

## **A FRAMEWORK BASED ON ARTIFICIAL INTELLIGENCE FOR THE CREATION OF A MODERN BRAND MARKETING MANAGEMENT MODE**

**Swapna Datta Khan**

Associate Professor, Globsyn Business School, Kolkata.

Email ID: [captsdk@gmail.com](mailto:captsdk@gmail.com)

**Pradeep Kumar Sharma**

Assistant Professor, Department of Computer Science and Engineering, GL Bajaj Group of Institutions, Mathura.

**Dr.N.K Anushkannan**

Associate Professor & Head, Department of ECE, Kathir College of Engineering, Coimbatore. Tamilnadu, India. 641062

**Dr.S.Kiruba**

Department of Physics, St.Joseph's College of Engineering, Chennai-119.  
[kirubas@stjosephs.ac.in](mailto:kirubas@stjosephs.ac.in)

**Dr R Sujatha**

Assistant Professor, Department of Computer science, PSG college of Arts & Science, Coimbatore-14, Email ID: [sujatha@psgcas.ac.in](mailto:sujatha@psgcas.ac.in)

**Mrs. Nilima Das**

Assistant Professor, Department of Business Administration, Trident Academy of Creative Technology, Bhubaneswar, Odisha.

### **Abstract**

As a direct consequence of the continuous progress that has been made in society, the use of technology that makes use of artificial intelligence has become both more advanced and more ubiquitous. As a direct consequence of this, brand marketing has entered the age of artificial intelligence, which is a novel idea and way of thinking that plays a key role in the industry as a whole. In light of the aforementioned context, it is of the utmost importance to explore the relevance of artificial intelligence in brand marketing management and specific implementation strategies. Through the utilisation of technologies that are powered by artificial intelligence, we are able to realise the exact capturing of customer demand, the accurate depiction of consumer groups, and the high quality of brand marketing. The foundation of strategic brand management is a brand management approach that is centred on the value of the brand. With the assistance of the brand management system, every piece of content produced by the organisation is included and put to use in order to steer all of the business activities. To consistently increase the value of the brand and to support the long-term expansion of both the brand and the business, the company makes the required adjustments to both the brand strategy and the brand framework that it employs. We provide a concise

explanation of a variety of brand marketing management modes and management countermeasures that are widely used by modern companies in order to increase the efficiency of enterprise brand marketing promotion and promote the long-term development of firms. This was done in order to encourage businesses to expand over the course of a longer period of time. In addition to this, we go through problems that arise in the administration of contemporary company brands and offer optimisation solutions.

**Keywords:** Artificial Intelligence, Machine Learning, Knowledge Management, Marketing Management.

## 1. Introduction

The ideas, techniques, tools, and software that are used in human intellect are imitated, expanded upon, and extended with the help of a new technical discipline known as artificial intelligence (AI). The development of AI has made it possible for companies to continually adapt their marketing tactics based on the data they collect, which enables them to seize big commercial opportunities and provide value. The whole field of marketing has been through a sea change over the course of the last few years as a result of the introduction of cutting-edge technology such as artificial intelligence and big data. In this age of information, data is considered to be the new type of energy, and "big data" is becoming an increasingly important topic in the study of artificial intelligence. With the advent of the Internet era and the rapid development of information technology and big data, artificial intelligence (AI), which promotes the renewal of science and technology in the industry and has significantly influenced the change in people's lifestyles as well as the innovation of business models, came into existence. AI is credited with having a positive impact on all of these areas. The term "artificial intelligence," which has seen a recent surge in popularity, refers to a wide spectrum of research that examines ways to imitate human cognition and behaviour in order to produce intelligent commodities that can behave in a manner that is similar to that of simulated people. Products that are powered by artificial intelligence, such as smartphones and intelligent robots, make life simpler and provide a stimulating new take on the user experience [1].

