# A Study Of Artificial Intelligence's Impact On The Changing Landscape Of Required Job Roles And Skills In Vietnam's Digital Marketing Sector

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**Abstract**

This study investigates the influence of Artificial Intelligence (AI) on the digital marketing sector in Vietnam, focusing on the evolution of job roles, skill demands, and the attendant ethical considerations. The research employs a mixed-methods approach, surveying Vietnam's digital marketing professionals and conducting a comprehensive literature review. Findings indicate a marked transformation in job roles and an increased demand for data analytics skills, strategic AI management, and capabilities to address AI-related ethical concerns, such as data privacy and algorithmic transparency. While AI offers substantial innovation and efficiency opportunities, it also poses challenges of workforce displacement and ethical dilemmas. The study calls for proactive upskilling, reskilling, and the development of ethical frameworks to navigate AI integration into digital marketing. Reflecting on the researcher's experiences across two technological eras, this paper contributes to the dialogue on AI's role in industry transformation, underscoring the importance of adaptability, lifelong learning, and ethical governance in an AI-driven future.

**Keywords**: Artificial Intelligence, Digital Marketing, Job Roles, Skill Demands.

## Introduction

Over the past decade, artificial intelligence (AI) has made strong inroads into the technology sector, leaving a deep imprint on the global economy. Notably, Vietnam has emerged as a promising hub in this AI revolution, embracing AI technologies and striving to transition to an AI-based economy, according to data from Statista. Among the sectors impacted by this wave of innovation, the digital marketing field stands at a pivotal juncture where the pervasive presence of AI is reshaping the industry landscape, enhancing productivity, driving creativity, and increasing competitiveness. Digital marketing has reaped significant success in Vietnam, thanks to a large internet user population. Forecasts indicate that Vietnam's digital advertising expenditure will reach 476 million USD by 2025, following a period of rapid growth.

Studying how AI will affect digital marketing jobs in Vietnam is extremely important in this constantly changing context. With a population of nearly 100 million, Vietnam has 73.2% internet users and 78.1% social media users. The internet and social platforms are having a significant impact on the Vietnamese consumer market and will become even more potent as AI-based tools and platforms change the Internet. Rebalancing skills and job responsibilities are necessary as AI evolves from automating repetitive tasks to complex

analysis tools and creative algorithms.

There are many reasons why understanding this change is important. First, it paves the way for effective human resource development strategies, raising awareness of the importance of developing AI-focused skills necessary to adapt and grow in an increasingly AI-driven work environment. Second, a comprehensive analysis of AI's impact can help identify new opportunities and roles, thereby encouraging innovation and entrepreneurship - factors that in turn promote economic growth.

This research aims to explore the landscape of skills being demanded by the transformative wave brought about by AI within the scope of the digital marketing sector in Vietnam. By examining the impact of AI on job roles, identifying emerging skill requirements, and exploring implications for the workforce. This study will contribute to a deeper understanding of the challenges and opportunities associated with integrating AI technology.

## Objectives

This study aimed to investigate the influence of Artificial Intelligence (AI) on the digital marketing sector in Vietnam, focusing on the evolution of job roles, skill demands, and attendant ethical considerations. Specially, the study has objectives;

1. To examine the impact of AI on job roles;
2. To examine the impact of AI on skill demand;
3. examine the impact of AI on attendant ethical considerations.

## Literature Review

### 1. The Rise of AI in Digital Marketing

The integration of Artificial Intelligence (AI) has reshaped the interaction between brands and consumers (Alqurashi et al., 2023) in digital marketing strategies. AI, with its predictive capabilities and data analysis, has propelled personalized content marketing to the forefront. Machine learning analyzes data, provides valuable information, and saves time (Artificial Intelligence And The Future Of Content Marketing, n.d.), allowing marketers to focus more on strategic aspects.

