

Digital Transformation of Madrasahs: The Strategic Role of EMIS-Based SIMDIK in Improving Institutional Performance

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Abstract

Keywords:
EMIS-based SIMDIK;
Madrasah Aliyah;
Program
Implementation;
Challenges and
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Madrasah
Performance,

This study analyzes the implementation of the EMIS-based SIMDIK program at Madrasah Aliyah Purwakarta, which faces challenges such as limited budgets, human resources, infrastructure, and internet network issues in remote areas. The study aims to evaluate the implementation of SIMDIK in improving the performance of madrasahs, covering planning, organization, implementation, supervision, identification of problems, solutions, and performance outcomes. The qualitative research method, with observations, interviews, and documentation, is based on G.R. Terry's POAC theory and Edison's performance theory. The findings show: (1) planning is by the Ministry of Religion regulations; (2) organization involves the designation of a SIMDIK operator, though limited to one *person* and assisted by other non-permanent personnel; (3) implementation is directed; (4) supervision involves the head of the madrasah, committee, and foundation; (5) main challenges include human resources, infrastructure, funding, and stakeholder support; (6) proposed solutions are a special budget request and honorarium for managers; (7) the use of EMIS-based SIMDIK has contributed to improving madrasah performance. Implications: This study recommends increasing the special budget and recognition systems for SIMDIK managers to improve program effectiveness. Greater stakeholder support is also expected to accelerate progress in madrasah infrastructure and human resource capacity.

Abstrak

Kata kunci:
EMIS-based SIMDIK;
Madrasah Aliyah;
Implementasi Program
Tantangan dan Solusi;
Kinerja Madrasah,

Penelitian ini menganalisis penerapan Program SIMDIK berbasis EMIS di Madrasah Aliyah Purwakarta, yang menghadapi tantangan seperti keterbatasan anggaran, SDM, dan infrastruktur, serta kendala jaringan internet di wilayah terpencil. Tujuan penelitian adalah untuk mengevaluasi implementasi SIMDIK dalam meningkatkan kinerja madrasah, mencakup perencanaan, pengorganisasian, pelaksanaan, pengawasan, identifikasi masalah, solusi, dan capaian. Metode yang digunakan adalah kualitatif dengan observasi, wawancara, dan dokumentasi, mengacu pada teori POAC G.R. Terry dan teori kinerja Edison. Temuan penelitian menunjukkan: (1) perencanaan sesuai regulasi Kemenag; (2) pengorganisasian dengan penetapan operator SIMDIK meski terbatas; (3) pelaksanaan terarah; (4) pengawasan melibatkan kepala madrasah, komite, dan yayasan; (5) kendala utama mencakup SDM, infrastruktur, pendanaan, dan dukungan stakeholder; (6) solusi yang diusulkan adalah anggaran khusus dan honorarium pengelola; (7) penggunaan SIMDIK berbasis EMIS mendorong peningkatan kinerja madrasah. Implikasi: Penelitian ini memberikan rekomendasi untuk meningkatkan anggaran khusus dan sistem penghargaan bagi pengelola SIMDIK guna meningkatkan efektivitas program. Dukungan yang lebih besar dari stakeholder juga diharapkan mempercepat kemajuan dalam infrastruktur dan kapasitas SDM madrasah.

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INTRODUCTION.

Digital transformation has become a global imperative, affecting various sectors, including education, with deep and broad implications (Hariyadi, 2023). In the context of madrasah, an Islamic educational institution in Indonesia, digitalization offers excellent potential to improve the quality of learning, administrative efficiency, and accessibility of education (Suwahyu, 2024) (Amirudin et al., 2024; Salamah et al., 2025). This phenomenon is increasingly crucial given the demand for acceleration and equalization of education quality in all madrasahs, both in urban and remote areas (Nihayaty & Fanani, 2022). The utilization of digital technology in madrasah is not just about following the trend but also a strategic step to improve the competitiveness of graduates in the digital era (Suwahyu, 2024) (Karanto et al., 2024; Yantoro et al., 2022). The low digital competence of madrasah teachers is an issue that needs to be addressed immediately (Supardi & Hakim, 2021). Moreover, in this digital era, teachers must be able to utilize virtual public spaces for democratization, education, agenda-setting, and even political propaganda (AL-Momani, 2024; Istiyani et al., 2024).

