

# Digitalization Of Management Information System Based On Quality Services Of Formal School Of Pesantren (Case Studies at SMA 2 BPPT Darul Ulum , and MAN 3 Tambakberas Jombang)

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## ABSTRACT

*There is a new transformation, that development does not simply rely on schools teaching Islamic characteristics, but also formal education based on the stem of management information. This study explores the quality services of formal schools in Islamic boarding schools based on management information systems. This research study uses research and development (R & D) with a qualitative case study approach in high school Islamic boarding schools. This study found that the digitization of the service system used by the three schools in question was quite varied by using their respective schemes and models.*

*Keywords:* Pesantren, formal education, management information systems.

## ABSTRAK

*Ada transformasi baru, bahwa perkembangan pesantren tidak hanya mengandalkan pembelajaran karakteristik Islami, tetapi juga pendidikan formal berbasis digitalisasi sistem informasi manajemen. Penelitian ini berusaha mengeksplorasi pelayanan mutu sekolah formal di pondok pesantren berbasis digitalisasi sistem informasi manajemen. Penelaahan penelitian ini menggunakan research and development (R&D) dengan pendekatan kualitatif studi kasus di Sekolah Menengah atas Pondok pesantren. Penelitian ini menemukan bahwa digitalisasi sistem pelayanan yang digunakan oleh ketiga sekolah yang dimaksud cukup variatif dengan menggunakan skema dan model masing-masing.*

**KATA KUNCI:** Pesantren, Pendidikan formal, Sistem Informasi Management.

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## INTRODUCTION

Historically Islamic boarding schools are institutions that have unique characteristics and contribute to the progress of the Indonesian nation (Abubakar, 2018). Islamic boarding schools function as a place for teaching Islamic religious knowledge (Fauzi et al., 2018) who have graduated cadres of scholars, kyai, community leaders and preachers even without being accompanied by administrative certificates recognized by the State (Gatracom, n.d.). Subsequent developments, Islamic boarding

schools as human investment in national education. Islamic boarding schools play a role in facilitating informal education and formal education (Puad & Ashton, 2020), as legalization from the Government (Gatracon, n.d.) in law no. 18 of 2019 article 17 (Telaumbanua, 2019).

This transformation requires a management information system that does not only function as a supporter of pesantren modernization, but also as a captain in optimizing the use of educational resources (Jabir & Karrar, 2017) (Koitumet et al., 2018). Digitization Management information system is a strategy for sharing computerized resources across networks (Christopher & Kwasira, 2014) or can be referred to as web-enabled technology (Maurya, 2017).

Management information systems assist managers in making decision and make it easier for employees to create digital data (Jabir & Karrar, 2017) (Saeid, 2018), providing superior information broadly, quickly, precisely, there is ease in the learning process and becomes a single unit that is integrated into the academic and administrative management system (Puad & Ashton, 2020) (Maurya, 2017). This management system is called an information management system based on excellence.

The use of technology in information systems can provide access for users anywhere online. So that existing limitations can be minimized and support school operational performance. As with the development of formal schools in Islamic boarding schools; BPPT Darul Ulum 2 Peterongan High School, and MAN Tambakberas Jombang. Both schools have outstanding achievements. At SMA BPPT Darul Ulum 2 Jombang won 45 championships (Jombang Senior High School, 2021). At MAN Tambakberas Jombang won 54 championships.

This study aims to explore the digitization of quality service-based management information systems in formal Islamic boarding schools during the pandemic (case studies at SMA 2 BPPT Darul Ulum, and MAN 3 Tambakberas Jombang). SIM digitization in Islamic high schools as an important factor in realizing high school quality services in Islamic boarding schools, with achievement results that exceed achievements.

## **METODE**

### **Research Design**

Study This study seeks to explore the digitalization of management information systems which are part of the development of quality services for formal Islamic boarding schools. This research is a research and development (R&D) based research. Putra argues that research and development is simply defined as a research method that is deliberately, systematically, aimed/directed to find findings, formulate, improve, develop, produce, test the effectiveness of certain products, models,

methods/strategies/means, services, procedures that superior, new, effective, efficient, productive and meaningful(Son of Nusa, 2011).

