



## ANALYSIS OF THE USE OF ARTIFICIAL INTELLIGENCE (AI) IN PERSONALIZING EDUCATION MARKETING

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### Abstract:

This research aims to analyze the use of Artificial Intelligence (AI) in personalizing educational marketing, with a focus on improving user experience and operational efficiency of educational institutions. The background to this research is driven by the rapid development of digital technology which encourages educational institutions to adapt to more personalized and data-based marketing strategies to increase competitiveness in an increasingly competitive market. The research method used is a qualitative method with a case study approach and in-depth interviews with related parties, such as public relations, school principals and students. The research findings show that the application of AI in educational marketing can increase advertising personalization, speed up the decision-making process for prospective students, and optimize marketing operational processes. Additionally, the use of machine learning and big data analysis allows educational institutions to target more relevant audiences and increase enrollment conversion rates. The contribution of this research is to provide insight into how AI can be used as a strategic tool in increasing the effectiveness of educational marketing, as well as suggesting a wiser application of technology to achieve optimal results in the context of educational marketing in the digital era.

**Keywords:** *Artificial Intelligence (AI), Educational Marketing, Personalization*

### INTRODUCTION

The development of digital technology, especially Artificial Intelligence (AI), has changed almost every aspect of our lives, including in the world of education. In today's digital era, the world of education faces a major challenge in attracting attention and obtaining registration of prospective students, especially with the many choices of educational institutions and information available online (Alqurashi et al., 2023). In this context, educational marketing is becoming increasingly complex, as educational institutions need to find ways to stand out amidst the fierce competition and attract students who are increasingly discerning in choosing where they study (Babatunde et al., 2024). The first important fact to note is that many prospective students now rely more on digital media to find educational information, from study programs, universities, to experiences from other students (N. Rane et al., 2023). They not only look for information on the official website of the school or university, but also on digital platforms such as social media, educational forums, and other online platforms. This is where AI plays an important role (Umamaheswari, 2024).

One of the important studies was conducted by Chaffey (2020) who discussed the use of AI in digital marketing in various industries Chaffey & Smith (2022). In his book, Chaffey stated that AI-based marketing personalization, such as customized product recommendations or advertisements, has been shown to increase customer engagement

and conversion (Iyelolu et al., 2024). In the context of education, this concept is very relevant, because personalized marketing allows educational institutions to present more relevant and interesting information to prospective students (Frank, 2024). This encourages prospective students to be more interested in programs or majors that match their interests, which can ultimately increase enrollment (Gao & Liu, 2023).

In a study by Li et al. (2021), the use of AI to personalize the experience of prospective students in choosing an educational program was discussed (Rahman et al., 2024). This study shows that personalized marketing can improve students' decision-making in choosing a particular university or major, because they feel they are getting information that is more relevant to their needs and interests (Raji et al., 2024). This study also found that AI is able to identify more precise behavioral patterns of prospective students compared to traditional marketing approaches, such as surveys or focus groups (Raghav et al., 2024).

Li et al. (2021) also noted that AI can facilitate the management of big data generated from prospective students' online interactions. By analyzing this data, AI can provide deeper insights into prospective students' behaviors, preferences, and habits (J. Rane et al., 2024b). For example, AI can detect prospective students who are interested in a particular course based on their searches on websites or social media, and then send them advertisements or more information about the course. This proves that AI can increase the effectiveness and accuracy of marketing strategies (Sheshadri et al., 2024).

In Indonesia, research by Kusumasari and Yuniarti (2019) reveals how AI can be used to improve the effectiveness of educational marketing in the local market. They found that many educational institutions in Indonesia have begun to adopt this technology to improve their ability to analyze the market and identify the right audience. In this context, AI helps educational institutions filter big data to find the most potential prospective students based on their interactions on digital platforms (J. Rane et al., 2024a). However, despite the increasing adoption of AI, Kusumasari & Yuniarti also point out that there are still challenges in its implementation, especially related to limited infrastructure and understanding of technology by educational staff. This shows that although this technology promises a lot of potential, there are obstacles that need to be overcome so that the application of AI in educational marketing can be optimal in Indonesia (Permana et al., 2023).

