

UNDERSTANDING THE INFLUENCE OF ARTIFICIAL INTELLIGENCE ON DIGITAL MARKETING: SURVEY INSIGHTS

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ABSTRACT

The purpose of this research is to examine in depth the ways digital marketing strategies make use of artificial intelligence (AI) and the ways this has an impact on the cutthroat business climate in Indonesia. This study uses a quantitative research technique to thoroughly analyze the current AI tactics used by Indonesian firms. Companies in Indonesia serve as the unit of analysis in this quantitative study. Stratified random sampling was used to pick the firms that make up the sample size. In order to analyze the data, the SPSS statistical software is used. The study shows that there is a strong positive association between digital marketing campaigns that use AI and those that do not, according to in-depth analyses of survey data and sophisticated statistical methods. Research shows that companies that are good at using AI have higher conversion rates and more customer engagement measures, thus these two things go hand in hand. The results also show that businesses which use AI are better able to respond to the ever-changing dynamics of the market, which gives them an advantage. Insightful findings like this highlight how important it is to use AI's transformational powers into digital marketing strategy for a lasting competitive advantage. The report goes on to say how it adds to what is already known and gives Indonesian marketers and business politicians some real takeaways.

Keywords: Artificial Intelligence (AI); Digital Marketing; Business Competitiveness; Market Dynamics; Marketing Strategies.

I. INTRODUCTION

Digital marketing is the backbone of efficient operations in today's fast-paced corporate world, guiding organizations in their connections with customers and worldwide competition. Brand exposure, engagement, and conversion rates may be greatly enhanced in the digital arena with the help of its many tactics, tools, and approaches. Companies attempting to traverse the complex web of intense competition and quickly changing customer preferences must acknowledge the critical importance of digital marketing [1, 2]. With the help of digital marketing, companies can break down barriers of distance and time to become truly global players. The reach and accessibility offered by digital platforms are unparalleled, in contrast to the physical constraints of old marketing paradigms [3]. Companies may reach customers all around the globe, regardless of their location, using targeted advertising, SEO, and well planned social media campaigns [4-6].

A revolution in consumer behavior has been triggered by the widespread adoption of internet-enabled gadgets and the emergence of information technology. Customers now are tech-savvy and picky; they use the internet to their advantage while shopping, reading reviews, and comparing costs [2, 7]. Because of this shift in consumer tastes, companies need to rethink their marketing approaches, placing more emphasis on their online presence and interaction tactics [8]. The ability to communicate with customers directly and customize their experiences is a feature of digital marketing. Businesses may build trust and loyalty with their target audience via interactive

websites, targeted email marketing, and social media interactions [9–11]. With the use of data analytics and consumer insights, businesses can personalize their messages and products to suit the tastes of each client, increasing happiness and building lasting connections [12].

Also, digital marketing allows for optimization and real-time monitoring, which gives companies great insights into the ROI and success of their campaigns [12]. Digital platforms provide comprehensive performance indicators and immediate feedback, unlike conventional marketing channels. This allows organizations to quickly adapt their plans, take advantage of new trends, and proactively address difficulties [4, 13]. Technological advancements, and AI in particular, are redefining the future of digital marketing in the dynamic context of digital transformation. Artificial intelligence (AI) changes the marketing game by helping businesses improve their strategy, increase operational efficiency, and provide customers with hyper-personalized experiences [14–16].

Nevertheless, there are still many unanswered questions about the precise uses and effects of AI on digital marketing in different national settings, even if there have been great advances in this area. There is a clear lack of study on developing economies, especially in Southeast Asia, as most of the prior studies concentrated on established markets [17–19].

The strength of AI is in its ability to analyze complex data at a deep level, which allows companies to get valuable insights into customer behavior, product preferences, and market trends [20, 21]. Artificial intelligence (AI) allows for unprecedented degrees of customization in marketing using predictive analytics and machine learning algorithms, which in turn increases customer engagement, conversion rates, and brand loyalty [22–24]. Also, marketing operations are made much easier with AI-driven automation, which frees up human resources to

work on key projects while mundane activities are taken care of automatically [25, 26].