*The approach used is a qualitative approach case study*(Bogdan & Biklen, 2007)Islamic Middle School. Qualitative research procedures, namely: (1) determining key informants, (2) conducting field data searches, (3) analyzing data by auditing data in the form of triangulation, (4) displaying data, (5) drawing temporary conclusions, (6) establishment of conclusions, implications, and recommendations.

The objects of this research were SMA 2 Darul Ulum, Agency for the Assessment of the Application of Model School Technology and the Tambakberas Jombang Superior Senior High School. The two schools above are very interesting for the research writer because these high schools are under the auspices of Islamic boarding schools and quality services are developed through a management information system, which results in achievement exceeding that of other schools in Jombang.

## RESULT and DISCUSSION

### A. RESULTS

#### 1. SIM digitization in Islamic high schools as a dimension of quality service.

System digitization Management information in educational institutions is the integration of information systems management educational institutions as a whole(Gukuria & Miyonga, 2017). Information obtained as a basis for making decisions, supporting operational or managerial activities of institutions, and organizational strategies that have value to achieve goals, *control* short and long term operations/ strategy/ planning, management control and special problem solving(Gukuria & Miyonga, 2017). In line with this, digitizing the management information system at SMA BPPT Darul Ulum 2, MAN Tambak Nasi Unggulan applies the dimensions of quality service with characteristics including: tangibility, reliability, responsiveness, assurance, and empathy. The explanation of these dimensions is:

**Table 1.** SIM digitization in Islamic high schools as a dimension of quality service

<b>Dimensions</b>	<b>Understanding</b>	<b>Example</b>
Tangible	Service quality is in the form of physical conditions	The facilities and equipment available are sufficient.
reliability	Quality of service in accordance with what has been promoted in a timely and reliable manner	Facilities and equipment function properly.
Responsiveness	Service quality is fast, creative, and able to respond to customer suggestions/complaints	Service providers respond to customer suggestions/complaints
assurance	Service quality is able to protect	Service providers are able to

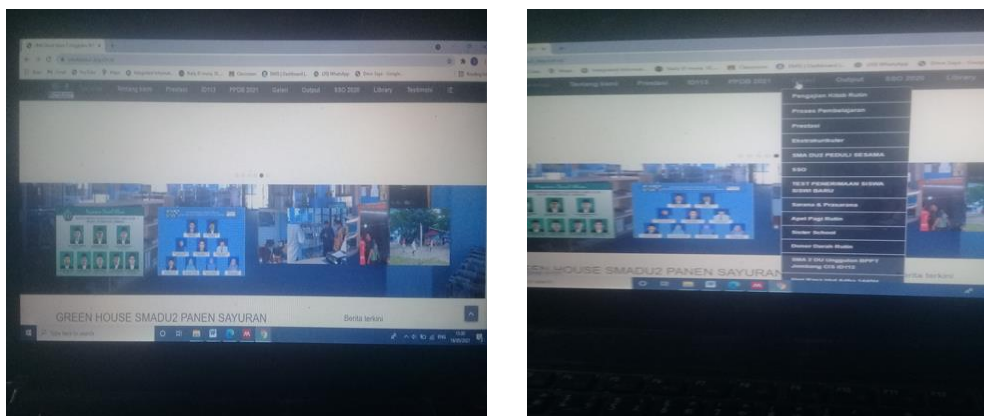
	the condition of customers	protect personal data
Empathy	Service quality is able to give attention and empathy to customers	Service providers always remind / inform when there is something.

Each of the dimensions above will be seen in its implementation at the next stage, namely when presenting: a) academic services, b) personal services, c) financial services, d) public services.

## 2. SIM quality services in Islamic Middle Schools.

### a) Management Information System Quality Services at SMA 2 BPPT Darul Ulum Jombang.

Darul Ulum 2 Senior High School Quality Services BPPT Jombang collaborated with Cambridge University and was finally appointed as a CIC called SIM. With CIC, teachers and students can take the Cambridge certification exam. Management of data needed by stakeholders is managed by the CIC application. Stakeholders do not need to come to school to get school information, the CIC Team has created a program on the computer with one click all school information can be accessed, and at the same time will provide feedback to schools and Darul Ulum Islamic boarding schools. The following shows the management information system for SMA Darul Ulum 2 Jombang



