

# The Artificial Intelligence (AI) Utilizing to Assist Digital Marketing in Indonesia: A Systematic Literature Review during 2019-2024

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**Abstract.** Artificial intelligence is changing digital marketing today by making more individualized, effective, and efficient methods possible. Several studies led by experts have looked into the use of artificial intelligence for digital marketing. However, there is currently a lack of studies on Indonesia's use of artificial intelligence in digital marketing. This recent study focused on the use of artificial intelligence for digital marketing in Indonesia both during and after the Covid-19 epidemic (2019-2024). The study were investigated is based on Scopus databases. The remain number of paper based on the relevancies towards the topic is 12 articles. The in-depth analysis is conducted based on several categories, including the research urgencies, the type of artificial intelligence use for digital marketing, and the type of product or sector promote by artificial intelligent. The results revealed that artificial intelligence has been used in multiple earlier studies for digital marketing for a variety of reasons including improve marketing strategies, gathering information from consumers, revenue growth, and customer service enhancement. The study also revealed there were several variety of Artificial Intelligence used that combine with common technology, including AI algorithm, AI based voice assistant, SVM enhance machine learning, AI text analysis, AI powered geo-targeting, etc. Telecommunication companies, apparel retailers, food and beverage companies, and other e-commerce businesses are among the industries that have employed artificial intelligence for digital marketing. In summary, the application of artificial intelligence in digital marketing is commonly used to provide various kinds of marketing strategies, production efficiency, high-quality services, and profit maximization.

**Keywords:** Artificial Intelligent, AI, Machine Learning, Digital Marketing.

## 1 Introduction

Technological advancement has contributed to about significant changes in several of sectors of life, including marketing and business. One technology that has become increasingly common in the modern day is Artificial Intelligence (AI). This shared

technological discovery was widely used by all living sectors to increase productivity. The Artificial Intelligence (AI) is one of computer science field that focuses on developing devices and systems that are capable of carrying out tasks which commonly required human intelligence. According to an expertise, the Artificial Intelligence (AI) is define as the computer and system capability to accurately understand external data, learn from that data, and use that learn process to accomplish certain activities and goals through adaptation process. Artificial intelligence is designed and incorporated into computers or other devices to do tasks that are typically completed by humans [1]. The current goal of artificial intelligence (AI) is to generate systems that have human-like abilities to think, learn, and adapt. It will enable more effective and efficient solutions to be provided in sectors like business, healthcare, and education. Additionally, AI provides creative solutions that may improve the efficacy and efficiency of digital marketing strategies.

Artificial intelligence (AI) is becoming an essential aspect of digital marketing strategies in the modern digital era. Nowadays, digital marketing is more common since our society has moved away from utilizing conventional formats for consumption and commercial transactions and toward using digital ones. It should be comprehended that digital marketing is the activity to advertise products and services using online platforms including email, social media, and search engines. Strengthen the claim, the expert define digital marketing as a strategy used to digitally advertise a company's products and services. It involves utilizing picture advertising, mobile phones, and other digital media like Google Ads, Facebook, Instagram, marketplace platforms, etc [2]. For instance, using social media for advertising and interacting with customers, implementing digital marketing through e-commerce websites, and utilizing blogs and video tutorials to increase engagement and expand the market are a few examples of digital marketing implementation.

The integration of Artificial Intelligence (AI) and digital marketing have a lot of benefits for our society. Artificial intelligence used in digital marketing can increase business revenue. Moreover, Artificial Intelligence (AI) can also be used to automate marketing operations like content personalization and customer interaction, which might increase customer loyalty and engagement. Even with AI's enormous potential, there are still a number of obstacles to overcome before it can be fully utilized in digital marketing, including a lack of human resources, lack of technological readiness, lack of knowledge and access towards Artificial Intelligence (AI). Considering the benefits of integrating artificial intelligence (AI) into digital marketing will assist in comprehend the significant role that Artificial Intelligence (AI) performs in the digital marketing. According to the previous study on the role of digital marketing, the study indicates that artificial intelligence (AI) has shifted how companies communicate with their customers and manage their marketing strategies [2]. Companies and sellers could optimize their efficacy and efficiency in marketing operations by integrating machine intelligence and data analysis. The analysis concludes that artificial intelligence (AI) contributes several of key roles in digital marketing, including data analysis, user experience optimization, content personalization, automatic customer services, search engine optimization, and marketing optimization.

