The Role of Artificial Intelligence on Market Performance: Evidence from Scientific Review

*Endalkachew Desta[1] & Chalchissa Amantie[2]
[1]Department of Management, College of Business and Economics, Wachemo University, Ethiopia
[2]Department of Management, College of Business and Economics, Jimma University, Jimma, Ethiopia
*endudesta2012@gmail.com, chalchissa@yahoo.com

Abstract: The study's primary purpose was to review studies on the role of artificial intelligence in market performance. Artificial intelligence significantly impacts market performance by providing data analysis, personalization, demand forecasting, pricing optimization, customer support automation, risk assessment, and enhanced decision-making capabilities. By leveraging artificial intelligence (AI) effectively, Businesses can improve their competitiveness, improve customer satisfaction, increase revenue, and achieve sustainable growth in the market. A thorough assessment of the literature was done, and screening standards were applied, all to improve the study. Based on the inclusion and exclusion criteria for the articles, data extraction was done by Preferred Reporting Items for Systematic Reviews and Meta-Analyses. 45 published articles were analyzed, and significant data was extracted. The review's findings collectively emphasize the crucial role of AI in enhancing market performance by improving sales, customer satisfaction, demand forecasting, pricing optimization, risk mitigation, and decision-making processes. As AI continues to advance, further research and practical implementations will likely uncover additional benefits and insights into its impact on market performance. To help more scholars understand and advance the numerous theories and models related to the topic, this concept overview provides guidance.

Keywords: *Artificial Intelligence, Marketing, Performance.*

1. Introduction

Today many technologies are making our world smarter by automating tasks, computing solutions, and improving efficiency. AI is one of them. Artificial intelligence is a technology that enables computers or machines as intellectual as humans, able to perform activities associated with those performed similarly to the human brain (Thilagavathy & Kumar, 2021). Emerging technologies provide competitive advantages to firms by facilitating the goods and services offered to the targeted customers (Balaji & Roy, 2017). With the advancement in the field of technology, the world has become a web of interconnected networks and Artificial Intelligence is finding its applications in different contexts in today's business scenario. Technological advancements have gone along the long side in the evolution of marketing and have strongly established that marketing can work with artificial intelligence (Siau, 2017). AI technology can help optimize and speed up many marketing tasks, improving customer experiences and driving conversions. However many marketers still do not understand the benefits of AI over traditional marketing software (Brenner, 2020). The use of AI in business opens opportunities for utilizing and analyzing large datasets that could not be analyzed using traditional methods and tools.

Artificial intelligence can also analyze different types and formats of data, structured, unstructured, and semi-structured, coming from different platforms and develop a recommendation based on the analysis, extensively supporting the decision-making processes in the organization (Serravalle & Pantano, 2021). AI helps organizations track real-time data to analyze and respond swiftly to customers' requirements (Wirtz J. et al., 2018). Artificial Intelligence through the program-based algorithm can automate the business process generate consumer and market insights, and learn insights from past data (Davenport & Ronanki, 2020). Artificial Intelligence Marketing (AIM) is a marketing approach that makes the best use of technology and market data to improve the customer experience (Jain & Aggarwal, 2020). AI is transforming the marketing landscape and will completely transform it shortly. Even though marketing is one of the most important commercial uses of AI today, and early adopters are striving to build value from it (Bughin, 2017). Artificial intelligence (AI) is revolutionizing the marketing landscape and will completely transform it in the near future (Shahid & Li, 2019).

AI-powered marketing solutions that are advanced and innovative can quickly adapt to changing business needs and provide communications and solution packages that are vital and profitable to relevant stakeholders

(Epstein, 2018). According to Khoa (2021), the major drivers of digital transformation are increased profitability and revenue, increased operational efficiency, competitive advantage, increased employee productivity, and increased overall customer satisfaction. According to previous research "When technology works on a personal level, it creates an endearing bond with the users, when marketers tap into such a bond, the potential for customer value creation is enormous" (Kumar, V., Rajan, B., Venkatesan, R., & Lecinski, 2019). Currently, marketing and artificial intelligence are being used in the world of business as a means to communicate with businesses and guide them on the way to achieving their goals (Tiwari, 2022). Another way to characterize AI is through its marketing and business applications, such as automating corporate processes, generating insights from data, or engaging customers and employees (Davenport &Ronanki, 2018).

There have been several other reviews conducted on the topic of applying artificial intelligence in marketing. These include: " Marketing Applications of Artificial Intelligence" by (Khajuria, 2023). "Marketing Practices using Artificial Intelligence" published by (Patience, 2023). "AI-Enabled Marketing Solutions in Marketing Decision Making" by (Ljepava, 2022). "Artificial Intelligence in Marketing" by (Chintalapati, 2022). Artificial intelligence's changing role in marketing by (Vlacic et al., 2021) even though still there may be a lack of reviews on the role of artificial intelligence in market performance. Reviewing articles on the role of AI on market performance can be important for various bodies, such as businesses, policymakers, and researchers and articles on this issue can help various bodies stay up to date with the latest developments in AI marketing, which can inform decisions, policies, and research in this field.

Research Questions
- What is the concept of artificial intelligence in marketing, and how does it work to improve marketing strategies?
- What is the impact of artificial intelligence on market performance and how does it compare to traditional methods of analysis?
- What are the key factors influencing the use of artificial intelligence in digital marketing, and how do they impact marketing outcomes?
- How does the use of AI affect various areas of marketing decision-making, and what are the implications for businesses?
- What are the academic and practitioner implications of research on this topic?

2. Theoretical and Empirical Review

Artificial Intelligence: Artificial intelligence (AI) is a type of technology that aims to simulate the decision-making and cognitive processes of the human brain. John McCarthy defined AI as "machines that can perform tasks that are characteristics of human intelligence" (Al-Ghamdi, 2021). Abidin & Triono (2020) defined AI as a computer science technology that can teach computers to understand and emulate human communication and behaviors. Authors such as Shabbir & Anwer (2015) argue that AI can be defined as the use of machines and computer programmers to accomplish human intellectual and creative tasks. Panch, Szolovits & Atun (2018), meanwhile, argue that AI exhibits certain behaviors that resemble human intelligence, and highlights planning, learning, reasoning, problem-solving, and knowledge representation. In turn, Gungor (2020) argues that AI is a generic term for various methodologies designed to provide computers with human-like abilities to see, hear, reason, and learn.