AI has a positive impact on consumer engagement on social media, improving conversion rates. It assists in building customer profiles and understanding the customer journey, enabling the quick provision of personalized content, and enhancing the ability to attract return customers (Haleem et al., 2022). AI also increases customer demand through AI-integrated experiences, tracking purchases, analyzing data, and delivering personalized marketing messages (Haleem et al., 2022). Combined with high-quality market research data, AI helps segment target groups, personalize offers, and ensure product fit (Moningo Costa et al., 2023).

The integration of AI has significantly changed job roles and required skills (Zaman, 2022). AI not only enhances efficiency but also improves strategic decision-making, helping to predict consumer behavior more accurately (van Esch & Black, 2021). AI creates new roles, but humans still play an essential role. Marketers must be flexible and ready to learn new AI skills (Tiautrakul & Jindakul, 2019). AI has the potential to automate jobs, leading to unemployment. To adapt, businesses need strategies to retrain employees (Morandini et al., 2023). Marketing must adapt to new technologies, the Internet. Marketers need to be tech-savvy to reach multi-platform customers (Sima et al., 2020).

However, integrating AI is not simple. Businesses need the right infrastructure, culture, skills, and technology. Training employees and encouraging the adoption of advanced technology are necessary (Zaman, 2022). It is essential to research the risks and challenges of

applying AI. AI brings both opportunities and challenges. It creates new jobs in the development, management, and ethics of AI. Skills in data analysis, managing AI systems, and ethical considerations are increasingly important (Morandini et al., 2023).

To succeed, a balanced approach is needed, leveraging AI to enhance efficiency and customer engagement while addressing the challenges of automation, skills shortages, and ethical issues. The ability to adapt, learn, and innovate will determine the success of both individuals and organizations.

**2. The Transformation of Job Roles and Skills in the Digital Marketing Sector Due to AI**

The integration of Artificial Intelligence (AI) has caused a significant transformation in job roles and necessary skills in the digital marketing sector (Zaman, 2022). The evolution driven by AI is characterized by the convergence of technology, marketing strategy, and consumer behavior analysis, reshaping the landscape of digital marketing.

The impact of AI extends beyond operational efficiency, fundamentally changing strategic decision-making processes. Predictive capabilities help marketers 'understand and predict consumer behavior more accurately, adjust marketing strategies and interact with customers to enhance satisfaction and loyalty' (Zaman, 2022). The role of today's digital marketer is not only to understand the market and devise strategies but also to effectively exploit digital channels, analyze data, and use AI and machine learning to 'predict customer behavior and personalize marketing efforts' (van Esch & Black, 2021).

Integrating AI into digital marketing strategies creates new roles and demands new skills. AI technology helps automate repetitive processes, optimize operations, and enhance efficiency. However, 'human engagement and emotion will still be necessary in the future. Marketers must be flexible and ready to learn new AI skills' (Tiautrakul & Jindakul, 2019).
AI has the potential to automate jobs or reduce cognitive load. These rapid changes have significant implications for businesses and employees, as AI can also lead to job losses. To adapt, businesses need to implement strategies to 'retrain or upskill employees,' facing many challenges in the transformation process due to AI (Morandini et al., 2023).

The rapid development of technology has significantly impacted marketing strategies and operations. The digital landscape has become more dynamic, requiring marketers to adapt to technology and the Internet. The emergence of multi-device connected consumers has forced marketing departments to work closely with IT departments, creating a need for marketers to learn how to use technology to expand content reach (Sima et al., 2020).

In the context of Industry 4.0, interactions between employees and machines are becoming more common. Workers need not only traditional skills, but also new capabilities related to technology and innovation, including IoT, digitization, and automation. This has led to the creation of new roles that require creativity and a deep understanding of technology (Sima et al., 2020).

AI has revolutionized marketing decision-making, helping businesses predict customer behavior, customize products/services, and enhance relationships. AI manages large customer data, providing information to understand needs and preferences, and playing a crucial role in strategic decision-making.

Furthermore, AI and predictive marketing have reshaped consumer behavior, leading to personalized and real-time advertising and promotions. Marketers use AI to analyze data, understand the customer base, and transform marketing into a field focused on data, objectives, and business outcomes (Brobbey et al., 2021).