The implementation of Artificial intelligence for digital marketing was commonly studied by several experts. According to a study conducted by Pangkey et al. reveals that artificial intelligence (AI) has a favorable impact on digital marketing and customer demand [3]. Current advancement in a several artificial intelligence aspects, including computer intelligence, natural language processing, expert systems, and visualization, have become

important in increasing customer engagement. The other study conducted by Nalendra et al. on the utilization of Artificial Intelligence on product display of processed seafood product. According to the study, artificial intelligence's visualization feature helps to present the product advertisements and increase consumer engagement [4]. In conclusion, the majority of studies shows similar result about the Artificial Intelligence could positively affect the Digital Marketing.

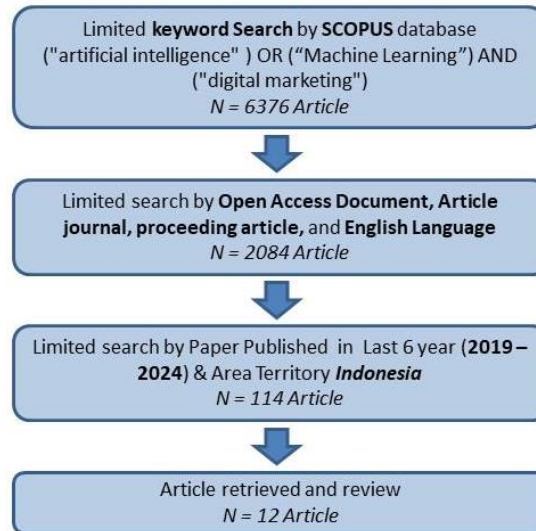
According to previous explanation, this recent study is aiming to identify the popularity of study on the artificial intelligence (AI) utilization to assist digital marketing for promoting local product in Indonesia. Through the deep-analyze towards scientific article published by several author, this study is expected to describe the phenomena and trend of Artificial Intelligence (AI) utilization in marketing activity. Determining the focus of the study, the researchers attempted to set up several research questions, including: (1) what were the research issue of implementing Artificial Intelligent for digital marketing platform in Indonesia during 2019-2024? (2) what were Artificial Intelligent type used to enhance digital market in Indonesia during 2019-2024? (3) what type of product/sector were promoted through digital market enhance by Artificial Intelligent (AI) in Indonesia during 2019-2024?

## **2 Method**

### **2.1 Data Collection**

The analysis was conducted by examining articles in the Scopus database about the artificial intelligence (AI) utilization to assist digital marketing during 2019-2024. The keywords use for selecting the proper article paper are artificial intelligence and digital marketing during 2019-2024. The advance search query string use for this searching are including ("artificial intelligence") OR ("machine learning") AND ("digital marketing") AND ( LIMIT-TO ( LANGUAGE,"English" ) ) AND ( LIMIT-TO ( OA,"all" ) ) AND ( LIMIT-TO ( PUBYEAR,2019) OR LIMIT-TO ( PUBYEAR,2020) OR LIMIT-TO ( PUBYEAR,2021) OR LIMIT-TO ( PUBYEAR,2022) OR LIMIT-TO ( PUBYEAR,2023) OR LIMIT-TO ( PUBYEAR,2024) ) AND ( LIMIT-TO ( AFFILCOUNTRY,"Indonesia" ) ) AND ( LIMIT-TO ( DOCTYPE,"ar" ) OR LIMIT-TO ( DOCTYPE,"cp" ) ).