Impact of Artificial Intelligence on Market Performance

Marketing Operations: Some recent research has concentrated on direct marketing analytics employing support vector data description, one of the primary tasks is to witness the effects of AI, to drive operating proficiencies in marketing (Rekha et al. 2016). AI-driven environments in branding (Kumar et al., 2019), various real-time use cases of AI-powered marketing automation (Faggella, 2019b), AI's integration in marketing (Shahid & Li, 2019), sales forecasting, and the softer changes in occupations in sales and marketing (Yang & Siau, 2018). Marinchak (2018) asserts that practically every aspect of marketing might be impacted by the exponential rise in the use of AI-powered marketing.

Market Research Studies- The market research field has predominantly focused on understanding consumer behavior (Davenport, et al., 2020). A study by Wirth (2018) explored the application of AI in market research and customer segmentation. Various research has looked into the effects of AI on B2B ideas (Paschen et al., 2019). AI in the evaluation of marketing strategies (Rekha, Abdulla & Asharaf, 2016).

Marketing Operations: One of the main objectives is to observe the effects of AI, recent research has focused on direct marketing analytics using support vector data description to increase operational efficiencies in marketing (Rekha, Abdulla & Asharaf, 2016). AI-driven environments in branding (Kumar, Rajan, Venkatesan & Lecinski, 2019). Various real-time use cases of AI-powered marketing automation (Faggella, 2019b), asserts that practically every aspect of marketing might be impacted by the exponential rise in the use of AI-powered marketing. Twenty real-world instances of how digital adoption has occurred is changing the process of making strategic decisions (STONE and JACOBS, 2020) and a quantitative study using the fuzzy logic for marketing segmentation problem.

Artificial Intelligence and Marketing Strategy: Business executives must assess the new facts about the situation and, if necessary, adapt their planned and emergent plans (Janssen, van der Voort & Wahyudi, 2017). AI crucial for strategic decision-making and competitive updates (Akter, Wamba, Gunasekaran, Dubey & Childe, 2016). AI capabilities help companies identify ideal market categories for CL and DF by analyzing cost structures and unique features (Weng, 2021). The company maintains cost positioning by collecting and examining marketing information, considering client preferences and distinguishing qualities (Mchergui, Moulahi Zeadally, 2021). AI enhances competitive pricing, differentiation, and cost management (Xie, Wu, Xiao & Hu, 2016). AI is transforming the marketing environment and will entirely change it in the near future (Shahid & Li, 2019b). The use of AI in marketing has been found to have the highest income potential and success rates, making it one of the most feasible areas for improvement (Fagella, 2019). According to Jain & Aggarwal (2020), "Marketers are capable of processing vast volumes of data and analyzing client expectations. With the aid of AI, it has become possible to guarantee consumer pleasure.

The speed with which this transition occurs will alter the general landscape of marketing in academia, research, and the commercial world. Organizations will have significant difficulty in adapting to the shifting environment of marketing. With the start of new-fangled technologies, businesses will need to train their personnel regularly. Working with AI is no longer considered science fiction, but rather a reality that will become a need for the existence (Shahid & Li, 2019b). AI is transforming the marketing environment and will entirely change it in the near future. Even though marketing is among the most crucial commercial uses of AI today, and early adopters are striving to build value from it (Bughin, 2017), there is a paucity of literature on this topic when two disciplines are integrated (Wierenga, 2010). AI is used in a diversity of business processes across numerous functional domains and business operations. One of them is marketing, which is regarded as the business's heart.

Influence of Artificial Intelligence in Digital Marketing: Digital marketing promotes a company's brand through various digital media, transforming traditional advertising methods and businesses' promotion strategies (Bughin, 2015). In light of this definition, the term "digital marketing" has become prevalent in the modern digital era (Muljono, 2018). Digital marketing encompasses consumer acquisition, preferences development, product promotion, customer retention, and sales growth (Purwana, & Rahmi, 2017).

AI in Marketing Decision-Making: AI is expected to revolutionize marketing by enhancing customer segmentation, providing personalized experiences, understanding consumers, and making predictions (Koehn, Lessmann & Schaal, 2020). Marketing data is unstructured and comes from various sources, including social media posts, behavioral data, app usage, geo-location services, transaction history, and browsing history. AI can cluster customers based on online behavior, preferences, and previous transactions, enabling data-driven marketing practices. This data enables personalized product recommendations, advertisement offerings, and precise targeting. Advanced technologies like virtual and augmented reality will enable companies to target customers with more realistic, visualized offerings in the future (Kartajaya, Setiawan & Kotler, 2021). Biometrics face recognition technologies enable personalized offerings by identifying customers and offering customized products or services using AI-enabled algorithms (Lee, Dabirian, McCarthy & Kietzmann, 2020).

3. Methodology and Review Process

Methodology: This article review aims to examine how artificial intelligence affects market performance by analyzing both theoretical and empirical literature. There are several different scientific literature reviews, such as structured reviews, bibliometric reviews, framework-based reviews, and meta-analysis reviews. Among these, the structured review approach was found to be the most appropriate for this article's objectives, as it allows for a thorough understanding of the role of artificial intelligence in market performance. Additionally, the review suggests potential areas for future research. This methodology is beneficial as it enables the reviewer to identify and highlight the theories and frameworks commonly used in artificial intelligence research.

Review Process: The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) is a widely used framework for conducting and reporting systematic reviews and meta-analyses. The article selection process is a critical aspect of a systematic review, and the PRISMA framework guides how to conduct this process in a transparent and reproducible manner. The article selection and review process in PRISMA involves the following steps:

Identification of Relevant Studies: The first step is to identify all potentially relevant studies using a comprehensive search strategy. This involves searching electronic databases, reference lists, and other sources to identify all studies that meet the inclusion criteria.