Previous studies have highlighted various aspects of madrasah digitalization, ranging from implementing e-learning to using social media in learning (Nihayaty & Fanani, 2022) (Daheri et al., 2023; Etherton et al., 2022; Kurniawan et al., 2023). However, research that comprehensively integrates the Education Management Information System-based Digital Madrasah Education Management Information System with institutional performance measurement is still relatively limited (Alwi & Mumtahana, 2023; Daheri et al., 2023). The focus of previous research tends to be fragmented, for example, only on learning or management aspects, without seeing the systemic relationship between the two. In addition, not many studies have examined how EMIS-based SIMDIK can be optimized to support strategic decision-making at the madrasah level, improve accountability, and ensure valid and reliable data quality. In other words, the novelty of this research lies in the holistic approach that connects digitalization, EMIS-based SIMDIK, and institutional performance in an integrated manner, as well as in the in-depth analysis of how EMIS data can be effectively utilized for planning, evaluation, and continuous improvement of madrasah quality.

The main objective of this study is to comprehensively analyze the strategic role of EMIS-based SIMDIK in improving madrasah performance. Specifically, this study aims to identify the key components of EMIS-based SIMDIK that are most influential in improving madrasah performance; analyze how EMIS data can be integrated with madrasah key performance indicators (e.g., student learning outcomes, graduation rates, accreditation); formulate an effective and sustainable EMIS-based SIMDIK implementation model, which considers the unique context and characteristics of madrasah in Indonesia; and test the effectiveness of the model through case studies in several representative madrasahs. This research differs from previous studies in that it focuses on the technical aspects of SIMDIK implementation and its strategic implications for improving overall institutional performance (A et al., 2024; Ferine et al., 2021).

This study's main argument to be tested is that EMIS-based SIMDIK implementation can effectively improve madrasah performance through several key mechanisms. These mechanisms include increased administrative efficiency, improved learning quality, accountability, and better decision-making based on accurate and relevant data (Regulation of the Minister of Education and Culture on Technical Guidelines for the Management of Regular School Operational Assistance Funds, 2021). The effectiveness of the application of dynamic archiving information systems has not entirely run optimally, so it is necessary to take corrective steps by paying attention to inhibiting factors such as the availability of infrastructure support, user human resource capabilities, application business process completeness, system reliability, organizational culture, and security issues (Utami et al., 2024).

METHODS

In this study, the authors used a descriptive case study method with a qualitative approach. This method was chosen because it is suitable for exploring the phenomenon of implementing the EMIS-based SIMDIK Program in Madrasah Aliyah. The research was conducted directly in natural conditions without engineering, with the researcher as the main instrument. Data collection techniques were done through participatory observation, in-depth interviews, and documentation studies. This approach allows researchers to obtain data in words, narratives, or images, which are then analyzed descriptively to get a comprehensive picture of the object under study.

Referring to Sugiyono's opinion (2015: 2), qualitative research has five main characteristics: it is carried out in natural conditions, is descriptive, emphasizes process rather than results, analyzes data inductively, and is oriented toward the meaning behind the apparent phenomenon. Therefore, in the context of this study, researchers focus not only on the final results of the implementation of EMIS-based SIMDIK but also on the process of planning, implementation, supervision, and obstacles faced in its implementation. An in-depth analysis is conducted to understand how various parties in the madrasah implement and respond to this system.

Meanwhile, according to Arikunto (2005: 116), a case study is an approach used to explore intensively, in detail, and in-depth a particular symptom. This aligns with Basuki's (2019:42) opinion, which states that case studies examine specific and unique problems that can be analyzed both qualitatively and quantitatively and directed at individuals, groups, and institutions. With the theoretical basis from these experts, the implementation of case studies in this study is focused on a particular educational unit (Madrasah Aliyah in Purwakarta) so that the data obtained is relevant and can provide a comprehensive and in-depth understanding of the implementation of the EMIS-based SIMDIK system in the field.

RESULTS AND DISCUSSION

Result

Planning

According to (Terry, 1977), planning is the selection of facts, the connection of facts, and the making and use of estimates or assumptions for the future by describing and formulating the activities needed to achieve the desired results. In planning, the Ministry of Religious Affairs has issued a Decree of the Minister of Religion (KMA) No. 83 of 2022 concerning Education Data Management at the Ministry of Religion using application 4.0. This has been launched for all madrasas at all levels, including Madrasah Aliyah. In this planning context, after being confirmed by the author, Madrasah Aliyah in Putwakarta regarding the planning of the EMIS program in terms of EMIS 4.0 application software has been carried out well with the software used that can provide ease of data collection in madrasah. Thus, in this planning aspect, each madrasah has implemented EMIS data collection by the regulations set by the government by KMA No. 83 of 2022 concerning Education Data Management at the Ministry of Religion and has a positive effect on improving madrasah performance.