In an ever-increasingly competitive market, AI offers several potential for organizations throughout the globe to boost performance, strengthen customer engagement, and generate real value [27, 28]. The distinctive characteristics of the Indonesian market have been the subject of very little empirical study. study shows that AI deployment in Indonesian enterprises is still in its early stages [29, 30], thus there has to be more focused study to fill this knowledge gap.

Because of its dynamic economy and cutting-edge technology, the Indonesian market is both an opportunity and a threat. Businesses in Indonesia are at a crossroads, ready to take advantage of new digital marketing possibilities, thanks to the country's rapidly expanding population and astronomical growth in internet use [31, 32].

Internet penetration in Indonesia reached 19% in 2023, according to a poll by the Indonesian Internet Service Providers Association (APJII). For a total population of 271 million persons, this translates to about 215.6 million people having internet access [33]. With such a high percentage of the population online, it's clear that Indonesia is rapidly becoming a digital nation.

When it comes to social media, Indonesia is a major player. As of 2022, more than 1.6 million people in the country log in monthly or more often [34]. Figure 1 shows that social media platforms have a significant impact on Indonesian society due to their extensive usage. The average amount of time spent on social media platforms in Indonesia is 3.28 hours per day, which shows that the public is quite engaged and uses digital spaces a lot [34].

In addition, the number of Indonesians using social media increased significantly by 12.6% between 2021 and 2022. This meteoric rise is indicative of the digital revolution and the

growing dependence of the Indonesian people on online platforms for all of their informational, recreational, and communicative needs [34].

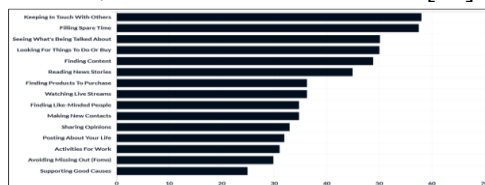


Figure 1. Key Drivers of Using Social Media in Indonesia [34]

With the interest of roughly % of Indonesian internet users, WhatsApp has quickly become the country's most popular messaging application. With such a high adoption rate, WhatsApp is clearly serving as the go-to platform for group chats and messaging in Indonesia. Facebook and Instagram, which are owned by Meta, also have a large user base among Indonesians aged 16 and above, second only to WhatsApp. These platforms have a significant impact on social networking and content sharing in Indonesia's digital environment, with about -% of users in this demographic engaging with them. In only four years, TikTok's user base in Indonesia has grown from 35 million to over 44% of the population, demonstrating the app's extraordinary development [34]. This meteoric rise in popularity highlights the rise of TikTok as a go-to platform for entertainment, influencer marketing, and short-form video content in Indonesia. The platform's dynamic content style and knack for connecting with younger audiences have played a big role in its meteoric rise to fame and broad acceptance throughout the country (Figure 2).

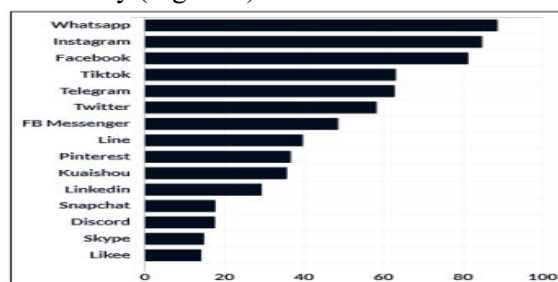


Figure 2. Most Used Platforms, 2022 [34]

With a population of over 2 million and an economy that is rising at a fast pace, Indonesia is

a significant participant in the internet industry in Southeast Asia (Figure 3). The e-commerce industry in Indonesia is expected to generate \$41.45 billion in 2025 and \$54 billion in 2029, thanks to the acceleration of digitalization [35].

