaboration between libraries. The variables used also do not deviate from the theory of library automation, explained by Cohn in Mulyadi (2016), which is a system that computerizes activities in libraries such as collection processing, circulation, cataloging, procurement, membership, serial publications, where all activities are carried out using database-based. Data analysis of the characteristics of the implementation of library automation systems in schools places greater emphasis on the frequency test aspect which is supported by considering mode analysis for each variable.

The library automation system lightens the workload

In table 3, the indicators MBP_1, MBP_2, MBP_3 and MBP_4 show a positive numerical trend, this can be seen from the frequency value which is more often found on a scale of 5, namely "strongly agree". This can be interpreted if research respondents argue that the library automation system they use has helped lighten the workload that has been their responsibility as library managers.

Table 3. Frequency and mode values for the variable lightening work load

Indicator	Mode	f				
		Very Disagree (1)	Disagree (2)	Netral (3)	Agree (4)	Very Agree (5)
MBP_1	5,0	-	1 (1,7%)	-	10 (16,7%)	49 (81,7%)
MBP_2	5,0	-		1 (1,7%)	17 (28,3%	42 (70%)
MBP_3	5,0	2 (3,3%)	2 (3,3%)	2 (3,3%)	19 (31,7%)	35 (58,3%)
MBP_4	5,0	-	1 (1,7%)	9 (15%)	19 (31,7%)	31 (51,7%)

Source: primary data processing, 2022

These results conclude that the library automation system for respondents can lighten the workload because of four reasons, namely the library is equipped with computers and the internet, computers help complete work in the collection processing section, computers also help facilitate the circulation service process and the school supports system development library automation.

Library automation systems save costs and energy for librarians

The second variable used to build the research instrument is about saving costs and energy for librarians. This variable contains four main indicators which have been declared

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valid and reliable so that further data processing can be carried out to find out whether all the indicators are accepted or vice versa. Frequency and mode test results for variables saving costs and energy for librarians along with supporting indicators can be seen in table 4 below:

Table 4. Frequency and mode values for variables saving costs and energy for librarians

Indicator	Mode	f				
		Very Disagree (1)	Disagree (2)	Netral (3)	Agree (4)	Very Agree (5)
MBEP_1	5,0	1 (1,7%)	-	7 (11,7%)	25 (41,7%)	27 (45%)
MBEP _2	5,0	1 (1,7%)	4 (6,7%)	9 (15%)	19 (31,7%)	27 (45%)
MBEP _3	5,0	-	1 (1,7%)	6 (10%)	24 (40%)	29 (48,3%)
MBEP_4	5,0	-	1 (1,7%)	3 (5%)	24 (40%)	32 (53,3%)

Source: primary data processing, 2022

This shows that research respondents, namely school library managers, have the opinion that the use of the library automation system that they run can help librarians in particular no longer need to exhaust their energy to carry out library administration activities manually. The values that appear in the MBEP_1, MBEP_2, MBEP_3 and MBEP_4 indicators can be concluded that these four variables are acceptable, therefore it can be explained that the library automation system can help especially in saving costs and energy for librarians, this is supported by the respondent's statement that the use of applications open source for library automation can save costs, automation systems help reduce the burden of purchasing stationery, circulation services can be done in a short time and library automation helps librarians search for information.

The library automation system improves service quality

The variable improving service quality has four main indicators, all of which have been declared to meet the requirements in the validity and reliability test so that all these indicators are tested as a whole in the frequency and mode test. The results of data processing on these four indicators are presented in the form of table 5 below;

Table 5. Frequency and mode values for variables improving service quality

Indicator	Mode	f				
		Very Disagree (1)	Disagree (2)	Netral (3)	Agree (4)	Very Agree (5)
MKL_1	5,0	-	-	3 (5%)	23 (38,3%)	34 (56,7%)
MKL _2	5,0	-	1 (1,7%)	-	23 (38,3%)	36 (60%)
MKL _3	5,0	-	1 (1,7%)	2 (3,3%)	23 (38,3%)	34 (56,7%)
MKL _4	5,0	-	-	3 (5%)	24 (40%)	33 (55%)

Source: primary data processing, 2022

These results form the conclusion that the school library automation system helps in improving the quality of library services, this is supported by the respondents' opinion that the automation system makes it easier to search for information, makes membership administration easier, makes it easier to borrow more than one copy of the collection and the automation system makes it easier to fill out guest book using the visitor counter portal.

