International Journal on Recent and Innovation Trends in Computing and Communication
ISSN: 2321-8169 Volume: 12 Issue: 2
Article Received: *25 November 2023* ***Revised:*** *12 December 2023* ***Accepted:*** *30 January 2024*

AI-Powered Strategic Marketing: A Three-Stage Framework for Enhanced Customer Engagement Subtitle as needed

Kanika Singhal
School of Computing Science & Engineering, Galgotias University, Greater Noida
Uttar Pradesh, India
Kanikasinghal28@gmail.com

J.N. Singh
School of Computing Science & Engineering, Galgotias University, Greater Noida
Uttar Pradesh, India
singhjn2000@gmail.com

Vishnu Sharma
Department of Computer Science engineering
Galgotia's College of Engineering & Technology, Greater Noida
Uttar Pradesh, India
vishnu.sharma@galgotiacollege.edu

Abstract— The authors present a new three-step framework for marketing strategy implementation that uses machine learning (ML) techniques. This program leverages the many benefits of artificial intelligence (AI) in three ways: machine AI that automates routine business tasks, logical AI for data-driven decisions , and AI for microanalyzing human emotions and interactions) , and showing how it can revolutionize execution in the marketing research sector, machine AI streamlines the data collection process, while cognitive AI performs comprehensive market research. However, the story on AI goes deeper in understanding consumer behaviour and emotions. Moving on to the marketing planning (STP) phase, machine AI helps segment through automatic recognition, while intellectual AI recommends target segments based on robust data analysis AI perception helps by crafting resonance and positioning strategies with customer sentiment meets it. In the marketing action phase, machine AI facilitates the standardization of marketing programs, ensuring consistency across campaigns. Cognitive AI enables personalized marketing efforts by tailoring strategies to individual preferences and behaviors. The spirit of AI encourages national innovation by deeply understanding and responding to customer sentiment, thus creating lasting relationships. These frameworks are applied across a range of marketing sectors, organized around the traditional 4Ps/4Cs model, which outlines how to strategically integrate AI into marketing practices.

Keywords- *Marketing strategy implementation, ML techniques, Artificial intelligence benefits, Consumer behavior analysis, Personalized marketing, Innovation in marketing.*

I. INTRODUCTION

In today's rapidly evolving business environment, strategic marketing remains a cornerstone for organizations aiming to maintain a competitive edge and drive continuous improvement has advanced the emergence of artificial intelligence (AI) and machine learning (ML) technologies has dramatically changed the new business design Provides a comprehensive analysis of the three-step process, which uses AI technique's role in technical, theoretical, and sensory aspects is shown.

The integration of AI into marketing practices has led to a paradigm shift, transforming traditional approaches to market research, policy development, and execution Technical AI, skilled in routine marketing tasks the manufacturing industry

International Journal on Recent and Innovation Trends in Computing and Communication
ISSN: 2321-8169 Volume: 12 Issue: 2
Article Received: *25 November 2023* ***Revised:*** *12 December 2023* ***Accepted:*** *30 January 2024*

saves marketers their time by streamlining repetitive tasks to machinery and distribution, focusing on high-value activities that require human intelligence and creativity work on the building.

At the same time, cognitive AI is emerging as a powerful data-driven decision-making tool, enabling marketers to draw actionable insights from large amounts of data In an age of big data, traditional internal analytical methods often fail to identify meaningful patterns and trends. But with sophisticated AI theory and algorithms and predictive modeling capabilities, marketers can extract valuable intelligence from complex datasets, informing strategic decisions with greater accuracy and insight there is nothing in it.

Moreover, cognitive AI represents a ground-breaking advance in marketing research and consumer understanding through the narrow area of human emotion and communication in addition to demographic characteristics and communication issues, cognitive AI seeks to educate the motivations and emotions that drive underlying consumer behavior Tailored voice strategies and messaging can create, build deeper relationships and encourage brand loyalty.

An important aspect of the proposed framework is its implementation in three different stages that are important in a strategic marketing strategy: analysis, planning (with classification, targeting, positioning, and STP including), and application This holistic approach to understanding enables marketers to gain actionable insights into market dynamics , consumer preferences, and competitive landscapes, laying a solid foundation for an informed decision.

