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# Evaluating Educational Institution Quality Through Virtual Observation: an SPMI–PPEPP Perspective on the Official Website of MAN Lumajang

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***ABSTRACT***

Digital transformation has encouraged educational institutions to strengthen quality assurance systems through digital platforms, particularly official school websites. Beyond serving as communication media, school websites represent institutional transparency, accountability, and quality culture. This study aims to evaluate educational quality through a virtual observation approach using the Internal Quality Assurance System (SPMI) and the PPEPP cycle framework on the official website of MAN Lumajang. A mixed descriptive method was employed, utilizing digital observation and documentation techniques. The assessment focused on five dimensions: information transparency, digital academic services, quality evidence, digital quality activities, and quality evaluation and improvement. The findings indicate that MAN Lumajang achieved a digital quality score of 63 out of 80, categorized as good. The strongest aspect was digital quality activities, while quality evidence and digital quality evaluation remained relatively weak. The study concludes that although institutional transparency and digital communication are well established, stronger evaluation, monitoring, and continuous improvement systems are required to support sustainable Digital Quality Assurance.

***Keywords:*** Digital Quality Assurance, Educational Quality Management, Internal Quality Assurance System (SPMI), PPEPP Cycle, Virtual Observation

## INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed educational management, influencing not only teaching and learning processes but also institutional governance and quality assurance systems. The acceleration of digital transformation, particularly in the post-COVID-19 era, has encouraged educational institutions to adopt technology-based platforms to improve service effectiveness, administrative efficiency, information transparency, and institutional accountability. Within the context of educational quality management, digitalization has emerged as a strategic instrument that enables data management, monitoring, evaluation, and quality reporting to be conducted more effectively and sustainably. Previous studies have demonstrated that the implementation of digital-based quality assurance systems enhances efficiency, transparency, and accuracy in educational quality management, thereby supporting the development of a sustainable quality culture (Rini et al., 2022)Consequently, digitalization is no longer regarded as an optional innovation but rather as a strategic necessity for educational institutions seeking to maintain and improve quality in the era of digital transformation.

In this context, official educational institution websites have become essential digital platforms for representing institutional quality and credibility in the public sphere. School websites serve not only as channels for information dissemination but also as reflections of transparency, accountability, academic service quality, and professional governance. Through

these platforms, stakeholders can access information regarding institutional vision and mission, educational programs, academic achievements, student services, and organizational activities. Previous research indicates that the effectiveness of educational websites is influenced by the quality of information, accessibility, service interactivity, and the availability of comprehensive digital evidence (Pirata et al., 2023). Therefore, school websites can be viewed as important indicators of institutional quality and public accountability, while simultaneously strengthening public trust in educational institutions.

Despite the increasing adoption of digital technologies in education, significant challenges remain regarding the implementation of transparency and accountability through educational websites. Many institutions have established official websites; however, not all provide comprehensive, updated, and sustainable information. In many cases, websites function merely as one-way communication tools without adequate quality-related evidence. As a result, stakeholders often face difficulties in obtaining comprehensive information regarding educational services, quality assurance systems, and institutional development. Furthermore, digital quality evidence including quality evaluation reports, stakeholder satisfaction surveys, accreditation documents, complaint management systems, and quality improvement initiatives is often not systematically presented through digital platforms (Dwi et al., 2026)These conditions suggest that the potential of school websites as instruments of educational quality assurance has not yet been fully optimized, particularly in terms of transparency, accountability, and digital quality documentation.

From the perspective of educational quality management, these challenges can be examined through the framework of the Internal Quality Assurance System (SPMI). SPMI is designed to ensure that educational institutions meet and exceed quality standards through a culture of continuous improvement. Operationally, SPMI is implemented through the PPEPP cycle, which consists of Determination, Implementation, Evaluation, Control, and Improvement. This cycle places continuous evaluation and improvement at the center of institutional quality development. As educational digital transformation continues to evolve, the concept of Digital Quality Assurance (Digital QA) has become increasingly relevant because it facilitates digital documentation, monitoring, evaluation, and dissemination of institutional quality performance. Previous studies have shown that integrating digital technologies into quality assurance systems enhances data-driven decision-making, institutional accountability, and the overall effectiveness of quality management (Prapsetyo et al., 2026) Within the context of Islamic educational institutions, digital transparency and accountability also reflect the values of amanah (trustworthiness) and continuous improvement that underpin effective educational governance.