**Picture 1.** Management Information System Quality Services at SMA 2 BPPT Darul Ulum Jombang.

The form of SIM at SMA Darul Ulum 2 superior to BPPT Jombang is a stand-alone unit because it is not included with the school's organizational structure. However, SIM is a form of program from the deputy head of school development, under the coordinator of the school principal. This team consists of 13 personnel, namely: (1) Principal, (2) Examination Officer, (3) curriculum, (4) Administrator, (5) teaching supporting, (6) student supporting, (7) teasure. And six departments, each of which has

its own tasks, namely: (1) Examination department, (2) curriculum department, (3) Teacher department, (4) student & book department, (6) money department. The description of SIM personnel work tasks, namely:

**Table 2.** SIM personnel job description table

No	Department	Job Descriptions
1	Persons in Charge	Responsible for all team activities
2	Leader + coordinator	Control all team activities in each department
3	examination department	Data processing
4	Curriculum department	Data collector
5	Comeo department	Data distribution
6	teachers department	Data distribution
7	Student & book department	Data collector
8	Money department	Data processing

Broadly speaking, the sources of management information at SMA Darul Ulum 2 Unggulan BPPT can be grouped into two parts, namely internal and external sources, as well as the frequency of reporting information to the users of the information, as shown in the table:

**Table 3.** of Management Information Sources

Information		Types of data and information generated	Information reporting frequency
Source	Presenter		
Institutional internals	Studentship	<ul style="list-style-type: none"> <li>• Individual student data</li> <li>• Discipline data</li> <li>• achievement data</li> <li>• Extracurricular activity data</li> <li>• Student attendance data</li> <li>• Data on increasing Javanese language skills</li> </ul>	once every 6 months
	Curriculum	<ul style="list-style-type: none"> <li>• Data about PBM</li> <li>• Data about ratings</li> <li>• Data about MGMP</li> <li>• UNAS and US data</li> <li>• Educational calendar</li> <li>• Lesson timetable</li> <li>• Teacher teaching schedule</li> </ul>	
	PR	<ul style="list-style-type: none"> <li>• Website</li> <li>• PAS (school application program)</li> <li>• PMDK</li> </ul>	

		<ul style="list-style-type: none"> <li>• Scholarship</li> <li>• PMB (test line)</li> </ul>	
	Diniyah	<ul style="list-style-type: none"> <li>• Pre-KBM activity data</li> <li>• Data about the cottage curriculum.</li> <li>• Data about worship</li> </ul>	
	Sarpras	<ul style="list-style-type: none"> <li>• Sarpras data</li> <li>• School inventory data</li> <li>• Building maintenance data</li> <li>• Data on the culture of the school environment</li> </ul>	
	Development	<ul style="list-style-type: none"> <li>• Remedial data</li> <li>• Olympic Data</li> <li>• Teacher qualification improvement data</li> <li>• All data related to CIC</li> </ul>	1 month
	Administration	<ul style="list-style-type: none"> <li>• PPDB data</li> <li>• Outgoing mail data</li> <li>• Payroll data</li> <li>• Exit official letter</li> <li>• Accreditation data</li> <li>• National exam nomination data</li> <li>• Administrative data</li> </ul>	
	Parent	<ul style="list-style-type: none"> <li>• Profile of parents learning conditions</li> </ul>	6 months
	School and community committees	<ul style="list-style-type: none"> <li>• Providing criticism and suggestions about school development</li> </ul>	
External institution	Government	<ul style="list-style-type: none"> <li>• curriculum policy</li> <li>• UAN implementation</li> <li>• New policy from the government</li> </ul>	
	PTN/PTS	<ul style="list-style-type: none"> <li>• Data on state universities</li> <li>• Data on private universities</li> </ul>	
	alumni	<ul style="list-style-type: none"> <li>• Alumni data</li> </ul>	

Curriculum Services; SMA BPPT Darul Ulum 2 Jombang uses three curricula; namely the national education curriculum, Islamic boarding school curriculum, and the curriculum adopted from Cambridge University. The National Education curriculum is the main curriculum, the Islamic boarding school curriculum is to support student morals, while the Cambridge University curriculum is material for the certification exam at Cambridge University. In addition, BPPT Darul Ulum High School also implements the RSBI (international standard school pilot) program, schools are

required to have lesson content that is equivalent to or higher than superior school content and have advantages in the field of education both in the process and in the assessment.

student services; is a structuring and regulatory activity related to students starting from the acceptance of students to the discharge of students(Mulyasa, 2013). At SMA Darul Ulum 2 Jombang student services are held by the Waka for student affairs.