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The library automation system provides consistent work results

The variable that provides consistent work results has four statement indicators that are constructed according to the explanation of this variable. These four indicators have met the validity and reliability test requirements so that the four main indicators in this variable enter the frequency and mode analysis test stage. The frequency and mode test results can be seen in table 6 below;

Table 6. Frequency and mode values for variables provide consistent work results

Indicator	Mode	f				
		Very Disagree (1)	Disagree (2)	Netral (3)	Agree (4)	Very Agree (5)
MHPK_1	5,0	-	-	-	22 (36,7%)	38 (63,3%)
MHPK _2	5,0	-	1 (1,7%)	2 (3,3%)	20 (33,3%)	37 (61,7%)
MHPK _3	5,0	-	1 (1,7%)	-	25 (41,7%)	34 (56,7%)
MHPK _4	5,0	-	1 (1,7%)	2 (3,3%)	25 (41,7%)	32 (53,3%)

Source: primary data processing, 2022

Support for library automation systems that provide consistent work results can be seen in the statements of research respondents including the convenience provided by the automation system in terms of making collection data reports, ease in making loan reports, ease in recapitulating library visits and ease in terms of setting collection lending policies such as setting fines, amount of collection borrowed, duration of borrowing time and so on.

Library automation systems meet the needs of modern libraries

This variable has four main indicators, these indicators reflect the objectives of developing a library automation system that is used to build a more modern library. The four indicators have gone through validity and reliability tests so that the four indicators are used at the frequency and mode test analysis stage so that the value and percentage of each indicator can be known. The results of data processing on these four indicators can be seen in table 7 below:

Table 7. Frequency and mode values for variables to meet the needs of modern libraries

Indicator	Mode	f				
		Very Disagree (1)	Disagree (2)	Netral (3)	Agree (4)	Very Agree (5)
MKPM_1	4,0	1 (1,7%)	1 (1,7%)	10 (16,7%)	26 (43,3%)	22 (36,7%)
MKPM _2	3,0	2 (3,3%)	9 (15%)	21 (35%)	16 (26,7%)	12 (20%)
MKPM _3	5,0	-	-	5 (8,3%)	23 (38,3%)	32 (53,3%)
MKPM _4	5,0	2 (3,3%	7 (11,7%)	14 (23,3%)	13 (21,7%)	24 (40%)

Source: primary data processing, 2022

These results indicate that the variable meeting the needs of a modern library is acceptable because the three indicators are stated to produce positive values. This can be concluded that the respondents feel that the existence of a library automation system is considered capable of meeting the needs of a modern school library. Research respondents stated regarding this variable that the automation system helps them to implement independent lending services, there is an online catalog (OPAC) which helps in searching for information in the library and the online catalog (OPAC) is connected to the internet so that the service can be accessed easily both in in the library environment or outside the school.

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The automation system improves the image of the library

The variable improving the image of the library is the sixth variable used to compile the research questionnaire. In this variable there are four main indicators which have been stated to have validity and reliability values. The results of data processing on the four indicators in this variable are explained in table 8 below:

Table 8. Frequency and mode values for variables improving library image

Indicator	Mode	f				
		Very Disagree (1)	Disagree (2)	Netral (3)	Agree (4)	Very Agree (5)
MCP_1	4,0	2 (3,3%)	6 (10%)	7 (11,7%)	24 (40%)	21 (35%)
MCP _2	4,0	2 (3,3%)	7 (11,7%)	15 (25%	23 (38,3%)	13 (21,7%)
MCP _3	4,0	1 (1,7%)	7 (11,7%)	13 (21,7%)	25 (41,7%)	14 (23,2%)
MCP _4	4,0	-	4 (6,7%)	8 (13,3%)	25 (41,7%)	23 (38,3%)

Source: primary data processing, 2022

These results indicate that research respondents have positive experiences with the use of library automation systems, especially in terms of supporting the image of the library, however, with the large number of respondents answering "agree", it is assumed that there is a lack of confidence in the respondents' self-confidence in this statement. The mode value that comes out shows a scale of 4 or "agree" appears the most, this means that it can be assumed that the library automation system can support improving the image of the library for several supporting reasons such as the number of visits from users and the general public showing an increase after the online catalog is connected to the internet, the online catalog increasing collection borrowing rates, and the library automation system helps librarians in implementing promotional policies, especially those using online catalog media.

The automation system increases the attractiveness of the library

The seventh variable in this quantitative research is about increasing library attraction data from the use of library automation. This variable is equipped with four main statement indicators. The results of data processing on these indicators can be seen in table 9 below;

Table 9. Frequency and mode values for variables increasing library attractiveness

Indicator	Mode	f				
		Very Disagree (1)	Disagree (2)	Netral (3)	Agree (4)	Very Agree (5)
MDTP_1	5,0	-	-	10 (16,7%)	22 (36,7%)	28 (46,7%)
MDTP _2	5,0	-	-	5 (8,5%)	24 (40%)	31 (51,7%)
MDTP _3	4,0	2 (3,3%)	2 (3,3%)	13 (21,7%)	30 (50%)	13 (12,7%)
MDTP _4	4,0	1 (1,7%)	-	10 (16,7%)	27 (45%)	22 (36,7%)

Source: primary data processing, 2022

The automation system can increase the attractiveness of libraries because several indicators include the automation system making it easier for librarians to develop digital libraries, the automation system supporting the addition of digital collections to OPAC, the automation system making it easier to develop features such as chatboxes, and encouraging librarians to develop online catalogs (OPAC) .