Meanwhile, the human resources of the EMIS manager of the Aliyah madrasah in Purwakarta District has shown high dedication and professionalism as the manager of a system, as evidenced by the completion of EMIS data collection periodically in the madrasah with the division of tasks and functions according to their respective competencies, so that from the aspect of Human Resources managing SIMDIK-based EMIS madrasah in these two places have been declared ready to carry out the mandate as a form of institutional responsibility. Likewise, in terms of hardware devices (computers/laptops), the availability of these madrasahs is to the needs and can facilitate the madrasah EMIS data collection process smoothly and adequately. This is where the role and function of planning should be built by each madrasah education unit to always provide the necessary system improvements.

As for the bandwidth/capacity of network devices, it is sufficient to prove that the network is strong and can facilitate thoroughly uploading EMIS data to the Central EMIS server. As for the planning of Madrasah EMIS financing, on average, each Madrasah uses a pure budget from BOS funds, and there is no special funding for EMIS managers from the government. This means the government's support for the material aspect is still low. However, the non-material aspect has been maximized by efforts to provide guidance, training, guidebooks, and tutorials regarding the EMIS program in Madrasah. So, in terms of the EMIS budget, it is hoped that in the future, the government can give a special budget ceiling, in this case, the Ministry of Religious Affairs.

Organizing

According to Handoko in Purwanto (2007: 50), organizing is a process of arranging an organization according to the objectives of the organization, its resources, and the environment surrounding it. In addition, according to KMA Number 83 of 2022, the organization of EMIS includes the Head of the Madrasah, the Head of TU, and Operator

Staff. Furthermore, the duties of the Madrasah EMIS manager include 1) filling, completing, updating, and sending education data through the EMIS data collection application periodically at least 1 () time in 1 (one) semester; 2) ensuring the completeness, correctness, and currency of the submitted education data; 3) printing the Minutes of Data Collection after completing the EMIS data submission every semester; 4) optimizing the utilization of EMIS data to support the planning and implementation of work programs within the scope of their respective education units; 5) allocating budgets to support the operational needs of EMIS data collection within their respective education units; 6) providing and maintaining EMIS data collection facilities within their respective education units.

Based on the theoretical study and the Decree of the Minister of Religion regarding the organization of the EMIS Program in Madrasahs, it was found that the implementation of the organization of the EMIS Program in MA Al-Mutohhar Plered and MA YPPA Cipulus was by the regulations of the Minister of Religion, namely the existence of an EMIS management structure consisting of the Head of Madrasah, Head of TU and Madrasah Operator. Thus, the organization of the implementation of the EMIS program in Madrasahs can provide an improvement in the performance of Madrasahs as evidenced by the conformity between theory or regulations with the reality that occurs in the field where the research conducted by the author in madrasah aliyah in Purwakarta Regency.

Implementation

In implementation, the management function, according to G.R. Terry, is to arouse and encourage all group members so that they want to try hard to achieve goals sincerely and in harmony with the planning and organizing efforts of the leadership. In another reference, KMA Number 83 of 2022 is regarding implementing the Madrasah EMIS program, namely regarding data collection of educator data, education personnel data, infrastructure data, and student data in each Madrasah education unit. EMIS, as a religious education database, is expected to guide policy-making. Therefore, valid data is needed so that it is not wrong in determining the targets that must be achieved. EMS is one of the most sophisticated data collection methods in the Ministry of Religious Affairs, so it must be harmonized between this application and the ability of human resources to apply EMIS.

In reality, the EMIS program at Madrasah Aliyah in Purwakarta has been socialized by the Ministry of Religion through the Ministry Operator along with simulations and analysis of inputted data regarding student data, teacher data, education staff data, and infrastructure data for each madrasah to then be entered into the EMIS 4.0 application according to the Minister of Religion's regulations both online and online. This is proof that the regulations set by the government have run the Madrasah EMIS program in each education unit and provide a significant function for each education unit in improving Madrasah performance, especially in Madrasah Aliyah.