However, integrating AI still presents challenges. Businesses need the right

infrastructure, culture, skills, and technology to fully exploit AI. Training employees and encouraging the use of advanced technology to manage marketing through AI is necessary. Future research should focus on exploring the risks and challenges of applying AI and measuring its impact on digital marketing and consumer behavior (Zaman, 2022).

**3 AI in the Digital Marketing Sector of Vietnam**

The integration of Information Technology (IT) and Artificial Intelligence (AI) into marketing strategies in the Vietnamese wholesale and retail sectors marks a significant advancement in the digital era, particularly in Industry 4.0 (Van Tuan et al., 2021). The shift from traditional marketing to online marketing is evident. Online marketing helps customers save costs, supports businesses in reducing inventory and capital, and provides a more efficient shopping experience (Van Tuan et al., 2021). The sophisticated interaction of the Marketing Mix (4Ps: Product, Price, Place, Promotion) in the digital domain highlights the role of AI and IT in revolutionizing the industry. The product strategy ensures high quality, changing designs to meet customer needs. The pricing strategy becomes more competitive, leveraging AI and IT to better understand market trends and customer behaviors. 'Place' is no longer just a physical location but also includes websites and online platforms, bringing products closer to customers. The promotion aspect becomes more targeted and personalized with online advertising, calls, and emails, enhancing customer connections (Van Tuan et al., 2021).

The vibrant digital space in Vietnam, with an internet-savvy population, opens up many possibilities for AI and IT to impact the marketing strategies of the wholesale and retail sectors. Using this technology strategy not only enhances the shopping experience but also provides valuable insights into customer behavior, market trends, competitor analysis, fostering industry growth and innovation.

**4 Skills Gap and Workforce Development to Meet the Demand of an AI-empowered Working Environment**

The emergence and integration of Artificial Intelligence (AI) in the workplace are reshaping the landscape of essential skills and human resource development. The demand for an AI-based work environment underscores the importance of a workforce that is not only technically proficient but also adaptable and continuously evolving. This transition necessitates enhanced skills and retraining. Integrating AI into organizational systems increases the importance of horizontal skills such as critical thinking, problem-solving, communication, and collaboration—essential for effectively working with AI, and helping workers adapt to new technologies and processes (Morandini et al., 2023).

Studies indicate significant differences in digital transformation adoption based on educational levels and job positions, reflecting the complex relationship between demographic characteristics and technology acceptance. Digital transformation plays a decisive role in modern business decisions, with factors like education level and job position significantly affecting the ability and willingness to adopt this technology. Those with higher degrees and higher job positions tend to be more receptive to digital transformation (Trieu & Pavelková, 2022).

Integrating AI into sectors requires reevaluating educational methods and work practices to equip everyone with the necessary capabilities. Kong et al. (2023) reviewed a digital competency training program for university students, emphasizing the cognitive, emotional, and social aspects of digital competencies. The program not only enhances understanding of AI but also raises ethical awareness about AI technology, helping bridge the skills gap by ensuring future professionals are both technically adept and socially responsible (Kong et al., 2023).

The document 'Artificial Intelligence in Education: Challenges and Opportunities for Sustainable Development' (2019) highlights AI's crucial role in reshaping the educational landscape, emphasizing the need to enhance digital competencies for teachers and students. It calls for restructuring educational programs, asserting that a solid understanding of AI and digital competencies is a prerequisite for preparing learners to face the challenges and opportunities of an AI-based future (Wade, 2008).

The study 'The Coexistence of Workers and AI in the Workplace' discusses the complexities of integrating AI at work. It notes the common perception of AI as a job threat and stresses the need to change this narrative. It proposes a symbiotic relationship between AI and workers, requiring continuous retraining and skill enhancement. By fostering technical, human, and conceptual skills, workers can effectively collaborate with AI, leveraging its capabilities to enhance productivity and creativity (Zirar et al., 2023).