Screening of Titles and Abstracts: The second step is to screen the titles and abstracts of all identified studies to determine their eligibility for being included in the review. This involves applying pre-defined inclusion and exclusion principles to each study to determine its relevance.
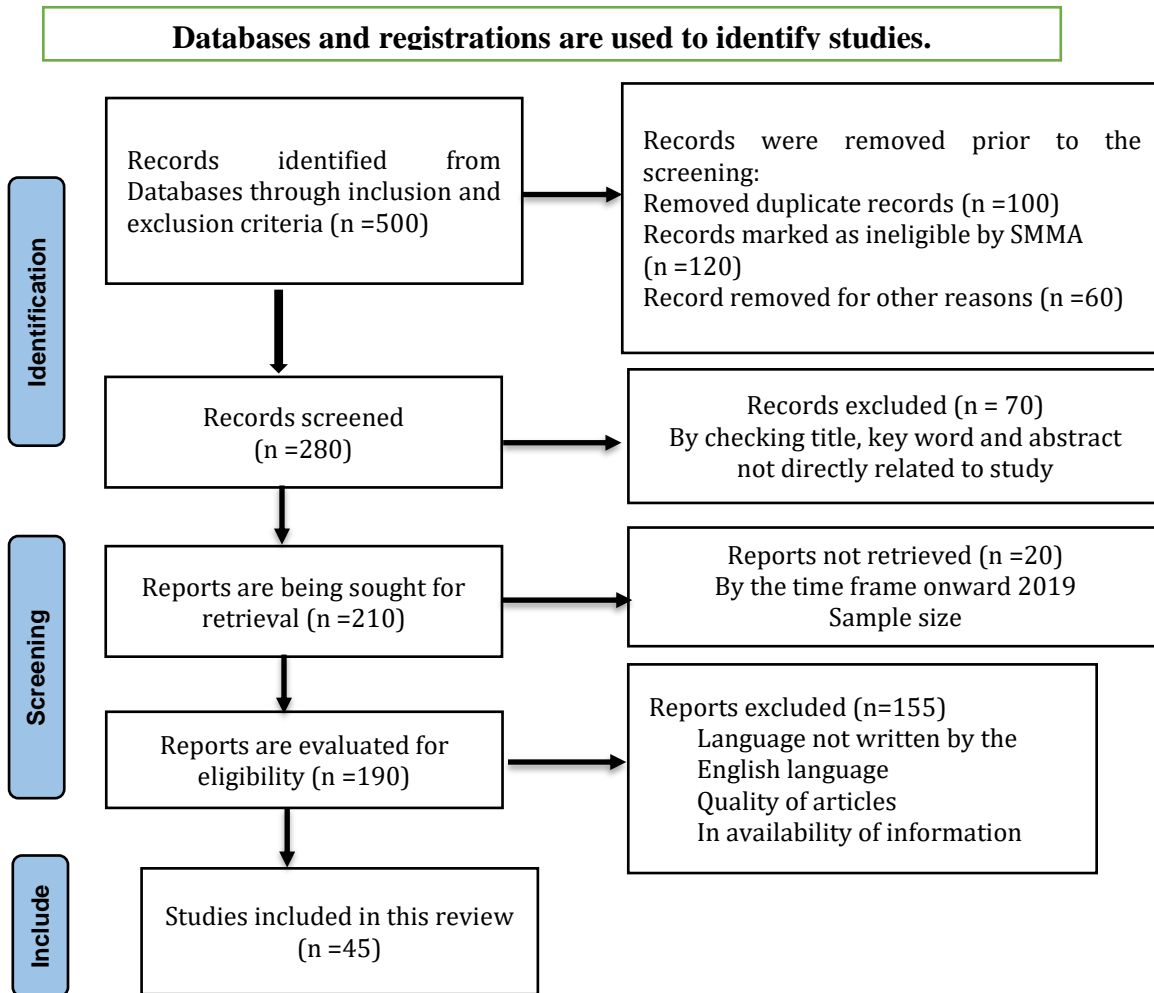
Full-Text Screening: The third step is to obtain and screen the complete text of all studies that meet the inclusion criteria identified in the first two steps. This involves a more detailed assessment of the study to determine if it meets all of the inclusion criteria and if there are any reasons to exclude it.

Data Extraction: The fourth step is to extract data from the included studies using a pre-defined data extraction form. The data extracted may include information about study design, participants, interventions, outcomes, and other relevant data.

Quality Assessment: The fifth step is to evaluate the quality of the included studies using a pre-defined quality assessment tool. This involves evaluating the jeopardy of bias in each study and assessing the overall quality of the evidence.

Data Synthesis: The final step is to synthesize the data extracted from the included studies. This involves summarizing the findings of each study and using statistical methods to combine the results of multiple studies to generate an overall estimate of the effect size estimation.

Figure 1: PRISMA

Databases and registrations are used to identify studies.

Identification	Records identified from Databases through inclusion and exclusion criteria (n =500)	→	Records were removed prior to the screening: Removed duplicate records (n =100) Records marked as ineligible by SMMA (n =120) Record removed for other reasons (n =60)
	Records screened (n =280)	→	Records excluded (n = 70) By checking title, key word and abstract not directly related to study
Screening	Reports are being sought for retrieval (n =210)	→	Reports not retrieved (n =20) By the time frame onward 2019 Sample size
	Reports are evaluated for eligibility (n =190)	→	Reports excluded (n=155) Language not written by the English language Quality of articles In availability of information
Include	Studies included in this review (n =45)		

Source: Moher et al. (2009)

To conduct a structured review, a review protocol is developed to outline the criteria for selecting relevant studies. In this article review, the criteria used to determine whether a study would be encompassed in the search were language, year of publication, content, and relevance to the topic of AI and market performance. Only articles written in English, published between 2019 and 2023, and with a clear connection to the thematic focus were included in the review. This ensured that the literature review covered a comprehensive range of studies spanning about 5 years. Studies that did not meet these criteria, such as publications in Additional languages than English, pre-2019 publication dates, irrelevant content, duplicates, or those unrelated to the research question were omitted from the review. By applying these inclusion and exclusion criteria, the reviewer was able to efficiently and effectively achieve the objectives of the scientific review.

Selection of Databases: To gather relevant and up-to-date literature on the impact of online artificial intelligence and market performance, this review utilized various online sources. These sources included well-known databases such as Emerald Insight, Google Scholar, Wiley, Springer, Taylor & Francis, PubMed, and Science Direct. The search was conducted solely in the English language. By searching these databases, the reviewer was able to access a vast range of academic publications, including journals, articles, and other relevant literature. This approach ensured that the review was comprehensive and included the most current and pertinent studies on the topic of online AI and market performance.

Data Analysis: The analysis of the data gathered for this study was accompanied using a structured review methodology. A structured review is similar to a scientific review in that it aims to summarize the most recent

information and data pertinent to a particular research subject. However, it differs from a scientific review in that the information is organized in a contemporary and calculable way.

