



## The Digital Divide: How Madrasah Uses Technology to Improve Brand Image

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**Abstract.** *This study aims to explore the use of digital technology by Madrasah Tsanawiyah Darul Musthofa in improving the institution's brand image. Using a qualitative approach with a case study method, data was collected through semi-structured interviews, participant observation, and document analysis. The results of the study show that the strategic use of social media such as YouTube, TikTok and WhatsApp has succeeded in increasing public trust in the quality of madrasah education. Digitization of learning also strengthens engagement between students, teachers, and parents, although limited infrastructure and technological training remain significant challenges. The implication of this research is the need for a planned strategy and policy support to ensure equitable adoption of technology, especially in rural areas. This study contributes by understanding the synergy between digital technology and brand image enhancement strategies in the context of Islamic education, offering strategic guidance for other madrasahs to compete in the digital era.*

**Keywords:** Digital Divide, Brand Image, Madrasah, Technology

### 1. INTRODUCTION

Madrasahs as Islamic educational institutions have a strategic role in producing generations with noble morals and who are also competent in the digital era. However, the existence of a digital divide or digital gap is a major challenge for madrasahs in utilizing technology to increase their competitiveness (Akpan et al., 2024). This phenomenon is increasingly striking amidst global transformation, where technology is the main determinant of the success of educational institutions in building a positive brand image (Orgilés-Amorós et al., 2024). Research shows that educational institutions with good access to technology are able to improve communication effectiveness, student engagement, and institutional image (Al-Dmour, 2023 and Manzoor et al., 2021). On the other hand, madrasahs often face limitations in digital infrastructure that cause them to lag behind public schools in building public appeal (Serin, 2022). This research is crucial to explore how madrasahs, especially Madrasah Tsanawiyah Darul Musthofa, can utilize technology to overcome limitations and strengthen their position in society.

A number of previous studies have discussed the importance of technology in the world of education. Study by Valverde-Berrocoso et al., (2021) shows that the integration of digital technology in education can improve the quality of teaching and learning. Other research by Efe & Akcan, (2024) explains that faith-based educational institutions tend to be slower to

adopt technology than public schools. In fact, there are still few studies that focus on how technology is used to improve the brand image of Islamic educational institutions. The available literature discusses more internal aspects such as the learning process, without highlighting the impact of technology use on external perceptions of society (Al-Qaysi et al., 2023 and Akram et al., 2022). This study is here to fill the gap in the literature by focusing on the strategy of technology utilization by Madrasah Tsanawiyah Darul Musthofa.

This research offers novelty by combining two approaches, namely the use of digital technology and brand image enhancement strategies in the context of Islamic education. Studies on digital technology in madrasahs are more focused on technical aspects such as the use of software or internet access (Timotheou et al., 2023). While the issue of brand image in Islamic education has not been discussed in depth. The novelty of this research lies in the exploration of how synergy between technology and branding can increase the attractiveness of madrasahs in the eyes of the public. This research also uses a case study approach by exploring direct experiences from Madrasah Tsanawiyah Darul Musthofa, providing an empirical contribution that is not widely available in existing literature (Nguyen Ngoc et al., 2022).

The study aims to explore how Madrasah Tsanawiyah Darul Musthofa utilizes digital technology to improve its brand image. This research starts from the fundamental problem that madrasahs are often less noticed by the public compared to public schools, especially in terms of digital innovation (Zafar et al., 2024 and Muhibburrohman et al., 2024). By examining these issues, this study seeks to provide strategic recommendations for other madrasahs to adopt a similar approach. The focus is not only on how technology is used, but also on its impact on public perception, particularly in attracting new students and maintaining public trust.

The temporary argument from the research suggests that strategic use of digital technology can improve the brand image of madrasahs. The use of social media and online learning platforms can expand the reach of information about the madrasa's flagship programs (Misbah et al., 2022). The involvement of technology allows madrasahs to demonstrate transparency, professionalism and commitment to modern education, which is attractive to the community (Zhang, 2022 and Zamiri & Esmaeili, 2024). This study also implies that madrasahs that successfully overcome the digital divide have great potential to become models for other Islamic educational institutions. The success of research requires a planned strategy and support from all stakeholders, including teachers, students, and parents.

