

Implementation of Artificial Intelligence in Compiling School Digital Profiles to Improve Educational Branding: A Case Study of Muhammadiyah 1 Wuryantoro Junior High School

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Abstract

The rapid advancement of digital technology over the past decade has fundamentally transformed educational ecosystems worldwide. Innovations such as artificial intelligence (AI), adaptive learning, learning analytics, and digital administration systems have reshaped how schools communicate, manage data, and build their institutional identity. In this context, digital transformation is no longer merely an instructional enhancement but has become a strategic necessity for educational institutions to maintain relevance and competitiveness in the digital era (Wang, 2024). Along with these developments, public expectations toward transparency, professionalism, and digital credibility of schools have also increased. Parents and prospective students increasingly rely on digital information such as websites, social media, and multimedia profiles when evaluating the quality of a school. Therefore, the construction of a strong digital profile plays a crucial role in educational branding, influencing public perception and shaping institutional identity (Keller & Swaminathan, 2020; Wibowo & Lestari, 2021). A well-developed school digital profile not only presents factual information but also functions as a strategic communication tool that showcases values, programs, achievements, and cultural identity. However, many schools especially those with limited human resources struggle to produce professional and competitive digital publications. Challenges typically arise from limited design skills, inadequate documentation equipment, and low digital literacy among teachers. As noted by Li & Chen (2023), AI offers transformative potential to address these limitations by supporting automated content generation, enhancing visual materials, and accelerating digital production processes. In educational contexts, AI provides an accessible and efficient solution for schools seeking to strengthen their branding without requiring advanced technical expertise. SMP Muhammadiyah 1 Wuryantoro represents a relevant case study because it has recently begun integrating AI to develop its digital school profile and improve institutional branding. While previous documentation was fragmented, inconsistent, and limited in visual quality, the adoption of AI tools such as AI-based text generation, photo enhancement applications, and automated graphic design platforms has enabled the school to redesign its digital presence more systematically and professionally. Despite the relevance of this topic, existing research on AI implementation in school branding remains limited, with most studies still focusing on classroom learning and administrative automation. Thus, there is a gap in understanding how AI contributes specifically to digital profile development as a branding strategy particularly in schools with limited human resources. Based on this gap, the present study aims to analyze the implementation of AI in developing the digital school profile of SMP Muhammadiyah 1 Wuryantoro and to evaluate its impact on content quality, school branding, and teacher digital literacy. This study positions AI not only as a technical tool but also as an enabler for institutional transformation and capacity building.

Keywords: Artificial Intelligence (AI), Digital School Profile, Educational Branding.

Introduction

The development of digital technology over the past decade has brought about major changes to the global education system. The digital revolution, marked by the emergence of various new technologies such as adaptive learning, learning analytics, big data, and the integration of digital platforms into learning activities, has created an increasingly flexible, personalized, and student-oriented education system. Adaptive learning technology, for example, allows the system to adjust material to each student's learning pace, while learning analytics makes it easier for educators to analyze learning performance more accurately and in real time. These changes demonstrate how digital technology is no longer a supplement but has become an integral part of the modern education ecosystem (Wang, 2024).

This digital transformation not only impacts classroom teaching and learning activities but also strengthens school management systems through the digitization of data, administration, and communication between stakeholders. Schools now utilize various digital platforms for managing academic information, storing student data, managing school

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information systems, and coordinating between teachers, parents, and students. With digitalization, administrative activities become more efficient, transparent, and easily accessible whenever needed. This impact demonstrates that digital technology makes a significant contribution to school governance, while simultaneously supporting improvements in the overall quality of educational services.