The Approach Used in the Reviewed Articles
**Figure 2: Research Approach Used**
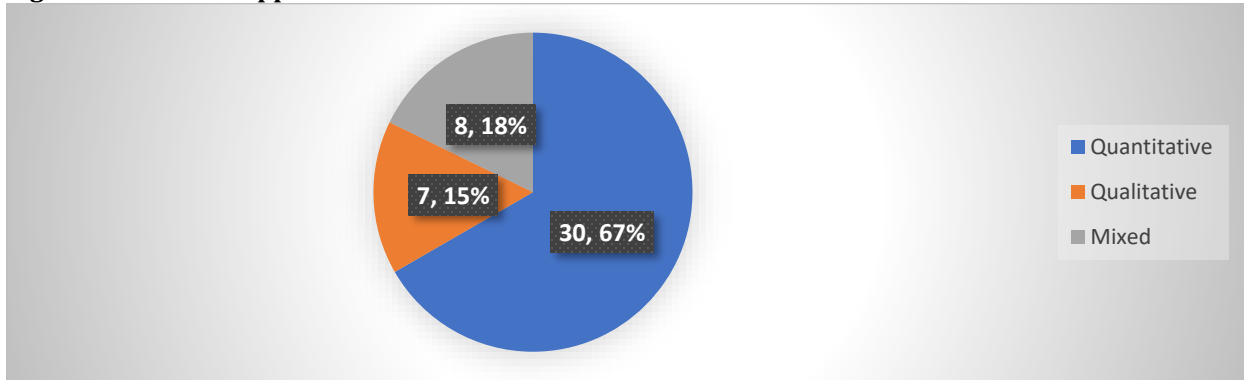
In the study, a variety of research methods were used, including qualitative, quantitative, and mixed methods. After analyzing the data, it was found that a very small percentage of the examined publications (15%) used a purely mixed research strategy, while the majority (67%) used a quantitative research approach. Additionally, a small number of papers (15%) used a qualitative research approach, which combines both qualitative and quantitative methods. Based on these findings, it can be concluded that the subject matter of the examined publications was better suited to quantitative research methods

Figure 3: Year of Publication for Articles Included in the Review
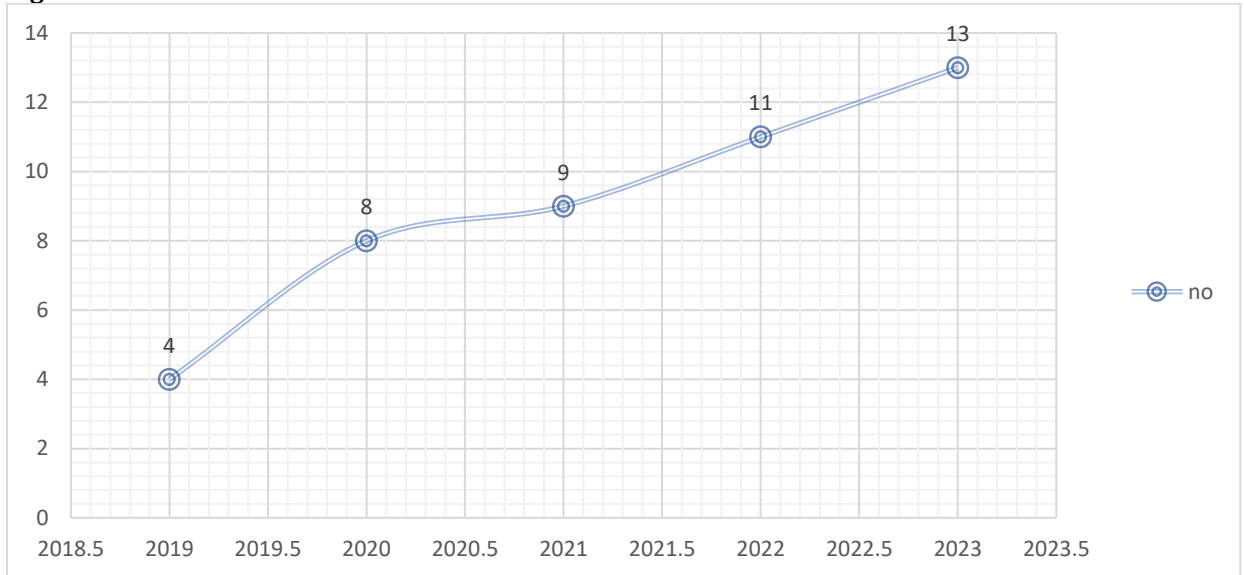

The Figure displays the year of publication of the articles that were encompassed in the review. The data analysis revealed that there were varying numbers of publications released on the topic of AI's role in marketing performance between the years 2019 and 2023. The frequency of articles published on this topic has demonstrated an upward trajectory over time, with certain years exhibiting a greater volume of publications in comparison to others.