The search resulted in for keyword artificial intelligent or machine learning, and digital marketing is 6376 articles from the Scopus database. Moreover, the articles also limited by several categories that are only open access article, English language, journal and proceeding articles, and published during 2019-2024. The remain number of paper based on the selected category is 114 article. The irrelevance topic papers were excluded from the analysis which is remained 12 papers (Fig. 1).



**Fig. 1.** Steps of Selecting Articles for Review

## 2.2 Data Analysis

The review for selected paper is conducted based on the research question which is focusing on several point including the research urgencies, the type of artificial intelligence use for digital marketing, and the type of product or sector promote by artificial intelligent. These three points are becoming main element use to analyze each selected article. Each element description is: (a) *Research Urgencies*. The research urgencies is refers to the matters and purposes that author pinpoint on conducting the study on implementing Artificial Intelligence (AI) to assist digital marketing; (b) *Type of Artificial Intelligence*. A number of studies by previous authors focused on various artificial intelligence (AI) products to improve digital marketing throughout the adoption of AI and machine learning. To understand the trend of artificial intelligence (AI) being utilized for digital marketing, it's critical to identify the type of artificial intelligence (AI); (c) *Product/Sector of Digital Marketing*. Global marketing was greatly impacted by digitization. Artificial intelligence (AI) is one of the advanced technologies that has been widely employed by a variety of businesses to improve product sales. These studies aim to pinpoint the typical industry or product that benefits most from machine learning or artificial intelligence (AI). The previous point were implementing as a key element used to conduct in-depth analysis and review for each retrieved paper which were systematically selected from Scopus database.

## 3 Results and Discussion

### 3.1 Research Urgencies

The research urgencies is refers to the matters and purposes that author pinpoint on conducting the study on implementing Artificial Intelligence (AI) to assist digital marketing.

According to the previous studies conducting by several author mentioned that there are variety of urgencies in implementing Artificial Intelligence (AI) for digital marketing, including: (a) improving efficiency and marketing services; (b) reduce cost and increase profit; (c) predicting prices and market demand; (d) provides valuable insights for marketing strategies; and (e) analyze costumer behavior and sentiment (Table 1).

**Table 1.** The various research urgencies that implementing AI to assist digital marketing.

No	Research Urgencies	Author & Year	Research Title
1.	Improving efficiency and marketing services	<ul style="list-style-type: none"> <li>• Yaiprasert &amp; Hidayanto (2024) [5]</li> </ul>	<ul style="list-style-type: none"> <li>• AI-powered ensemble machine learning to optimize cost strategies in logistics business</li> </ul>
2.	Reduce cost and increase profit	<ul style="list-style-type: none"> <li>• Wasino, et al. (2024) [6]</li> <li>• Yaiprasert &amp; Hidayanto (2024) [5]</li> </ul>	<ul style="list-style-type: none"> <li>• Designing Tourism Marketing Tools with Geo-targeting of IP Addresses</li> <li>• AI-powered ensemble machine learning to optimize cost strategies in logistics business</li> </ul>
3.	Predicting prices and market demand	<ul style="list-style-type: none"> <li>• Yaiprasert &amp; Hidayanto (2024) [5]</li> </ul>	<ul style="list-style-type: none"> <li>• AI-powered ensemble machine learning to optimize cost strategies in logistics business</li> </ul>
4.	Provides valuable insights for marketing strategies	<ul style="list-style-type: none"> <li>• Raditya, et al. (2021) [7]</li> <li>• Buana, et al. (2024) [8]</li> <li>• Jatmika, et al. (2024) [9]</li> <li>• Wilendra, et al. (2024) [10]</li> <li>• Sardjono, et al. (2023) [11]</li> </ul>	<ul style="list-style-type: none"> <li>• Predicting Sneaker Resale Prices using Machine Learning</li> <li>• Text-Based Content Analysis on Social Media Using Topic Modeling to Support Digital Marketing</li> <li>• Empowering Micro-Entrepreneurs through Artificial Intelligence: A Conceptual Framework for AI-Based Marketing</li> <li>• ChatGPT: The AI Game-Changing Revolution in Marketing Strategy for the Indonesian Cosmetic Industry</li> <li>• Applying Digital Advertising in Food and Beverage Industry for McDonald's with Marketing 5.0 Approach</li> </ul>
5.	Analyze costumer behavior and sentiment	<ul style="list-style-type: none"> <li>• Hayadi, et al. (2024) [12]</li> <li>• Kharis, et al. (2024) [13]</li> <li>• Yaiprasert &amp; Hidayanto (2023) [14]</li> <li>• Maroufkhan, et al. (2022) [15]</li> <li>• Arsad, et al. (2022) [16]</li> </ul>	<ul style="list-style-type: none"> <li>• An Extensive Exploration into the Multifaceted Sentiments Expressed by Users of the myIM3 Mobile Application, Unveiling Complex Emotional Landscapes and Insights</li> <li>• Unveiling the Potential of Artificial Intelligence in Digital Marketing for Universitas Terbuka</li> <li>• AI-driven ensemble three machine learning to enhance digital marketing strategies in the food delivery business</li> <li>• How do interactive voice assistants build brands' loyalty?</li> <li>• E-commerce online review for detecting influencing factors users perception</li> </ul>

