



IMPACT OF ARTIFICIAL INTELLIGENCE ON BUSINESS DEVELOPMENT – A MARKETING VIEW

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ABSTRACT

As Artificial Intelligence swiftly reshapes the business landscape by automating tasks, improving decision-making, and personalizing customer experiences, companies need to adopt it to gain a competitive edge especially in marketing. This involves investing in technology, developing skills, and committing to ethical practices. This study aimed to know the impact of artificial intelligence on business development with special reference to business organizations located in Erode District. 100 business enterprises were chosen by applying convenience sampling method. Interview schedule was used to collect the data from the respondents. Structural Equation Modelling was used for analysing the data. Artificial intelligence has already demonstrated significant potential for enhancing customer experience and engagement. Increasingly, organizations are opting to connect with their customers through voice interfaces and chatbots. As this technology continues to advance, these tools will be capable of conducting smooth customer service interactions at any hour, day or night.

Keywords: Artificial intelligence, Technology, Business, Marketing, Customers.

INTRODUCTION

Artificial intelligence (AI) is a type of programming that powers many of the "smart" technologies we interact with today. Traditional computer programs operate based on fixed rules, filters, and exceptions that make them seem intelligent, but they do not possess true intelligence; they simply follow predetermined guidelines. In contrast, AI allows computer systems to analyze large data sets and adapt their behavior based on past experiences.

This capability makes AI particularly effective for tasks involving pattern recognition, such as categorization and prediction. At the core of AI are algorithms, which are sets of instructions that direct a computer's actions. Unlike basic computational tasks, such as those done in spreadsheets, AI algorithms can modify their own instructions. Instead of repeatedly performing the same calculations, an AI algorithm learns and improves its predictive accuracy through a feedback loop that incorporates exceptions. Additionally, AI is often applied to data sets far larger than the capacity of a spreadsheet, which can handle just over a million rows of data. The implications of AI are vast. Just as the human brain consists of approximately 100 billion neurons that react to stimuli, data scientists create synthetic neurons in code that behave similarly, enabling visual recognition systems that replicate how humans use their vision to interact with the world. This level of technology may sound like science fiction. Computers capable of learning can perform complex functions that typically require human intervention. The expansive "cloud"—a network of interconnected computers and databases—offers such a vast amount of data that, with sufficiently advanced processing power, computers could develop capabilities that we can currently only imagine.

NEED FOR THE STUDY

Many people still link artificial intelligence (AI) to science-fiction dystopias, but this perception is fading as the technology advances and becomes more integrated into daily lives. Today, AI is widely recognized—and often present in our homes. More significantly, it's emerging as an essential business tool with far-reaching implications across various industries. AI is being integrated into businesses as a powerful tool that can process and analyze vast amounts of data much more quickly than humans. By generating insights, AI helps users understand potential outcomes and make more informed decisions. This collaborative approach enhances both human and artificial intelligence, resulting in greater efficiency and effectiveness. In business, artificial intelligence encompasses tools like machine learning, natural language processing, and computer vision to optimize operations, enhance employee productivity, and create business value. AI mimics human problem-solving and decision-making capabilities, impacting various business processes. Organizations leverage AI to strengthen data analysis, improve customer experiences, generate content, and optimize IT operations, sales, marketing, cybersecurity, and more. As AI technologies continue to advance, new applications for businesses are emerging. AI serves as a supportive tool for human workforces, optimizing workflows and increasing operational efficiency. These improvements are achieved through automation of repetitive tasks, rapid processing of large data sets, extraction of meaningful insights, and prediction of future outcomes based on data analysis. AI systems drive various forms of business automation, including enterprise and process automation, reducing human error and allowing employees to focus on higher-level tasks.