Although numerous studies have examined SPMI, the PPEPP cycle, and educational digitalization, most have focused on quality evaluation through conventional approaches such as interviews, field observations, and internal document analysis (Fauzi et al., 2024). Other studies have primarily investigated the implementation of PPEPP for internal quality improvement or the development of educational information systems without explicitly linking these efforts to website-based quality evaluation (Prapsetyo et al., 2026). Meanwhile, studies employing school websites as primary sources for quality assessment through virtual observation remain limited. This is noteworthy because school websites have evolved into public digital spaces that represent institutional transparency, academic services, organizational

activities, and quality evidence. Accordingly, a significant research gap exists regarding how educational quality can be evaluated through digital platforms by integrating the perspectives of SPMI, the PPEPP cycle, and Digital Quality Assurance into a unified analytical framework.

Addressing this gap, the present study proposes a distinct approach by positioning the official school website as the primary object of educational quality evaluation through virtual observation. The novelty of this study lies in the integration of virtual observation, the SPMI framework, and the PPEPP cycle to assess digitally mediated educational quality. Unlike previous studies that tend to examine quality assurance and educational digitalization separately, this study conceptualizes the school website as a tangible representation of institutional quality in the digital public sphere. Through this approach, the study not only examines the quality of website management but also evaluates the extent to which quality assurance principles are reflected in information transparency, academic services, quality evidence, institutional activities, and quality evaluation and improvement mechanisms displayed on the website. This perspective contributes to the growing discourse on Digital Quality Assurance within Islamic educational institutions while offering a contextualized model of quality evaluation that responds to the demands of twenty-first-century educational transformation.(Sugesti, 2023)

Based on these considerations, this study aims to analyze digitally mediated educational quality through a virtual observation approach using the perspectives of the Internal Quality Assurance System (SPMI) and the PPEPP cycle on the official website of MAN Lumajang. Specifically, the study evaluates information transparency, academic services, digital quality evidence, institutional activities, and quality evaluation and improvement mechanisms presented through the school website. The findings are expected to contribute theoretically to the development of Digital Quality Assurance studies in Islamic educational institutions and provide practical recommendations for strengthening transparent, accountable, and sustainable digital quality assurance systems.

## RESEARCH METHOD

This study employed a descriptive research design using a mixed quantitative and qualitative approach to analyze the quality of a digital-based educational institution through virtual observation. The quantitative approach was used to measure institutional quality based on observation scores, while the qualitative approach was used to describe and interpret quality conditions based on digital evidence available on the official website. The study focused on MAN Lumajang as the research subject, with the institution's official website and supporting social media platforms serving as the primary objects of analysis. The selection of MAN Lumajang was based on the availability of digital information that could be examined from the perspective of the Internal Quality Assurance System (SPMI) and the PPEPP cycle. The official website was chosen because digital media have become important indicators of institutional quality, transparency, and accountability in the era of educational digital transformation (Fauzi et al., 2024).

Data were collected through digital observation (virtual observation) and documentation. Observations were conducted systematically by examining the content, services, activities, and quality evidence displayed on the official MAN Lumajang website and related digital platforms. Documentation techniques were used to collect supporting evidence, including website links,

screenshots, institutional publications, accreditation information, organizational structures, and other online quality-related documents. Previous studies have shown that digital documentation can improve the validity and reliability of technology-based educational quality evaluation research (Kholidya et al., 2025).

The research instrument consisted of a digital observation checklist developed based on SPMI and the PPEPP cycle. The instrument covered five aspects: information transparency, academic services, quality evidence, institutional activities, and evaluation and quality improvement. A 1–4 rating scale was applied to twenty indicators, resulting in a maximum score of 80 points. Data were analyzed using descriptive quantitative and qualitative techniques. Quantitative analysis was conducted by calculating total scores and classifying them into quality categories, while qualitative analysis was used to interpret digital evidence. The analysis was further guided by the PPEPP framework to identify how quality culture and continuous quality improvement were reflected in the management of MAN Lumajang's digital media (Prapsetyo et al., 2026).