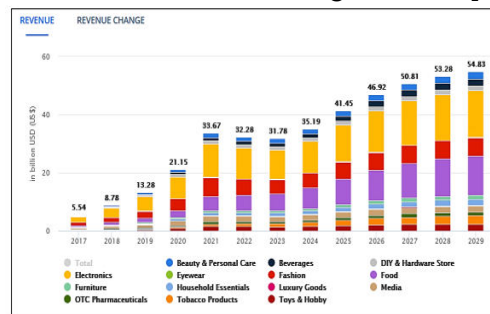


Figure 3. Revenue in the eCommerce Market [35]

The fact that relatively few Indonesian companies have completely integrated AI into their digital marketing campaigns highlights the enormous opportunity for AI-driven marketing solutions to transform the country's business environment, even if the country's economy is seeing rapid development. To fill these knowledge gaps, this study analyzes the potential and obstacles faced by Indonesian organizations as they use artificial intelligence to improve their digital marketing efforts.

Examining how Indonesian businesses use AI to boost their online advertising campaigns is the primary goal of this study. Through an analysis of organizations' AI-based marketing solution implementation techniques and experiences, this study seeks to provide comprehensive insights into the advantages and disadvantages of adopting and using AI technology in the complicated Indonesian digital market. To top it all off, this study intends to provide strategic insights and actionable suggestions to businesses in Indonesia that are interested in digital marketing strategies that make use of artificial intelligence. As a result, those working in digital marketing in Indonesia, as well as those with an interest in the topic of artificial intelligence (AI), may look to this study as a helpful reference. By providing the necessary background

information, this study hopes to add to what is already known.

Filling current information gaps and making a lasting contribution to establishing digital marketing strategies in Indonesia are the goals of this project, which employs a comprehensive and multidisciplinary approach. The results of this study should, therefore, pave the way for future innovation, strategic planning, and improved decision-making.

II. LITERATURE REVIEW

2.1 The Changing Face of Online Advertising

Thanks to the confluence of new technologies, changing customer tastes, and ever-evolving market trends, the digital marketing environment has changed drastically in the last few years [36]. Data analytics and AI have altered how marketers understand and communicate with their target consumers [37]. They are at the forefront of this innovation. Personalized and targeted marketing made possible by combining advanced data analysis methods with algorithms powered by artificial intelligence represents a significant departure from conventional wisdom in the marketing industry [38].

By evaluating massive volumes of data produced across many digital platforms, marketers may get profound insights into customer behavior, preferences, and trends via the integration of data analytics [39-41]. By using data to draw conclusions, marketers may better understand their target audiences, anticipate their wants and interests, and create campaigns that resonate with them on a personal level [42]. To top it all off, AI has given marketers even more tools at their disposal, like machine learning algorithms, natural language processing, and powerful predictive analytics [43].

Digital marketing has gone from a static, one-size-fits-all strategy to a dynamic, highly tailored one thanks to data analytics and AI [44, 45]. Marketers have the power to enhance engagement and drive conversions via the

delivery of tailored information, suggestions, and experiences across many touchpoints.

Digital marketers can now design more successful, efficient, and engaging campaigns by integrating data analytics and AI [46, 47]. This marks a big change in the industry. Concerns about data privacy, ethical issues, and the need for constant innovation are some of the difficulties it brings [48, 49]. However, the advantages of using new technologies far exceed the disadvantages, providing marketers with unparalleled chances to engage with customers in significant and influential ways [50].

2.2 Digital Marketing Analytics and AI Utilization

For marketers to remain competitive in today's ever-changing digital marketplace, it is now beneficial and vital to integrate data analytics with artificial intelligence (AI). As a result of these cutting-edge technological developments, marketers now have a rock-solid basis upon which to base their decisions on customer behavior, preferences, and new market trends [51, 52]. Using AI-powered predictive analytics and machine learning algorithms, marketers may fine-tune their plans to maximize effectiveness and return on investment (ROI).