To address the skills gap, enhancing and retraining skills becomes a crucial strategy. Enhancing skills to fit current roles while retraining involves learning new skills for different roles. This approach benefits both individuals seeking advancement and businesses wanting to maintain innovation in a constantly changing business environment. Introducing AI into the workplace is a transformative force for the nature of work and necessary skills. Identifying and understanding the skills gap is the first step in developing an effective human resource strategy. Subsequently, businesses can implement initiatives to enhance and retrain skills for employees, ensuring alignment with AI use (Morandini et al., 2023).

Eliminating the skills gap in an AI-based work environment is a multi-dimensional challenge, requiring coordinated efforts from schools, businesses, and policymakers. This demands a clear understanding of the changing technology landscape, workforce dynamics, and the implementation of training strategies. Only by recognizing and addressing these factors can the workforce be adequately equipped to meet the demands of an AI-based future.

**Hypotheses**

Hypothesis 1

(H1): Professionals in Vietnam's digital marketing sector perceive a significant impact of AI on their job roles and responsibilities.

(H1.1): There is a high perception among professionals that AI integration has transformed existing job roles.

(H1.2): Professionals expect AI to further change job roles and responsibilities in the future.

Hypothesis 2 (H2): Professionals within Vietnam's digital marketing sector perceive a shift in the skill requirements due to AI integration.

(H2.1): There is a high perception among professionals that AI has altered the importance of certain skills in their current roles.

(H2.2): Professionals expect the skill requirements to continue evolving with the advancement of AI technologies.

Hypothesis 3 (H3): Professionals across Vietnam's digital marketing sector that differ according to their role, years of experience, and level of interaction with AI exhibit differences in their perceptions of AI's impact.

(H3.1): Differences exist in the perception of AI's impact on job roles based on professional roles.

(H3.2): Differences exist in the perception of AI's impact on job roles based on years of experience.

(H3.3): Differences exist in the perception of AI's impact on job roles based on the level of interaction with AI.

Hypothesis 4 (H4): Professionals across Vietnam's digital marketing sector exhibit differences in their perception of the current and future skill requirements due to AI integration.

(H4.1): Differences exist in the perception of current skill requirements due to AI.

(H4.2): Differences exist in the perception of future skill requirements due to AI

## Methodology

### 1 Research Design

This study employs a correlational research design to examine the relationship between the level of AI integration and changes in job roles and required skills for digital marketing professionals in Vietnam.

### 2 Instrument design

The primary research instrument was a structured questionnaire, carefully designed to capture both quantitative and qualitative data. The questionnaire has been reviewed, evaluated, and approved by the MBA committee of Asia-Pacific International University. With a sample size of 238 companies calculated using the Yamane formula, the study utilized a structured questionnaire combining quantitative and qualitative data. Data was collected through an online survey.

### 3 Statistics

After collection, the data were encoded and analyzed using descriptive statistical methods, hypothesis testing with Crosstab, and independence tests using chi-square on SPSS with a significance level of 0.05. The data's confidentiality and integrity were maintained throughout the analysis process. The statistical treatment adhered to the rigorous standards of scientific inquiry, ensuring that the conclusions drawn from the study are both valid and reliable.

## Research Results

### 1 Demographic Information

**Table 1** presents the demographic distribution of the survey respondents, illustrating the diversity of age, gender, and experience within the digital marketing sector in Vietnam.

**Table 1** Respondent Demographic Information

| Variable | | Frequency | Percentage |
|---|---|---|---|
| Age | 18-24 | 54 | 23.18 |
| | 25-34 | 108 | 46.35 |
| | 35-44 | 56 | 24.03 |
| | 45-54 | 15 | 6.44 |
| Gender | Male | 93 | 39.91 |
| | Female | 132 | 56.65 |
| | Prefer not to say | 8 | 3.43 |
| Years of Experience in Digital Marketing Sector | Less than 1 year | 10 | 4.29 |
| | 1-3 years | 73 | 31.33 |
| | 4-6 years | 105 | 45.06 |
| | 7-10 years | 45 | 19.31 |
| Company Size | Small (1-50 employees) | 126 | 54.08 |
| | Medium (51-200 employees) | 90 | 38.63 |
| | Large (201+ employees) | 17 | 7.30 |
| Level of Interaction with AI Technology | Limited | 81 | 34.76 |
| | Moderate | 129 | 55.36 |
| | Extensive | 23 | 9.87 |