The use of artificial intelligence to the analysis of user data, an awareness of the value of user scenarios, changes in human-computer interaction scenarios, and insights into behavioural patterns are all things that have the potential to disrupt traditional ways of thinking about marketing and modify marketing strategy. There are many different application scenarios for artificial intelligence and marketing, originating from the media, companies, and internet activities at various phases and using many different sorts of analysis. Apply the findings of various data analyses to a variety of situations by fusing artificial intelligence with marketing.

As artificial intelligence quickly becomes more prevalent in marketing, the company is simultaneously confronted with three obstacles, which include the difficulty of thinking, business issues, and data challenges. For instance, adopting information technology may help with the quantification and semantics of firm data management as well as the depiction of user portraits. These are just two of the many ways that business challenges can be overcome by using IT. In order to get ready for the subsequent automated operation and continuously bring new value and business opportunities to the brand by fusing technology and creativity around the pain points of the brand, the marketing team will promote the data business process, and the quantified user portrait will be directly used for customer analysis and positioning from a

business perspective. This will allow the marketing team to get ready for the subsequent automated operation and bring in new value and business opportunities continuously [2].

The company determines its mission and its goals for future growth by taking into account both the internal conditions it faces and the external environment it operates in. For the purpose of ensuring that the goals of strategic planning and decision-making are met, the successful implementation of corporate decisions is contingent on dynamic management throughout the implementation phase. The enterprise strategy serves as the compass that directs all corporate operations, and the primary focus of all management activities is on formulating and putting the plan into effect. The formulation and execution of strategy is comprised of three important components: the analysis of changes in the organisation's external environment, the evaluation of the enterprise's internal circumstances, and the development of the strategic objectives of the enterprise based on this; the dynamic balancing of these three; and the three components individually. As a consequence of this, the aim of strategic management is to plan, carry out, and communicate that management in order to achieve the strategic goals of the business and maintain this dynamic balance [3].

On the other hand, the purpose of the research was to investigate the general competitiveness of corporate brands. It was able to fully recognise the opportunity that India's economy's rapid development has presented to businesses as a result of using this essential indicator, and it also revealed that India has made a significant advancement in the development of brand awareness and the building of brand capability from nothing to excellence, which is unprecedented for India. These two accomplishments are both firsts for India. As a result, improving the brand assessment of Indian vehicle firms is historically highly significant. The research presented in "Strategic Brand Management and Control" starts with an examination of the development of brands; it then investigates and evaluates the many ways in which companies may improve their fundamental levels of competitiveness; and last, it makes use of a wide range of brand attributes to get an understanding of what a brand represents [4].

A company requires an effective management plan for developing, expanding, refining, and rebranding its brand in order to be successful throughout the course of its whole existence. Companies should implement these basic processes for brand development without wavering in order to accomplish actual strategic brand management and operation. These procedures are the requirements for the establishment of a brand, thus it is crucial that companies adhere to them. Domestic literature on brand strategy analysis served as the impetus for the study that is presented in this article. It is my goal that this research will compensate for the existing dearth of domestic research. Even though domestic scholars have conducted a substantial amount of research on brand strategy, this research is not exhaustive. This is especially true for domestic brand strategy research literature, which is extremely limited [5].

## 2. Review Of Literature

The continuous development of the times and the application of artificial intelligence technology are more mature and common; as a new concept and way of thinking artificial intelligence technology plays an important role in brand marketing, brand marketing artificial intelligence era has truly arrived. Based on such a background, it is necessary to explore the value of artificial intelligence in brand marketing management and specific implementation strategies. With the help of artificial intelligence technology, we can realize the accurate

capture of consumer demand, the accurate portrayal of consumer groups, and the high quality of brand marketing [6]. The essence of strategic brand management is a brand management system based on brand value. With the help of the brand management system, all the company's contents are integrated and used to guide all the company's business actions. At the same time, the company's brand plan and framework are properly adjusted to constantly improve the brand's own value and promote the sustainable development of the brand and the company [7].