Supervision

G.R. Terry says that supervision is the process of determining what must be achieved, namely what standards are being carried out, namely implementation, assessing implementation, and if necessary, making improvements so that implementation is by the plan, namely in line with standards. In terms of monitoring the performance of the EMIS program implemented at the Aliyah madrasah in Purwakarta, which is carried out by the Head of Madrasah directly. The supervision includes: 1) Performance of EMIS management human resources; 2) EMIS Program Software Performance; 3) Hardware quality (computer/laptop); 4) Supervision of the quality of the performance support network and 5) supervision of the fulfillment of program financing.

From the results of the research regarding the supervision of the EMIS-based SIMDIK program in Madrasahs that it has been running well, with evidence carried out by the madrasah head and other supporting staff with proof that the performance of the EMIS program human resources in each data entry is monitored and there is a progress report to the madrasah head. Likewise, software performance, hardware quality, and the quality of the EMIS program support network in the field are the primary focus of the madrasah head to improve madrasah performance supported by the financing of the Madrasah EMIS program, which comes from the School Operational Assistance (BOS) fund. The purpose of this supervision is to avoid the possibility of fraud or irregularities, both in the budget (budgeting) or process (procedure) and authority (authority). Suppose the supervision process is carried out correctly. In that case, it will have an impact on improving the quality performance of Madrasahs. It will increase the competitiveness of madrasahs against other educational institutions. Madrasahs can become a model for equivalent educational institutions outside the Ministry of Religion, locally, nationally, and internationally.

Based on the explanation of the process, it can be seen in the following table:

Table 1. Digital Transformation of Madrasahs

Aspect	Description
Planning	- The selection of facts and making assumptions for the future by describing the activities necessary to achieve the goal. - The Ministry of Religious Affairs issued KMA No. 83 of 2022 on Education Data Management with the EMIS 4.0 application. - Madrasah Aliyah in Purwakarta has implemented EMIS data collection with software that facilitates the data collection. - EMIS management human resources show high dedication, and hardware (computers/laptops) and bandwidth support the smooth data collection. - EMIS funding uses BOS funds, but it is hoped that there will be a special budget ceiling from the government.
Organizing	- Preparing an organization based on the objectives and resources owned. - EMIS organization includes the Head of Madrasah, Head of TU, and Operator Staff. - Duties of EMIS managers: filling,

	completing, updating data, ensuring data completeness and correctness, and allocating budgets. - In Madrasah Aliyah in Purwakarta, the organization of EMIS has been well implemented by applicable regulations.
Implementation	- Management functions to encourage group members to work enthusiastically and by planning and organization. - The EMIS program functions as a database for data collection on teachers, students, infrastructure, and education personnel. - Madrasah Aliyah in Purwakarta has implemented the EMIS program according to KMA No. 83 of 2022 with offline and online data input. - The EMIS program runs according to the rules and positively impacts Madrasahs' performance.
Supervision	- Setting standards, assessing implementation, and improving if necessary to achieve conformity with the plan. - The Head of Madrasah carries out supervision, which includes supervision of human resources, EMIS software, hardware quality, network quality, and program financing. - Supervision runs well, with progress reports and monitoring of the performance of EMIS managers. - Effective supervision improves Madrasahs' performance and competitiveness.

Problems

In terms of language, the word obstacle comes from the word hambatan. In the Big Indonesian Dictionary, the word obstacle is defined as an obstacle; obstacle (Dictionary Compilation Team, Language Center, Big Indonesian Dictionary, cet.2 ed.3, (Jakarta: Balai Pustaka, 2002) p. 385. 385.) Thus, obstacles to implementing the program or whatever it is should always occur because they teach us about our weaknesses and those of others.

Based on the author's research on the obstacles of the SIMDIK Program in Improving Madrasah Performance in two madrasahs as model madrasahs in Purwakarta Regency regarding EMIS management human resources, readiness of facilities, budget readiness of EMIS managers, stakeholder response to EMIS managers and the quality of EMIS application software/server in principle has shown significant readiness, it's just that in terms of stakeholder/government response in terms of material support, the EMIS program managers in madrasahs have not felt it. Currently, the financing of the EMIS program, on average, still relies on the School Operational Assistance Fund (BOS) budget, which means that the BOS budget has a lot of nomenclature needs that each education unit must meet. With these obstacles, capacity building and performance improvement will also be obstacles because implementing the program requires an established budget, especially regarding manager welfare. Thus, every educational institution needs the welfare of managers in managing each program.