In the context of competition between educational institutions, especially in the current era of information transparency, a school's ability to manage its digital image and identity is a crucial factor in enhancing its appeal and credibility in the eyes of the public. Modern society, particularly the current generation of parents, increasingly relies on digital information when choosing the right school for their children. Therefore, school branding is no longer solely reflected in academic achievement but also in the quality of digital publications that professionally showcase the institution's strengths, facilities, programs, and character. Keller & Swaminathan (2020) explain that strong branding in the educational context can build positive perceptions, increase public trust, and create differentiation that sets the school apart from other educational institutions. In practice, a school's digital profile serves as a primary representation that influences the perceptions of prospective students, parents, and the wider community regarding the quality of educational services. A good digital profile includes an informative narrative about the school's history, vision and mission, achievements, flagship programs, facilities, and documentation of activities that illustrate student activities and the school's culture. A professional profile serves not only as an informational medium but also as a promotional tool that can increase a school's competitiveness amidst the intense competition among educational institutions in the modern era.

However, not all schools have the capacity or adequate human resources to produce high-quality digital profiles. Many schools, especially those in remote areas or with limited budgets, face challenges in creating digital publication content. These challenges include teachers' limited graphic design skills, limited documentation equipment, and a lack of knowledge about modern branding strategies. In this context, artificial intelligence (AI) technology offers an innovative solution that can help schools produce professional-quality content without requiring highly technical skills.

AI offers a variety of capabilities, such as automated narrative creation, faster photo editing, improved visual quality through photo enhancement, and more consistent graphic design. This technology enables schools to produce content efficiently, accurately, and in accordance with current digital publication standards. Li & Chen (2023) emphasized that AI offers significant opportunities for educational institutions to improve the quality of digital publications at a lower cost, especially for schools with limited human resources in design, photography, and content production. Muhammadiyah 1 Wuryantoro Junior High School is one example of a school that has begun adopting AI technology in developing its digital profile. This implementation is an effort to strengthen branding and increase the school's competitiveness at the local and regional levels. As a school located in a constantly evolving community, the need for a strong digital identity is becoming increasingly important. The AI implementation process at this school is carried out systematically, starting with field observations to assess the condition of previous documentation, identifying content needs that need to be improved, mentoring teachers to understand the use of AI technology, and directly practicing the production of digital content ready for publication.

The use of AI in creating digital profiles at this school has significantly improved the quality of documentation. Activity photos that previously had low resolution or suboptimal lighting can be enhanced using the photo enhancement feature. The school profile narrative, which was previously general and unsystematic, can now be structured to be more informative, coherent, and aligned with the school's branding objectives. Teachers have also become more efficient in creating graphic designs, as AI provides templates consistent with the school's visual identity, streamlining the media production process. Furthermore, the implementation of AI not only results in higher-quality digital content but also significantly improves teachers' digital literacy. The training and mentoring provided during implementation have made teachers more confident in using modern technology. They learned to compose narratives using tools like ChatGPT, edit photos using AI-based applications, and design publications using AI in Canva. These skills undoubtedly have a positive impact on teachers' professional development in the digital age. This aligns with UNESCO's findings (2025), which state that teacher digital literacy is a crucial component in supporting the success of schools' digital transformation and ensuring that technology is used effectively and sustainably.

Improving teachers' digital literacy also contributes to creating a culture of innovation in schools. Teachers who understand the benefits of AI tend to be more open to new technologies, more creative in developing learning media, and more responsive to the challenges of digitalization in education. Therefore, the use of AI in developing digital profiles not only has short-term impacts in the form of improved content quality but also creates long-term impacts in the form of increased human resource capacity in schools.

Based on this background, this study aims to analyze how AI is applied in the development of school digital profiles, identify its impact on improving educational institution branding, and evaluate its influence on teachers' digital competencies. This research is expected to make a significant contribution to the development of digital branding strategies

relevant to the needs of schools in the Industry 4.0 era. Furthermore, this study also provides a practical overview of how schools with limited resources can still create professional digital profiles through the use of easily accessible modern technology.

Overall, this research is highly urgent because it addresses the real needs of educational institutions in facing digital competition. With society's increasing dependence on digital information, schools must be able to leverage technologies such as AI to maintain credibility, increase competitiveness, and present their school identity in a more engaging, effective, and professional manner. This research is expected to provide a comprehensive understanding of the role of AI in supporting, schools' digital transformation and strengthening educational branding in the modern era.