## 2. RESEARCH METHODS

This study uses a qualitative approach with a case study method to explore in depth how Madrasah Tsanawiyah Darul Musthofa utilizes digital technology to improve its brand image. This approach was chosen because it allows exploration of complex phenomena in a particular context (Renjith et al., 2021). Case studies are considered more relevant than other methods such as surveys, because of their focus on in-depth contextual data mining (Schwalbe & Finzel, 2024). Data collected through semi-structured interviews with school principals, teachers, students, and parents, as well as direct observation at the research location located in Tulupari Village, Tiris District, Probolinggo Regency. This location was chosen because it is representative in showing the challenges and opportunities of madrasas in rural areas.

Data collection techniques in this study include semi-structured interviews, participant observation, and document analysis. Solarino & Aguinis, 2021) revealed that semi-structured interviews were conducted to understand the informants' perspectives on technology utilization strategies and their impact on brand image. Observations were conducted for two months to capture the dynamics of interactions between technology and madrasah activities. Additional data sources include internal madrasa documents such as digitalization program reports and promotional media. To maintain data validity, triangulation is carried out by comparing the results of interviews, observations and documents (Agazu et al., 2022). Here is a coding table for the sources:

**Table 1. Interviewee Codes and Interview Objectives**

No.	Source person	Codes	Purpose of Interview
1	Headmaster	Sp1	Understanding the overall strategy in utilizing technology and its impact on brand image.
2	Teacher	Sp2	Exploring perspectives related to the implementation of technology in the learning process and madrasah activities.
3	Parents of Students	Sp3	Gaining insight into students' experiences with digital technologies in madrasas.
4	Students	Sp4	To find out parents' opinions on madrasah efforts in utilizing digital technology.

Data analysis was carried out using the Miles and Huberman interactive model, which includes three main stages, namely data reduction, data presentation, and drawing conclusions or verification (Asipi et al., 2022 and Jayasankar et al., 2021). At the data reduction stage, data collected through interviews, observations, and documents are analyzed to find the main themes. Relevant data is categorized according to research topics, such as digital strategies and public perception. At the data presentation stage, the findings are arranged in the form of tables, figures and descriptive narratives to provide a comprehensive picture. The final stage is drawing conclusions, where patterns and relationships between variables are analyzed to

answer the research questions. This process is carried out iteratively to ensure the validity and reliability of the analysis results.

Based on the explanation of the research method, it can be concluded that a qualitative approach with a case study method is the right choice to understand in depth how Madrasah Tsanawiyah Darul Musthofa utilizes digital technology to improve its brand image. The data collection process was carried out through semi-structured interviews, participant observation, and internal document analysis, which were then validated using triangulation techniques to ensure the validity and reliability of the findings. By involving diverse perspectives from principals, teachers, students, and parents, this study successfully presents a holistic understanding of the challenges and opportunities of implementing digitalization in building the image of madrasahs, especially in unique rural contexts.

### **3. RESULTS AND DISCUSSION**

#### **Utilization of Social Media to Increase Information Reach**


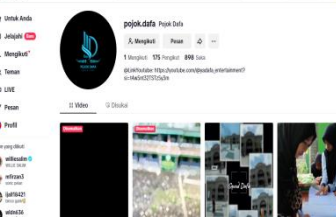
The results of the study conducted at MTs Darul Musthofa revealed the diverse impacts of implementing technology to support the institution's image. The use of social media as a communication tool increases the visibility of the madrasah and creates a positive impression as an innovative educational institution. Many parents and communities feel more confident in the quality of education in madrasahs after seeing the excellent activities and programs promoted through digital platforms. Challenges such as lack of technology training for staff and limitations in managing digital content are serious obstacles. Some teachers and employees have difficulty in adopting technology, resulting in inequality in the success of implementation. This is in line with the statements of the head of the madrasah and several stakeholders involved in it.