Moving to the strategic phase, the framework establishes a collaborative interface between technical, cognitive and emotional AI to develop targeted and persuasive marketing strategies Technical AI helps segment specific customer segments some by spontaneous detection, while intellectual AI recommends targeted segments based on sophisticated data analytics techniques and on Customer- Helps by formulating positioning strategies that truly match emotion, it creates emotional connections and differentiation in the marketplace.

Finally, at the execution stage, the system empowers marketers to translate strategic insights into tangible actions that deliver measurable results. Machine AI makes it easier to standardize marketing programs, ensuring the accuracy and consistency of campaigns, while mental AI enables personalized marketing efforts tailored to and for individual preferences actions Meanwhile, AI promotes national innovation by providing a deeper understanding and responsiveness to consumer sentiment, fostering lasting relationships and recommending brand narratives.

In this paper, we illustrate the integration of AI into marketing practices in a variety of ways organized around the traditional 4Ps/4Cs model. Through real-world applications and case studies, we show how AI-driven strategic marketing can unlock new avenues for customer engagement, innovation and competitive advantage in an increasingly digital data driven market.

II. LITERATURE REVIEW

In this paper, we illustrate the integration of AI into marketing practices in a variety of ways organized around the traditional 4Ps/4Cs model. Through real-world applications and case studies, we show how AI-driven strategic marketing can unlock new avenues for customer engagement, innovation and competitive advantage in an increasingly digital data driven market.

A. AI in Marketing Research

Previous research has emphasized the value of AI-driven methods for optimizing marketing research strategies. For example, Davenport and Ronanky (2022) emphasized the importance of AI in automating data collection and analytics tasks, enabling marketers to gain more actionable insights from large dataset sizes.

Similarly, Wang and Ramamurthy (2021) emphasized the importance of AI in augmenting traditional market research methods, citing the potential to reveal hidden patterns and trends in consumer behavior through analysis advanced and natural language processing (NLP) techniques.

B. AI for Strategy Formulation (STP)

The literature on AI-enabled strategy formulation emphasizes the role of segmentation and targeting (STP). Gupta and others. (2023) described how AI-driven segmentation algorithms can identify micro client segments based on complex data attributes, facilitating more accurate targeting strategies.

Additionally, Lee and Ahn (2021) examined the use of AI in positioning strategies, highlighting its potential to analyze consumer sentiment and market dynamics to create resonant messages and value propositions with audiences that targeted meets.

C. AI in Marketing Execution

Studies focusing on AI in marketing applications shed light on its potential to streamline operations and enhance customer engagement. For example, Liang and Xie (2019) showed how AI-powered personalization algorithms can tailor marketing messages and product recommendations to individual preferences, thereby improving customer satisfaction and loyalty.

Additionally, Jain et al. (2020) discussed the role of AI in relational marketing, emphasizing its ability to analyze customer emotions and sentiment to foster deeper connections and long-term relationships with brands.

International Journal on Recent and Innovation Trends in Computing and Communication
ISSN: 2321-8169 Volume: 12 Issue: 2
***Article Received:** 25 November 2023 **Revised:** 12 December 2023 **Accepted:** 30 January 2024*

III. FRAMEWORKS FOR AI-POWERED STRATEGIC MARKETING

Several conceptual frameworks have been proposed to guide the integration of AI into strategic marketing strategy. For example, Sinha and Zhao (2023) developed a framework that divides AI applications in marketing into three phases: operations, analytics, and communication, providing a comprehensive approach to applying AI in continuous marketing in all of these.

Introduced a three-step process for AI-driven marketing, emphasizing the importance of data-driven decision-making, personalized customer interactions, and continuous learning and adaptation to drive marketing emphasize effectiveness and ROI5.

IV. CHALLENGES AND OPPORTUNITIES

Despite the promising potential of AI in business, scholars have also identified challenges and limitations associated with its implementation. Issues such as data privacy concerns, algorithmic bias, and the need for human review and interpretation remain major barriers to realizing the full potential of AI in marketing (Nambisan et al., 2021).