In this paper, we briefly explain and analyse several brand marketing management modes and management countermeasures commonly used by modern enterprises and discuss the problems and optimization countermeasures in modern enterprise brand marketing management, hoping to enlighten the enhancement of enterprise brand marketing promotion effect and promote the sustainable development of enterprises. Coverage of the components of brand management contributes to improved coherence and understanding of deeper brand awareness, hence increasing the fundamental nature of branding [8]. These features include how to build up a corporate brand management control system, how to scientifically manage each brand asset, how to optimise brand portfolio strategies, and how to innovate on mature brands. The study that was done for the article "Brand Management" was based on the actual conditions of company growth. It used the enterprise practises to draw nutrients for the research, and it came to the crucial conclusion that brand management and enterprise development are inextricably linked. When seen through the lens of enterprise brand management, company creation, administration, and brand management are each given a comprehensive analysis and explanation [9].

This study examines the effect of big data powered artificial intelligence on customer knowledge creation, user knowledge creation and external market knowledge creation to better understand its impact on B2B marketing rational decision making to influence firm performance. The theoretical model is grounded in Knowledge Management Theory (KMT) and the primary data was collected from B2B companies functioning in the Indian mining industry. Findings point out that big data powered artificial intelligence and the path customer knowledge creation is significant. Secondly, big data powered artificial intelligence and the path user knowledge creation is significant. Thirdly, big data powered artificial intelligence and the path external market knowledge creation is significant. It was observed that customer knowledge creation, user knowledge creation and external market knowledge creation have significant effect on the B2B marketing-rational decision making. Finally, the path B2B marketing rational decision making has a significant effect on firm performance.

Artificial Intelligence is the computer industry that focuses on devising and developing computer systems that replicate features of human activities to indicate levelled rudimentary brainpower. On the other hand, marketing can be defined as a management process involving delivering goods and services to customers. It is founded on business strategy from the perspective of client needs and satisfaction as a philosophy. Artificial intelligence is an intersection point among disciplines such as computer science, cognitive science, philosophy, neuroscience, linguistically, and engineering scientists, aiming at replicating intelligence comprising of factors that supports reasoning, knowledge acquisition, and response to environmental changes. Artificial intelligence is usually applied to special-purpose machines or computers [10].

### **3. The Management of Brand Marketing in the Contemporary Era**

#### **❖ The Marketing Management Structure Logical Model.**

The cornerstone for modern marketing management principles is found in current market management systems. Components of modern marketing management are tied to the various aspects of the framework, which comprises these parts. Beginning with human functional behaviours such as consumer, organisational, and adaptive behaviour, this collection of qualities develops narratives depending on the organization's goal structure, business processes, marketing relationships, and other aspects. These tales are constructed by beginning with human functional behaviours. It encompasses the essential elements of human production, commerce, consumption, and social relationships, exactly like resource allocation, supply, expenditure, and other similar concepts. The management of modern markets is an expansive strategic socialisation movement that involves a diverse array of players and places a priority, both historically and practically, on the substance of its discussions. As a direct consequence of this, standard operating procedures cannot be used in order to investigate or explain their governance structures.

On the other hand, structural science and systems science may be able to provide an explanation in light of the facts and reality of their existence. The content of the present marketing management system shows a clear combination of the three interdependent and interdependent components that make up marketing core elements, marketing organisation core elements, and market environment computer peripherals. The market is developed by analysing the demographics of the client base. The logical structure pertains to the prospective market, the efficient market, the target market, and the end consumer market for other goods or services in line with consumer need. This includes potential demand that is indicated by the sort of usage and the amount of circulation. When it comes to controlling production, adjusting to market conditions, and turning a profit, marketing companies often rely on their operations, commodities, and services. Enterprise-level management, enterprise-level management, and product-level management are the organisational functional levels. It is illustrated there in Figure 1.