Regional Distribution of Papers Under Review
Figure 4: Research Contribution by Country
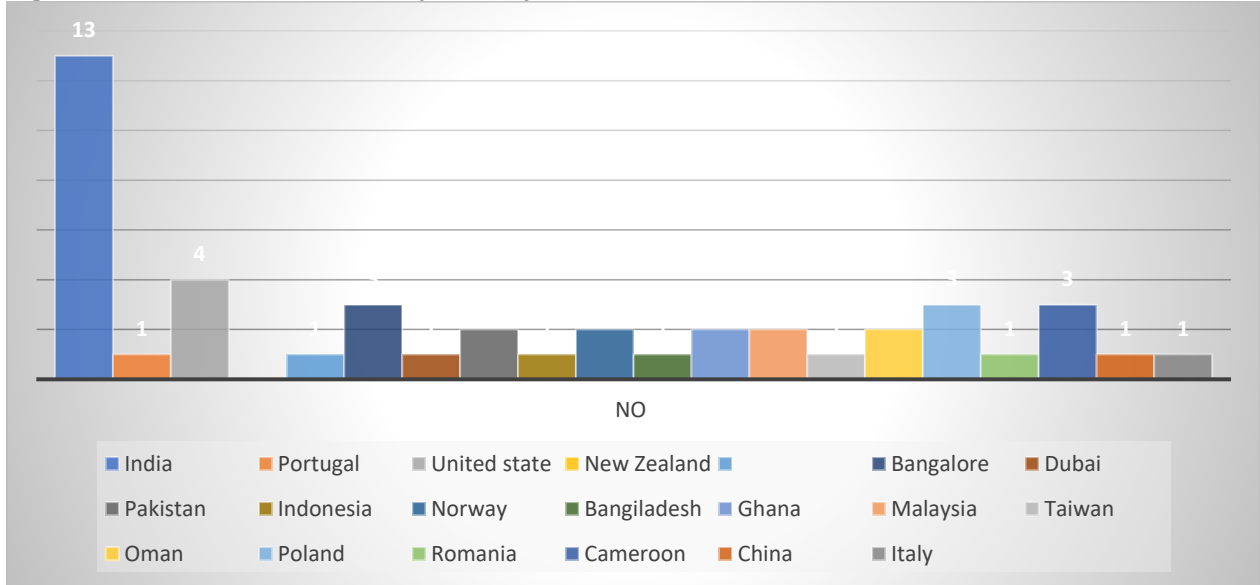
It appears to the extent that articles for the review on Artificial intelligence and market performance were collected from India, with 13 articles representing 28.8% of the total reviewed articles. The United States had the second-highest number of articles, with four articles representing 8.88% of the total. After that, the countries with the most articles were Bangalore, Poland, and Cameroon, each with three articles representing 6.6% of the total. Other countries such as Pakistan, Norway, Ghana, Malaysia, and Oman had two articles each, representing 4.4% of the total. Finally, the remaining countries (New Zealand, Dubai, Indonesia, Bangladesh, Taiwan, Romania, China, and Italy) had one article each, representing 2.2% of the total.

Figure 5: Analysis Techniques
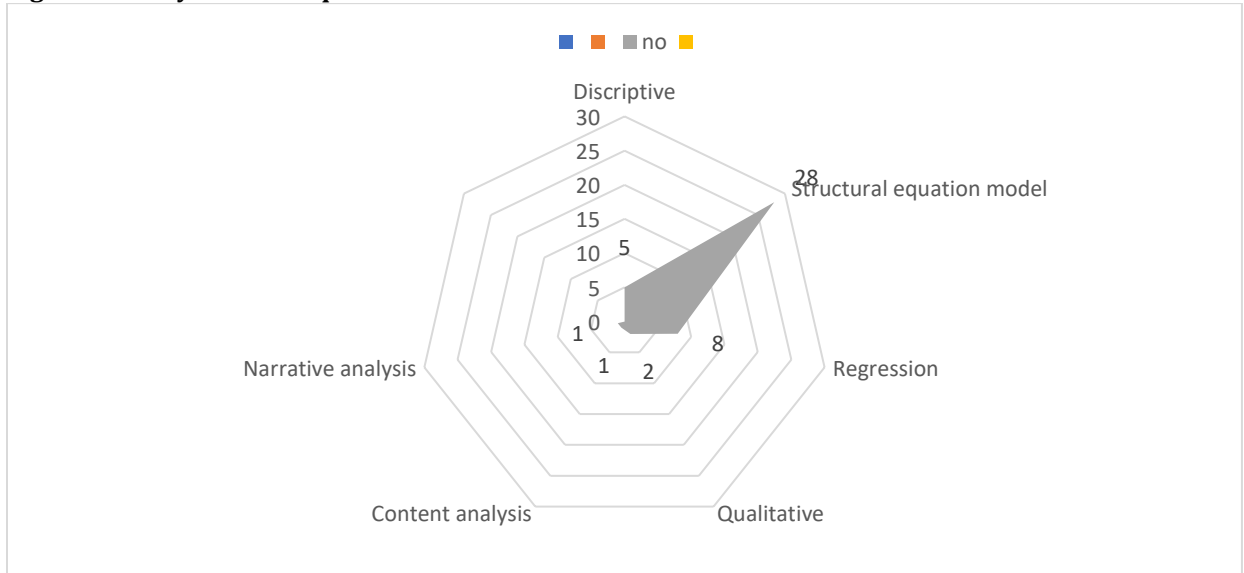
Data Analysis Techniques: The analysis of the reviewed articles on Artificial intelligence and market performance indicates that Structural Equation Modeling (SEM) was the most commonly used analysis technique, with 28 articles (62.2%) utilizing this method. Regression analysis was the second most popular technique, used in 8 articles (17.7%), followed by descriptive analysis in 5 articles (11%). Two articles (2.2%) utilized qualitative techniques, and the remaining 1 article (2.2%) used content analysis and narrative analysis.

In summary, most of the articles on Artificial intelligence and market performance utilized structural equation modeling as their main analysis technique. This indicates that SEM is a popular choice for researchers studying this topic, possibly due to its ability to model complex relationships among multiple variables.

4. Results and Discussion

The systematic literature review introduces the existing literature on AI and marketing that might appeal to researchers, particularly those working in the domain of AI wishing to further explore marketing performance. Several research studies on the impact of AI on market performance have been conducted. The following findings have been presented and discussed: The study found that a positive impact of artificial technology, and market automation on digital marketing exists (Alkhayyat & Ahmed, 2022). Because of its relevance to present and future industries, artificial intelligence (AI) in marketing has gained popularity (Verma et al., 2021). Marketers using AI technology and techniques are more likely to run successful campaigns. AI enhances understanding of dataset relationships, assists in dynamic digital commerce, and enables decision models to predict events with higher precision, enabling one-to-one engagement and economic value(Alkhayyat & Ahmed, 2022). The results of the study emphasized the continuous evolution of AI to become more intelligent and smarter to augment human thinking. In modern times, marketing operations are data-driven, and the use of AI in the different themes of marketing has the ability to continuously learn and interpret the customers buying intents and emotions that help in future marketing efforts which leads to extreme automation and personalization (Khajuria, 2023).

AI's impact on predictive tasks requires solving tacit knowledge transfer challenges between models and marketing organizations to fully realize its potential in various domains (Bruyn et al., 2020). AI is essential in marketing by improving search engines, ads, content delivery, bots, learning, fraud prevention, image and voice recognition, sales forecasting, and customer segmentation (Thilagavathy & Kumar, 2021). Study highlights AI integration's influence on marketing, benefits, obstacles, company strategy, ethical considerations, and marketing industry use (Basha, 2023). Artificial intelligence plays a crucial role in anticipating the demand, customer choices and guided experiences to match customer expectations (Dulloo & Shahu, 2021). Artificial Intelligence has been treated as the next industrial revolution, people believe that artificial intelligence can provide a solution to most of the problems, and challenges that exist right now in the world (Nalini et al., 2021). The findings of this study indicate that competition will intensify as of increased AI capacity, which will lead to more niched and specialized products and brands. This implies that firms need to adapt to this at an early stage, to continue being an attractive choice for their customers (Hussain et al., 2022).