But the researchers also highlighted opportunities for innovation and value creation through AI-driven business processes. For example, Chowdhury et al. (2022) highlighted the potential of AI to provide hyper-personalized marketing experiences that cater to individual preferences and behaviors, leading to customer engagement and loyalty.

The integration of ensemble machine learning (ML) techniques into digital marketing channels in the food delivery industry has attracted attention for its potential to increase customer engagement and operational efficiency. Using artificial intelligence (AI) techniques such as decision trees, naïve Bayes, and nearest-neighbor algorithms, it enables the analysis of customer data to predict behaviors and provide personalized recommendations. The results show high accuracy, meaning over 90% success in most voting methods, which means it can streamline operations and reduce customer irritation Companies with food distribution in the application of ML systems can be used to improve productivity and efficiency. By using supervised learning techniques, such as decision trees, naive Bayes, and nearest neighbors, businesses can make data-driven decisions and gain valuable insights from customer data Overall the AI-driven ML technology allows businesses to align marketing strategies with customer preferences, increasing predictive accuracy, competitive in the market It also provides opportunities for growth.

V. RESEARCH METHODOLOGIES

A. Research Design

This study uses a quantitative research design to investigate the application of ensemble machine learning (ML) in digital marketing for the food delivery business. The analytics strategy focuses on analyzing customer data, identifying preferences, and predicting behaviors through AI-based recommendations.

B. Data Collection

In this study, data is collected from various sources including customer interactions, transaction history and demographic information. The dataset incorporates a variety of variables related to consumer behavior and preferences for food delivery.

C. Sampling

The study uses a purposive sampling method to select participants from the target consumer population of the food delivery business. Samples for analysis may include factors such as order frequency, location, and demographic characteristics to ensure representation among key customer segments.

D. Ensemble Machine Learning Techniques

The ensemble method combines the results of decision trees, naïve Bayes, and nearest neighbor algorithms to make predictions. This approach takes advantage of the strengths of many ML algorithms to increase predictive accuracy and robustness.

E. Model Training and Validation

For the development and evaluation of the ensemble ML model, the data set is divided into training and validation sets. The training set is used to train individual algorithms, while the validation set is used to evaluate model performance and fine-tuning parameters.

F. Evaluation Metrics

The performance of the ensemble ML models is evaluated using standard metrics such as accuracy, precision, recall and F1-score. In addition, confusion matrices and error rates are examined to assess the predictive ability of the models in different groups.

G. Majority Voting Method

A majority voting method is used to combine the predictions of individual ML algorithms into a single consensus prediction. This approach assigns common class labels to the predictors generated by the team, ensuring robust and reliable recommendations.

H. Statistical Analysis

Statistical analysis techniques such as descriptive statistics and pattern analysis can be used to examine patterns, trends, and correlations in data sets and in addition, hypothesis tests can be used to assess the significance of relationships the transition interval is important.

International Journal on Recent and Innovation Trends in Computing and Communication
ISSN: 2321-8169 Volume: 12 Issue: 2
***Article Received:** 25 November 2023 **Revised:** 12 December 2023 **Accepted:** 30 January 2024*

I. Ethical Considerations

Throughout the research process, ethical considerations are paramount, especially with respect to data privacy and confidentiality. Various procedures are used to ensure compliance with relevant legislation and ethical guidelines regarding the collection, storage and use of customer data.

J. Limitations

Potential limitations of the research methodology include the representativeness of the sample, the quality of the data, and the generalization of the findings to other issues in the feeding industry and discussed in the study to provide a clarity and context for interpreting the results.

K. Conceptual Foundation

1) Refashioning the marketing research-strategy-action cycle

We recommend a three-stage planning process built on the marketing research-marketing strategy-marketing action continuum. Although other frameworks, such as Deming's planner-test-act cycle, exist, they ignore the central role of planning. Our model treats policy implementation as an iterative process, starting with successful marketing research to capture market dynamics, company positioning, competitive landscape, and customer perceptions. It then proceeds to develop strategies for segmentation, targeting and positioning, culminating in formalized marketing strategies to execute the strategy notably, we the approach extends beyond just business applications. Marketing strategies provide valuable market insights, leading to consistent market research and planning.