## RESULTS AND DISCUSSION

This section presents the results of a digital quality analysis of MAN Lumajang's official website using a virtual observation approach. Data were collected

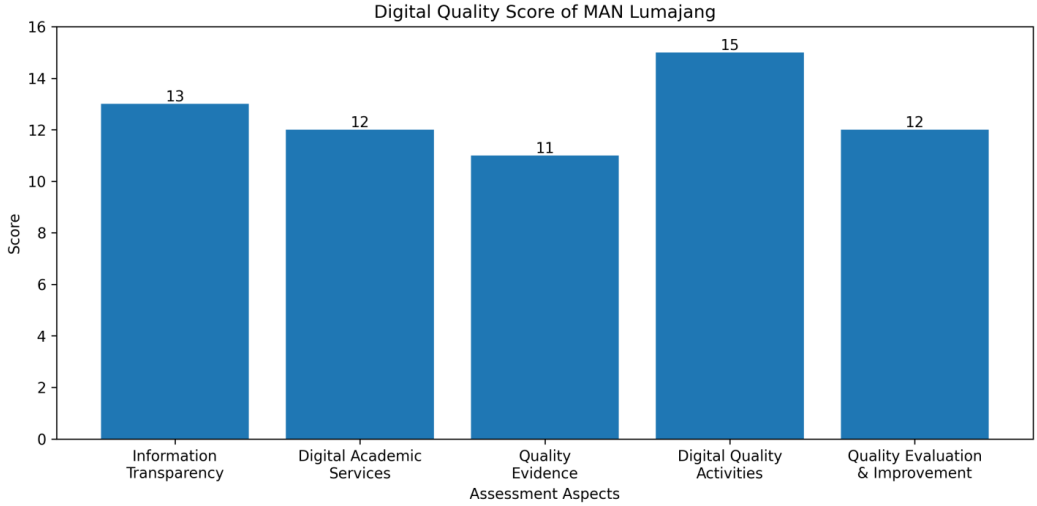
### Results

Based on the digital observation of the official website of MAN Lumajang, data were obtained regarding the level of implementation of digital-based educational quality from the perspective of the Internal Quality Assurance System (SPMI) and the PPEPP cycle. The assessment was conducted on five main aspects: information transparency, digital academic and administrative services, quality evidence, digital quality activities and actualization, and quality evaluation and improvement. Each aspect consisted of four assessment indicators scored on a scale of 1–4, resulting in a maximum possible score of 80 points.

The findings revealed that the digital quality of the educational institution, as represented through the official website of MAN Lumajang, achieved a total score of 63 out of a maximum score of 80. Based on the predetermined score interpretation criteria, this result falls within the "good" category. This finding indicates that MAN Lumajang has successfully implemented most of the digital quality indicators at a satisfactory level, particularly in the areas of information transparency, academic services, and digital institutional activities. The school website has functioned effectively as a platform for information dissemination, public communication, and the representation of institutional quality to the wider community.

Table 1. Digital-Based Educational Quality Score of MAN Lumajang

| No | Assessment Aspect | Maximum Score | Obtained Score | Category |
|---|---|---|---|---|
| 1 | Information Transparency | 16 | 13 | Good |
| 2 | Digital Academic and Administrative Services | 16 | 12 | Good |
| 3 | Quality Evidence | 16 | 11 | Good |
| 4 | Digital Quality Activities and Actualization | 16 | 15 | Very good |
| 5 | Quality Evaluation and Improvement | 16 | 12 | Good |
| | Total | 80 | 63 | Good |




Based on Table 1 and the corresponding graph, the highest score was achieved in the aspect of digital quality activities and actualization, with a score of 15. This finding indicates that MAN Lumajang demonstrates a very high level of digital engagement through the active dissemination of information and institutional activities via its official website and social media platforms. Regular publication of school activities, student achievements, academic programs, and institutional events reflects the school's commitment to maintaining an active digital presence and strengthening communication with stakeholders.