PROBLEM IDENTIFICATION

While technological innovation seeks to enhance human life, several challenges are emerging that could affect every industry. Business leaders must prepare for these rapid developments. One significant issue with generative AI is the privacy concerns surrounding data and the ownership of information. As with generative AI tools like Dall-E, they often do not provide references to the original data or source, which raises the risk of copyright infringement. Implementing AI can be costly, particularly for small and medium-sized enterprises. Costs include acquiring and training AI models, as well as the necessary hardware and software. High initial expenses may discourage businesses from pursuing AI, limiting their competitiveness. However, it's important to recognize that, despite the costs, AI adoption can streamline operations and maximize benefits through a variety of AI tools. To address these concerns, businesses can ensure that the core idea or concept originates from their employees, with generative AI platforms providing support in the development process. The adoption of AI necessitates specialized knowledge and skills that many organizations may lack. Without the right expertise, businesses can struggle to implement AI effectively, which limits their ability to reap its benefits. Investing in training to develop relevant skills can empower teams to manage and adapt to these changes. Legacy systems that are not compatible with AI technology pose significant integration challenges. This process can often be complex and time-consuming, leading to inefficiencies and increased costs. Modernizing systems with an efficient operational framework and advanced technologies can facilitate smoother AI adoption. Successful AI implementation requires a robust technological infrastructure and architecture. Leadership should proactively plan and establish the necessary technological advancements to ensure smooth AI integration with minimal ongoing support. AI is heavily reliant on data, making the quality and availability of data crucial. Many organizations either lack sufficient data or have poor-quality data that is unsuitable for AI applications. Inaccurate or insufficient data can lead to erroneous conclusions and misguided strategies. Using a substantial amount of high-quality, well-optimized data and better data management practices is essential for building effective AI models.

OBJECTIVE OF THE STUDY

This study aimed to know the impact of artificial intelligence on marketing activities for business development with special reference to business organizations located in Erode District.

MATERIALS AND METHODS

Rubab (2023) conducted a review of the existing literature on the impact of artificial intelligence (AI) on business growth. The analysis focused on various indicators of business growth, including revenue growth, profitability, and productivity, to evaluate the effects of AI adoption. The findings revealed that AI adopters experienced a significant productivity boost, with an average increase of 20%, while non-adopters saw only a modest improvement of 10%. This indicates a strong positive correlation between AI adoption and productivity. Additionally, the study found that businesses utilizing AI technologies experienced an average profitability

increase of 15%, compared to a modest rise of 8% for non-adopters, suggesting that AI adoption positively affects profitability. Haleem et al. (2022) explored the role of AI in marketing, examining its specific applications across various segments and the resulting transformations in the marketing landscape. It identifies and analyzes key AI applications in marketing, highlighting how AI enables personalized content through observation, data collection, and analysis. The study concluded that in digital marketing, AI significantly enhances email campaigns, helping marketers maximize their effectiveness. Email marketing serves as a crucial tool for reaching target audiences at optimal times and implementing relevant conversion strategies. One of the primary advantages of AI in marketing is its ability to analyze vast amounts of data, providing marketers with actionable insights grounded in real-world information.

Research methodology is a mode to systematically solve the research problems. It may be understood as a science of studying how research is done systematically. It contains the overall research design, the sampling procedure, data collection method and analysis procedure. A research design is a plan, formation and strategy of investigation so conceived as to attain answers to research problems. The plan represents the absolute scheme or program of research. It contains a sketch of what the investigator is going to do, from writing the hypotheses and their operational propositions to the final analysis of data. In this study, 100 business enterprises were chosen by applying convenience sampling method. Interview schedule was used to collect the data from the respondents in Erode District.

Results and Discussions

Structural Equation Modeling was used to know the impact of artificial intelligence on marketing activities of select organizations.

Hypothesis

H_0 = Marketing activities had no significant association with applying artificial intelligence in business development.

H_1 = Marketing activities had a significant association with applying artificial intelligence in business development.

TABLE 1
REGRESSION WEIGHTS

			Estimate	S.E.	C.R.	P
Place management	<---	Artificial Intelligence	1.000			
Strategy and planning	<---	Artificial Intelligence	1.399	.160	8.750	***
Real time price variation	<---	Artificial Intelligence	1.401	.161	8.725	***
Product design	<---	Artificial Intelligence	1.435	.167	8.614	***
Promotion management	<---	Artificial Intelligence	1.153	.147	7.850	***
Price management	<---	Artificial Intelligence	.180	.134	1.339	180 ^{NS}
Product management	<---	Artificial Intelligence	1.230	.149	8.252	***
Target marketing	<---	Artificial Intelligence	1.351	.163	8.271	***
Product positioning	<---	Artificial Intelligence	1.066	.132	8.078	***
Market segmentation	<---	Artificial Intelligence	.966	.139	6.946	***