Community relations services are a process that plays a role in fostering/developing the personal growth of students in schools, and also as a bridge of communication between schools and the community, so that they are encouraged to work together in advancing the institution.(Mulyasa, 2013). Public relations information services at SMA Darul Ulum 2 Jombang are in the form of CIC, as a form of which is to provide information about students and schools through mobile media and provide a website that is easily accessible by anyone as well as giving schools the freedom to join and give opinions.

Infrastructure services; The management of infrastructure facilities is expected to create schools that are clean, tidy, beautiful, so as to create pleasant conditions for both teachers and students(Mulyasa, 2013). At SMA Darul Ulum 2 Jombang, the infrastructure is running well. There is a separate team in the implementation and maintenance of school facilities, preparation of treatment results evaluation sheets, preparation of learning facilities both in class and laboratory, as well as management of facilities and infrastructure based on international standard technological advances.

Educator and education services; the main factor in achieving educational goals is to utilize teaching and educational staff to be effective and efficient for optimal results(Mulyasa, 2013). SMA Darul Ulum 2 Jombang provides special service programs for educators and education staff, namely: MGMP, IT seminars, workshops, developing teacher potential by participating in training on international standards organized by Cambridge University, both face to face training and on line training.

Financial services; one of the main factors of institutional development is the availability of funds(Faizah et al., 2018). BPPT Darul Ulum 2 SMA school finances are fully held by the pondok as a school foundation. Even so, it does not mean that schools do not receive funds to support education in schools. If the school wants a new program, the school can only submit funds to the Islamic boarding school in accordance with the agreement at the beginning of the school. If the program cannot run, the funds provided are returned to the Islamic boarding school.

Supporting Services; Darul Ulum 2 Jombang High School provides tangible services: (a) Library Services; The services provided are in the form of a digital library. (b) Guidance and counseling services; Guidance and counseling is not only a place of

guidance for children with problems, but also a place to give motivation to students to further enhance their learning and develop the knowledge students gain.

(c). Health services; there is a small health clinic or called UKS, for students who experience minor illnesses. If the illness you are suffering from requires special attention, you need to be examined at the Unipdu Medika hospital belonging to the Islamic boarding school. The scope of the school is one with the cottage complex, the pesantren has established a health clinic with complete facilities. With the aim that if there are students who are sick, the pesantren will immediately handle them without having to go to the puskesmas.

(d) Security services; both students and teachers must also obey the rules set by schools and Islamic boarding schools. (e). Information services; The information services offered at SMA Darul Ulum 2 Jombang are information about school profiles, school facilities, school payments, school mileage and information about education movements. All of this information can be accessed by the school community and outside the school through the website that has been provided.

#### **a) The Superior MAN of Tambakberas, Jombang**

Quality education service at MAN 3 Tambakberas Jombang developed the institution's website by purchasing a company program called the Madrasah Application Package (PAM). The information system at MAN 3 Jombang functions to cover various existing information, starting from data: (1) infrastructure, (2) curriculum, (3) student affairs, (4) school activities, (5) extracurricular activities, (6) madrasa administration , (7) staffing, (8) finance. Excellence-based information systems are expected to fulfill an accountable educational process and can facilitate the teaching and learning process. To optimize the management information system at MAN 3 Jombang, a team was formed to manage and develop the PAM. According to research sources, SIM in MAN is managed by five personnel, namely: one chairman (principal), five coordinators namely: (1) examination officer, (2) curriculum, (3) administrator, (4) teacher supporting, (5) student supporting. As in the following table:

**Table 4.** SIM manager at MAN Tambakberas

No	Coordinator	Jobdes
1	Examination Officer	Data processing
2	Curriculum	Data collector
3	Administrator	Data filter
4	Teacher supports	Data distribution
5	Student supports	Data user



MAN Unggulan 3 Tambakberas Jombang provides school service programs which are divided into two types, namely: basic services and auxiliary services. Main services include: (1) curriculum services; MAN 3 Tambakberas implements the national curriculum, and the pesantren curriculum such as learning the books of the salaf (fathul qorib, Riyadussholihin, nahwu, shorof, and aswajaan material) which are handled directly by the pesantren family.