The findings indicate that digital marketing and artificial intelligence affect customer purchase intention (Busman & Ananda, 2022). Artificial intelligence and machine learning revolutionize marketing by enhancing storytelling, transforming interactions with information, technology, brands, and services, and enhancing digital marketing strategies (Sabharwal, 2022). AI has also played an important role in personalization, such that it helps marketers to know people in terms of classifying them with the type of products that they could be interested in (Sakib, 2022). The study highlights the AIM approach's importance in achieving financial, customer, internal, and growth performance using IoT, CDMS, VAR, and personalization (Abrokwah-Larbi, 2022). Studying cumulative models demonstrates that artificial intelligence is broadly brought into the advertising field; however, the applications are at the functional level (Sirajuddin & Jagannadharao, 2020). This investigation's conclusions indicate that upgrading AI helpers is also significant. Because each operator's search engine optimization has been optimized and saturated, the benefit of competition is reduced to a hygiene concern (MR, 2021). Embedded technologies, artificial intelligence, and automation have had a significant impact on the four Ps of marketing and will continue to do so (Zhang, 2022).

AI marketing solutions optimize and streamline campaigns while removing the possibility of human error (Kumari, 2021). Artificial intelligence enables digital marketers to understand their consumers' demands better to increase sales and revenues (Hadalgekar, 2023). To enhance company performance and, as a result, attain profitability and competitive advantage, the study suggests integrating AI into marketing operations (Basha, 2023). AI has an impact on all parts of the marketing mix, including both consumer value delivery and marketing organization and management (Krystyna & Grzegorz, 2019). AI-powered technologies can change organizations and boost marketing effectiveness (Devang et al., 2019). Chatbots, machine translation, and self-

learning algorithms are just a few examples of the many technologies that go under the umbrella term "AI," all of which can help people well understand their surroundings and take appropriate action (Wamba et al., 2020). To increase the competitiveness of the corporate core Heart and maximize the use of AI (Huang, Chang, Yeh & Liao, 2021). An important factor is a "creative-possibility perspective," which emphasizes the potential for using AI in the future for both logical and creative thinking objectives (Eriksson & Bonera, 2020).

Implications: The following are the implications for marketers, customers, and researchers: Marketers have a rare opportunity to investigate how Artificial Intelligence (AI) might improve their consumer engagement tactics in the quickly changing business environment of today. Given the wide-ranging applications of AI technology, marketers must devote time and money to evaluating various AI-based tactics that can give their customers individualized experiences. Organizations will benefit from this experimentation by remaining competitive and achieving long-term success now and in the future. To maximize their marketing efforts and enhance the overall consumer experience, marketers must seize this chance and investigate the potential of AI. Practically speaking, AI has a big impact on how markets perform. Marketers may gain a competitive edge by employing AI-based research to make data-driven decisions, optimize their marketing plans, and provide customers with personalized experiences. AI may assist marketers in locating new markets, forecasting demand, and fine-tuning pricing plans, all of which will enhance sales and profitability.

Businesses should spend money on AI technologies that can aid them. To find patterns and make decisions based on data, a lot of data must be analyzed. Predictive analytics, natural language processing, and machine learning methods can all be applied. The application of AI can have a big impact on a variety of marketing decision-making processes, resulting in better business performance and more effective and efficient marketing tactics. Businesses should invest in AI technologies, concentrate on developing a data-driven culture, and continuously hone and enhance their AI-based marketing tactics to fully benefit from AI. Overall, the availability of data, the complexity of the algorithms, the implementation cost, and ethical considerations are the main variables affecting the use of AI in digital marketing. Businesses should concentrate on gathering and analyzing data, assembling a team with a variety of expertise, investing in reasonably priced AI technologies, and creating clear ethical norms if they want to take advantage of AI's advantages in digital marketing.

5. Conclusion and Recommendations

Applications based on artificial intelligence (AI) have a promising future and will considerably advance marketing in terms of efficiency, client satisfaction, speed, problem-solving, and decision-making. Businesses will see enhanced brand loyalty and significant revenue growth as a result. Through the use of AI marketing solutions, businesses can provide highly individualized and personalized experiences to their customers, which enhances customer engagement, increases sales, and deepens customer loyalty. To fully benefit from AI's advantages in marketing, businesses should invest in AI technologies, focus on creating a data-driven culture, and continually hone and improve their AI-based marketing tactics. The use of AI in marketing is now a crucial component of corporate success and is revolutionizing how businesses approach client engagement. Businesses can gain a competitive edge by making data-driven decisions, optimizing marketing tactics, and providing customers with individualized experiences thanks to the availability of enormous amounts of data and the capacity to analyze this data using AI technology. AI has a major impact on market performance, including higher sales, enhanced profitability, and better client engagement and loyalty. Businesses should invest in AI technologies, concentrate on developing a data-driven culture, and continuously hone and enhance their AI-based marketing strategies to take advantage of the importance of AI in marketing. To create and implement efficient AI-based marketing solutions, a multidisciplinary approach involving cooperation between data scientists, marketers, and other professionals is necessary. To increase customer trust, it also entails addressing ethical issues and making sure that AI algorithms and decision-making processes are transparent.

Limitation and Future Research Direction: There are a number of limitations to the research on how AI affects market performance that need to be taken into account. The following are some of the primary obstacles that researchers encounter while examining how AI affects market performance: Lack of Historical Data: Because AI is a relatively new marketing technology, there is a lack of historical data on the effects of AI on market performance. It becomes challenging to identify trends and patterns that could inform marketing strategies as a result. Complexities of algorithms may be challenging for academics to evaluate AI algorithms'

effectiveness and impact on market performance due to their complexity and difficulty in comprehension. Limited Generalizability: Numerous AI-based marketing solutions are created for certain markets or industries, which can restrict their applicability to other markets or industries. Ethical Considerations: The usage of AI in marketing poses ethical questions about privacy and bias that could restrict the scope of research and force researchers to carefully weigh the ethical ramifications.