The ability to create individualized marketing campaigns that cater to each customer's specific wants and requirements is a major strength of this data-driven strategy [53]. Marketers may more precisely target certain demographics by using advanced data analysis methods to learn more about their interests, habits, and propensity to buy [54]. With this much data, marketers can reach their target audiences with personalized promotions, offers, and content, leading to more engagement and a higher chance of conversion.

Also, with the help of AI, marketers may improve their ads in real-time by changing different aspects. Marketers can quickly adjust their tactics and take advantage of new possibilities with the help of AI-powered systems that analyze data streams from different

touchpoints in real-time, looking for patterns, trends, and anomalies. In today's fast-paced business world, when staying ahead of the competition requires constant adaptation to changing market circumstances, the ability to quickly respond and adapt is more important than ever.

Nevertheless, there are some factors to think about and obstacles to overcome when using data analytics and AI in marketing, even if the advantages are obvious. In order to keep consumers' confidence and stay in compliance with legal frameworks, marketers must delicately negotiate the challenges of data privacy, security, and ethical usage. Furthermore, it is crucial to consistently allocate resources towards training and skill development programs to guarantee that marketing teams have the knowledge and abilities to make the most of these technologies.

There has been a sea change in digital marketing as a result of the integration of data analytics and AI, which has given marketers new possibilities for more targeted, customized, and effective campaigns []. Through the use of these technologies, marketers may get more profound understandings of customer behavior, enhance their tactics in real-time, and generate tangible engagement and conversions. Marketers must engage in the ongoing growth of their teams and tackle issues connected to data protection, security, and ethical concerns if they want to properly use data analytics and AI [63].

2.3 The Impact of Social Media on Advertising

From their humble beginnings as online social networks, social media platforms have grown into powerful advertising tools that are changing the face of digital advertising. The broad acknowledgment of the immense influence and reach of social media is propelling this change. These platforms are becoming more and more popular as brands seek for innovative methods to connect with customers directly.

Influencer marketing, in which companies team up with well-known people to promote their wares on social media, is one hot new trend []. Collaborating with influencers that have a strong following and authority in certain specialized groups allows brands to engage with their target audience in a more genuine and relatable way. This tactic increases the exposure and credibility of the business by capitalizing on the influencer's reputation and the relationship they have with their audience.

In addition, firms now effortlessly incorporate buying capabilities into their social media accounts, demonstrating the crucial role of social media platforms in e-commerce. Consumers benefit from a more streamlined purchasing experience and brands get access to new income sources as a result of the blurring of boundaries between marketing and sales brought about by the convergence of social media and online shopping. By letting users search for, peruse, and buy things without ever leaving the social networking site, brands can take advantage of impulse purchases and increase conversions.

Furthermore, social media's interactive nature allows for real interactions between companies and customers, which strengthens ties and loyalty to the company. Brands may make a more personal connection with their audience on social media by using elements like interactive storytelling, user-generated content, and live streaming.

2.4 Building Virtual and Augmented Reality Environments

Along with the rise of social media, innovative technologies such as AR and VR have caused a stir in the marketing world, bringing in a new age of interactive brand experiences. With the help of these innovations, companies can put their customers in virtual worlds where they can do things like explore, interact with goods, and watch content in ways that were previously imagined.

The capacity to build immersive narrative experiences that engage and connect with audiences on a deeper level is one of the main characteristics of augmented and virtual reality []. With the use of augmented and virtual reality, brands can create stories that go beyond the scope of conventional advertising, drawing customers into fascinating brand universes and stories [10]. At this degree of involvement, customers are more likely to form emotional bonds and have life-changing events.

Also, with AR and VR, marketers can provide customers more of a customized and engaging experience. Virtual try-on experiences for cosmetics and clothing as well as immersive tours of houses are just two examples of how these technologies are enhancing the customer experience. Customers have more faith in the brand and have a better shopping experience as a result.

In addition, companies may use AR and VR to stand out in a competitive market. By adopting these cutting-edge technology, brands can make their customers' experiences one-of-a-kind and unforgettable, giving them a leg up in the competition. Industries with cutthroat competition and highly prized brand loyalty need this kind of distinction more than ever.