According to the previous study, the majority of previous study about Artificial Intelligence assisting digital marketing shows that they use Artificial Intelligence in analyzing

customer behavior and sentiment. The analysis of customer behavior and sentiment has an important effect on the future of business. According to Hayadi et al., the analyzing customer behavior could provide valuable insights in understanding their customer perceptions and preferences [12]. Moreover, the analyzing of customer behavior could assist companies to identify areas that need to be improved or enhanced in their services to increase customer satisfaction. Additionally, Kharis et al. also mentioned that behavior and sentiment analytics could affect in maintaining company competitiveness in the ever-shifting digital environment [13]. In conclusion, analyzing consumer behavior can have a significant impact on other marketing factors. For instances, Jardim & Mora point out that understanding customers' attitudes, opinions, and sentiments about products and services can help businesses better understand their target market and develop marketing strategies [17].

The second urgency in implementing AI assisting Digital Marketing is providing valuable insights for marketing strategies. Artificial intelligence as an analytical tool might give companies and vendors insights into understanding customer needs. The data could potentially use as a significant insight to design innovative marketing strategies. According to Buana et al., artificial intelligence has the potential to assist vendors and companies in digital marketing by offering enhanced digital advertisements through performance analysis of content and recommendation of appropriate content for upload [8]. Nowadays, the advertisement is part of marketing strategy. In fact, a number of experts have stated that advertisement is an essential part of a thorough plan and a very effective technique for promoting products and services. As Sardjono et al. mentioned technology and marketing continues to grow in the last few decades. McDonald's is one of the companies that pioneered the integration of cutting-edge technology with marketing [11]. Notably, marketing is being enhanced by cutting-edge technologies like artificial intelligence known as marketing 5.0. By the implementation of advanced technology to their companies, McDonald's was able to offer a variety of marketing strategies and hold onto its position as the industry leader in fast food worldwide. In conclusion, the presence of artificial intelligence offered a variety of strategy for companies and vendors to promote their product and services.

The next research urgency is predicting the prices and market. The study conducted by Raditya et al. shows how the artificial intelligence in form of algorithm analytical in predicting the prices of sneakers products [7]. The other study also conducted by Yaiprasert & Hidayanto emphasized their implementation of AI ensemble machine learning on forecasting the market and price [5]. Predicting prices using AI involves utilizing various machine learning algorithms and statistical models to analyze historical data, identify patterns, and forecast future prices which might be beneficial for companies in providing a competitive advantage. Furthermore, using AI to forecast prices might play a major role in decision-making, improve pricing tactics, and raise competitiveness all around.