Another study by Nunan, Di Domenico, and Phipps (2021) identified several challenges and opportunities in the application of AI for personalizing educational marketing. They revealed that although this technology offers great opportunities in increasing prospective student engagement, educational institutions still face challenges in terms of accurate data collection, privacy (Yollanda, 2024), and ethical use of data. The use of AI to personalize marketing requires careful data management, as student data is sensitive information that must be properly protected (Mardikawati et al., 2023). This study also highlights the importance of transparency in the use of data to maintain prospective students' trust in educational institutions.

This study offers novelty in several aspects, especially in the local context of Indonesia, the use of AI integration with big data for educational marketing, and a focus on ethics and privacy in data collection (Sudaryanto & Hanny, 2023). With a holistic approach involving the analysis of the influence of AI on marketing decisions and student retention, as well as the implementation of sustainable marketing strategies (Putra, n.d.), this study is expected to provide deeper and more applicable insights for educational institutions in Indonesia in facing the digital era. This novelty is what distinguishes this study from previous studies and makes an important contribution to the development of technology-based educational marketing in developing countries (Sungkono et al., 2023).

Overall, the main objective of this study is to explore in depth the role of AI in educational marketing and how this technology can personalize the prospective student experience, improve operational effectiveness, and provide new insights into the challenges and opportunities in its implementation (Elza et al., 2024). With this goal, it is hoped that this study can make a significant contribution to the development of

technology-based educational marketing, as well as provide useful recommendations for educational institutions in designing and implementing more efficient and data-driven marketing strategies in the digital era (Manu et al., 2023).

## **RESEARCH METHODS**

This research will use a mixed methods approach to provide a comprehensive understanding of the use of AI in personalizing educational marketing. By combining in-depth qualitative data with measurable quantitative data, this research aims to explore not only the extent to which AI can improve marketing personalization, but also its impact on the prospective student experience and the operational effectiveness of educational institutions.

## **RESULTS AND DISCUSSION**

### **The Impact of AI in Education Marketing: Improving User Experience and Operational Efficiency**

The use of artificial intelligence (AI) in educational marketing has had a significant impact on how educational institutions interact with prospective students, parents and the wider community (Bakry, n.d.-a). AI affects two main areas in educational marketing: improving user experience and increasing operational efficiency. We interviewed the public relations department of MA Nahdhotul Mustarsyidin Pamekasan, as follows: What is the impact of using AI in educational marketing at your institution? Public Relations: With AI technology, our public relations team can be more efficient in reaching prospective students. One of the most prominent things is the use of AI-based email and advertising systems that can tailor content to prospective students' interests. For example, if a prospective student visits our website and searches for information about a particular vocational program, AI can send more focused ads or emails about the program, even reminding them of application deadlines.

And we interviewed the principal and some students, as follows: What are your views on the impact of AI in educational marketing? Principal: "In our school, we are very open to technological developments, including AI. I see AI as a very effective tool in improving operational efficiency and the experience for prospective students. AI can simplify the marketing process, such as personalizing information about the programs we offer. For example, by utilizing AI in data analysis, we can better understand who is interested in a particular major and target ads or information more precisely." How does AI help improve operational efficiency in your school? Principal: "In terms of operational efficiency, we have started using AI to help with the registration and selection process for new students. The AI-based system can automatically verify registration data, optimize the distribution of information materials via email, and even perform analysis to predict trends in demand for majors. This allows us to respond faster to student needs and minimize administrative errors."

What was your experience when you first interacted with school marketing through AI? Student: "At first, I felt a little awkward using a chatbot or talking to an AI system, but it turned out to be very helpful. For example, when I searched for information about majors at this high school, the chatbot was able to provide quick answers, including details about majors that I didn't know before. That made me feel more confident to continue searching for information further." Do you feel that the use of AI has improved your experience as a prospective student? Student: "Yes, because everything feels faster and easier. In addition to chatbots, I also receive emails with information tailored to my interests, such as about extracurricular activities and career paths that are relevant to the major I choose. This helps me to be more confident in choosing a study program that suits my wishes." Do you feel that AI also makes the registration or application process to schools easier? Student: "Registration has become much easier with the help of AI. For example, AI helps remind me about application deadlines and what needs to be prepared. When I ask questions about documents that need to be submitted, I get immediate answers without having to wait long. The process is more efficient and less

confusing.”