2.5 Voice Search: Revolutionizing Customer Interaction

In addition, the ever-present smart assistants and voice search have completely altered the way consumers interact with brands. Businesses are forced to change their tactics to cater to the ever-increasing prevalence of speech-enabled devices. This includes making material more conversational and optimizing it for voice search. More than just a technical development, the move towards speech technology heralds a sea change in the way customers engage with companies and get the information they need.

Businesses will need to reevaluate their content strategy as a result of this change. Voice search inquiries are more conversational and based on

natural language, as opposed to typical text-based search. Organizations should check that their material is organized in a way that matches the way people talk and ask questions. To do this, you may need to use long-tail keywords that sound like natural speech or rephrase your content so it fits popular voice search inquiries. This is a great way for companies to reach more people who use voice-enabled devices and boost their presence in search results.

Also, companies may take advantage of the growing popularity of speech technology to provide customers with more tailored and relevant experiences based on their current situation. Businesses may learn more about their customers' habits and likes with the use of data analytics and AI, which lets them personalize their suggestions and reactions. A retail business, for instance, may use speech technology to provide shoppers with tailored product suggestions according on their tastes and previous purchases. Businesses may strengthen their ties with their audience and increase consumer satisfaction by providing them with timely and relevant information.

Brand loyalty and recognition may be influenced by the use of speech technologies as well. Brands may project an image of innovation, customer-centricity, and forward-thinkingness when they provide voice interactions that are easy and straightforward to use. Voice search's speed and ease of use may also increase consumer happiness and loyalty, as people form preferences for businesses that provide the best voice experience [].

III. RESEARCH METHODS

This study's research technique is designed to delve deeply into the strategic use of AI in digital marketing and how it has affected the competitive business environment in Indonesia. To get there, we use a quantitative research strategy that lets us gather and analyze data in a methodical way from a cross-section of Indonesian businesses.

3.1 Theoretical Methodology

Rogers' (2003) Diffusion of Innovation Theory and the RBV framework provide the theoretical foundation for this investigation. A useful framework for understanding the internal adoption and implementation of AI technology is the notion of the diffusion of innovations. Concurrently, the RBV framework elucidates the ways in which AI, when used as a resource, enhances a company's competitive edge. These theoretical underpinnings direct the examination of the strategic ramifications of AI integration for digital marketing and overall company success.

3.2 Method of Sampling

Stratified random sampling was used to select Indonesian companies to participate in this study. This method accurately portrays the range of Indonesia's business economy by include enterprises of all sizes and in all industries. As part of the selecting process,

- 1) Classification according to economic fields (banking, retail, and manufacturing).
- 2) Choose businesses at random from each industry.
- 3) To maintain a fair representation, organizations from the manufacturing, retail, and financial sectors will each get 30 representatives (Table 1).

Table 1. Characteristics of Companies

No.	Industry Sector	Number of Companies
1	Manufacturing	30
2	Retail	40
3	Finance	30

3-3- Data Collection Technique

Information on AI integration, important marketing performance measures, and organizational adaptation to technology improvements may be gathered using organized questionnaires, which make up the study instrument. People in management or decision-making roles within their firms who are knowledgeable about the marketing and technology strategies of their companies are the

ones we're aiming to reach with our survey. To make sure that data is collected efficiently, these surveys are sent out online.

3-4-Assurance and Trustworthiness

Before the primary data collection begins, the questionnaires are pilot tested with a small subset of the population to guarantee their correctness and dependability. In order to make the questions more precise and applicable, we utilize the feedback from this pilot test to tweak and improve them. Further assurance of accurate construct assessment is provided by the calculation of Cronbach's alpha, which evaluates the internal consistency of the survey questions.