The last two research urgencies, which are (a) increasing efficiency and marketing services and (b) decreasing cost and increasing profit, might be impacted by the prior research urgencies. The goal of using AI to achieve digital marketing goals is to provide businesses and small suppliers with lucrative results. Yaiprasert & Hidayanto assert that machine learning and artificial intelligence have contributed to numerous positive effects, such as reduced expenses, increased profits, and more effective and efficient operations. Companies could replace certain tasks and procedures with AI and ML to reduce costs and improve operations [5]. Additionally, previous study also underlined the significance of AI-driven analytics in digital marketing for data analysis and improved understanding of client preferences. For

instance, adding specialized capabilities to marketing tools like Geotagging or Geolocation might impact how effectively they reach customers [6].

In summary, the previously reviewed study indicates that the majority of the discussion in the study on using artificial intelligence (AI) for digital marketing focused on the potential of the technology as analytical tools for supplying data and information from consumer and marketing trends. These data and information will be used in the future to improve marketing strategies and provide lucrative results.

### **3.2 Type of Artificial Intelligence (AI) Used**

Discussing about the type of Artificial Intelligence, it can be divided by several main types like the capabilities, functionality, or technique. The goal of this study was to review previous studies that used artificial intelligence (AI) techniques for digital marketing. Artificial intelligence techniques consist of a collection of methodologies and algorithms designed to create intelligent systems capable of performing activities that typically require human intelligence. The most well-known artificial intelligence (AI) techniques include data mining, computer vision, machine learning, deep learning, and natural language processing (NLP).

According to the review towards previous study about the Artificial intelligence (AI) implementation in digital marketing shows that the majority of study using Artificial Intelligence (AI) based on Machine Learning and Natural Language Processing (NLP) (Table 2). Generally, Machine learning (ML) is the study of creating statistical models and algorithms that allow computers to perform tasks without explicit instructions. According to Celik & Altunaydin Machine Learning (ML) approaches enable computers to comprehend by using facts and experiences similar to those of a human brain [18]. The previous study which used machine learning technique shows that most of the implementation of machine learning is typically use Machine learning for algorithm to analyze the marketing information. However, each study was using different machine learning method or collaborate the capability of machine learning with other advance technological features. For instance, the machine learning method used by previous study conducted by Yaiprasert & Hidayanto such Decision trees, Logistic regression, Naïve Bayes and The nearest neighbor, which this machine learning method are using to identify and analyze the data used for logistic transportation and deliveries [5, 14]. The machine learning method was also applied in the other research by Raditya et al. using two distinct technique types that are Random Forest and Linear Regression [7]. It may infer that this common machine learning approach is employed in accordance with the requirements and goals of companies in order to evaluate market data. Moreover, a number of prior studies have employed machine learning combined with other cutting-edge technological features. The study conducting by Wasino, et al. is attempted to implement AI-powered geolocation and geotargeting APIs for the tourism marketing. This typical technology that combined with machine learning is effective in obtaining consumer location data based on city, province, and country via the website and then sends messages to consumers [6]. The massive application of machine learning models in analyzing marketing data and information is driven by the ability of machine learning (ML) to solve problems more rapidly and efficiently than traditional methods. These problems range from simple ones that could be resolved through scientific technique management and conventional statistics to complex ones that call for a more extensive analysis [19].