Solution

From the problems found in the field regarding various issues of the EMIS-Based SIMDIK program in Madrasahs regarding the human resources of EMIS managers, the Readiness of Facilities, the Readiness of the EMIS Management Budget, the response of

stakeholders to EMIS managers and the Quality of EMIS application software/server can be detailed as follows: 1) Related to human resources that to further improve the work productivity of Madrasah EMIS managers, it is deemed necessary to always hold training, workshops, coaching and material and in-material fulfillment as an effort to improve madrasah performance through EMIS-based digital system management in Madrasah. 2) In terms of infrastructure as a means of supporting the fulfillment of performance, it is deemed necessary to continue to improve even though there is no significant lack of facilities through proposals for improving infrastructure through local and central government. 3) In terms of budget readiness, the madrasah managers, starting from the foundation, madrasah head, and Madrasah committee, must fight hard to meet the budgeting needs of the madrasah EMIS program improvement by submitting jointly each madrasah education manager to the government regarding the special budgeting of Madrasah EMIS managers so that the implementation of Madrasah EMIS will increase by the expectations of the Ministry of Religion nationally. 4) In terms of stakeholder responses to EMIS managers, the author offers a solution to communicate intensively by madrasah managers both to parents of students' guardians, the surrounding community, and the local to central government regarding strengthening the EMIS program digitization system in realizing a great madrasah, the support of all parties is needed both in the form of material and the material because an institution's success is inseparable from the support of all parties, including parents, community leaders, and the government. 5th) Regarding the quality of the Central EMIS software/server that needs to be improved again so that there is no maintenance when inputting EMIS data periodically together with every madrasah manager throughout Indonesia because this will become a national obstacle which eventually occurs a saturation point for every Madrasah EMIS manager with a solution to increasing the capacity of the central EMIS server through developers who have collaborated with the Ministry of Religion regarding the EMIS-Based SIMDIIK Program in Madrasah.

Madrasah Performance

In terms of madrasah performance regarding essential points in the form of Attitude/Attitude, Expertise/Skills, Knowledge/Knowledge, Work Tools/Tools, and Colleagues/Coworkers, it can be explained that madrasah performance through the implementation of the EMIS-based SIMDIIK Program in Madrasahs will increase when in a madrasah it always pays attention to the following things.

Table 2. SIMDIIK Program with EMIS in Madrasahs

Component	Description
Attitude	The attitude of EMIS operators towards implementing SIMDIIK based on EMIS reflects their readiness to improve the performance of the Madrasah. A positive attitude and readiness to take responsibility indicate a drive for the success of this program.
Skill	The skills of EMIS operators include technical abilities in using computers and EMIS applications. Operators must have analytical

	skills and the ability to effectively organize and carry out tasks related to EMIS.
Knowledge	The knowledge of EMIS operators about the EMIS system is crucial in decision-making. This knowledge is gained through experience and training, as well as the integration of data and information to support the performance of the Madrasah.
Tools	Tools such as PCs, laptops, printers, modems, and other devices support the smooth implementation of EMIS. The availability of adequate tools in the Madrasah plays a significant role in the effectiveness of data management and in improving the institution's performance.
Coworker	Good working relationships between EMIS operators and Madrasah leaders and among peers create a supportive work environment. Harmonious cooperation increases motivation and job satisfaction, contributing to the EMIS program's success.

Attitude

Notoatmojo (2003: 132) states that attitude consists of various levels, namely receiving, responding, valuing, being responsible, and being accountable for everything he has chosen with all risks, which is to have the highest attitude. Attitude. The attitude here is intended to be the attitude of EMIS operators towards the Implementation of the EMIS-Based SIMDIK Program as a particular object accompanied by a tendency to act by the attitude towards the management of Madrasah EMIS or, in other words, the attitude and willingness of EMIS operators to react to the implementation of EMIS. It can be understood that the attitude of EMIS operators of madrasah education institutions determines the nature of both current and future actions in managing EMIS. From the research results, all Madrasah-based SIMDIK managers immediately declare themselves ready to build the Madrasah by improving the Madrasah's performance by implementing the EMIS-based SIMDIK program in Madrasah. This can be shown through the positive stigma reflected in the souls of madrasah managers.