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The automation system improves library collaboration

The last variable used in the research instrument is about increasing library collaboration. In this variable there are four main indicators that have met the validity and reliability test criteria. The results of frequency and mode data processing for the four indicators used in this variable can be seen in table 10 below;

Table 10. Frequency and mode values for the variable increasing library collaboration

Indicator	Mode	f				
		Very Disagree (1)	Disagree (2)	Netral (3)	Agree (4)	Very Agree (5)
MKP_1	4,0	1 (1,7%)	3 (5%)	17 (28,3%)	20 (33,3%)	19 (31,7%)
MKP _2	4,0	1 (1,7%)	1 (1,7%)	7 (11,7%)	31 (51,7%)	20 (33,3%)
MKP _3	4,0	-	1 (1,7%)	6 (10%)	33 (55%)	20 (33,3%)
MKP_4	4,0	-	1 (1,7%)	12 (20%)	30 (50%)	17 (28,3)

Source: primary data processing, 2022

The positive results shown in table 10 give rise to the conclusion that the library automation system supports increased library collaboration because it is supported by the following parameters, making it easy for collaboration across library services, encouraging librarians to collaborate in the form of automation system development training, encouraging librarians to be involved in various development communities automation system and encouraging librarians to collaborate with library services or publishers to procure digital collections.

Discussion

The overall results of data processing on the variables used in this research show a positive assessment. This also shows that the theory used in this research can be accepted and used to research the implementation of the library automation system with the object of High Schools in the City of Surabaya. The main reason for using library automation in schools is of course to help librarians reduce the workload of managing libraries. This was conveyed by Maharazu & Malumfashi (2021), the implementation of library automation is carried out computerized which helps make it easier to complete operational activities such as acquisition, circulation, cataloguing, reference services and control of serial collections. Several other reasons underlying the development of library automation systems such as; There is management's desire to save labor, cost effectiveness, increase speed in operational processes, and ensure ease and accuracy in terms of data handling. Apart from that, library automation produces high speed and accuracy in information retrieval, reducing the emergence of duplication and data manipulation (Bwalya, Mwalimu, & Nyirenda, 2019). Another opinion explains library automation as the application of automatic and semi-automatic data processing machines that are used to streamline administrative activities in libraries such as procurement (acquisition), circulation, cataloguing, references, serial publications and collection processing (Das & Chartterjee, 2015). This supports the research results which explain that the implementation of library automation in high school libraries in the city of Surabaya is driven by the convenience that librarian managers obtain, such as easing the burden, saving costs, adding quality value, increasing the image and branding of the library and library collaboration.

The use of library automation systems in schools of course adapts to the characteristics of users, in this case namely institutions and students. Puritat, Julrode, Ariya, Sangamuang, & Intawong (2021) said a similar thing, who stated that each school has different characteristics,

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therefore library automation recommendations need to be adjusted to the focus of the school's academic goals. This research shows that the implementation of library automation in schools is carried out because of the goals that the library will achieve, however there are things that library managers need to pay attention to when implementing library automation of course there are obstacles that need to be resolved. According to Purwinarko, Hardyanto, & Adhi (2019) there are many obstacles that must be resolved in library automation such as design, speed and accuracy of information access and completeness of data. If you observe the school library automation design, most of it does not show a design that matches the characteristics of the school. Library automation designs in schools still use displays adopted by applications such as SLiMS and Inlislite. The next obstacle that has not yet been overcome is regarding data completeness, even though if you pay attention, the system used has a lot of metadata that librarians can optimize. The automation system really helps create efficient library services (Rizal, Syodik, & Hasyim, 2022). The implementation of automation in school libraries is not only to help reduce the burden on library managers, but the efficiency and effectiveness provided by the automation system must also be felt by the entire community within the school.

Conclusion

This research focuses on the implementation of the high school library automation system in the city of Surabaya which resulted in the finding that the implementation has been carried out by library managers because of the benefits generated by the library automation system. This implementation is carried out based on the benefits generated by the library automation system as shown in each variable. Other results also show that the theory about the usefulness of library automation systems in this research is still relevant, especially for school level research objects. This research provides data for new research that raises the same theme but with a more complex approach.

The limitation of this research lies in access to reach respondents in order to obtain larger research data, apart from that this research only focuses on describing the use of library automation systems in the form of quantitative data so as to provide statistical data on the use of library automation in high schools in Surabaya.

Research recommendations are aimed at school library managers to develop automation systems so that user needs are met and collections are utilized. This research of course only provides preliminary data so that it provides a stimulus for other researchers to develop the same research with a different approach. It is hoped that further scientific recommendations will become a stimulus for other researchers to carry out more specific research in the field of library automation with a more complex approach.

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Authors' Contributions

All authors have contributed to the final manuscript. The contribution of all authors: conceptualization, methodology, formal analysis, writing original draft preparation, writing review and editing. All authors have read and agreed to the published version of the manuscript.

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Conflict of Interest

All authors have no conflict of interest related to this study.

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