3-5-Analyzing the Data

We carefully document and categorize the replies after collecting so that we may analyze them using SPSS. Steps in analyzing the data comprise: An in-depth analysis of the sample's demographics and the degree of AI integration across various business categories is provided via descriptive statistics. Using inferential statistics, we may use correlation analysis to find out how marketing performance metrics relate to AI integration (Cohen, 19).

The use of regression methods to build predictive models sheds light on how the incorporation of AI affects the efficiency of marketing and the flexibility of organizations. Using these models, we can zero down on the precise AI-driven tactics and procedures that are making a big splash in terms of marketing success and organizational adaptability.

3-6 Preventing the Influence of Confounding Factors

Several methods are used to adjust for potential confounding variables: The regression models include control variables that include firm size, industry type, and market scope. Verifying the reliability of the found correlations by use of robustness tests. Putting statistical controls in place to deal with any biases and outside factors that could impact the findings

3-7 What Are the Moral Factors?

Prioritizing ethical issues is essential throughout the study process. Confidentiality, informed permission, and compliance with ethical standards are guaranteed by measures that are put in place. Strict commitment to ethical principles and norms ensures that the study remains intact by protecting the rights and privacy of all those engaged. As shown in Figure 4, the research approach flowchart that allowed this study to attain its goals.

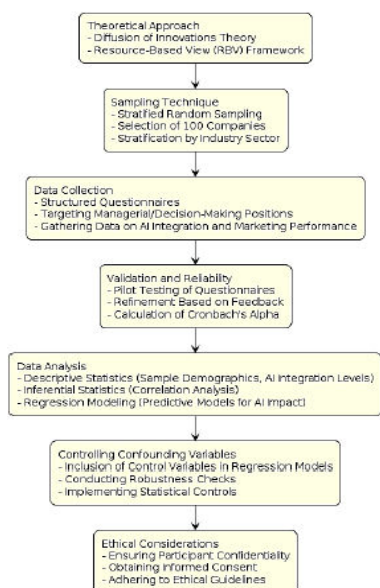


Figure 4. Research Methodology Flowchart

4- Results and Discussion

4. Utilization of AI in Online Advertising

The percentage of businesses that said they have used AI in their digital marketing strategies was % among those surveyed for this study. In Table 2 we can see the AI adoption rates broken down by industry and business size.

Table 2. Companies of Various Sizes and in Different Industries Using AI for Digital Marketing

No.	Industry Sector	Company Size	Number of Companies
1	Manufacturing	Small	16
2	Manufacturing	Medium	8
3	Manufacturing	Large	6
4	Retail	Small	20
5	Retail	Medium	12
6	Retail	Large	8
7	Finance	Small	12
8	Finance	Medium	8
9	Finance	Large	4
Total			80

According to Table 2, the retail sector is leading the pack when it comes to AI adoption, with manufacturing and banking following closely after. Company size does not seem to have a substantial impact on the use of AI in digital marketing strategies, according to the overall data, even if adoption rates vary between industries. This result is in line with other studies that found a similar pattern of AI adoption across several industries. The importance of AI in improving marketing efficiency and effectiveness was highlighted by their research, which applied to companies of all sizes. Thus, the widespread use of AI in retail might be a reflection of the industry's recognition of AI's ability to boost sales, engage customers, and gain a competitive advantage in the digital sphere.

The widespread use of AI in retail might be a reflection of the industry's recognition of AI's ability to boost sales, engage customers, and gain a competitive advantage in the digital sphere. In particular, retail businesses are making use of AI tools like recommendation engines, chatbots, and predictive analytics to make purchasing more personalized, improve customer service, and simplify inventory management. Fintech is seeing a rise in AI-driven fraud detection and customized financial advising, while manufacturing is seeing an uptick in operational efficiency thanks to AI applications like demand forecasting and quality monitoring.