### 2 Level of Interaction with AI Technologies

Regarding the level of interaction with AI technology, the statistical results shown in Figure 1 below show a relatively high level of interaction of employees in the digital marketing field with AI:

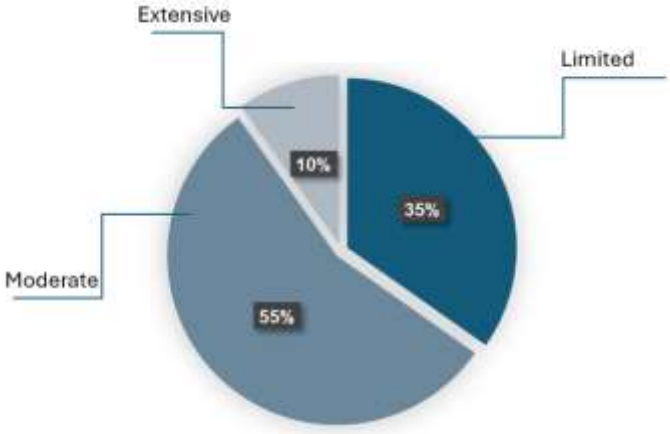


**Figure 1** Level of Interaction with AI Technologies

The survey results regarding the level of interaction with AI by employees in the Digital Marketing field show that more than 60% of the respondents reported their interaction with AI ranges from moderate to extensive during their work process.

The potential of AI in business operations, especially its application in the Digital Marketing sector, cannot be denied. According to a survey published by the Community of IT Leaders in Asia and the Singapore University of Technology and Design, 53% of Vietnamese businesses believe that Artificial Intelligence (AI) is the most significant technological trend impacting business in 2020.

The marketing field is also showing the application of AI in creating "virtual versions" of influencers (commonly known as KOLs). Some brands do not hesitate to use virtual KOLs for their campaigns, which is much more cost-effective compared to real people (VTV, 2020).

**3 The perception of professionals in Vietnam's digital marketing field regarding the impact of AI on their current job roles and responsibilities**

The survey results indicate that AI has had a significant impact on the current roles of the majority of employees in the digital marketing sector in Vietnam. With an average rating of 3.76/5, most employees agree that AI technology has influenced their work. The low standard deviation (0.76) reflects consistency in opinions about the influence of AI.

Although 43.78% of employees chose "Neutral," the remainder show a high consensus on the positive impact of AI. Specifically, 36.91% agree and 19.31% strongly agree that AI has significantly impacted their work. This reflects the enthusiasm of employees in adopting new technology to optimize their tasks.

**4.The Differences Between Demographic Factors and the Perception of AI's Impact on Job Roles**

The research results show significant differences in how various demographic groups assess the impact of AI technology on their current job roles.

In terms of age, the 18-24 age group showed the strongest agreement that AI has impacted their work, while older age groups had about 50% neutral responses on this issue. This suggests that younger individuals are more likely to perceive the impacts of AI

compared to their older, more experienced counterparts.

A report by The Conference Board (2023) also confirms the trend of AI applications in the Marketing and Communications industry, with 87% of marketing employees and 85% of communications employees having used AI for at least one task. Popular applications include summarizing content (44%), suggesting ideas (41%), creating personalized content (33%), research (30%), accelerating content production (30%), and improving customer service (17%). Thus, hypothesis H1.1 is supported.

Regarding the trend of new professional roles related to the deployment and management of AI, the survey shows that roles in AI-based content development (75.11%) and automated customer service (69.53%) are the most common areas. Other roles such as AI-based market research (39.06%), training in AI usage (34.76%), AI-based graphic design (35%), and automated marketing management (19%) are also emerging. This indicates that businesses expect AI to continue to change job roles and responsibilities in the future. Thus, hypothesis H1.2 is supported.