The results of the interview with the head of the MTs Darul Musthofa madrasah revealed that the use of technology, especially social media, greatly helped improve the image of the madrasah. He explained that various uploads about student activities, achievements, and excellent programs succeeded in attracting public attention and increasing parental trust in the quality of education. He also acknowledged that there were obstacles such as lack of training for staff, which meant that not all teachers and employees were able to manage technology well (Sp1, 2024). One of the teachers said that they found it difficult to keep up with technological developments, especially because they were not yet familiar with the digital platforms used (Sp2, 2024). Meanwhile, one of the parents of students said that the information conveyed through social media made them feel closer to their children's activities at school, while also

fostering confidence that this madrasah was capable of innovating (Sp3, 2024). All parties agree that more targeted training and mentoring is needed so that all elements of the madrasah can feel the benefits of technology evenly.

The use of social media at MTs Darul Musthofa shows a significant correlation between digital communication and increased information reach. Platforms such as YouTube, TikTok, and WhatsApp are used to disseminate information about activities, student achievements, and the madrasah's flagship programs to the wider community. This effectiveness is supported by the interactive nature of social media that allows audiences to provide direct responses and share information with their networks. The use of social media is an effective way to reach prospective students and parents from outside the area, expanding the base of the madrasah community. The structure of this success depends on the ability of the management team to create relevant and interesting content. Inconsistent management or unclear communication strategies can reduce the effectiveness of social media.

**Tabel 2. Darul Musthofa Social Media**

Darul Musthofa's YouTube and TikTok Channels	Channel Links and Uses
	<p>YouTube channel with the link <a href="https://www.youtube.com/@yadafa_entertainment">https://www.youtube.com/@yadafa_entertainment</a> is used to strengthen the brand image of Madrasah Tsanawiyah Darul Musthofa through positive activity content, such as accreditation and student activities. This platform also disseminates information, attracts new prospective students, and increases student engagement, while also being an efficient digital promotional media in the modern era.</p>
	<p>TikTok account with the link <a href="https://www.tiktok.com/@pojok.dafa? t=8sXJaptfH68&amp; r=1">https://www.tiktok.com/@pojok.dafa? t=8sXJaptfH68&amp; r=1</a> is used to expand the reach of information and promotion of Madrasah Tsanawiyah Darul Musthofa through creative and interesting short videos. With 175 followers and almost 900 likes, this account helps increase community engagement through content based on student and madrasah activities. As part of the digital strategy, this TikTok complements the YouTube channel to strengthen the brand image and reach a wider audience on social media platforms.</p>

Madrasah Tsanawiyah Darul Musthofa utilizes social media platforms such as YouTube and TikTok, to strengthen its digital strategy. The YouTube channel is used to build a positive image of the madrasah through content that displays accreditation activities and student activities, and serves as a medium to disseminate information, attract new prospective students, and increase student engagement. TikTok accounts maximize promotional reach through creative and engaging short videos, helping to increase community engagement by showcasing student and madrasah activities. Both platforms play an important role in

strengthening brand image and reaching a wider audience, making them an efficient digital promotional medium in the modern era.

### **Digitalization of Learning Programs**

Observation results on technology usage activities at MTs Darul Musthofa show positive and negative impacts of digitalization. Technology supports increased engagement between teachers, students, and parents through the use of communication applications and learning platforms. Teachers can access information faster, while students show higher motivation when given access to digital tools in the learning process.

**Tabel 3. Availability and Limitations of Using Digital Technology**

No.	Digital	Tersedia	Penggunaan Utama	Keterbatasan
1	Computer/Laptop	10	Presentation-based learning, student assignment creation	Not enough for all students
2	Projector	2	Supporting teaching and learning activities in the classroom	Interchangeable use in some classes
3	Smartphone	Subsidies with conditions	Communication between teachers and students/parents	Some students from low-income families do not have devices
4	Internet/Wifi Access	1 Main Network	Supporting all digital activities in the madrasah environment	Limited coverage in certain areas
5	Data Processing Software	-	Learning basic technology skills	Requires individual devices for effective use
6	Online Learning Platform	Google Classroom	Supporting management of learning materials	Not all students can access due to device limitations.