Research purposes

This research aims to:

- a. Analyzing the process of implementing artificial intelligence (AI) in compiling digital profiles at Muhammadiyah 1 Wuryantoro Middle School.
- b. Assessing the impact of AI use on the quality of school digital profile content, both in terms of narrative, graphic design, and visual quality.
- c. Identifying how the use of AI contributes to improving school branding.
- d. Evaluating the impact of AI use on improving teachers' digital literacy and competence in the content production process.

Formulation of the problem

Based on the research background, the problem formulation in this research is:

- a. How is the process of implementing artificial intelligence (AI) carried out in compiling digital profiles at Muhammadiyah 1 Wuryantoro Middle School?
- b. How does the use of AI impact improving the quality of school digital profile content?
- c. How does AI contribute to strengthening school branding in the educational environment?
- d. How does the use of AI affect the improvement of digital literacy and teacher competency during the digital profile development process?

Method

This study employed a qualitative descriptive approach with a case study design to analyze the implementation of artificial intelligence (AI) in developing the digital school profile of SMP Muhammadiyah 1 Wuryantoro. The case study design was selected because it allows an in-depth examination of real practices and experiences within the natural setting of the school, making it possible to capture the dynamics of digital transformation as they occur. SMP Muhammadiyah 1 Wuryantoro was chosen purposively, as the school had begun integrating AI tools into its documentation and publication processes, providing a relevant context for investigating how technology supports school branding efforts.

Data were collected through observations, interviews, document analysis, and a review of related literature. Observations were conducted to understand the actual workflow of digital profile development, including teachers' use of AI platforms such as ChatGPT for narrative creation, Remini for photo enhancement, and Canva AI for graphic design. Semi-structured interviews were carried out with the principal, four teachers involved in documentation, and administrative staff. These interviews explored their experiences, challenges, and perceived benefits of AI adoption, as well as changes in their digital literacy and work patterns. Document analysis was conducted on school photos, printed materials, previous profile drafts, and AI-enhanced outputs to compare the consistency, clarity, and visual quality before and after the use of AI. The literature review was used to strengthen the theoretical foundation and situate the study within broader discussions on AI-driven educational transformation.

The instruments used in this study included an observation guide, an interview protocol, a content quality assessment rubric, and field notes. These instruments ensured structured and systematic data collection in line with qualitative research standards. The data were analyzed using the interactive model of Miles, Huberman, and Saldaña, which involves reducing and categorizing data, presenting data in coherent narrative form, and drawing conclusions through continuous verification. The credibility of the findings was ensured through triangulation of methods and sources, member checking with participants, and peer debriefing to refine analytical interpretations.

Although the research activities were conducted within the context of community engagement, this study is positioned as a scientific qualitative inquiry. Rather than merely reporting activities, the research focuses on examining the empirical effects of AI integration on the quality of school digital profile content, institutional branding, and the enhancement of teachers' digital competencies. This positioning aligns the study with academic standards while addressing a practical problem relevant to today's educational landscape.

Table 01. Analysis of Activity Components Before and After Devotion

No	Activity Components	Before Devotion	After Devotion
1.	School Profile	Not Yet Available	Digital and Print Versions Available
2.	Number of Teachers Involved	0	7
3.	Partner Satisfaction Level	-	98% Satisfied
4.	Available Promotional Media	School Profile, Social Media, Website	PDF Profiles, School Profile Videos, and Sosial Media Content.

Qualitatively, this community service activity produced several tangible, measurable achievements. Prior to implementation, SMP Muhammadiyah 1 Wuryantoro did not have a complete and professional school profile document. After the activity, the school had a profile in two versions, namely a printed version (leaflet/booklet) and a digital version (PDF), containing complete information about the vision and mission, flagship programs, achievements, student activities, and infrastructure. This profile was designed to be the school's main promotional media. All teachers and educational staff were directly involved in the training and profile preparation process, having never participated in a similar activity before. The results of feedback from partners showed that the level of satisfaction with the activity reached 98%, based on a simple questionnaire given to teachers and school staff. In addition, promotional media that previously only consisted of manual posters has now evolved into more representative and professional digital and printed materials, such as profiles in PDF format, leaflets, and content material for the school's social media. All of these achievements indicate a significant improvement in the quality of promotion and the school's readiness to build a positive image in the eyes of the community.