In terms of gender, there was no significant difference between males and females in assessing the impact of AI on their work.

Regarding work experience, newcomers to the profession (under 1 year of experience) tend to agree most strongly that AI has had a positive impact on their work (70% agree, 30% strongly agree). In contrast, those with 7-10 years of experience do not fully agree with the positive impacts of AI, reflecting a more cautious attitude towards adopting new technology.

Concerning business size, small enterprises (1-50 employees) tend to agree most strongly about the positive impacts of AI (30.95% strongly agree, 29.37% agree). This reflects the flexibility and readiness to embrace change at smaller businesses as they see specific benefits from implementing AI. In contrast, the agreement rate at larger businesses is lower, indicating greater complexity and challenges in deploying AI at larger organizations.

Regarding the level of interaction with AI, individuals who interact more with AI often perceive its positive impact on their work (4.35% strongly agree at a high level of interaction). Meanwhile, those with limited or moderate interaction with AI may not notice the clear impact of this technology on their work.

Overall, the survey results reveal differences in perceptions of AI's impact based on job role, work experience, and level of interaction with AI in the digital marketing sector in Vietnam. Younger groups, those with less experience, working in small businesses, and having more interaction with AI tend to perceive the positive impacts of AI more than other groups. Thus, it can be concluded that the general hypothesis H3 and the sub-hypotheses H3.1, H3.2, and H3.3 are supported by the survey results.

**5 Specific job roles that have been automated or transformed by AI**

About the job roles within one's organization that have been automated or transformed by AI, the survey results revealed a diverse range of perceptions among respondents, detailed statistical results are shown in Figure 2 below:

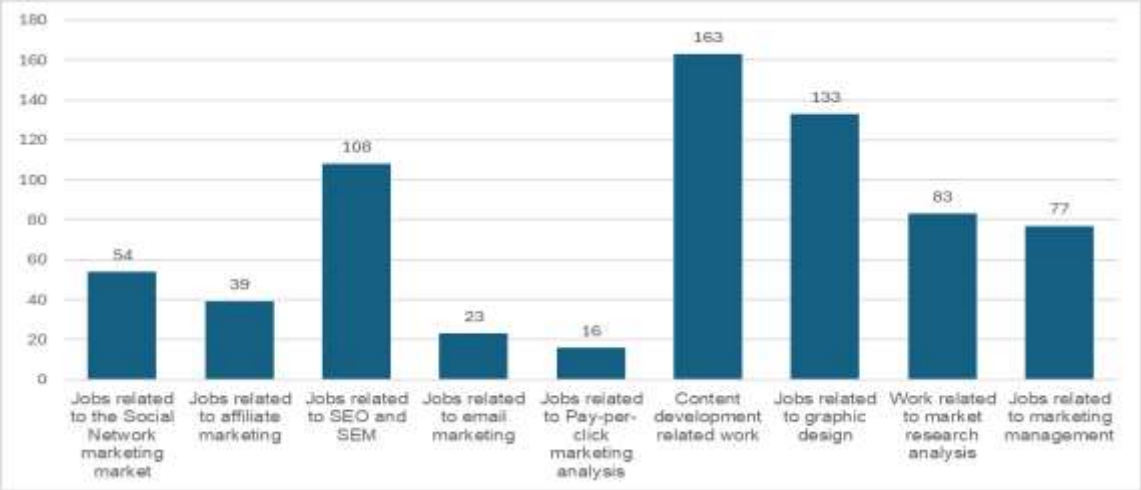


**Figure 2** Specific Job Roles That Have Been Automated Or Transformed By AI

The research results show that AI has significantly impacted many areas of work in the digital marketing sector in Vietnam. Notably, jobs related to content development and graphic design are the most affected, with 69.96% and 57.08% of survey respondents respectively indicating that their tasks have been automated or transformed by AI. This reflects the important role of AI in optimizing the content creation process, enhancing content diversity and personalization, as well as supporting more creative and efficient graphic design.