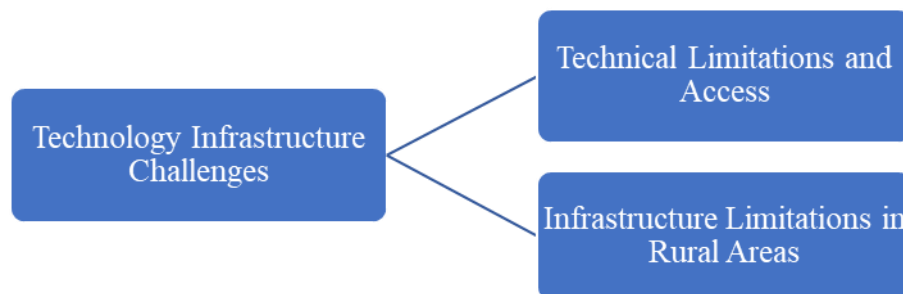
The table highlights that digitalization at MTs Darul Musthofa has provided real benefits in improving the quality of learning, but still faces serious challenges related to inequality in access to technology. Limited devices such as smartphones and laptops, especially among students from low-income families, hinder their full participation in digital-based programs. This has the potential to widen the gap in learning outcomes and limit students' opportunities to develop technological competencies evenly.

Digitalization at MTs Darul Musthofa aims to improve teaching effectiveness and build students' technological competence. The school seeks to equip students with basic technological skills, such as the use of word processing software and presentation platforms, that are relevant to future academic and career needs. The relationship between digitalization and improving student competence is seen in tangible results, such as increased student creativity in completing technology-based projects. These results can only be achieved if adequate infrastructure and training are available.

### Technology Infrastructure Challenges

The use of technology at MTs Darul Musthofa has strengthened the brand image of the madrasah as a progressive educational institution. Madrasah activities that are consistently promoted through digital media increase public trust and attract prospective students. Technical limitations and uneven access are obstacles that reduce the full impact of digitalization. Some students and parents cannot access information shared through digital media due to limited devices or internet connections. Support from external parties can be a solution to ensure that the entire madrasah community enjoys the benefits of technology equally.

Infrastructure limitations are the biggest challenge in technology adoption in rural areas such as Tulupari, located in Tiris District, Probolinggo Regency. Madrasahs in this area often face slow internet connections, lack of access to digital devices, and high operational costs to support technology-based programs. Economic inequality and the lack of attention to rural areas in national technology policies are the structural causes of these challenges. Device subsidy programs, shared internet network provision, and technical training for madrasah staff can create an inclusive and sustainable digital environment.



**Figure 1. Technology Infrastructure Challenges**

The main challenges as Figure 1, in the adoption of technology at MTs Darul Musthofa can be divided into two aspects: technical limitations and access and infrastructure limitations in rural areas. Unequal access to digital devices, slow and unstable internet connections, and the difficulty of some students and parents in accessing digital information are obstacles that reduce the effectiveness of technology-based programs. On the other hand, limited infrastructure in rural areas such as Tulupari, Tiris District, Probolinggo Regency, worsens the situation with a lack of adequate digital devices, high operational costs, and economic inequality that further hampers access to technology. This condition highlights the need for more inclusive policy support and the development of technological infrastructure in rural areas to ensure equality of digital access.

## **Discussion**

The results of the study show that the use of digital technology at Madrasah Tsanawiyah Darul Musthofa has a positive impact on improving the institution's brand image. This finding is in line with a study by Valverde-Berrocso et al., (2021) which shows that the integration of digital technology in education can strengthen the competitiveness of institutions by improving the quality of teaching and learning. The results of this study also revealed significant challenges in implementation, such as limited staff training and access to technological devices, which is in line with the findings Efe & Akcan, (2024) about the slow adoption of technology in religious-based educational institutions compared to public schools. This is also supported by the analysis González & Ramírez (2022) which highlights the importance of enhancing technological skills to support innovation in educational institutions.