AI in education marketing has a significant impact on improving user experience and operational efficiency. Principals see the potential of AI to speed up administrative processes and provide a more personalized experience to students. Public relations sees the benefits in terms of more targeted communication and marketing optimization, while students find it easier and faster to access relevant information and get a more interactive experience. However, the challenges faced are the need for proper training and technology integration and maintaining a balance between technology and human interaction.

### **Application of Machine Learning in Education Marketing for Ad Personalization and Recommendations**

The application of machine learning (ML) in educational marketing is growing, especially in efforts to personalize advertising and educational program recommendations. With this technological advancement, educational institutions can optimize their marketing approach to be more focused on the needs, interests, and preferences of individual prospective students (Noviadhi et al., 2024). We interviewed the public relations, curriculum, and some students of MA.Nahdhotul Mustarsyidin Pamekasan, as follows: What is the biggest benefit you feel from using machine learning in marketing? Public Relations: "The biggest benefit is its ability to improve personalization. This system allows us to target prospective students with highly relevant promotional materials, not only based on age or location, but also based on their interests and activities on digital platforms. In addition, machine learning also optimizes the use of marketing budgets because ads are only displayed to audiences who are more likely to be interested, reducing ineffective advertising waste."

Head of Curriculum: "From a curriculum perspective, the application of machine learning in education marketing has great potential to align the information provided to prospective students with their skills and interests. For example, if a prospective student indicates an interest in social sciences or science, a machine learning system can target them with relevant information about appropriate majors or programs. This not only helps them make better decisions, but also helps us deliver more targeted programs." What benefits do you see for curriculum development from the use of machine learning in education marketing? Head of Curriculum: "One of the most obvious benefits is the increased communication and understanding between schools and prospective students. With machine learning-enabled personalization, we can highlight programs that are in line with developments in the education world and market needs. For example, with the growing interest in technology and data science, we can introduce more of the related programs we offer to prospective students. This also opens up opportunities for us to be more responsive to future curriculum needs based on the data collected."

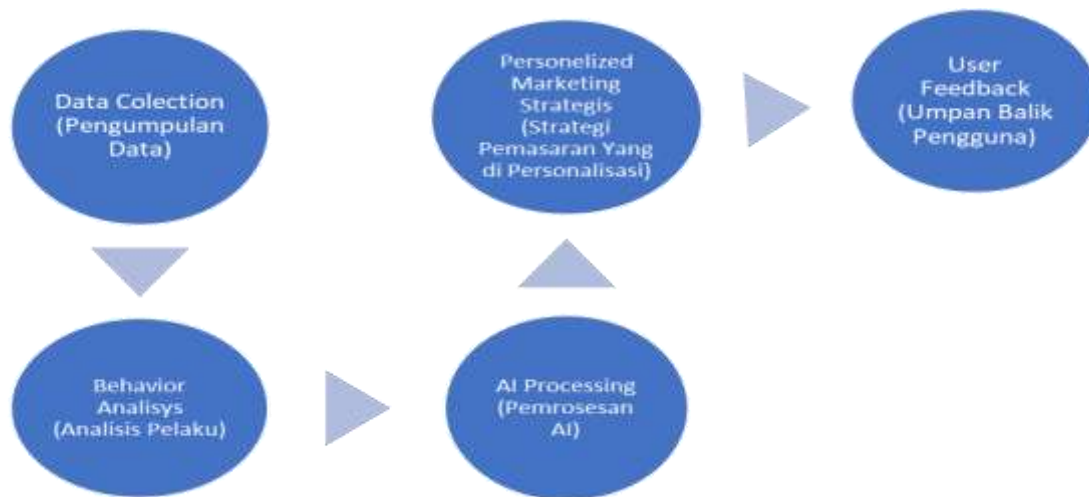
What is your experience when interacting with school marketing that uses machine learning for recommendations and personalization? Student: "I find it very helpful, because the information I receive is directly related to my interests. For example, I am interested in technology and computer science, so I often see advertisements and promotional materials about related study programs such as computer engineering and informatics. I feel that it makes my search for information more efficient and I don't waste time looking for irrelevant information." Do you find that machine learning-based recommendation systems help you in choosing an education program? Student: "Yes, it is very helpful. I often get emails or notifications about programs that match my interests. In addition, I also feel that the advertisements that appear on social media or on the school website are more in line with what I am looking for, so I don't have to search anymore. This makes me more confident in my choice to continue studying in a program that I really like." With the right application, machine learning can be a very powerful tool to drive personalization in education marketing, create a more engaging user experience, and improve overall marketing success.