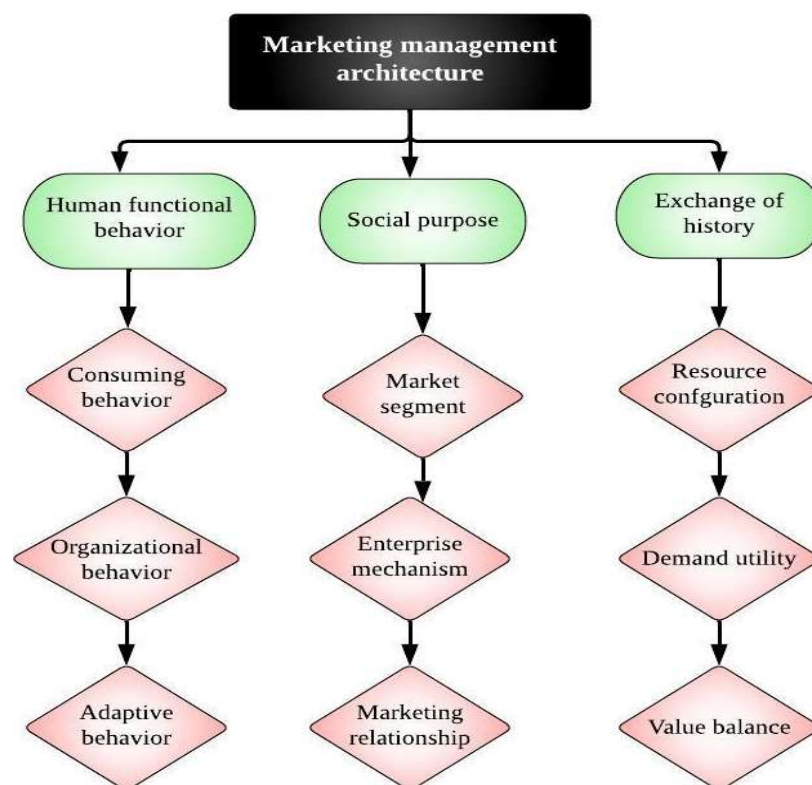


Figure 1: Logical model of marketing management architecture.

#### ❖ Current Situation of Enterprise Research

##### ➤ *The Company's Market Competition Strategy:*

The market is now understood, if only partially, by the private industrial corporations. In order to get a comprehensive understanding of the market, it is necessary to broaden one's product knowledge to include not just commodities but also quality problems, items, brands, services, and so on. To make a meaningful contribution to the national economy and, more specifically, to thrive and expand in the face of intense competition from big enterprises, businesses need to have a comprehensive understanding of their respective markets. It is believed that the problems the firm is having with distribution may be remedied by picking the most qualified sales and marketing professionals. This, however, results in a disconnect between marketing and production, as well as between purchasing and logistics. These days, management, business operations, and mainstream competition get less attention from private industrial companies than they do marketing and packaging. There is no market competition strategy, and price wars often place a higher priority on short-term aims than long-term ones. The techniques of market competition are also diverse from one another.

##### ➤ *The Construction of Marketing Channels of Enterprises:*

A marketing channel is a collection of linked companies that allows for the seamless distribution of products and services to consumers as well as other users who take part in market exchanges. This makes it feasible for customers to participate in market exchanges. Distribution channels provide value for their end consumers by ensuring that their constituents act in concert with one another. In addition to traditional horizontal channels, an increasing number of multichannel marketing solutions are beginning to make their presence known. Channel members are also aware of the importance of the resources provided by the channel,

and as a result, they are striving to exercise a greater degree of influence over the conduct of other channel participants by using a variety of tactics, such as channel adjustment and channel smoothing. Participants in the marketing channel comprise "typically manufacturers, wholesalers, agents, retailers, subsidiaries, and end users, consumers." In addition, some distribution businesses are also participants in the marketing channel. Each node in the channel system may be viewed of as both the customer of the node that came before it and the supplier for the node that will come after it. Throughout the entirety of the full channel process, supply and demand are intricately intertwined. As a consequence of this, companies often face channel blockage and large channel conflicts due to the fact that they pay little attention to channel growth, the essential links in their supply chain, or the requirements of market customers.