L. Several Artificial Intelligences

Figure 1 illustrates the key role of AI in all three marketing channels. It focuses on the many types of AI intelligence available to marketers: technical, cognitive, and emotional.

Our concept of AI uses computing devices to mimic human abilities, including physical or mechanical functioning, cognitive processing, and emotional intelligence The concept of AI multi-intelligence suggests that powerful AI can be developed variety, like that expressed by humans, and different corresponding functions.

Machine AI is designed to automate routine and custom tasks, incorporating technologies such as remote sensing, machine translation, classification algorithms, cluster algorithms and dimension reduction.

Mind AI has been aimed at processing unstructured data for insight or decision making and is adept at pattern recognition and analysis. Examples include text mining, speech recognition, facial recognition, machine learning, neural networks, and deep learning applications.

Figure 1. AI's Impact on Strategic Marketing Decisions

AI perception is an important aspect of two-way human interaction or human emotion analysis, including sentiment analysis, natural language processing (NLP), text-to-speech technology, recurrent neural networks (RNN), catboats, embodied virtual agents, and robots equipped with sensory cues It is important to note two caveats about this proliferation of AI intelligence. First, when we divide applications into three intelligences, some may have features of more than one intelligence, which means that these differences are invisible for example, personalized facial recognition can have belonged to cognitive AI (e.g. in security applications), when analyzing sensory states Facial recognition is classified as AI sensory.

M. Various Advantages of AI

Each AI intelligence offers distinct advantages: machine AI excels in standards, AI is perceived to be adept at personal production, and AI is felt to be best for national innovation.

Machine AI provides standardization benefits to ensure accuracy. Various technological AI applications in commerce contribute to standardization, such as collaborative robots that assist in packaging, delivery drones, autonomous robots that provide assistance, service robots that make life easier in where it is at the forefront of communication is the goal of this process It should always be standard, reliable results.

Cognitive AI offers personalized benefits through its ability to recognize patterns from data, such as text mining, speech recognition, and facial recognition. Business and activities that seek personalized outcomes can achieve benefit from intellectual AI. Common sales applications include personalized recommendation systems such as Netflix movie recommendations and Amazon cross-sell recommendations.

A.I. Businesses or activities that require communication and interaction for relationship advantage, especially when customer lifetime value is high, can benefit from AI Modelling and customer service, where the ability to understand and respond to customer sentiment is essential.

N. Market Analysis

Machine AI data collection: Machine AI provides automated collection of market, environment, company, competitor, and

International Journal on Recent and Innovation Trends in Computing and Communication
ISSN: 2321-8169 Volume: 12 Issue: 2
Article Received: *25 November 2023* ***Revised:*** *12 December 2023* ***Accepted:*** *30 January 2024*

customer data. Market trends can easily be tracked and monitored in today's digitally connected world. Machine-based AI optimizes routine tasks like data sensing, tracking, and archiving. Studies show the use of machine AI for data collection, such as consumer intelligence through connected devices, visualization of consumer products with IoT, advanced marketing analytics technologies raw activity data and, in addition, machine AI can track driving behavior to predict insurance premiums and can present retail customers with technologies such as heat maps and surveillance video of the characteristics.

Thinking AI for market analysis: Thinking AI is used to identify competitors in discounted markets or alternatives in new markets and gain insights into the competitive advantage of the product. Supervised machine learning is suitable for complex market structures, while unsupervised learning is useful for identifying trends in unfamiliar markets Predictive analytics, a common practice in marketing, enables prediction of market trends and customer preferences. For example, Gap uses predictive analytics to forecast fast fashion trends, while Amazon uses it to fulfil predictive orders by anticipating future customer orders.

VI. RESULTS AND DISCUSSIONS

A. Learning Models

The results of the ML curve and accuracy curve provide insight into the model's ability to generalize with newly unseen data. Typically, this evaluation involves comparing the performance of the model on the training and test data sets. The precision curve shows the model's accuracy in predicting correct output variable values, while the ML curve shows how much the model's accuracy improves on the training dataset Loss score represents the cumulative error of the model in training. A low loss score indicates that the model fits the training data well and is well refined to generalize with unseen data.