Skill

Regarding the expertise of the operators of the SIMDIK Nerbasis EMIS Program, the author refers to Bandura's opinion (2006: 12) that the key characteristics of self-ability are the components of skill (expertise) and ability (ability) in terms of organizing and carrying out an action. In the context of computers, computer skills describe an individual's perception of their ability to use a computer to complete a task that uses specific programs such as software packages for data analysis in completing their assignments. The skill here is intended for the ability of operators to work easily and carefully. This expertise/skill is knowledge about and proficiency in certain types of work. These skills include competencies in certain areas of specialization, analytical skills, and the ability to use appropriate tools and techniques in applying EMIS in madrasah education institutions. The expertise/skills possessed by madrasah operators are, in principle, what is expected because madrasah leaders often assign them to attend training/instruction on EMIS to realize the improvement of madrasah performance.

Knowledge

The higher a person's level of education, the easier it is to receive information, so the more knowledge they have. For EMIS operators, knowledge of the EMIS system within the Ministry of Religious Affairs of Makassar city is essential. Knowledge results from knowing and occurs after people perceive a particular object. Apart from information, what is needed in knowledge is the experience and competence of a decision-maker. In line with this, Hendrik (2003: 1) argues that "knowledge is data and information combined with abilities, intuition, experience, ideas, motivation from competent sources". Thus, knowledge can be explained again as a collection of data and information that meets the competence and experience of EMIS management operators to follow up on existing data and information so that it can be developed for decision-making. Unlike only informative information, knowledge must be used for the decision-making process. In terms of knowledge, the madrasah EMIS program managers seem to be good because before they become operators, selection and competency tests are held so that the experiences of madrasah operators can realize the improvement of madrasah performance.

Tools

Tools here are objects used to facilitate daily work in data collection through EMIS, such as PCs, laptops, flash drives/external disks, printers, modems/wifi, and so on. These tools are used explicitly to implement EMIS in madrasah educational institutions. Equipment is a tool or can be in the form of a place whose purpose is to support the work. Equipment is generally more durable (longer useful life); it is essential to make financing decisions to support EMIS work at every religious education institution and boarding school because equipment supports the success or failure of institutional data collection. For the EMIS implementation process to run smoothly, effectively, and efficiently, several elements play a role, support, and even have a significant influence on the implementation of the EMIS implementation process, from the results of research in madrasahs that the available work tools to meet the needs of the EMIS program in improving madrasah performance have been maximized with the support of madrasah institutions in the implementation of the EMIS-based SIMDIK program in Madrasah, especially in madrasah aliyah education units. With adequate work tools, improving madrasah performance is inevitable.

Coworker

Looking at the opinion of Robbins (2002: 36) suggests that people get more than just money or tangible achievements from work. For most workers, work also fills the need for social interaction". Therefore, it is unsurprising that having supportive and friendly coworkers can increase job satisfaction. In implementing EMIS, an operator of a Madrasah educational institution builds partners with the leadership, which means there is a pattern of mutually beneficial behavior between the institution's leadership and the EMIS operators. The behavior of the leader is also a significant determinant of job satisfaction. Studies generally find that worker satisfaction is enhanced when direct providers are understanding and friendly, praise good performance, listen to the opinions of subordinates, and show personal interest in them. From some of the above definitions, it can be said that supportive coworkers, understanding of the establishment of working

relationships based on tangible achievements, and filling the need for social interaction. This is already well established in madrasahs so that superiors and subordinates have a relationship that provides mutual benefits to one another, especially in terms of cooperation between peers or coworkers.

From the results of research conducted by the author regarding the Implementation of the EMIS-Based SIMDIK Program at Madrasah Aliyah in Purwakarta Regency, it can be concluded that with the existence of the Madrasah EMIS-Based SIMDIK program, there is an increase in the performance of madrasah digitally as a madrasah that can be highly competitive with other educational institutions.

Discussion

Planning, as a fundamental management function, involves a meticulous process of fact selection, interrelation, and the strategic use of estimations to forecast future scenarios, ultimately guiding the formulation of activities essential for achieving desired outcomes (Amalia & Wildan, 2023). In the context of madrasah education within the Ministry of Religious Affairs, this planning facet is exemplified by the implementation of the Education Management Information System program, particularly with the advent of EMIS 4.0, as mandated by the Decree of the Minister of Religion No. 83 of 2022 concerning Education Data Management (Hariyadi, 2023). This initiative, designed for application across all madrasah levels including Madrasah Aliyah, signifies a concerted effort to streamline data collection and enhance overall efficiency within the educational framework. The successful deployment of EMIS 4.0 in Madrasah Aliyah in Purwakarta demonstrates the practical application of these regulations, with the software facilitating easier data collection, thereby contributing to improved madrasah performance (Gunawan et al., 2023).