*** Significant at 1% level.

NS- Not Significant

All the variables expect price managementsuch as place management, strategy and planning, real time price variation, product design, promotion management, product management, target marketing, product positioningmarket segmentationare having significant association with applying artificial intelligence in business developmentand significant at 1% level.Table 2 illustrates the model fit indices regarding the impact of artificial intelligence on marketing activities for business development. The Goodness of Fit Index (GFI) is 0.901, the Adjusted Goodness of Fit Index (AGFI) is 0.845, the Comparative Fit Index (CFI) is 0.969, the Normed Fit Index (NFI) is 0.927, and the Tucker-Lewis Index (TLI) is 0.960. The Root Mean Squared Error of Approximation (RMSEA) is 0.08, indicating that the model fits well with an acceptable level of approximation error. The analysis suggests that all ten variables are influenced by artificial intelligence in the context of business development.

TABLE 2
MODEL FIT INDICES

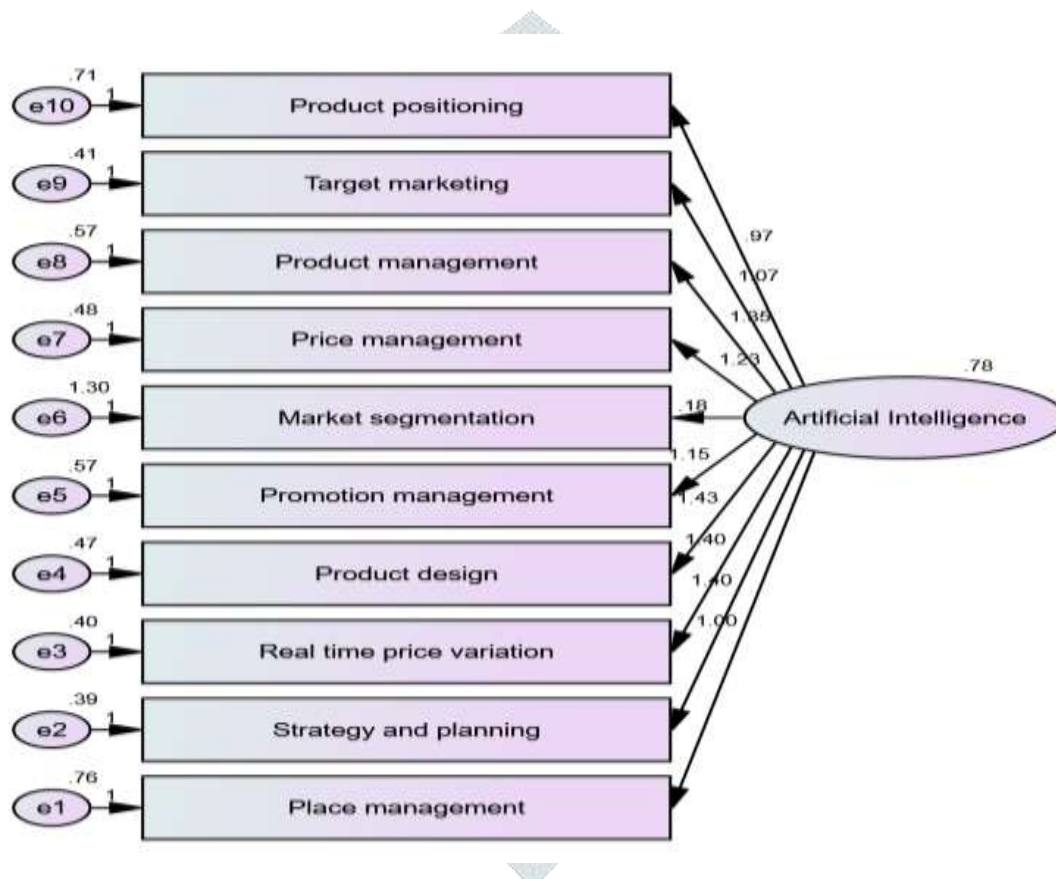
Test factor	Calculated value	Acceptable value
Chi-square	59.126	
P-Value	0.007	0.050
Goodness-of-fit-index	0.901	≥0.90 and above satisfactory fit 0.80 to <0.9 acceptable fit (Hair et al.2006)
Adjusted goodness-of-fit-index	0.845	
Comparative fit index	0.969	
Normed fit index	0.927	
Tucker-Lewis index	0.960	

Root mean square error of approximation	0.08	0.08 or less would indicate a close fit of the model
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The following diagram shows the impact of artificial intelligence on marketing activities of select organizations. Hence the study proved that all the variables except price management, such as place management, strategy and planning, real time price variation, product design, promotion management, product management, target marketing, product positioning, market segmentation, have significant association with applying artificial intelligence in business development.