Additionally, jobs related to Search Engine Optimization (SEO) and Search Engine Marketing (SEM) have also been impacted by AI, as reported by 46.35% of survey participants. AI plays a crucial role in analyzing user data, search trends, and optimizing advertising strategies on search engines. Jobs related to social media marketing (23.18%), affiliate marketing (16.74%), market research analysis (35.62%), and marketing management (33.05%) have also seen some businesses apply AI for automation and transformation.

However, the impact of AI is still limited in tasks such as email marketing (9.87%) and pay-per-click advertising analysis (6.87%). This indicates that although AI is developing rapidly, there are still areas in digital marketing that require human intervention to ensure effectiveness and creativity in marketing strategies.

**6 The perception of professionals in Vietnam's digital marketing field regarding the impact of AI on changes in skill requirements due to AI integration**

Survey results from 233 participants representing digital marketing companies indicate that the integration of AI has highlighted increasingly demanded skills while making some skills less necessary.

Regarding increasingly essential skills, Machine Learning and Data Analysis are rated as very important, with percentages of 79.7% and 70.8% respectively. This reflects the crucial role of using AI and data analysis in developing effective business and marketing strategies. Natural Language Processing (35.6%) is also considered an important skill to optimize customer experience. Although not as common as the above skills, Creative Problem Solving (31.7%) and Strategic Planning (26.2%) remain valuable in integrating AI into business and marketing operations.

Conversely, some skills are becoming less necessary due to AI intervention. Manual data entry (83.3%) is rated as the least important skill, reflecting the trend of automating manual tasks with AI. Managing repetitive tasks (51.1%) is also being replaced by Robotic Process Automation (RPA) technology. Basic reporting (nearly 50%) is becoming less important as AI can automatically gather, analyze data, and generate reports. Finally, Routine

Supervision (34.3%) is also being automated more by AI, reducing the need for manual monitoring.

With a noticeable change in the perception of the importance of different skills due to AI integration, it can be concluded that hypothesis H2.1 'There is a high perception among professionals that AI has altered the importance of certain skills in their current roles' is supported. Additionally, with the expectation that skill requirements will continue to evolve with the advancement of AI technologies, hypothesis H2.2 'Professionals expect the skill requirements to continue evolving with the advancement of AI technologies' is supported by survey results.

**7. The ability to adapt to skill changes due to the impact of AI**

Survey results show a significant difference in the level of participation in AI-related skill enhancement activities among different age groups, work experience levels, and company sizes.

In terms of age, the 18-24 age group has the highest participation rate (35.19%), while older age groups such as 35-44 and 45-54 have no participants. There is no significant difference between males and females.

Regarding work experience, those new to the profession (under 1 year of experience) have the highest participation rate (20%), while the group with 7-10 years of experience has no participants.

In terms of company size, small companies (1-50 employees) have a participation rate of 15.08%, higher than medium-sized companies (7.78%), and no representatives from large companies participating.

Concerning the perception of skill gaps, the majority of participants (52.99%) believe there is a moderate gap between current skills and the new skills required due to AI. However, 23.25% view this gap as large, and 5.6% consider it very large.

Based on the survey analysis, it can be concluded that hypothesis H4 is supported. On the side of H4.1, the analysis indicated significant differences in the perception of current skill requirements due to AI among age groups, work experience, and company size. Younger age groups and those with less experience tend to be more aware of the gap between current skills and new skill requirements. Meanwhile, older age groups and those with more experience believe this gap is very large. Regarding H4.2, the analysis also showed differences in the perception of future skill requirements due to AI among groups. Younger individuals and those with less experience are more willing to engage in initiatives to enhance skills related to AI than older individuals and those with more experience. Additionally, company size also affects the level of participation in initiatives to enhance AI-related skills.

**8 The ethical risks of AI integration in the workplace**

The survey results indicate that the awareness of ethical issues related to the use of AI in the digital marketing sector in Vietnam is quite varied. There are 45.49% of participants with moderate awareness, 14.59% are very aware, and 4.72% have a deep understanding of these issues. However, 29.18% have only slight awareness and 6.01% are not aware at all.