In contrast, the lowest score was recorded in the quality evidence aspect, with a score of 11. This result suggests that the availability of digital quality evidence remains relatively limited, particularly regarding the publication of quality evaluation reports, monitoring and supervision documents, self-evaluation reports, accreditation-related evidence, and documentation of continuous quality improvement initiatives. Although various achievements and institutional activities are publicly displayed, more comprehensive quality assurance documentation is still needed to strengthen the transparency and accountability of the institution's quality management system.

Overall, the findings indicate that the official website of MAN Lumajang has been able to represent the institution's quality culture in the digital environment effectively. The website functions not only as a communication and information platform but also as a medium for demonstrating institutional performance and educational quality to the public. Nevertheless, further improvement is required in the areas of digital quality evaluation and quality evidence documentation to ensure that the implementation of Digital Quality Assurance becomes more comprehensive, systematic, and sustainable. Previous studies have emphasized that strengthening digital quality information systems is a crucial factor in enhancing the effectiveness of Internal Quality Assurance System (SPMI) implementation and fostering a sustainable quality culture in the era of digital transformation (Idris et al., 2022).

**Information Transparency of the Educational Institution**

The results of the virtual observation indicate that the information transparency dimension of the official MAN Lumajang website can be categorized as good. The website provides publicly accessible information, including the institution's profile, vision and mission, organizational structure, educational programs, staff and student information, and institutional

activities. These findings demonstrate the institution's commitment to transparency and accountability in educational governance(Daradjat & Saputra, 2021). The website also features a relatively organized navigation structure, enabling users to access information efficiently. Previous studies have shown that digital information transparency, accessibility, and usability contribute significantly to institutional accountability, service quality, and stakeholder communication (Lailina & Zahrok, 2020)

However, information related to quality assurance remains limited. Evidence such as self-evaluation reports, quality monitoring outcomes, and follow-up improvement actions is not comprehensively documented or regularly updated. From the perspective of Digital Quality Assurance and the Internal Quality Assurance System (SPMI), this condition indicates that the website primarily supports the Determination and Implementation stages of the PPEPP cycle, while the Evaluation, Control, and Improvement stages remain insufficiently represented(Bayu Priyatna,2025). Therefore, strengthening digital transparency through the publication of quality evaluation reports, monitoring results, and quality improvement initiatives is necessary to ensure that the website functions not only as an information platform but also as a comprehensive educational quality assurance instrument (Idris et al., 2022)

**Digital Academic and Administrative Services**

The results of the virtual observation indicate that the academic and digital administrative services provided through the official MAN Lumajang website can be categorized as good. The website offers academic schedules, school announcements, student admission information, institutional profiles, learning activity documentation, and links to the school's social media platforms. These features reflect the institution's efforts to adapt to digital transformation by improving information accessibility and stakeholder communication. Previous studies have shown that the integration of information technology into educational services enhances service quality, administrative efficiency, transparency, and stakeholder engagement (Daradjat & Saputra, 2021)

From a quality management perspective, digital services are important indicators of institutional professionalism and technological readiness. However, the findings reveal that the website remains primarily informative rather than interactive, as features such as digital complaint systems, online consultations, user satisfaction surveys, and integrated administrative services are not yet fully available. Within the SPMI framework, this condition indicates that digital services support information delivery but have not optimally facilitated continuous evaluation and monitoring processes. Analysis based on the PPEPP cycle shows that the Implementation stage is well represented, whereas the Evaluation and Control stages remain limited. Therefore, strengthening participatory digital evaluation systems is necessary to support continuous quality improvement and enhance institutional quality culture (Ranisa et al., 2025)