DIAGRAM 1

IMPACT OF ARTIFICIAL INTELLIGENCE ON BUSINESS DEVELOPMENT – A MARKETING VIEW



The above diagram shows the impact of artificial intelligence on marketing activities of select organizations. Hence the study proved that all the variables except price management, such as place management, strategy and planning, real time price variation, product design, promotion management, product management, target marketing, product positioning, market segmentation, have significant association with applying artificial intelligence in business development.

RECOMMENDATIONS AND CONCLUSION

By leveraging AI and its rapid learning abilities, businesses can develop powerful data processing systems that generate insights, analyze vast amounts of information, and handle tasks that allow organizations to allocate more time and resources to in-person interactions. Artificial intelligence has already demonstrated significant potential

for enhancing customer experience and engagement. Increasingly, organizations are opting to connect with their customers through voice interfaces and chatbots. As this technology continues to advance, these tools will be capable of conducting smooth customer service interactions at any hour, day or night. AI changes the marketing sector completely by automating work, offering scope for customer experience personalization, and providing valuable insight into consumer behavior. It impacts the marketing field on vast dimensions and continues to do so. With the progress of new tools and practices, it becomes the duty of marketers to decide whether AI is going to be relevant to their business or not. It's likely that one of the most significant ways that AI will differ is through customer segmenting and targeting. With AI, marketers will be able to analyze large volumes of data about customers and identify segments within the target audience they are after; thus, they will tailor their strategy toward the most advantageous outcome. This way, engagement increases, conversion is higher, and customers become more loyal. AI will also act in the automation of marketing tasks, which entails email campaigns distribution, management of social media, and content that will give marketers some spare time and even reduce costs incurred when engaging in strategic activities. Virtual or chatbot AI assists increase customer service as a result of offering personalized support thus gather more satisfied customers and productivity. The impact of AI in marketing will be transformative, changing how marketers operate to better performance with campaigns, higher customer satisfaction, and business growth. Marketers must be informed of the instruments that will make them more productive and productive for their organization. This blog has discussed how AI will change the marketing scenario. Thus, marketers must decide whether AI is apt for their business model and how it will drive growth and boost overall productivity.

REFERENCES

1. Bowman, M., Alharthi, A., & Krotov, V. (2017). Addressing barriers to big data. *Business Horizons*, 60(3), 285–292
2. Haleem, A., Javaid, M., Qadri, M.A., Singh, R.P., & Suman, R. (2022). Artificial intelligence (AI) applications for marketing: A literature-based study. *International Journal of Intelligent Networks*, 3, 119–132.
3. Kaplan, A., & Haenlein, M. (2019). Siri, siri, in my hand: who's the fairest in the land? on the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons*, 62(1), 15–25.
4. Labib, E. (2024). Artificial intelligence in marketing: exploring current and future trends. *Cogent Business & Management*, 11(1).
5. Polisetty, A., Chakraborty, D., G, S., Kar, A. K., & Pahari, S. (2023). What determines AI adoption in companies? Mixed-method evidence. *Journal of Computer Information Systems*, 64(1), 1–18.
6. Rubab, S.A. (2023). Impact of AI on business growth. *The Business and Management Review*, 14(2), 239–246.

7. Shankar, G., & Sambathkumar.(2024). The impact of artificial intelligence on employment: a comprehensive analysis. *International Journal of Research Publication and Reviews*, 5(3), 3352-3357.
8. Talwar, S., Talwar, M., Kaur, P., & Dhir, A. (2020). Consumers' resistance to digital innovations: A systematic review and framework development. *Australasian Marketing Journal*, 28(4), 286–299.
9. Wedel, M. & Kannan, P. K. (2016). Marketing analytics for data-rich environments. *Journal of Marketing*, 80(6), 96–122.
10. Zubcsek, P. P., Katona, Z., & Sarvary, M. (2011). Network effects and personal influences: The diffusion of an online social network. *Journal of Marketing Research*, 48(3), 425– 443.