The dedication and professionalism exhibited by EMIS managers within the Aliyah madrasahs in Purwakarta District further underscore the effective implementation of the system, as demonstrated by the timely completion of EMIS data collection through a well-defined division of tasks and responsibilities aligned with individual competencies. Complementing this, the availability of adequate hardware resources, such as computers and laptops, ensures the smooth and adequate facilitation of the EMIS data collection process within the madrasahs. This infrastructural support is crucial for realizing the full potential of the EMIS program and achieving its intended objectives. It is essential for each madrasah education unit to proactively develop and maintain this system, ensuring its ongoing relevance and effectiveness in supporting educational objectives (Arifin et al., 2023; Bakalim et al., 2018; Mariani et al., 2024).

The integration of Islamic teachings with contemporary educational strategies plays a pivotal role in cultivating well-rounded individuals capable of navigating the complexities of the modern world (Idris, 2023). Islamic education is not only about acquiring knowledge but also about cultivating moral and ethical values such as empathy, compassion, humility, and integrity (Anderson et al., 2022; Isroani & Huda, 2022; Jannah et al., 2023). These values are essential for developing ethically responsible members of society (Idris, 2023). The Ministry of Religion oversees Islamic universities, thereby necessitating a collaborative synergy between the two ministries (Heriyanto & Hudzaifi, 2023). Such institutions play a crucial role in nurturing students' faith and establishing environments conducive to fostering tolerance and understanding across diverse backgrounds (Idris, 2023).

The effective implementation of EMIS, supported by dedicated human resources and adequate hardware, underscores the commitment to enhancing madrasah performance through systematic data management. The educational system should also focus on developing critical thinking, problem-solving, and communication skills. These skills are essential for preparing students for success in the 21st-century workforce and for enabling them to contribute to society in meaningful ways. Islamic higher education faces challenges in implementing character development, particularly in the affective aspects that shape behavior, even with the integration of e-learning (Idris, 2023). Furthermore, Islamic education must address contemporary challenges, such as the influence of scientific and technological advancements, by developing effective strategies to shape the morals of the younger generation.

CONCLUSION

The Implementation of the EMIS-Based SIMDIK Program in Madrasah Aliyah has significantly impacted the improvement of management quality and operational efficiency in madrasahs. The use of integrated information technology with EMIS allows madrasahs to manage student, teacher, curriculum, and administrative data more systematically, effectively, and efficiently. As a result, educational staff can concentrate more on the teaching and learning process and student development without being burdened by time-consuming administrative tasks. Moreover, the system facilitates real-time monitoring and evaluation of madrasah performance, enabling data-driven and timely decision-making. Overall, the implementation of the EMIS-based SIMDIK has contributed to increased work efficiency and institutional performance across all levels of education, from primary to tertiary institutions. 1) The planning of the EMIS-based SIMDIK program is aligned with national policies issued by the Ministry of Religious Affairs. 2) The organization of the program involves the appointment of a SIMDIK operator through an official decree issued by the madrasah principal. However, the management still relies heavily on a single operator, while additional support personnel are only temporarily engaged during data input phases and are not permanent staff (outsourced). 3) The implementation of the program has been carried out in a structured and procedural manner. 4) Supervision of human resources, software, hardware (computers/laptops), and network systems is conducted by the principal, school committee, and foundation as the responsible stakeholders. 5) Challenges in implementing the program include limited human resources, infrastructure deficiencies, budget constraints, lack of stakeholder support, and software quality issues. 6) Solutions to these challenges include proposing special funding to the Ministry of Religious Affairs at the district/city level and recommending regulatory development for financing nomenclature, particularly concerning the honorarium of EMIS administrators in all madrasahs. 7) Madrasah performance has shown a noticeable improvement as a result of the implementation of the EMIS-based SIMDIK program.

This study is limited to the implementation at the Madrasah Aliyah level, which does not provide a comprehensive overview of the program's application across other educational levels, such as Madrasah Tsanawiyah and Madrasah Ibtidaiyah. Additionally, the data collected is primarily qualitative and descriptive, lacking in-depth exploration of the program's quantitative impact on madrasah performance indicators.

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