❖ ***Strategic Management Process Theory:***

The use of the strategic management process by companies as a method to boost their strategic competitiveness and raise their overall profitability is an example of an intelligent business strategy. During this dynamic management process, the three linkages of strategic analysis, strategic selection and assessment, and strategic execution and control are interconnected, practised, and refined. The first step in the strategic management process is an in-depth examination, from both an internal and external perspective, of the context in which the company operates. Examining the external environment for both the dangers and opportunities it poses to the development of the company is necessary in order to both take advantage of the chances afforded by the external environment and protect the company from the hazards and other unfavourable components. The purpose of the research of the internal environment is to determine the capabilities and limitations of the business, with the end objective of formulating and carrying out strategies that make optimal use of the company's assets while minimising its drawbacks. The second phase of the strategic management process is called the selection of strategy, and its purpose is to explore, establish, and choose a strategy for the organisation. Because of limited resources and capabilities, firms are unable to explore all of the feasible growth opportunities available to them. Through the application of strategic selection, businesses may make use of their resources and competencies to adapt to changes in the external environment, thereby gaining a competitive advantage that is more sustainable than that of their rivals. Internal advantages and disadvantages, in addition to external opportunities and challenges, are what set the boundaries for what constitutes a viable strategic choice for a given organisation.

The third phase of the process of strategic management consists of the strategy's actual implementation as well as its control. After drafting the strategic plan, the company is obligated to devise detailed plans of action in order to realise the strategic objectives. Developing functional strategies, such as specific production, research and development, and sales strategies; building the enterprise's organisational structure; and creating an environment that is conducive to the implementation of the enterprise strategy are the elements that, in general, can be used to promote the implementation of the strategy. In the event that there is a specific disparity, it is essential to provide efficacy in the form of competition and generate excessive earnings. In order to effectively manage the implementation, compare the feedback to the actual results as well as the strategic objectives that were first stated. During this dynamic management process, the three linkages of strategic analysis, strategic selection and assessment, and strategic execution and control are interconnected, practised, and refined. The

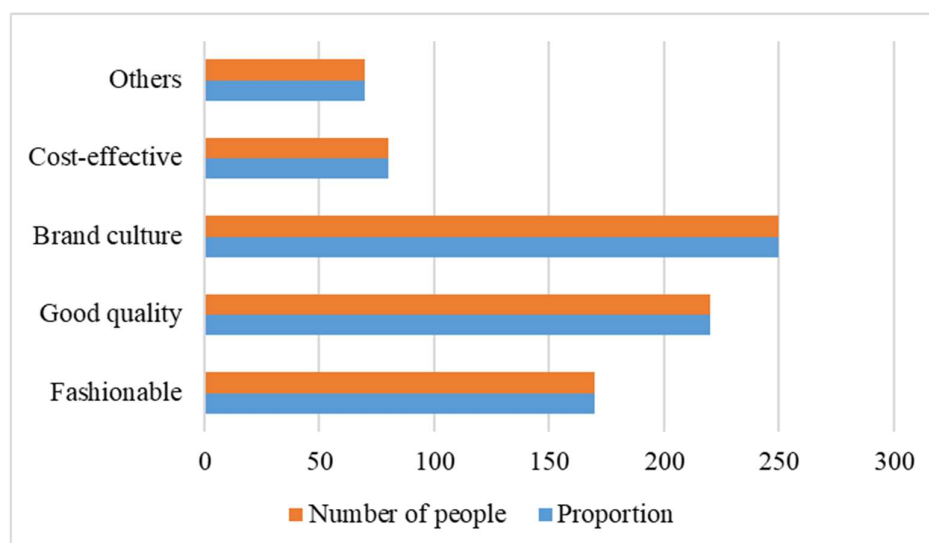
first step in the strategic management process is an in-depth examination, from both an internal and external perspective, of the context in which the company operates. Examining the external environment for both the dangers and opportunities it poses to the development of the company is necessary in order to both take advantage of the chances afforded by the external environment and protect the company from the hazards and other unfavourable components. The purpose of the research of the internal environment is to determine the capabilities and limitations of the business, with the end objective of formulating and carrying out strategies that make optimal use of the company's assets while minimising its drawbacks. The second phase of the strategic management process is called the selection of strategy, and its purpose is to explore, establish, and choose a strategy for the organisation. Because of limited resources and capabilities, firms are unable to explore all of the feasible growth opportunities available to them.