(2) Learning services; the implementation of the material mastery improvement program (P3M) and the Olympic guidance program (BBMO). P3M is special coaching on national exam material which is held 3 times a week. With this program, students at MAN 3 Jombang almost 100% pass the national exam. The Olympic Guidance Program (BBMO) is implemented by bringing in mentors from out of town.

(3) training for teaching staff is carried out in the following ways: (a) developing (upgrading) competencies by holding various training and coaching both internal and external to the school, (b) providing active enthusiasm in carrying out tasks by bringing in local/national motivators. (c) calling and investigating teachers whose permission is absent 3 times a week. To then make a statement not to repeat it.

(4) Monitoring of KBM; to carry out effective learning the school continuously monitors teachers in the classroom, and cooperates with the supervisor of the National Education Office. Technically, they come in 1 month 2 times without prior notification.

(5) Student management; At the beginning of the school year, a selection of potential students and majors is carried out with three test models, namely: (a) an academic test covering six components (example, language, religion, and social studies), (b) a psychological test conducted by an independent institution from Malang, (c) Tests by the MAN Olympic Material Establishment Agency (BPMO) to limit student quotas each year. Furthermore, a class program was also formed; (a) regular, (b) superior. The differences in the treatment of regular classes and superior classes are: (a) superior classes study until 4 o'clock, regular classes until 3 o'clock. (b) superior classes are limited to science majors, (c) are handled by special teachers, (d) are given special facilities (lunch), (e) RKM superior class 85, regular class 75. (f) the duration of maple learning is 1 hour longer than the regular class.

(6) public relations services; is a processing that plays a role in fostering / developing the personal growth of students in schools and as a form of school communication with other parties to work together in advancing the institution.

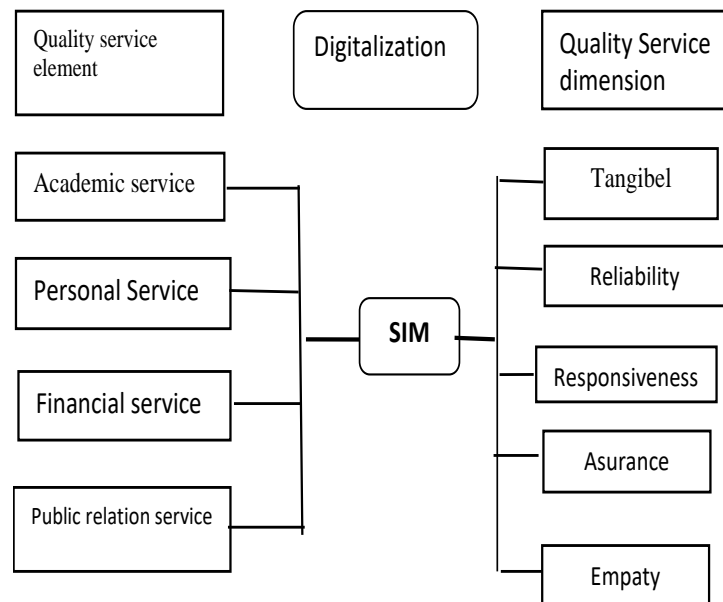
(7) infrastructure services; Sarpras services have been running well. This can be seen from the preparation of a separate team in; implementation/maintenance of madrasah facilities, sarpras evaluation team. What is even more important is the management of infrastructure and facilities based on technological advances.

(8) financial services; finance at MAN 3 Jombang has been fully managed by the madrasah finance team, but the madrasah has the obligation to deposit some of the finances to the Bahrul Ulum Islamic boarding school. Jombang's Featured 3 MAN Assistance Services consist of:

(9) Supporting services consist of digital libraries, guidance and counseling services not only for students with problems, but also as a body of consideration and motivation for students in selecting majors. Health services; his health services joined the Islamic boarding school, namely at the Bahrul Ulum Tambakberas polyclinic. Information services; which can be accessed through the website: [www.MANtambakberas.co.id](http://www.MANtambakberas.co.id).

## DISCUSSION

From the descriptions of the research results above, digitizing SIMs based on quality services at SMA 2 BPPT Darul Ulum, and MAN 3 Unggulan Tambakberas goes through two stages, namely: the first stage is the Quality service dimension with the characteristics of SIM digitization: tangibility, reliability, responsiveness, Assurance, and empathy. The second stage is Quality service element with the division of departments: a) academic services, b) personal services, c) financial services, d) public services.