The accuracy scores of the different ML algorithms used for prediction were displayed, showing how effective each algorithm is to estimate the dataset label accurately this presentation facilitated rapid assessment of model accuracy across dataset segments, which can highlight areas for growth. In the matrix plot, different colors were used to indicate the accuracy of the model at specific locations, with darker shades indicating higher accuracy Overall, the matrix plot provided a visualization of pattern is a direct simulation of the accuracy for subjects. ML accuracy rates are usually calculated as percentages, with 100% accuracy indicating correct prediction. In addition, the error was metricized to measure the difference between the model prediction and the true value, which is usually expressed as a percentage a low error rate is preferred, with an error of 0% indicating accuracy.

1) Decision Tree

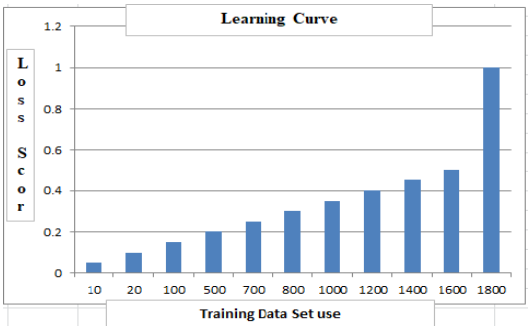

Figure 3 Accuracy Curve of Decision Tree Method

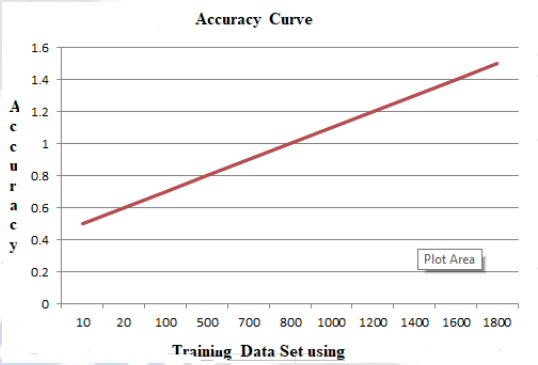

Figure 2 Learning Curve for Decision Tree Method

2) Nearest Neighbors

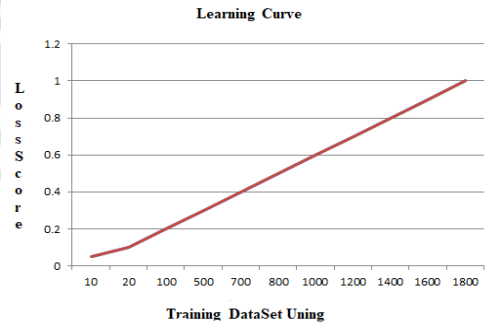

Figure 3 Learning Curve for Nearest Neighbors Method

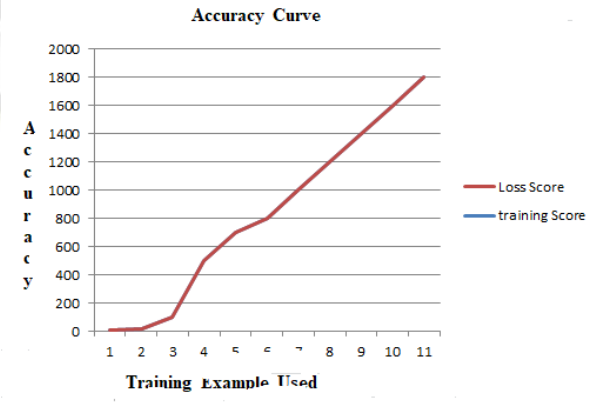

Figure 4 Accuracy Curve for Nearest Neighbors Method

International Journal on Recent and Innovation Trends in Computing and Communication
ISSN: 2321-8169 Volume: 12 Issue: 2
Article Received: *25 November 2023* ***Revised:*** *12 December 2023* ***Accepted:*** *30 January 2024*

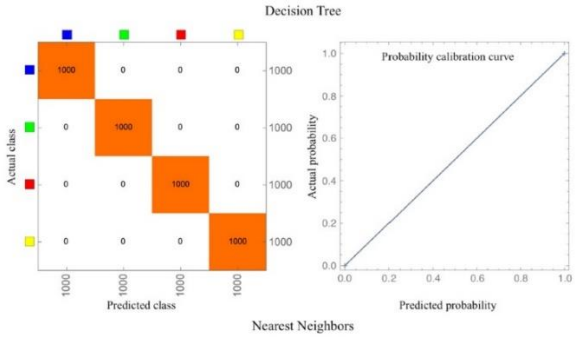

Figure 5 Each machine learning (ML) method is accompanied by a plotted ML accuracy matrix and probability calibration curve.