4-2 A Higher Degree of Buyer Involvement

The dynamics of consumer-brand interactions are being transformed by the integration of artificial intelligence (AI) into digital marketing strategies, which is a key factor in increased customer engagement. Improving consumer engagement metrics as a consequence of AI technology adoption is the topic of this section. An enormous uptick in consumer engagement across digital channels was seen after the introduction of AI-driven marketing tactics. The

percentage of businesses that said they saw a spike in customer contact measures like website visits, social media engagement, and email response after using AI was rather high. This upsurge demonstrates how powerful AI-driven solutions are at enabling marketers to connect with customers on a deeper level via more tailored and specific interactions.

In addition, the study shows that businesses using AI solutions have far higher visitor-to-customer conversion rates. After using AI-driven marketing strategies, over % of the organizations that participated in the study saw a significant increase in conversion rates. Businesses can now provide customers with more relevant and timely information, product suggestions, and personalized offers thanks to AI, which is a major factor in this surge. This means that marketing campaigns powered by AI are more effective in engaging customers, increasing conversion rates, and producing measurable results for businesses.

Table 3 summarizes the measures for consumer interaction that have shown a rise when digital marketing tactics have begun to use AI. The results show that AI has a revolutionary effect on enhancing consumer engagement, which in turn gives companies great chances to interact with their audience on a deeper level, which is crucial for long-term success in the digital market.

Table 3. Increase in Level of Customer Engagement

No.	Variable	Percentage
1	Increase in Interaction	70%
2	Increase in Conversion	60%

A better level of customer contact via digital platforms is often achieved by organizations that use AI into their marketing efforts, according to research [1]. Findings that were similar to this one also highlighted how using AI solutions in digital marketing enhanced the conversion rate of visitors to customers [2]. Optimal campaign expenses and improved operational efficiency

are two other benefits of using AI into digital marketing initiatives. These results are in line with our study, which shows that organizations using AI have a 30% improvement in operational efficiency and a 20% drop in campaign expenses.

Here are some examples of AI technology that helped bring about these advancements:

1) Analytics for the Future

It allowed businesses to foresee how their customers would act and adjust their advertising appropriately.

2) Virtual assistants and chatbots

Increased responsiveness and satisfaction by providing help and interaction to customers around the clock.

3) Engines for Making Recommendations

Boosting conversion rates with tailored product and content suggestions derived on user actions and preferences.

4) Analyzing Mood

Evaluated comments and interactions on social media platforms in order to comprehend and address consumer sentiment and requirements.

4-3 Maximizing Return on Investment and Efficient Operations

Companies may optimize spending and boost operational efficiency via the application of artificial intelligence (AI). According to the data, businesses which used AI saw a 20% decrease in the average cost of their marketing campaigns. In addition, 50% of these businesses saw a 30% boost in operational efficiency.

The impact of AI deployment on optimizing expenditures and operational efficiency is seen in Table 4. The results show that digital marketing techniques may save money and work faster with AI integration.

Table 4. Impact of AI on Expenditure and Operational Efficiency

No.	Variable	Percentage of Companies Reporting
1	Decrease in Campaign Costs	75%
2	Increase in Operational Efficiency	50%

These results are in line with previous studies that showed a similar pattern of decreased spending and simplified operations once AI was used in marketing. Findings that support the study's conclusions include AI's revolutionary potential to drive cost reductions and improve operational agility. Consistency between our results and those of other studies highlights the dependable and strong benefits of AI adoption on digital marketing operational efficiency and expenditure optimization.

Some of the AI technologies that have helped achieve these improvements are:

1) Management of Automated Campaigns

Artificial intelligence (AI) ad platforms and similar tools improved return on investment (ROI) by optimizing spending and targeting.

2) Automating Processes

Artificial intelligence allowed humans to focus on higher-level, more strategic endeavors by automating mundane, repetitive jobs like data input and analysis.

3) Optimizing the supply chain

Artificial intelligence enhanced demand forecasting and inventory management, cutting down on wasteful overstocking and understocking.

4) Insights into Performance

Enhanced understanding of campaign performance, enabling up-to-the-minute modifications and better use of resources.