Interpretation of data from the study also shows that the strategic use of social media by madrasahs contributes greatly to expanding the reach of information and attracting public attention. This supports the research Zhang, (2022) which states that social media is an effective tool for building a positive image of an institution through direct interaction with the audience. The challenges faced in content management and staff training reinforce the findings. Nigam et al., (2021) on the need for better technology management in the education sector to ensure the sustainability of digitalization programs. A study by Ghahramani et al., (2022) also emphasized that social media platforms can create sustainable impact if integrated with a comprehensive communication strategy.

This study found that the limitations of technological infrastructure in rural areas are a major obstacle to optimal use of technology. These results strengthen the argument Al-Qaysi et al., (2023) which states that the inequality of access to technology in rural areas widens the digital education gap between urban and rural institutions. In this context, the strategy of subsidizing devices and technical training for staff proposed by this study is in line with the recommendations Zamiri and Esmaili, (2024) on the importance of external support in overcoming structural barriers to technology. A study by Ofosu-Asare, (2024) also provides additional perspective that community-based training programs can help empower rural educational institutions to address the technology gap.

The discussion revealed that although digital technology can increase student engagement in learning, limited access to devices and internet connectivity can widen the gap in learning outcomes among students. This is in line with research by Serin, (2022) which shows that technological inequality in education often results in uneven learning outcomes. Low student access to online learning platforms, as seen in the observation results, is one of



the main factors that exacerbates this problem. In addition, research by Onele, (2023) also emphasized that equitable technology infrastructure is critical to ensuring inclusive participation and equitable educational outcomes across institutions.

These challenges are particularly felt in rural areas, where limited digital infrastructure is often a major barrier to implementing technology to its full potential. As emphasized by Samane-Cutipa et al., (2022) The technological gap between urban and rural areas widens the gap in education quality. External support such as subsidies for technological devices and technical training for staff are needed to overcome these barriers (Alayón et al., 2022). This approach can help educational institutions, including madrasahs, make optimal use of technology to create an inclusive and equitable learning environment across all regions.

This study makes an important contribution by identifying synergies between digital technology and brand image enhancement strategies in the context of Islamic education, a topic that has received little attention before. Technology has been shown to strengthen the image of madrasahs through more effective communication and wider reach (Nguyen Ngoc et al., 2022). With the right strategy, madrasahs can attract new students, increase public trust, and compete with public schools. Strong educational policy support, such as the provision of digital infrastructure, is key to success, as suggested by Anthony Jnr, (2022) also highlighted the importance of collaboration between government and institutions in ensuring inclusive technology adoption. With this strategic approach, madrasahs can become innovative education models that are relevant in the digital era.

#### **4. CONCLUSION**

This study shows that the use of digital technology, especially social media at Madrasah Tsanawiyah Darul Musthofa significantly improves the brand image of the institution. The use of social media such as YouTube, TikTok, and WhatsApp allows the madrasah to expand the reach of information related to superior programs, student activities, and institutional achievements, which has succeeded in increasing public trust. In addition, digitalization of learning has increased the engagement of students, parents, and teachers in the educational process. This finding emphasizes the importance of strategic planning and adequate training to ensure equitable adoption of technology across the madrasah community, especially to address the digital divide that remains a challenge in rural areas.

This study updates the perspective on the role of technology in building a positive image of Islamic educational institutions, especially madrasahs in rural areas, through an innovative approach that combines case studies and qualitative analysis. The study shows how

digital technology can support branding strategies to increase competitiveness and public trust. However, this study has limitations, such as focusing on one location that may be less representative, limited digital infrastructure, and the generalizability of findings from qualitative methods. Further research is recommended to explore the implementation of technology across geographic and cultural contexts, and its impact on student learning outcomes in the long term.

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