**Picture 2.** The second stage is Quality service element with the division of departments

### 1. SIM digitization in Islamic high schools as a dimension of quality service.

SIM digitization in both schools is a school effort to meet stakeholder needs based on quality services. Mulyasa in his book introduces three quality processes; one of which is quality planning including: customer identity, determining customer needs, developing result characteristics which are responses to customer needs, setting quality objectives, developing processes that can produce products/services that match certain characteristics, and increasing or improving process capabilities(Mulyasa, 2013).

There are two approaches in providing quality services to users of educational services: (1). The service triangle approach consists of three elements: (a) implementing an effective service strategy called a service package, namely satisfying customer desires including main services and supporting services. (b) Human resources who provide services must interact directly with customers, (c) procedures for providing services are simple so that customers can easily understand them.

(2). The TQS (total Quality Service) approach has five elements: (a) market and customer research, namely finding out the expectations, desires, and feelings of customers towards services, (b). formulation of a strategy in the form of a navigator in providing quality services for customers, (c). education, training and communication with the hope that human resources can provide quality services to customers, (d). process improvement, (e). assessment, measurement, and feedback. From the two strategies above, when viewed from the information system in improving education services, it is in accordance with the first strategy, namely the service triangle approach.(Rusman et al, 2009). With this approach, it is expected to create a quality-based MIS that has the following characteristics: (a) tangibility, (b) reliability, (c) responsiveness, (d) assurance, (e) empathy (Zeithaml, Bitner & Gremler, 2006).

What is meant by reliability (delivering on promise) is the ability to provide services according to promises accurately and reliably. Furthermore, responsiveness is the willingness to help consumers and provide prompt, swift and fast service. Next, assurance has the intention of employee knowledge, the level of courtesy and the ability of company members to give a good impression with consumers. Empathy is attention, individual treatment given by the company to consumers. Finally, tangibles are defined as the appearance of physical facilities, tools, equipment, and communication materials.

This is in accordance with SIM management at SMA BPPT Darul Ulum 2 Jombang as follows; (1) SIM helps in improving quality. This can be seen from the Jombang Darul Ulum 2 High School as the place for the Cambridge University certification exam.<https://jombang.nu.or.id/area/Jadi-passan-sma-du-2-unggulan-bppt-mengantogi-minimal-1-certifikat-ujian-internasional-bagian-ii-3Jsap>). Initially only 20 participants then increased to 271 participants. The number of participants who took part in the certification were not only from within schools, but schools from outside the

region. Such as from SMAN 2 Kediri, SMAN 1 Tuban, SMAN 1 Bojonegoro, and SMA Khadijah Surabaya. (2) SIM facilitates the effectiveness of decisions; determine the number of teachers from the number of students accepted, if there is new data it is faster and more accurate in its socialization.

(3) SIM digitization is able to facilitate services to stakeholders. Information system services in the form of PAS-SMS, students can access lesson schedules, classes and study results, parents can access student achievement results, teachers get teaching schedule distribution, prospective users of education services get information about school conditions, and alumni get a place to communicate. The payment process at this school already uses the world area network, meaning that school payments can be made overseas. (4) Improving the performance of leaders and staff; All information is obtained through internet access, via mobile media using short messages. (5) speed up control; the mutation process is detected/updated faster so as to minimize the use of wild BOS.

As in SMA 2 BPPT Darul Ulum Jombang, the digitization of management information systems also plays a very important role in improving the quality and progress of MAN 3 Superior Jombang. Including the following; (1) the effectiveness of decision making; (2) facilitate service; Teachers, students, stakeholders, prospective students, student guardians, if they need information, they don't need to report to school. Because all information is obtained through internet access, via mobile media using short messages. (3) improve the performance of leaders and staff; (4) speed control.

The digitalization of the information system in the three schools has stages in its application operations, namely as follows: (1) development stage; preparing school work plans, determining policies and priority programs, allocating funds, procuring the required hardware and software, organizing officials, etc. (2) socialization and training stages; efforts to explain the entire system including its goals and benefits to stakeholders, community leaders, elements of school leadership and teachers so that resistance to the new system can be reduced, (3) the application stage as a continuation of training.