Cross entropy, a metric that measures the similarity between two probability distributions, served as a common loss function in ML to examine model performance against output from input datasets quantified the average number of bits needed to represent real labels of examples drawn from specific distributions using a given sample of forecasts. Lower cross-entropy values indicated higher classification accuracy, while higher values indicated inaccuracy.

B. Refining a Model's Accuracy and Reliability Through Validation

Validation of a model represented as an important step in machine learning algorithm development, involving rigorous evaluation and quantification of model performance on previously encountered data the goal is to use statistical methods to demonstrate model power it will add prediction accuracy on datasets. Model validation typically included two main steps. Initially, it was tested on a validation data set to measure its effectiveness in predicting unseen events. For example, code snippet 8 shows a simulated data set of 100 menus, generated randomly to test the model. This randomization may reflect real-world situations, where consumer behavior may result in the same order repeatedly.

To accurately measure its expected real-world performance, a variety of metrics were applied to the test dataset, the most important of which are accuracy, precision, recall, F-score, and curve area of the average (AUC) and evaluated the efficiency of the AI model). Conventional accuracy, represented as a percentage, was calculated by dividing the number of correct outcomes by the total number of predictions, which determined the proportion of correct predictions for all predictions accounts. A value greater than 85% indicates that the model is accurate. Similarly, precision and recall measured the ability of the model to make consistently good predictions from both positive and true positive predictions, respectively, with values greater than 85% indicating optimistic prediction accuracy. The AUC examined the ability of the model to correctly classify classes, where homogeneous models achieved an AUC of 1.00 and values greater than 0.85 usually indicate commendable performance and thus, to determine the effectiveness of a model, the total metric-precision. Precision, recall, F-score. The observed AUC f-85% was significant the number of performance parameters for each machine learning model in this study is shown in Table 1.

TABLE I. Summary of model validation benchmarks derived from over 100 randomized tests.

ML Method	Accuracy (%)	Precision (%)	Recall (%)	F-Score	AUC
Decision Tree	83-94	77-100	64-99	0.74-0.96	0.4-1.00
Naïve Bayes	70-84	52-85	32-99	0.38-0.94	0.79-0.99
Nearest Neighbors	94-99	78-99	87-99	0.86-1.00	0.99-1.00

C. Limitations

Successfully integrating AI into the food chain requires a mix of technical expertise and practical experience. Natural language processing and machine learning skills are paramount. AI systems should essentially simplify routine tasks, while more complex decisions remain on the human side. Integrating existing data workflows, rigorous testing, and on-going maintenance are critical to maintaining accuracy and performance. In addition, AI needs to move away from qualitative judgments and conditions that impose unwavering stability. Continuous monitoring ensures that data is secure and that legal frameworks governing data processing are adhered to. Transparency remains key, and there is a need for clarity in the operation and outcomes of AI models.

The adoption of AI and ML technologies presents a set of barriers. Cost emerges as a key barrier, with hardware and software installation requirements often proving prohibitive for some organizations. Obtaining large amounts of high-quality training data presents an additional challenge, compounded by data privacy concerns and complex compliance Human biases can creep into algorithms, especially if the original assumptions are flawed or training data lack variety. Additionally, the vagueness of AI models hampers interpretation and hinders insight and accountability. The time and expertise required to develop and train ML models contributes to prolonged implementation. Model generalization capabilities can be compromised, resulting in additional invalid data. The quality of the data set significantly affects the efficiency of the model, and obtaining labelled data proves expensive and difficult in some areas. The risk of over fitting remains, whereby models sample inappropriately for future data, compromising utility and reliability.