**Quality Evidence**

The findings indicate that the official MAN Lumajang website provides various forms of digital quality evidence, including student achievements, academic and extracurricular activities, religious programs, and institutional publications. These materials demonstrate the institution's commitment to communicating educational quality and strengthening its public image through digital media. From a quality management perspective, quality evidence serves as a tool for accountability, documentation, and quality culture development. Previous studies

have emphasized that digital documentation supports the implementation of the Internal Quality Assurance System (SPMI) and contributes to strengthening the quality image of educational institutions (Barus & Lama, 2024)However, the available evidence is still largely limited to activity documentation and achievement reports. Important quality assurance documents, such as self-evaluation reports, accreditation records, quality monitoring results, user satisfaction surveys, and quality improvement reports, are not yet comprehensively published. Analysis based on the PPEPP cycle shows that the available evidence mainly reflects the Implementation stage, while the Evaluation, Control, and Improvement stages remain insufficiently represented. Therefore, MAN Lumajang should strengthen its digital quality documentation by regularly publishing evaluation reports, monitoring outcomes, accreditation documents, user satisfaction surveys, and quality improvement follow-up reports to enhance transparency, accountability, and the effectiveness of Digital Quality Assurance practices (Bayu, Septiana;2025)

**Digital Activities and Quality Actualization**

The results indicate that the digital activities and quality actualization dimension of the MAN Lumajang website can be categorized as excellent. The website is regularly updated with information on academic and extracurricular activities, religious programs, student achievements, and institutional initiatives. Its integration with social media enhances communication and expands public access to school information. These findings demonstrate the institution's active utilization of digital media to communicate educational quality, strengthen transparency, and promote institutional achievements. Previous studies have shown that effective digital communication contributes to institutional reputation, accountability, and public engagement (Ranisa et al., 2025).

From the perspective of the Internal Quality Assurance System (SPMI), these findings reflect a positive culture of documentation and public communication. However, most published content focuses on activities and achievements, while information related to quality evaluation, monitoring, and improvement remains limited. Analysis based on the PPEPP cycle indicates that the website strongly represents the Implementation stage, whereas the Evaluation, Control, and Improvement stages are less visible. Therefore, strengthening the publication of quality evaluation and improvement processes is necessary to support sustainable quality assurance and continuous quality improvement (Idris et al., 2022)

**Evaluation and Quality Improvement**

The results indicate that the evaluation and quality improvement aspect of the official MAN Lumajang website can be categorized as fairly good, although it remains one of the weakest dimensions compared to other assessed aspects. The website has not yet comprehensively provided digital quality evaluation features such as user satisfaction surveys, quality monitoring reports, online complaint systems, and documented follow-up actions for quality improvement. Most available information focuses on institutional activities and educational services rather than systematic quality evaluation documentation. This condition suggests that the website has not yet fully functioned as a digital quality control and evaluation instrument.

From the perspective of the Internal Quality Assurance System (SPMI) and the PPEPP cycle, quality evaluation and improvement are essential components of continuous quality improvement. The findings show that the Implementation stage is relatively well represented, while the Evaluation, Control, and Improvement stages remain limited. Previous studies have

emphasized that effective quality assurance requires transparent, data-driven evaluation systems and digital monitoring mechanisms to support accountability, informed decision-making, and sustainable educational quality enhancement (Idris et al., 2022).

## Discussion

### 1. Information Transparency

The observation results indicate that the information transparency aspect of the official MAN Lumajang website is categorized as good. The website provides essential institutional information, including the school profile, vision and mission, organizational structure, teacher data, and school programs. In addition, the website navigation is sufficiently organized, enabling users to access information easily. These findings demonstrate that MAN Lumajang has implemented digital information transparency as part of its educational quality management practices.

From the perspective of educational quality management, transparency is an important indicator of accountability and public trust. Transparent information allows stakeholders to understand institutional performance and supports the development of a quality culture within educational institutions. This finding is consistent with previous studies which suggest that digital transparency strengthens communication between schools and the community while improving institutional accountability (Rini et al., 2022).

However, the observation also revealed that several quality-related documents, such as quality evaluation reports, internal quality assurance documents, and quality improvement follow-up reports, are not yet consistently available or updated. This indicates that transparency is currently focused more on general institutional information than on comprehensive quality evidence.