## **2. Elements of SIM quality service in Islamic Middle Schools**

Technically, every main service component at Darul Ulum 2 BPPT SMA and Tambakberas Jombang Unggulan SMA is packaged in modular forms so that the management information system is easy to implement. The important elements in each component are as follows; (1) development of the main elements of the curriculum; subjects for each class, syllabus for each subject, and lesson plan for each subject at each meeting, lesson schedule per day per week, (2) Service to students of its elements; the number of students in various categories, each class, the number of minutes per school year, the number of students accepted each academic year, the backgrounds of students

in various categories, students' hobbies/talents, parents' occupations, parents' income, students' extracurricular activities.

(3) the management of the elements of the teacher; number of teachers based on various categories, educational background, place and date of birth, gender, status, date of first appointment, work experience, type of training/research attended, further study, additional income other than salary, teaching activities elsewhere, subjects assigned, the amount of teaching load each week, additional teacher assignments, teacher attendance, performance evaluation. (4) financial management of its elements: type of source of income, amount of income, type of expenditure, amount of expenses per day/month, bookkeeping, SPP, or other donations, program of school activities for one fiscal year with allocation of funds and details, financial accountability system, personnel assigned to manage financial administration day/month/year. Monthly/annual financial reports. List of salaries and honoraria, various types of teacher and employee allowances, types of additional budget received by schools. (5) management of educational facilities the main elements are; a list of types of buildings and rooms, distribution of classrooms, teachers' offices, laboratories, libraries and available educational technology.

(6) the elements of school leadership are: preparation of school work programs, teaching supervision activities, scheduled coaching activities, school meetings, and other school activities. (7) evaluation of learning the elements; semester evaluation, midterm evaluation, daily evaluation, final evaluation of educational programs, national evaluation, etc. (8) extracurricular activities elements; sports, arts, outbound, study tours, scouting, and environmental development. (9) self-development; talent development activities and students' interests, (10) social communication; communication built with school stakeholders and partners. (11) development of Base-line data: development of a school information system with special characteristics that ultimately form a school profile that differentiates it from other schools.

Based on the findings of researchers, the quality of education services in the three schools mentioned above is based on the following principles: (1) athletic means slim, flexible, and has fast movements. (2) High Response Capacity means having a very high ability to respond to various challenges, problems and changes that occur, (3) Boundaryless means a bureaucratic structure that is loose and without limits, (4) professionalism means efficiency has an effective and productive performance. (5) High Capacity building; means having dynamics and high ability to continue to grow and develop as a manifestation of organizational learning.

(6) Synergy means integrated, coordinated in a harmonious and appropriate manner and is directed to one point, namely: the success of learning in each student. (7) Values based means always based on human values and norms of life as well as laws that apply and are upheld in a noble and civilized life. (8) High leadership capacity

means a system leader who has high leadership skills and is able to lead the system professionally. (9) Cost effective means a system that is not extravagant and does not result in very high operating costs for the system.

Based on the above principles, the system structure includes the following: (1) a school/madrasah principal who functions as the overall system manager, (2) a deputy who functions as the operation manager and technical executor of the system. (3) a number of support staff including ICT technicians to help run the system machine, (4) a group of teachers who function as managers of teaching and learning activities in class and are organized based on clusters of fields of study. (5) students as learners who are the focus in the learning process. The system structure can develop according to the autonomy of the school leadership, which will directly develop a vertical direction with the district or city area.

From the results of the research and data analysis, the conclusions that can be drawn are: Digitalization of information systems is carried out at SMA Darul Ulum 1 BPPT, SMA Darul Ulum 2 BPPT and MAN 3 Jombang in the context of the dimensions of quality service having characteristics; tangibility, reliability, responsiveness, assurance, and empathy. Service management with these characteristics aims to fulfill service improvements in the following elements/fields: academic, finance, curriculum, infrastructure, religious development, health, public relations, library, and extracurriculars.

SIM services at SMA Darul Ulum 2 BPPT and MAN 3 Jombang in the academic and public services fields use the word area network, then financial services use the local area network. With the digitization of management information systems at SMA Darul Ulum 1 BPPT, SMA Darul Ulum 2 BPPT and MAN 3 Jombang it will be able to improve services more effectively and efficiently and have an impact on improving academic quality. However, MAN 3 Jombang has not yet been budgeted seriously to monitor system developments and develop new policies.

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