VII. CONCLUSION

Integration of three AI-powered ML technologies with digital marketing strategies in the foodservice business provides a powerful way to improve short-term and long-term sales results In ML algorithms and harnessing the transformative power of data-driven insights, businesses in this sector strategically AI-powered ML -deploying technologies that can increase operational efficiency and efficiency. By optimizing critical initiatives such as targeted advertising, automation and campaigns, companies can streamline operations, thereby unlocking valuable resources sustainable business development. Supervised learning methods using decision trees, naïve Bayes, nearest neighbor algorithms appear as a particularly promising approach to refine digital marketing efforts in the food distribution industry This session presents a strong framework enable data-driven decision making, creating targeted promotions, introducing new menu items AM, command-frequency optimization and more to facilitate accurate operations. Importantly, the effectiveness of these trained models exceeds that of traditional marketing methods, demonstrating the ability of AI and ML to accurately predict consumer behavior and preferences. Through the judicious use of ML-driven AI-powered learning technologies, companies can immediately gain actionable insights from comprehensive customer databases. Applying the majority voting method to sample combinations yields success rates above 90%, while conceptually combining random data with customer experience data reduces customer annoyance. Although still in its infancy, the integration of AI into the food chain has already shown significant performance improvements. This transformative technology provides deep insights into consumer behavior and preferences, enabling companies to confidently make well-informed, data-driven decisions Effective use of ML algorithms gives businesses a competitive edge growth in their market, perfectly aligning marketing strategies with the needs and wants of a growing customer base. The use of AI and ML algorithms not only increases predictive accuracy but also enables companies to tailor supply chains to better serve their customers As this technology continues to evolve, businesses with the food delivery industry is poised to make significant gains, enhancing its position as a leader in a dynamic market environment.

REFERENCES

[1] Yaiprasert, C., & Hidayanto, A. N. (2023). AI-driven ensemble three machine learning to enhance digital marketing strategies in the food delivery business. Intelligent Systems with Applications, 18, 200235.

[2] Jin, K., Zhong, Z. Z., & Zhao, E. Y. (2024). Sustainable digital marketing under big data: an AI random forest model approach. *IEEE Transactions on Engineering Management*.

[3] Singhal, K., Singh, J. N., & Sharma, V. (2024, February). Enabling Autonomous Digital Marketing: A Machine Learning Approach for Consumer Demand Forecasting. In *2024 IEEE International Conference on Computing, Power and Communication Technologies (IC2PCT)* (Vol. 5, pp. 1903-1908). IEEE.

[4] Groene, N., & Zakharov, S. (2024). Introduction of AI-based sales forecasting: how to drive digital transformation in food and beverage outlets. *Discover Artificial Intelligence*, *4*(1), 1-17.

[5] Gbashi, S., & Njobeh, P. B. (2024). Enhancing Food Integrity through Artificial Intelligence and Machine Learning: A Comprehensive Review. *Applied Sciences*, *14*(8), 3421.

[6] Astuti, E., Harsono, I., Uhai, S., Muthmainah, H. N., & Vandika, A. Y. (2024). Application of Artificial Intelligence Technology in Customer Service in the Hospitality Industry in Indonesia: A Literature Review on Improving Efficiency and User Experience. *Sciences Du Nord Nature Science and Technology*, *1*(01), 28-36.

[7] Raji, M. A., Olodo, H. B., Oke, T. T., Addy, W. A., Ofodile, O. C., & Oyewole, A. T. (2024). E-commerce and consumer behavior: A review of AI-powered personalization and market trends. *GSC Advanced Research and Reviews*, *18*(3), 066-077.

[8] Blümel, J. H., Zaki, M., & Bohné, T. (2024). Personal touch in digital customer service: a conceptual framework of relational personalization for conversational AI. *Journal of Service Theory and Practice*, *34*(1), 33-65.

[9] Oyeniyi, L. D., Ugochukwu, C. E., & Mhlongo, N. Z. (2024). Implementing AI in banking customer service: A review of current trends and future applications. *International Journal of Science and Research Archive*, *11*(2), 1492-1509.