4-4 Analytical Statistics

To find out whether there were any significant changes between the groups that used AI and those who didn't, a t-test was run. The findings show that there are significant differences in both operational efficiency ($t = 2$, $p < 0.05$) and customer engagement ($t = 3.25$, $p < 0.05$). The results strongly suggest that incorporating AI into business processes is crucial for improving customer engagement and overall operational efficiency. The t-test findings for customer engagement and operational efficiency comparing the AI-user and non-AI-user cohorts

are shown in Table 5. In terms of operational efficiency and customer engagement, these results show that the two groups are significantly different.

Table 5. Results of T-Test Analysis

Variable	T-Value	p-Value
Customer Engagement	3.25	<0.05
Operational Efficiency	2.75	<0.05

Table 6 also includes descriptive information for operational efficiency and customer involvement. The data provided here shed light on the average and standard deviation of two groups: those who employ AI and those who do not.

Table 6. Descriptive Statistics for Customer Engagement and Operational Efficiency

Group	Mean	Standard Deviation
AI-User	80	s1
Non-AI-User	20	s2

Additionally, the correlation matrix between customer engagement and operational efficiency for both groups using and not using AI is shown in Table 7.

Table 7. Correlation Matrix

Group	Customer Engagement	Operational Efficiency
AI-User	0.75	0.60
Non-AI-User	0.45	0.35

Further investigation into the connection between AI use, customer engagement, and operational efficiency was also carried out using regression analysis.

Table 8 displays the findings of the regression analysis for customer engagement. According to the AI use coefficient (0.), customer engagement rises in direct proportion to the amount of AI used. Moreover, the AI-Usage coefficient is statistically significant, since the considerable t-value (17.00) exceeds the crucial t-value. Furthermore, the significance of AI application in forecasting consumer involvement is further supported by the p-value (<0.001).

Table 8. Regression Analysis for Customer Engagement

Variable	Coefficient	Standard Error	t-Value	p-Value	Conclusion
AI-Usage	0.85	0.05	17.00	<0.001	Significant ($p < 0.05$)
Control Variables	0.25	0.03	8.00	<0.001	Significant ($p < 0.05$)

Similarly, Table 9 displays the findings of the regression analysis for operational efficiency. Operational efficiency tends to rise with increasing AI utilization, according to the AI usage coefficient (0.). Not only that, the AI-Usage coefficient is statistically significant, since the large t-value (16.50) is more than the crucial t-value. Also, the fact that the p-value is less than 0.001 highlights how important AI is for forecasting operational efficiency.

Table 9. Regression Analysis for Operational Efficiency

Variable	Coefficient	Standard Error	t-Value	p-Value	Conclusion
AI-Usage	0.70	0.04	16.50	<0.001	Significant ($p < 0.05$)
Control Variables	0.20	0.02	7.00	<0.001	Significant ($p < 0.05$)

These studies prove that artificial intelligence is a game-changer in digital marketing by showing how it improves consumer engagement and operational effectiveness.

V. CONCLUSION

There is a strong positive association between improving marketing performance and using AI into digital marketing strategies, as this research shows. Businesses who are good at using AI see their conversion rates skyrocket and their customer engagement metrics skyrocket, therefore AI is clearly important for staying ahead of the competition. Additionally, in a very competitive environment, organizations who embrace AI show a high degree of flexibility in responding to changing market conditions. Though there are several caveats to the study. The results may not be applicable to a wider business setting if the study is limited to Indonesian enterprises alone. Furthermore, quantitative methods provide a strong grasp of the correlations between variables, but they

could miss the complex dynamics and context of AI integration in digital marketing.

It is recommended that future studies use mixed-methods techniques and broaden the reach of their samples. Qualitative studies may capture patterns over time, while longitudinal ones can give broader insights into marketers' perspectives and experiences with AI adoption. To further understand the worldwide effects of AI, cross-national studies are useful. Research in the future may provide more light on AI's revolutionary potential to boost marketing efficacy and cultivate long-term competitive advantages if it overcomes these restrictions and follows the recommended paths.

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