#### 4. Research Methodology

This section presents the outline for the research that will be conducted for this project. According to the data in Table 1, the primary factor that differentiates various brands in terms of their level of competitive advantage is the degree to which their styles are distinctive from one another. In particular, 150 individuals are responsible for 19% of quality problems, while 790 people are responsible for 26% of quality issues. There are a total of 790 respondents, which is equivalent to 35% of the population, and there are 95 respondents who are cost-effective, which is equivalent to 116% of the population.

	Proportion	Number of people
Fashionable	170	170
Good quality	220	220
Brand culture	250	250
Cost-effective	80	80
Others	70	70

**Table 1: Marketing benefits of various brands in the marketplace**



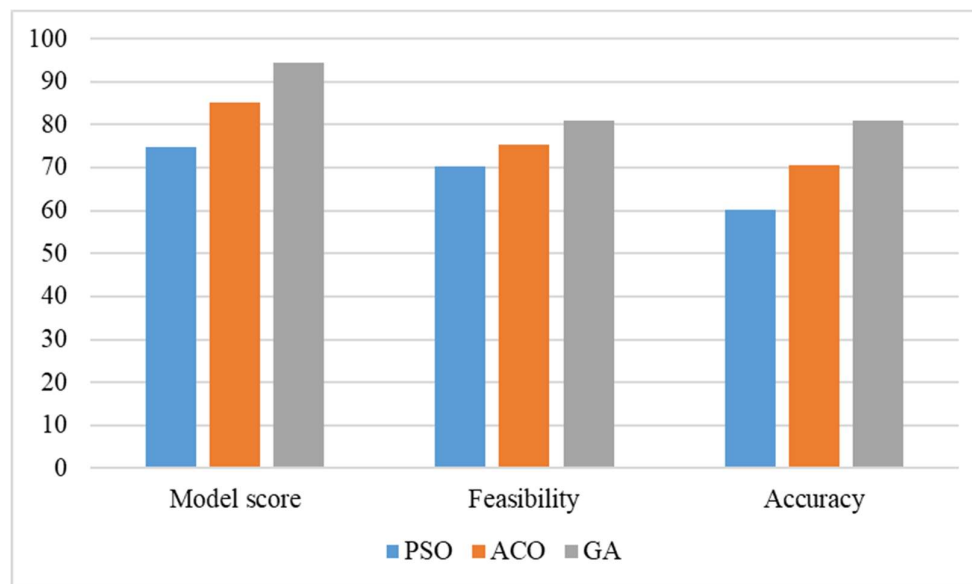
**Figure 2: Marketing benefits of various brands in the marketplace**



Table 2 shows that the GA genetic algorithm has an accuracy of 80.46%, a feasibility of 90.29%, and an average score of 92.43%. These figures were derived from the data shown in the table. The ACO ant colony algorithm achieves an average score of 85.18%, with an accuracy of 68.45 percent and a feasibility of 75.4 percent. An accuracy of 74.93%, a feasibility of 70.23%, and an average score of 72.12% are all characteristics of the PSO bird flock algorithm. The different performances of the genetic algorithm (GA) are the most exact and trustworthy when compared to those of the other three still-intelligent algorithm models.