**Table 2.** The type of Artificial Intelligence technique used for digital marketing

No	Author & Year	Type of AI Technique	Example type
1.	Yaiprasert & Hidayanto (2024) [5]	Machine Learning	AI algorithm ensemble machine learning method (Decision trees, Logistic regression, and The nearest neighbor)
2.	Buana, et al. (2024) [8]	Natural Language Processing (NLP)	Optical Character Recognition (OCR)
3.	Yaiprasert & Hidayanto (2023) [14]	Machine Learning	AI algorithm ensemble machine learning method (Decision trees, Naïve Bayes, and The nearest neighbor)
4.	Maroufkhan, et al. (2022) [15]	Natural Language Processing (NLP)	AI based Voice assistant
5.	Arsad, et al. (2022) [16]	Machine Learning	Machine learning analysis by text mining using support vector machine (SVM)
6.	Hayadi, et al. (2024) [12]	Machine Learning	Text analysis and machine learning
7.	Wasino, et al. (2024) [6]	Machine Learning	AI-powered geotargeting APIs
8.	Kharis, et al. (2024) [13]	Machine Learning	AI Algorithm
9.	Jatmika, et al. (2024) [9]	Machine Learning	Forecasting App powered by Artificial Intelligence
10.	Wilendra, et al. (2024) [10]	Machine Learning	Chat GPT.
11.	Sardjono, et al. (2023) [11]	Machine Learning	AI and machine learning to provide personalized recommendations based on customers' prior purchases and interests
12.	Raditya, et al. (2021) [7]	Machine Learning	AI Algorithm using two machine learning techniques which are Linear Regression and Random Forest

The Natural Language Processing (NLP) is one of AI technique used based on previous study for marketing purposes. This typical AI technique focuses on natural language-based computer-human interaction. Enabling computers to comprehend, interpret, and react to human language in a meaningful and practical way is the aim of natural language processing (NLP). According to Chowdhary, the Natural language processing (NLP) as set of computational techniques for automatic analysis and representation of human languages [20]. The majority of companies employ this common artificial intelligence in digital marketing to get insight into how consumers react and perceive their products and services by utilizing linguistic features [21]. The review result from a prior study by Hayadi et al. shows the potential uses of NLP in interpreting the sentiment of customers for the services of telecommunications provider companies, proves the practical benefits of this typical AI on digital marketing. The sentiment data was gathered based on customer online reviews that were analyzed using word cloud analysis [12]. The other implementation of this Artificial Intelligence technique is marketing activities in social media. The study conducted by Buana et al shows the use of Natural Language Processing (NLP) provides valuable insights into content performance analysis and strategies for content uploading [8]. In conclusion, NLP is transforming how businesses interact with customers and analyze data, leading to more efficient and effective marketing strategies.



### 3.3 Public and Industrial Sector of Digital Marketing enhance AI

The Industrial 5.0 era, often described as the convergence of humans and machines, focuses on the collaboration between humans and intelligent systems to enhance productivity, innovation, and sustainability. Artificial Intelligence (AI) plays a pivotal role in this transformation. Moreover, the present of Artificial intelligence (AI) has been transforming and incorporated into various public & industrial sectors, including manufacturing, healthcare, banking, retail, transportation & logistics, telecommunications, agriculture, and educational as analytical and decision-maker tools.

The wide use of Artificial Intelligence was also reviewed based on previous study which was implemented by several industrial sectors during 2019-2024 (Table 3). The retail industry has been the primary target of artificial intelligence use in digital marketing during the past five years. The AI is transforming the retail industry by improving customer experience, optimizing operations, and providing valuable insights into consumer behavior. For instances, the study conducted by Sardjono, et al. mentioned that the implementation artificial intelligence into marketing strategies is enables F&B chain to develop individualized and targeted marketing campaigns that address the demands and preferences of certain consumers [11]. Moreover, the research on the sneaker resale market conducted by Raditya et al. shows promise for the use of artificial intelligence. The support might assist the retailer or seller of sneakers in forecasting customer demand for a certain brand of sneaker as well as sneaker prices [7]. By leveraging AI, retailers can stay competitive, meet customer expectations, and drive growth in an increasingly digital and data-driven marketplace.