### **AI and Its Role in Personalizing Educational Marketing Strategies in the Digital Era**

In this fast-paced digital era, Artificial Intelligence (AI) technology plays an increasingly important role in personalizing educational marketing strategies. Educational institutions, be it schools, universities, or other educational institutions, are increasingly utilizing AI to create more relevant and effective marketing experiences for prospective students (Bakry, n.d.-b). With the potential of AI, educational marketing is now smarter, data-driven, and targeted according to individual needs and preferences. We interviewed the public relations department of MA.Nahdhotul Mustarsyidin Pamekasan, as follows: We want to dig deeper into how AI can personalize educational marketing strategies. In your opinion, how does AI play a role in changing the marketing approach in the education sector? Public Relations: "Indeed, AI has brought about a huge change in the way educational institutions do marketing. Basically, AI allows us to provide a more personalized and relevant experience to each prospective student. With the ability to collect, analyze, and interpret large amounts of data, AI allows us to tailor marketing messages and content according to the interests, needs, and behaviors of each individual. This not only increases the effectiveness of marketing campaigns, but also strengthens the relationship with prospective students because they feel better served and more in line with their expectations" AI is a very powerful tool to revolutionize education marketing in the digital age. With its ability to provide deep personalization, AI can help educational institutions attract more students, provide a better learning experience, and improve marketing efficiency. However, to maximize the potential of AI, it is important to overcome challenges such as data privacy and implementation costs, as well as ensure the ethical use of this technology.

### **Effectiveness of AI in Personalizing User Experience on Education Marketing Platforms**

In today's digital era, artificial intelligence (AI) has become a very effective tool in personalizing user experiences, especially in the education sector. Educational marketing platforms, such as university websites, admission applications, and social media, are now leveraging AI to provide more relevant and tailored experiences to the needs of each prospective student (Kushariyadi et al., 2024). We interviewed the public relations department and principal of MA.Nahdhotul Mustarsyidin Pamekasan, as follows: How does AI affect the way educational institutions personalize their marketing? Public Relations: AI has brought many changes to the way we interact with prospective students. One of the biggest changes is its ability to personalize prospective students' experiences on our marketing platforms. For example, AI can collect and analyze user behavior data—such as the pages they visit, the keywords they search for, or the types of programs they are interested in. With this information, we can display more relevant and tailored content to their needs, whether it is information about study programs, scholarships, or campus activities. How do you see the role of AI in supporting educational marketing strategies, especially in terms of adjusting the curriculum to the interests of prospective students? Curriculum Head: Based on the data collected, AI can analyze prospective students' interests in various study programs and provide more precise information related to the curriculum offered. For example, if a prospective student shows a strong interest in a study program in science or technology, AI can display more information about related programs, including curriculum structure, research opportunities and available facilities.



## CONCLUSION

Conclusions from the study on the implementation of the Independent Curriculum in Islamic Religious Education and Character Education learning at SMP Nahdlatul Ulama 2 Gresik: The implementation of the Independent Curriculum in the subject of Islamic Religious Education and Character Education at SMP Nahdlatul Ulama 2 Gresik has been implemented well, seen from the preparation of teachers in implementing learning, namely by participating in training from within or outside the school and being able to compile teaching modules, and have carried out P5 activities well and smoothly. The understanding of teachers at SMP Nahdlatul Ulama 2 Gresik about the Independent Curriculum can be said to be good because they have succeeded in managing learning systematically, starting from providing motivation to concluding the material. The application of the Problem Based Learning method also encourages active discussions and presentations, while closing activities with conclusions help students understand the material comprehensively, so that learning takes place effectively. Disadvantages in the implementation of the Independent Curriculum in Islamic Religious Education subjects at SMP Nahdlatul Ulama 2 Gresik include the tendency for teachers to still use the lecture method and have not implemented differentiated learning or diagnostic assessments. However, there are advantages, namely teachers have implemented varied learning, not only focused on LKS, but also using methods such as discussions, presentations, project-based learning, demonstrations, and Q&A. Assessment in learning has also included summative and formative assessments, which are applied during the learning process.

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