Within the PPEPP framework, the transparency aspect reflects the Determination and Implementation stages through the publication of institutional policies and school activities. Nevertheless, the Evaluation, Control, and Improvement stages are not yet fully represented due to the limited availability of digital quality assurance documentation. Therefore, strengthening the publication of quality-related evidence would enhance the role of the website as a medium for digital quality assurance and continuous quality improvement

### 2. Digital Academic Services

The observation results indicate that the digital academic services aspect of the official MAN Lumajang website is categorized as good. The website provides various academic information services, including school announcements, student admission information, academic schedules, and communication access through the school's social media platforms. These services demonstrate the institution’s effort to utilize digital technology to facilitate access to educational information for students and the wider community.

From the perspective of educational quality management, digital academic services are an important indicator of effective educational governance. The use of information technology can improve administrative efficiency, accelerate information dissemination, and strengthen communication between schools and stakeholders. This finding supports previous studies which suggest that digital academic service systems contribute to improving educational service quality and strengthening institutional quality culture (Fauzi et al., 2024).

However, the findings also reveal that the available services remain predominantly informational rather than interactive. Features such as user satisfaction surveys, digital complaint systems, and online administrative services are still limited. According to the Digital Quality Assurance framework, this condition indicates that digital service quality requires further development, particularly in terms of evaluation and stakeholder participation. Within the PPEPP perspective, the academic services provided by MAN Lumajang reflect the Implementation stage, while the Evaluation and Control stages have not yet been optimally represented in the digital environment (Idris et al., 2022).

**3. Quality Evidence**

The observation results indicate that the quality evidence aspect of the official MAN Lumajang website is categorized as good. The website provides various forms of quality evidence, including student achievements, academic and non-academic activities, competition information, and other institutional activities. These findings demonstrate the school's effort to showcase its educational quality through digital media. In the context of modern education, digital quality evidence is essential because public perceptions of school quality are increasingly influenced by the availability of transparent and accessible institutional information.

From the perspective of the Internal Quality Assurance System (SPMI), quality evidence serves as documentation of quality achievement and institutional accountability. Previous studies have emphasized that digital quality documentation supports the effectiveness of quality assurance processes by providing evidence for continuous monitoring and evaluation ((Idris et al., 2022).

However, the findings reveal that the quality evidence displayed on the MAN Lumajang website is still dominated by activity reports and achievement publications rather than formal quality assurance documents. Important documents such as school self-evaluation reports, quality monitoring results, and quality improvement follow-up reports are not yet fully available. Compared with the Digital Quality Assurance framework, this condition indicates that the management of digital quality evidence requires further strengthening so that the website functions not only as a platform for institutional promotion but also as a systematic and sustainable repository of educational quality documentation.

**4. Digital Quality Activities and Actualization**

The observation results indicate that the digital quality activities and actualization aspect of the official MAN Lumajang website is categorized as very good. This is reflected in the school's consistent publication of academic and non-academic activities through its website and social media platforms. The published content includes learning activities, student achievements, religious programs, extracurricular activities, competitions, seminars, and student organization events. Furthermore, the integration of the website with social media demonstrates the institution’s commitment to utilizing digital platforms as a means of public communication and institutional quality promotion.

From the perspective of educational quality management, active digital engagement reflects a dynamic organizational culture that is responsive to technological developments. Regular publication of school activities not only serves as a communication tool but also contributes to strengthening the institution’s reputation and public image. This finding is consistent with previous studies suggesting that sustainable digital communication can enhance

institutional visibility and strengthen relationships between schools and stakeholders (Ranisa et al., 2025)

Compared with the Digital Quality Assurance framework, MAN Lumajang has effectively demonstrated the Implementation stage of the PPEPP cycle through the continuous dissemination of institutional programs and activities. However, digital publications remain largely focused on activity documentation rather than on quality evaluation and improvement processes. Therefore, greater attention should be given to publishing quality assurance outcomes and improvement initiatives to support a more comprehensive and sustainable digital quality culture (Idris et al., 2022)

**5.Quality Evaluation and Improvement**

The observation results indicate that the quality evaluation and improvement aspect of the official MAN Lumajang website is categorized as good, although it remains one of the weaker aspects compared to the others. The website does not yet provide comprehensive digital quality evaluation features such as user satisfaction surveys, quality monitoring reports, online complaint systems, or publications of quality improvement follow-up actions. Most of the available information focuses on school activities and services rather than systematic quality evaluation documentation. This finding suggests that the implementation of digital quality evaluation at MAN Lumajang still requires further development so that the website can function not only as an information platform but also as a quality assurance instrument.