Implementation issues: Organizations, particularly small and medium-sized ones, may find it challenging to implement AI-based marketing solutions due to the cost and complexity of the technology. Human Factors: Even while AI may provide useful insights, it's important to remember that marketing is ultimately a human-driven activity. The success of marketing efforts based on AI depends on marketers' capacity to comprehend and put to use the data provided by AI. Even though research on the impact of AI on market performance is growing, there are a number of limitations that researchers must take into mind. To overcome these limitations, researchers should focus on building a strong theoretical framework, following tight research protocols, and collaborating with commercial partners to gain access to data and technology. By overcoming these restrictions, researchers may provide valuable information regarding the influence of AI on market performance and help businesses develop effective AI-based marketing strategies.

References

Abidin, Z. & Triono, L. D. (2020). Fresh frozen fish consumer behavior: Effect of the mix and trust marketing on buying interest, purchase decision and customer satisfaction in E-commerce, silly fish Indonesia. *IOP Conference Series: Earth and Environmental Science*, 493(1). https://doi.org/10.1088/1755-1315/493/1/012041

Abrokwah-larbi, K. (2022). The impact of artificial intelligence in marketing on the performance of business organizations : evidence from SMEs in an emerging economy. https://doi.org/10.1108/JEEE-07-2022-0207

Akter, S., Wamba, S. F., Gunasekaran, A., Dubey, R. & Childe, S. J. (2016). How to improve firm performance using big data analytics capability and business strategy alignment? *International Journal of Production Economics,* 182, 113-131.

Al-Ghamdi, L. M. (2021). Towards adopting AI techniques for monitoring social media activities. *Sustainable Engineering and Innovation,* 3(1), 15-22.

Alkhayyat, A. M. & Ahmed, A. M. (2022). The impact of artificial intelligence in digital marketing administration Supervisor : Stylianos Papaioannou.

Balaji, M. S. & Roy, S. K. (2017). Value co-creation with the Internet of Things technology in the retail industry. *Journal of Marketing Management,* 33(1-2), 7-31.

Basha, M. (2023). *Impact of artificial intelligence on marketing*, 2(3), 993–1004.

Brenner, M. (2020). Retrieved from https://marketinginsidergroup.com/.

Bruyn, A. De, Viswanathan, V. & Beh, Y. S. (2020). Artificial Intelligence and Marketing : *Pitfalls and Opportunities*, *0*, 1–45.

Bughin, J., et al. (2015). Artificial Intelligence: The Next Digital Frontier. McKinsey Global Institute D. Chaffey and F. Ellis-Chadwick, Digital Marketing, Pearson Education, Limited.

Busman, S. A. & Ananda, N. A. (2022). Artificial Intelligence and Digital Marketing Role *in Increasing Consumer Purchase Intention*, 5(01), 63–68.

Chintalapati, S. (2022). Artificial intelligence in marketing : A systematic literature review. https://doi.org/10.1177/14707853211018428

D. Purwana, R. & Rahmi, S. A. (2017). Pemanfaatan Digital Marketing Bagi Usaha Mikro, Kecil, Dan Menengah (UMKM) Di Kelurahan Malaka Sari, Duren Sawit, J. Pemberdaya. Masy. Madani,. https://doi.org/doi: 10.21009/jpmm.001.1.01.

Davenport, T. H. & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review,* 96(1), 108-116.

Devang, V., Chintan, S., Gunjan, T. & Krupa, R. (2019). Applications of Artificial Intelligence in Marketing.

Dulloo, R. & Shahu, R. (2021). A *Study On Transformation Of Marketing Practices Through Artificial Intelligence*. 20(6), 2552–2563. https://doi.org/10.17051/ilkonline.2021.06.237

Epstein, M. J. (2018). Adapting for digital survival. Strategic Finance. https://. Sfmagazine.Com/Post-Entry/ February-2018-Adapting-for-Digital-Survival/.

Eriksson, T. & Bonera, M. (2020). Think with me, or think for me ? *On the future role of artificial intelligence in marketing strategy formulation*, 32(4), 795–814. https://doi.org/10.1108/TQM-12-2019-0303

Fagella, D. (2019). Machine Learning Marketing – Expert Consensus of 51 Executives and Startups. Https://Emerj.Com/Ai-Market-Research/Machine - Learning-Marketing.

Hadalgekar, S. (2023). *A study on the role of Artificial Intelligence in Digital Marketing*, 12(4), 13322–13327. https://doi.org/10.48047/ecb/2023.12.si4.1208

Huang, H., Chang, Y., Yeh, C. & Liao, C. (2021). Promote the price promotion—International *Journal of Contemporary Hospitality Management,* 26(7), 1.

Hussain, Z., Mari, I. H. & Rind, A. A. (2022). *Exploring The Barriers of Artificial Intelligence Adoption in Digital Marketing Landscape*, 1(4), 824–835.

Jain, P. & Aggarwal, K. (2020). Transforming Marketing with Artificial Intelligence.

Janssen, M., van der Voort, H. & Wahyudi, A. (2017). Factors influencing big data decision-making quality. *Journal of Business Research,* 70, 338–345.

Kartajaya, H., Setiawan, I. & Kotler, P. (2021). Marketing : Technology for humanity. John Wiley & Sons.

Khajuria, N. (2023). Application of Artificial Intelligence in Marketing : *A Narrative Literature Review*, 25(3), 44–51. https://doi.org/10.9790/487X-2503014451

Khoa, B. T. (2021). The Impact of Chatbots on the Relationship between Integrated Marketing Communication and Online Purchasing Behavior in The Frontier Market. *Jurnal The Messenger,* 13(1), 19-32.

Koehn, D., Lessmann, S. & Schaal, M. (2020). Predicting online shopping behavior from clickstream data using deep learning. *Expert Systems with Applications,* 150, 113342.

Krystyna, J. & Grzegorz, M. (2019). 1 Theoretical background. *Central European Business Review*, 8(2), 46–55. https://doi.org/10.18267/j.cebr.213

Kumar, V., Rajan, B., Venkatesan, R. & Lecinski, J. (2019). Understanding the role of artificial intelligence in personalized engagement marketing. *California Management Review,* 61, 135–156. https://doi.org/https://doi. org/10.1177/0008125619859317

Kumari, P. (2021). Role of Artificial Intelligence (AI) in Marketing. August.