Results and Discussion

The findings of this study show that the implementation of artificial intelligence at SMP Muhammadiyah 1 Wuryantoro produced significant changes in the quality, consistency, and effectiveness of the school's digital profile. Prior to the use of AI tools, the school's documentation was fragmented, inconsistent in style, and limited in visual quality, which weakened the institution's overall branding. After integrating AI into the content development process, noticeable improvements occurred in three major areas: narrative construction, visual enhancement, and efficiency of content production.

In terms of narrative quality, the use of AI-based text generation enabled the school team to produce more coherent, structured, and communicative descriptions. Previously, the school profile tended to be general, unorganized, and lacking in professional tone. With AI assistance, the narrative became more systematic, especially in sections describing the school's vision, achievements, flagship programs, and identity. Teachers reported that the technology helped them refine the logical flow of the profile and avoid repetition, resulting in a more polished and institutionally aligned representation.

Visual improvements were even more pronounced. Many of the school's initial photos were low-resolution and poorly lit, reducing their suitability for publication. The application of AI-based photo enhancement tools produced substantial changes in clarity, sharpness, and color balance. This improvement strengthened the school's digital branding, as high-quality visuals play a central role in influencing public perception. The difference between pre- and post-enhancement materials demonstrates how AI supported a more professional presentation of school activities and facilities, making the digital profile more appealing and suitable for wider dissemination.

The efficiency of content production also increased significantly. Before AI integration, teachers required considerable time to design publications, arrange layouts, or revise narratives. With AI-assisted graphic design platforms, these tasks could be completed more quickly and with more consistent stylistic outcomes. Teachers who previously struggled with digital design skills found the tools accessible and supportive, enabling them to produce content aligned with the school's branding standards. The ability to generate multiple design alternatives in a short period allowed the school to prepare promotional materials more systematically and in greater quantity.

Beyond improvements in content quality, the findings show that the implementation of AI had an important impact on teachers' digital competencies. Through direct practice and mentoring sessions, teachers became more confident in using various digital platforms and more aware of the role of technology in educational communication. The increased digital literacy contributed to a more sustainable content production workflow, as teachers were no longer fully dependent on external designers or manual processes. This finding aligns with previous studies emphasizing the importance of digital competency as a foundation for successful educational transformation.

Overall, the results indicate that the integration of AI in developing the digital school profile did not merely improve the materials produced, but also strengthened institutional capacity, accelerated workflow efficiency, and enhanced the professionalism of the school's digital presence. These improvements reflect AI's strategic potential for educational branding, especially for schools with limited human resources and technical expertise.

The findings of this study indicate that the integration of artificial intelligence in the development of the digital school profile of SMP Muhammadiyah 1 Wuryantoro contributed not only to the improvement of visual and narrative content but also to the broader transformation of the school's communication practices. These findings reinforce previous literature that highlights AI as a catalyst for digital transformation in educational institutions (Wang, 2024). The improvement in narrative coherence and structural clarity aligns with Li and Chen's (2023) argument that AI-generated content can increase the consistency and professionalism of educational communication when used to support institutional messaging.

A key implication of this study is that AI serves as a means for schools to bridge gaps in human resource limitations. Prior to AI implementation, the school struggled with fragmented documentation and limited design capacity. This aligns with Wahyunto (2024) and Widodo & Putri (2022), who found that many Indonesian schools face obstacles in producing high quality digital publications due to inadequate technological skills and insufficient staff capacity. The results of the present study show that AI-based tools provide accessible solutions to these structural challenges by accelerating content production and ensuring visual consistency that would otherwise require advanced design skills.