From the perspective of the Internal Quality Assurance System (SPMI), evaluation and quality improvement are central components of continuous quality improvement. Quality evaluation provides the basis for measuring the achievement of educational standards and identifying areas that require improvement. Previous studies have emphasized that effective quality assurance implementation requires transparent, documented, and data-driven evaluation systems to support continuous institutional development (Idris et al., 2022).

When compared with the Digital Quality Assurance framework, the findings indicate that MAN Lumajang has successfully demonstrated the Implementation stage of the PPEPP cycle. However, the Evaluation, Control, and Improvement stages are not yet fully reflected in the digital environment. Ideally, digital quality assurance should facilitate data-based decision making, stakeholder participation, transparency, and institutional accountability. Therefore, strengthening digital evaluation mechanisms and publishing quality improvement outcomes would contribute significantly to the development of a sustainable quality culture at MAN Lumajang.

**Strengths and Weaknesses of Digital Quality Implementation**

Based on the digital observation of the official MAN Lumajang website, the study identified several strengths in the implementation of digital educational quality. The institution demonstrates strong digital communication through the consistent publication of academic and non-academic activities, student achievements, religious programs, and institutional events. The integration of the website with social media platforms further enhances public engagement and information accessibility. In addition, the website provides essential institutional information, including the school's vision and mission, organizational structure, institutional profile, and student admission information. These findings reflect the implementation of transparency, accountability, and quality culture principles through digital media (Rini et al., 2022)

However, several weaknesses remain evident, particularly in the area of Digital Quality Assurance. The website does not yet provide comprehensive quality evaluation features such as user satisfaction surveys, online complaint mechanisms, quality monitoring reports, or publicly accessible quality evaluation documents. Furthermore, important quality evidence, including self-evaluation reports, accreditation documents, monitoring results, and quality improvement plans, is not fully available. As a result, the website functions primarily as an information and publication platform rather than an integrated quality assurance system. Strengthening digital evaluation mechanisms and quality documentation is therefore necessary to support transparency, accountability, and continuous quality improvement in accordance with Digital Quality Assurance principles (Idris et al., 2022).

**SPMI–PPEPP Analysis**

The analysis of digital educational quality at MAN Lumajang was conducted using the Internal Quality Assurance System (SPMI) framework through the PPEPP cycle, consisting of Quality Determination, Implementation, Evaluation, Control, and Improvement. This framework was employed because PPEPP represents the core mechanism of continuous quality improvement in educational quality assurance. In the context of digital transformation, the implementation of PPEPP can be identified through the management of institutional digital platforms, particularly the school's official website.

**1.Quality determination**

The Quality Determination stage is reflected in the availability of institutional information such as the school's vision and mission, educational objectives, organizational structure, and institutional profile. These elements indicate that MAN Lumajang has established quality standards and strategic directions that serve as the foundation for educational service delivery. According to the SPMI framework, clearly documented standards are essential for effective quality assurance implementation (Alharbi, 2024)

**2.Quality implementation**

The Quality Implementation stage represents the strongest aspect of digital quality management at MAN Lumajang. The website consistently publishes academic and non-academic activities, student achievements, religious programs, educational services, and institutional information. Furthermore, integration with social media platforms demonstrates the school's commitment to digital communication and public engagement. These findings indicate that digital platforms have been effectively utilized to support educational services and institutional visibility (Zainul et al., 2026).

**3.Quality evaluation**

The Quality Evaluation stage remains relatively underdeveloped. The website does not yet provide comprehensive quality evaluation mechanisms such as user satisfaction surveys, quality monitoring reports, or publicly accessible evaluation results. As a result, the measurement of educational service effectiveness is not fully reflected in the digital environment. From a Digital Quality Assurance perspective, evaluation is essential for supporting evidence-based decision-making and continuous improvement(Sihite et al., 2026).