Lee, L., Dabirian, A., McCarthy, I. & Kietzmann, J. (2020). Making sense of the text: an artificial intelligence-enabled content analysis. *European Journal of Marketing*, 54(3), 615-644.

Ljepava, N. (2022). AI-Enabled Marketing Solutions in Marketing Decision Making : *AI Application in Different Stages of Marketing Process*, 11(3), 1308–1315. https://doi.org/10.18421/TEM113

Marinchak, C. M. (2018). International Journal of E-Entrepreneurship and Innovation. *International Journal of E-Entrepreneurship and Innovation*, 8(2), 14–24. https://doi.org/DOI:10.4018/IJEEI.2018070102

Mchergui, A., Moulahi, T. & Zeadally, S. (2021). Survey on artificial intelligence (AI) techniques for vehicular ad-hoc networks (VANETs). Vehicular Communications, 100403.

MR, A. (2021). ARTIFICIAL INTELLIGENCE AND MARKETING. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(4), 1247–1256. https://doi.org/10.17762/turcomat.v12i4.1184

Muljono, R. K. (2018). Digital Marketing Concept.

Nalini, K., Radhakrishnan, P., Yogi, G., Santhiya, S. & Harivardhini, V. (2021). Impact of Artificial Intelligence *(AI) on Marketing*, *12*(02), 3159–3167.

Panch, T., Szolovits, P. & Atun, R. (2021). Artificial intelligence, machine learning, and health systems. *Journal of Global Health*, 8(2)*,*1–8. https://doi.org/https://doi.org/10.7189/jogh.08.020303

Paschen, J., Kietzmann, J., Kietzmann, T. C., Paschen, J., Kietzmann, J. & Kietzmann, T. C. (2019). Artificial intelligence (AI) and its implications for market knowledge in B2B marketing. https://doi.org/10.1108/JBIM-10-2018-0295

Patience, M. (2023). Artificial Intelligence Marketing Practices : The Way Forward to Better Customer Experience Management in Africa (Systematic Literature Review, 44–62.

Rekha, A. G., Abdulla, M. S. & Asharaf, S. (2016). Artificial intelligence marketing: An application of a novel lightly trained artificial intelligence marketing: An application of a novel lightly trained support vector data description. *Journal of Information and Optimization Sciences,* 37, 681–691. https://doi.org/https://doi.org /10.1080/02522667.2016.119118

Sabharwal, D. (2022). Studying the Relationship between Artificial Intelligence and *Digital Advertising in Marketing Strategy*, 16, 118–126. https://doi.org/10.31620/JCCC.12.22/10

Sakib, S. M. N. (2022). ARTIFICIAL INTELLIGENCE IN MARKETING. August. https://doi.org/10.33774/coe-2022-qtp8f

Serravalle, F. & Pantano, E. (2021). Can Artificial Intelligent Systems Be Creative? A Preliminary Study in the

New Product Development Process for New Drinks. Creativity and Marketing: The Fuel for Success.

Shabbir, J. & Anwer, T. (2015). Artificial Intelligence and its Role in the Near Future. *Journal of Latex Class Files,* 14(8), 1–11. https://doi.org/http://arxiv.org/abs/1804.01396

Shahid, Z. & Li, G. (2019a). Impact of Artificial Intelligence in Marketing: A Perspective of Marketing Professionals of Pakistan. *Global Journal of Management and Business Research: E-Marketing,* 19(2)*.*

Shahid, Z. & Li, G. (2019b). Impact of Artificial Intelligence in Marketing: A Perspective of Marketing Professionals of Pakistan. *Global Journal of Management and Business Research: E-Marketing,* 19(2).

Siau, K. (2018). Impact of artificial intelligence, robotics, and automation on higher education. In Twenty-third Americas Conference on Information Systems, 10-12.

Sirajuddin, M. & Jagannadharao, P. (2020). Application of Artificial Intelligence in Marketing : *A Conceptual Study*. 10, 1–10.

STONE, B. & JACOBS, R. (2020). Successful direct marketing methods, (7th edition). ARC Publishing House.

Thilagavathy, N. & Kumar, E. P. (2021). Artificial Intelligence on Digital Marketing- *An overview*, 8(5), 9895–9908.

Tiwari, S. P. (2022). Knowledge Enhancement and Mobile Technology: Improving Effectiveness and Efficiency. ArXiv Preprint ArXiv:2208.04706.

Verma, S., Sharma, R., Deb, S. & Maitra, D. (2021). International Journal of Information Management Data Insights Artificial intelligence in marketing : Systematic review and future research direction. *International Journal of Information Management Data Insights*, 1(1), 100002. https://doi.org/10.1016/j.jjimei.2020.100002

Vlačić, B., Corbo, L., e Silva, S. C. & Dabić, M. (2021). T*he evolving role of artificial intelligence in marketing: A review and research agenda. Journal of Business Research,* 128, 187–203.

Wamba, S. F., Robert, J., Kamdjoug, K., Emmanuel, C. & Wanko, T. (2020). Influence of artificial intelligence (AI) on firm performance : the business value of AI-based transformation projects. https://doi.org/10.1108/BPMJ-10-2019-0411

Weng, W. (2021). Effect of Internet of Things on Business Strategy: *The Mediating Role of Marketing Intelligence Capability, EasyChair Preprint,* (2729), 1-20.

Wierenga, B. (2010). Marketing and artificial intelligence: Great opportunities, reluctant partners.

Wirth, N. (2018). Hello marketing, what can artificial intelligence help you with? International Journal of M*arket Research*, 60, 435–438. https://doi.org/https://doi.org/10.1177/1470785318776841

Wirtz, J., Patterson, P. G., Kunz, W. H., Gruber, T., Lu, V. N., Paluch, S. & Martins, A. (2018). Brave new world: service robots in the frontline. Journal of Service Management.

Xie, K., Wu, Y., Xiao, J. & Hu, Q. (2016). Value co-creation between firms and customers: *The role of big data-based cooperative assets. Information & Management,* 53(8), 1034–1048.

Yang, Y. & Siau, K. L. (2018). A qualitative research on marketing and sales in the artificial intelligence age. Association for Information Systems AIS Electronic Library. https://doi.org/https://aisel.aisnet.org/mwais2018/41/

Zhang, S. (2022). Artificial Intelligence and Marketing Intersection Post-Covid-19 : A Conceptual Framework. December, 0–5. https://doi.org/10.31435/rsglobal