Algorithms	PSO	ACO	GA
Model score	74.93	85.23	94.45
Feasibility	70.23	75.45	80.98
Accuracy	60.34	70.56	80.87

**Table 2: A comparison of how well different artificial intelligence systems performed**



**Figure 3: A comparison of how well different artificial intelligence systems performed**

#### ❖ Sample selection

We carried up an online survey and used the results to analyse data from the mining and mineral processing sectors in India. This directory lists all of the mines, quarries, and processing facilities that are currently in operation in India. The 25th updated version was made available in January of 2023, at which point Warp PLS began to take it into consideration. Methods such as gamma-exponential analysis and inverse square root are used in the process of determining the smallest possible sample sizes required. The research titled "statistical power and minimum sample size requirements" found that the gamma-exponential technique asks for 790 samples, whereas the inverse square root approach calls for 820 samples. However, the research team decided to go with the number that was obtained by using the method of inverse square root, and then they proceeded to send requests for online surveys to the executives of each of the selected companies. The third portion of the survey yielded a total of 655 requests when it was complete.

#### ❖ *GA Genetic Algorithm.*

A genetic algorithm, sometimes known as a GA, is a method for finding the optimal solution by simulating the natural process of evolution. It is a model of biological evolution that was created on a computer that simulates the natural selection and genetic processes that Darwin postulated as being responsible for biological evolution. Combining the GA genetic intelligence algorithm with cognitive waveform technology results in the creation of a model for the GA genetic intelligence algorithm that is based on adaptive waveform optimisation. This chapter devotes much time and effort to dissecting and analysing the theory behind neural networks as well as the backpropagation technique. The evolutionary algorithm for artificial intelligence is then applied to a cognitive transmission system, and a suggestion is made about the adaptive parameter learning approach that it employs. The input training data for the neural network are the bit error rate and the signal-to-noise ratio (SNR), and the output training data is the pulse width T. The sample data set is gathered using the adaptive waveform system that was constructed. A simulation using MATLAB code employing an adaptive waveform parameter and environmental parameter learning model is used to examine the performance of the produced model in terms of its ability to make accurate predictions.

In the meanwhile, an error analysis of the prediction model is being carried out, and research into the effect of sample size on the precision of predictions is being carried out. The findings of the simulation illustrate the significant potential for accurate forecasting possessed by the GA genetic intelligence algorithm model that was suggested. When contrasted with the adaptive waveform method, the bit error rate prediction curve that is derived from the GA genetic intelligence algorithm possesses a superior convergence effect and significantly reduces the amount of system code that must be implemented. It is possible that it will make cognitive communication between humans and machines more intelligent and effective.

$$Pg(z) = \frac{1}{\sigma\sqrt{2\pi}} \exp \left[ -\frac{(z-u)^2}{2\sigma^2} \right]$$

It is claimed that a noise signal has a lognormal distribution if the logarithm of the probability density function has a normal distribution. According to a review of a number of academic publications, the probability density curve of the ground clutter in the measurement and control system fits the logarithmic state distribution when the high resolution radar observes the ground or when the observation angle is small. This means that the ground clutter interference of the measurement and control communication system can be replaced with lognormal noise.

#### **4. Results & Discussion**

A two-factor analysis of variance with measurement repetition was performed to test whether there was

A significant difference between the groups of the first factor " PSO, ACO and GA " (repeated measures) with respect to the dependent variable.

A significant difference between the groups of the second factor Algorithms in relation to the dependent variable.

There is an interaction between the two factors " PSO, ACO and GA " and Algorithms in relation to the dependent variable.