The significant improvement in visual quality, especially through enhanced photo resolution and lighting correction, also supports Jauhiainen et al. (2024), who noted that AI-based photo enhancement contributes to clearer, more appealing documentation in educational contexts. As Rahmawati (2021) argues, visual clarity is central to shaping public perception, suggesting that the improvements observed at SMP Muhammadiyah 1 Wuryantoro likely strengthened its institutional branding. The enhanced aesthetic quality of visual materials thus functions not only as technical improvement but as strategic communication, reinforcing Keller and Swaminathan's (2020) framework that emphasizes the importance of coherent and attractive visual identity in building a strong brand.

Another important aspect highlighted in this study is teachers' increased digital literacy. The results are consistent with findings by UNESCO (2025) and Ng et al. (2025), which state that digital literacy is a prerequisite for effective technology integration in schools. The mentoring and hands-on practice provided during AI implementation contributed substantially to teachers' confidence and capability in operating AI tools. This growth in competence not only facilitated the production of better digital content but also suggests a long-term shift toward more innovative and adaptive school culture. The findings thus demonstrate that AI serves not merely as a technological instrument but also as a capacity-building tool that enables professional development and fosters a more future-oriented workforce in schools.

Moreover, the increased efficiency in content production reflects broader trends in AI-assisted educational administration. Ortiz et al. (2025) emphasize that AI improves organizational efficiency by automating repetitive tasks and enabling staff to focus on higher-level decision-making and creative work. The experience of SMP Muhammadiyah 1 Wuryantoro aligns with this argument, as teachers reported being able to redirect their time toward refining messaging and ensuring alignment with school values rather than being constrained by technical limitations.

Taken together, these findings illustrate that AI integration supports both functional and strategic dimensions of school branding. Functionally, AI improves the quality, consistency, and efficiency of digital profile development. Strategically, AI enhances institutional identity, strengthens public trust, and increases the school's competitiveness in the digital landscape. This dual impact underscores AI's potential as an empowering tool for schools, particularly those operating with limited resources.

Overall, the results of this study reinforce existing literature while contributing new insights into how AI can be specifically applied in the context of school digital profiling and branding. Unlike previous studies that focus mainly on AI in instructional settings, this research highlights AI's role in school communication strategy and institutional image-building. This contribution strengthens the relevance of the study and positions AI implementation as a transformative opportunity for educational institutions seeking to modernize their public presence.

Conclusion

This study concludes that the implementation of artificial intelligence played a significant role in improving the quality and professionalism of the digital school profile at SMP Muhammadiyah 1 Wuryantoro. The integration of AI-based tools resulted in clearer and more coherent narratives, more visually appealing documentation, and a more consistent design identity, all of which contribute directly to strengthening the school's digital branding. The improvements observed demonstrate that AI can serve as an accessible and effective solution for schools that face limitations in human resources, technical expertise, and digital infrastructure.

The findings also reveal that AI adoption had a broader impact on institutional capacity. Teachers who engaged in the implementation process experienced increased digital literacy and greater confidence in utilizing technology for communication and publication purposes. This advancement is particularly meaningful because digital competency is a key element in the success of educational transformation. The study therefore suggests that AI functions not only as a content development tool but also as an enabler of professional growth and cultural change within the school.

From a theoretical perspective, the study contributes to expanding the discussion on AI's role in educational branding an area that has received relatively little attention compared to AI applications in instruction and administration. By positioning AI as a strategic instrument in shaping institutional identity, the findings offer new insights into how technology can enhance public perception and competitiveness in the educational sector. Practically, the results emphasize that even schools with limited resources can develop professional digital profiles through targeted and guided AI integration.

Despite its contributions, this study has several limitations. The research focuses on a single school, which may limit the generalizability of findings to other contexts with different capacities or technological readiness. Additionally, the analysis relies primarily on qualitative data, which, although rich, may benefit from further triangulation with more extensive quantitative measures. Future research could explore comparative studies across multiple schools, examine long-term sustainability of AI-driven branding strategies, or analyze the integration of AI in other dimensions of school communication and management.

Overall, this study affirms that artificial intelligence offers substantial potential for enhancing digital school profiling, strengthening institutional branding, and building teacher digital capacity. As educational environments continue to evolve in response to technological advances, AI represents a valuable tool for schools seeking to modernize their public image and improve the quality of their digital communication practices.

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