**4. Quality improvement**

The Quality Improvement stage can be observed through the continuous updating of institutional information and the expansion of digital communication channels. However, improvement efforts remain focused primarily on activity publication rather than systematic

quality enhancement based on evaluation results. Ideally, quality improvement should be supported by documented evaluation findings and follow-up actions that are publicly accessible(Rambe et al., 2025).

**5.Quality improvement**

The Quality Improvement stage can be observed through the continuous updating of institutional information and the expansion of digital communication channels. However, improvement efforts remain focused primarily on activity publication rather than systematic quality enhancement based on evaluation results. Ideally, quality improvement should be supported by documented evaluation findings and follow-up actions that are publicly accessible(Wei & Yin, 2024).

**Recommendations for Improvement**

Based on the findings of the virtual observation conducted on the official website of MAN Lumajang, this study proposes a series of improvement strategies grounded in the PPEPP cycle (Determination, Implementation, Evaluation, Control, and Improvement). These recommendations are evidence-based and aimed at strengthening the institution's Digital Quality Assurance system in a sustainable manner.

At the Quality Determination stage, MAN Lumajang should establish formal standards for digital quality management within its Internal Quality Assurance System (SPMI). These standards should cover information transparency, quality documentation, content updating procedures, and digital service performance indicators. The establishment of measurable digital quality standards would provide a clear framework for managing the school website and other digital platforms.

At the Quality Implementation stage, the website should be developed beyond its current role as an information portal and transformed into an integrated digital service platform. This can be achieved by introducing online administrative services, academic consultation facilities, parent–school communication channels, and integrated academic information systems. Such developments would enhance service accessibility and improve stakeholder engagement.

At the Quality Evaluation stage, the institution should implement digital evaluation mechanisms, including online satisfaction surveys for students, parents, teachers, and staff. In addition, periodic reports on educational services, program evaluations, and quality performance indicators should be made available through the website. These measures would support evidence-based decision-making and strengthen institutional accountability.

At the Quality Control stage, MAN Lumajang should develop a digital quality monitoring system consisting of online complaint services, feedback management mechanisms, and documented follow-up procedures. The establishment of a dedicated digital quality assurance team would also facilitate continuous monitoring of website content, service quality, and compliance with institutional standards.

At the Quality Improvement stage, the school should transform its website into a comprehensive digital quality repository containing accreditation reports, self-evaluation documents, quality monitoring results, and improvement action plans. Continuous professional development in digital literacy and educational technology management should also be provided to school personnel to support sustainable quality enhancement(Elbadiansyah, 2022).

## CONCLUSION

This study concludes that the digital quality of educational management represented through the official website of MAN Lumajang falls within the "good" category, achieving a score of 63 out of a maximum of 80. The findings indicate that the institution has effectively demonstrated educational quality through information transparency, digital academic services, and institutional activities. Among the assessed dimensions, digital activities and quality actualization achieved the highest score, reflecting the institution's active utilization of digital media for communication and public engagement.

The study also reveals several areas requiring improvement, particularly in quality evidence, evaluation, and digital quality control. Essential components such as quality evaluation reports, monitoring results, user satisfaction surveys, and integrated online complaint systems were not comprehensively available. These findings suggest that the implementation of the PPEPP cycle is stronger at the determination and implementation stages than at the evaluation, control, and improvement stages.

This study contributes to the field of educational quality management by integrating virtual observation, the Internal Quality Assurance System (SPMI), and the PPEPP framework to assess educational quality through digital platforms. The findings demonstrate that institutional websites can serve as indicators of quality culture, transparency, and accountability in educational institutions.

The results provide a basis for MAN Lumajang and other educational institutions to strengthen Digital Quality Assurance through enhanced quality documentation, digital evaluation systems, and data-driven quality control mechanisms. Future studies are recommended to combine digital observation with interviews and internal document analysis to obtain a more comprehensive understanding of educational quality assurance implementation.

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