Surprisingly, 100% of participants reported that they have not encountered any privacy and data protection issues in AI-based marketing tools. Meanwhile, 10.72% have encountered problems related to the bias and fairness of these tools.

Regarding the level of trust in the transparency of AI algorithms and their impact on consumer perception, only 11.15% of participants stated that they somewhat trust them. Notably, 37.13% do not trust or are skeptical, and 32.82% trust to a certain extent the transparency of AI. This reflects concerns about the transparency and fairness of current AI algorithms.

## Discussion

This study explored the impact of AI on the digital marketing sector in Vietnam, focusing on job roles, skill shifts, and ethical impacts. The survey results align with hypotheses H1, H2, and H3, showing that AI has changed current job roles, led to skill transitions, and resulted in differences in perception based on demographic characteristics. This is consistent with the research of van Esch and Black (2021), Zaman (2022), Morandini et al. (2023), Sima et al. (2020), and Trieu and Pavelková (2022).

Regarding adaptability and skill enhancement (H4), the study reveals differences in perceptions of current and future skill needs due to the influence of AI, aligning with the studies of Morandini et al. (2023) and Sima et al. (2020).

From these analyses, the following SWOT insights can be drawn:

Strengths: High awareness of AI, emphasis on transparency and ethics, investment in enhancing skills such as machine learning and data analysis, creativity, and strategic planning in applying AI.

Weaknesses: Lack of in-depth knowledge about AI, issues with transparency and ethics, significant investment needed for infrastructure and workforce training, and financial resource limitations.

Opportunities: Optimizing marketing strategies, enhancing customer experience, automating repetitive tasks, and forecasting market trends.

Challenges: Lack of knowledge and experience in applying AI in marketing, ensuring transparency and compliance with data protection regulations, the need to quickly adapt to AI developments, and resource limitations.

## Conclusion and Suggestions

This study provides a comprehensive view of the impact of AI on the digital marketing sector in Vietnam, as evidenced by key findings regarding changes in job roles, shifts in skill requirements, and ethical impacts during AI implementation. The analyzed survey results indicate that AI is transforming the work environment in the digital marketing sector, requiring continuous adaptation by employees and businesses.

The arguments from the study on the impact of AI on the digital marketing industry in Vietnam offer notable implications for managers and leaders in the sector. As AI continues to reshape digital marketing, managers need to embrace these changes with vision and adaptability. Managers should embrace AI to gain competitive advantages, invest in AI technology, and foster an environment welcoming technological innovation. They also need to focus on skill development and workforce adaptation, prioritizing the identification of skill gaps and investing in training programs related to AI.

Ethically, managers need to establish clear rules for ethical AI use, ensuring compliance with regulations and meeting customer expectations. Building an AI governance framework that includes monitoring data processing, and ensuring algorithm fairness, and transparency can help minimize ethical risks and build trust.

Finally, promoting cross-sector collaboration and dialogue is also crucial as AI blurs the lines between technology and marketing. Managers should encourage dialogue between marketing, IT, and data science teams to ensure that AI initiatives align with business objectives and leverage cross-disciplinary insights.

## Future research directions

As the research on the impact of AI on the digital marketing sector in Vietnam concludes, it's clear that there is much more to explore about AI in this field. This study has opened up many new research directions, such as cross-sectoral impact analysis, longitudinal studies on AI adoption trends, comparative cultural studies, ethical AI management models,

and consumer perspectives on AI-based marketing.

Future research could focus on analyzing the cross-sectoral impacts of AI applications in digital marketing affecting other industries or conduct longitudinal studies to track how AI adoption trends evolve over time in this sector.

Additionally, comparative studies across different cultural contexts would provide deeper insights into the global impact of AI, while focusing on developing and evaluating ethical AI governance models would also offer practical guidance for organizations on the use of ethical AI.

Lastly, researching consumer perspectives on AI-based marketing efforts is also crucial, helping to understand their attitudes towards privacy, trust, and the level of personalization, to adjust AI applications to enhance customer experience.

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