**Table 3.** The type of industrial or public sector implementing Artificial Intelligence

No	Type of Public Sector	Reviewed prior research
1.	Transportation & Logistics	<ul style="list-style-type: none"> <li>• Yaiprasert &amp; Hidayanto (2024), <i>Transportation &amp; Logistics</i> [5]</li> <li>• Yaiprasert &amp; Hidayanto (2023), <i>Food delivery</i> [14]</li> </ul>
2.	Retail	<ul style="list-style-type: none"> <li>• Buana, et al. (2024), <i>Social Media shop</i> [8]</li> <li>• Maroufkhan, et al. (2022), <i>e-Commerce</i> [15]</li> <li>• Arsad, et al. (2022), <i>e-Commerce</i> [16]</li> <li>• Jatmika, et al. (2024), <i>Food &amp; Beverage</i> [9]</li> <li>• Wilendra, et al. (2024), <i>Cosmetic Retail and Manufacture</i> [10]</li> <li>• Sardjono, et al. (2023), <i>Food and Beverage Chain (Mcdonald Restaurant)</i> [11]</li> <li>• Raditya, et al. (2021), <i>Sneaker Retail</i> [7]</li> </ul>
3.	Telecommunications	Hayadi, et al. (2024), <i>Telecommunication provider</i> [12]
4.	Education	Kharis, et al. (2024), <i>University marketing</i> [13]
5.	Tourism	Wasino, et al. (2024), <i>Tourist marketing</i> [6]

The application of artificial intelligence also benefits other public and industrial sectors, such as logistics and transportation, in several of aspects. According to Yaiprasert & Hidayanto, the implementation of artificial intelligence on this typical public sector might provide significant reduce costs through the optimized cost of route planning, dynamic pricing, and demand forecasting [5]. While the logistics and transportation sectors are concentrating on how to use AI efficiently, the telecommunication, education, and tourist

sectors are also concentrating on how to deploy AI effectively and efficiently. For instance, the study conducted by Kharis, et al. on University marketing which shows the use of artificial intelligence is enabling higher education institutions to deliver highly customized experiences, make data-driven choices, automate time-consuming tasks, and enhance marketing campaigns with a degree of accuracy [13]. Similarly, the study that conducted in tourism sector found that using artificial intelligence increased the accuracy of customer details. Customers' personal information might get utilized (such location) for obtaining information about certain events and tourism attractions in the area [6].

In summary, a major transition towards more intelligent, sustainable, and human-centric industrial processes is signaled by the incorporation of AI in the Industrial 5.0 age. Industries may attain previously unheard-of levels of creativity, efficiency, and customization by utilizing AI, which will ultimately result in an improved and resilient industrial landscape.

## **4 Conclusions**

This systematic literature review explored the utilization of Artificial Intelligence (AI) in assisting digital marketing in Indonesia from 2019 to 2024. The study were conducted by selected several study during specifics period and using several categories. According to the systematic literature review with the specifics query, there are number of paper were selected to analysis which is 12 papers. The study were focusing on three main point to review including the research issue/urgencies of implementing Artificial Intelligent for digital marketing, the Artificial Intelligent type used to enhance digital marketing, and Public/Industrial Sector of Digital Marketing enhance Artificial Intelligence. The study revealed there were several research issues/urgencies of implementing artificial intelligence for digital marketing, including: (a) improving efficiency and marketing services; (b) reduce cost and increase profit; (c) predicting prices and market demand; (d) provides valuable insights for marketing strategies; and (e) analyze costumer behavior and sentiment. Overcoming previous urgencies of research, the previous studies are using almost similar type of Artificial intelligence technique that is machine learning and natural language processing (NLP). Both this AI technique were beneficially for companies and business vendors in digital marketing by provide automation of task, improved accuracy and precision, conduct sentiment analysis, and enhanced decision making. The studies also identify the variety of Public/Industrial Sector that used Artificial Intelligence for digital marketing. However, the result shows the most targeted sector is retail industry. The other sector such transportation and logistics, telecommunication, tourism, even education are starting to use artificial intelligence as the analytical tools to improve the quality of services.

Overall, the analysis of various studies and reports indicates that AI has significantly transformed the digital marketing landscape in Indonesia, providing businesses with innovative tools and strategies to enhance their marketing efforts. However, to maximize the potential of AI, businesses must navigate the associated challenges and invest in continuous learning and adaptation. The findings of this review suggest a bright future for AI-assisted digital marketing in Indonesia, with significant opportunities for innovation and growth.

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