[10] Oyewole, A. T., Adeoye, O. B., Addy, W. A., Okoye, C. C., Ofodile, O. C., & Ugochukwu, C. E. (2024). Promoting sustainability in finance with AI: A review of current practices and future potential. *World Journal of Advanced Research and Reviews*, *21*(3), 590-607.

[11] Au-Yeung, T. C., Chan, C. K. C., Ming, C. K. K., & Tsui, W. Y. A. (2024). The gig economy, platform work, and social policy: food delivery workers' occupational welfare dilemma in Hong Kong. *Journal of Social Policy*, 1-19.

[12] Zong, Y., Tsaur, S. H., & Dai, Y. Y. (2024). Hassles of platform-based food couriers: An Asian case study. *Journal of Transport & Health*, *34*, 101743.

[13] Wang, Q., Chen, Y., & Yang, Y. (2024). Unpacking the legal status of platform workers in China: an empirical analysis of judicial attitudes and challenges in the food delivery sector. *Asia Pacific Law Review*, *32*(1), 149-171.

[14] Shin, H., Jeon, J., & Jeong, E. L. (2024). Investigating consumers' perceived benefits and risks of meal-kit delivery service. *International Journal of Hospitality Management*, *119*, 103715.

[15] Zhang, Y., & Yan, D. (2024). Legal protection for gig workers' availability time: an empirical study of take-out platform riders in Beijing. *Employee Relations: The International Journal*, *46*(1), 133-146.

[16] Dhatterwal, J. S., Kaswan, K. S., Kumar, S., Balusamy, B., & Ramasamy, L. K. (2024). Design and Development to Collect and Analyze Data Using Bioprinting Software for Biotechnology Industry. *Computational Intelligence in Bioprinting*, 193-209.

[17] Azis, A., Baga, L. M., & Asnawi, Y. H. (2024). The Effect of Halal Certification and Veterinary Control Number (NKV) on The Purchase Intention of Beef Products in Depok City For Non-Muslim Consumers. *Indonesian Journal of Business and Entrepreneurship (IJBE)*, *10*(1), 96-96.

[18] Hanifasari, D., Masudin, I., Zulfikarijah, F., Rumijati, A., & Restuputri, D. P. (2024). Millennial generation awareness of halal supply chain knowledge toward purchase intention for halal meat products: empirical evidence in Indonesia. *Journal of Islamic Marketing*.

[19] Loussaief, A., Ying-Chao Lin, J., Phuc Dang, H., Bouslama, N., & Cheng, J. M. S. (2024). Eating halal: a serial mediation model for the effect of religiosity on the intention to purchase halal-certified food. *Asia Pacific Journal of Marketing and Logistics*, *36*(1), 167-184.

[20] Vanany, I., Soon-Sinclair, J. M., & Rahkmawati, N. A. (2024). Assessment of halal blockchain in the Indonesian food industry. *Journal of Islamic Marketing*.

[21] Syahlani, S. P., Triatmojo, A., & Dewi, N. M. A. K. (2024). The Influence of certification on perceived product quality of livestock food products. In *IOP Conference Series: Earth and Environmental Science* (Vol. 1292, No. 1, p. 012026). IOP Publishing.

[22] Fiandari, Y. R., & Andharini, S. N. (2024). Uncovering The Importance Of Halal Toiletries: Determinant Factors Contributing Halal Toiletries' Purchase Intention. *Asian Journal of Management Analytics*, *3*(2), 329-344.

[23] Biju, A. K. V. N., Thomas, A. S., & Thasneem, J. (2024). Examining the research taxonomy of artificial intelligence, deep learning & machine learning in the financial sphere—a bibliometric analysis. *Quality & Quantity*, *58*(1), 849-878.

[24] Kasowaki, L., & Adler, K. (2024). AI-Driven Insights: Transforming Big Data into Actionable Intelligence (No. 11890). EasyChair.

[25] Ara, A., Maraj, M. A. A., Rahman, M. A., & Bari, M. H. (2024). The Impact Of Machine Learning On Prescriptive Analytics For Optimized Business Decision-Making. *International Journal of Management Information Systems and Data Science*, *1*(1), 7-18.