The two-factor analysis of variance with repeated measures showed that there is

Significant difference between the groups of the first factor " PSO, ACO and GA " in relation to the dependent variable,  $p=aN$ ,

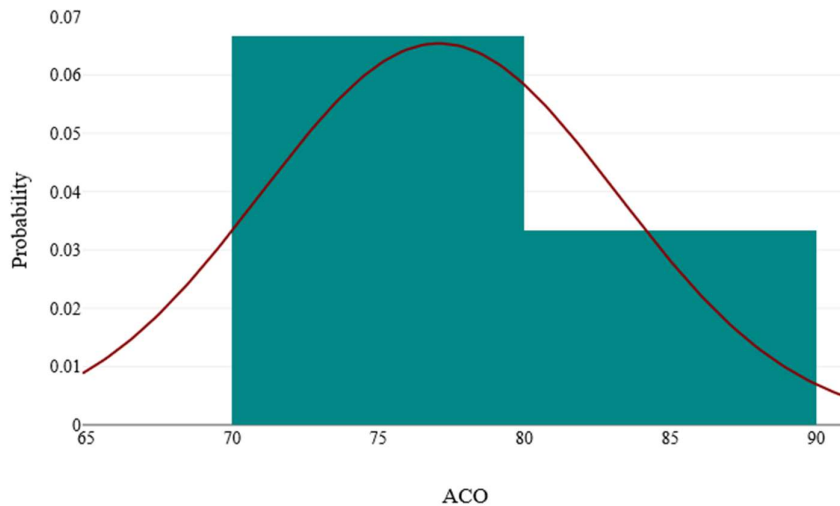
Significant difference between the groups of the first factor Algorithms in relation to the dependent variable,  $p=aN$ ,

Interaction between the two variables Algorithms and " PSO, ACO and GA " in relation to the dependent variable,  $p=aN$ .

**Table 3: Tests for normal distribution of ACO**

	Statistics	p
<b>Kolmogorov-Smirnov</b>	0.25	.969
<b>Kolmogorov-Smirnov (Lilliefors Corr.)</b>	0.25	.256
<b>Shapiro-Wilk</b>	NaN	aN
<b>Anderson-Darling</b>	0.34	.487

**Figure 4: Histogram**



Logistic regression analysis was performed to examine the influence of PSO, ACO and GA on variable Algorithms to predict the value "Model score". Logistic regression analysis shows that the model as a whole is not significant ( $\text{Chi}^2(2) = 3.82$ ,  $p = .148$ ,  $n = 3$ ).

The coefficient of the variable PSO is  $b = -2.57$ , which is negative. This means that an increase in PSO is associated with a decrease in the probability that the dependent variable is "Model score". However, the p-value of .999 indicates that this influence is not statistically significant. The odds Ratio of 0.08 indicates that one unit increase of the variable PSO will increase the odds that the dependent variable is "Model score" by 0.08 times.

The coefficient of the variable ACO is  $b = 5.2$ , which is positive. This means that an increase in ACO is associated with an increase in the probability that the dependent variable is "Model score". However, the p-value of .998 indicates that this influence is not statistically significant. The odds Ratio of 181.71 indicates that one unit increase of the variable ACO will increase the odds that the dependent variable is "Model score" by 181.71 times.

The coefficient of the variable GA is  $b = 4.5$ , which is This means that an increase in GA is associated with in the probability that the dependent variable is "Model score". p-value of indicates that this influence is statistically significant. The odds Ratio of indicates that one unit increase of the variable GA will increase the odds that the dependent variable is "Model score" by times.

**Table 4: Hypothesis**

Null hypothesis	Alternative hypothesis
There is no significant difference between the groups of the first factor PSO, ACO and GA (measurement repetition) in relation to the dependent variable.	There is a significant difference between the groups of the first factor PSO, ACO and GA (measurement repetition) in relation to the dependent variable.
There is no significant difference between the groups of the second factor Algorithms in relation to the dependent variable.	There is a significant difference between the groups of the second factor Algorithms in relation to the dependent variable.
There is no interaction effect between the factor PSO, ACO and GA and Algorithms	There is a interaction effect between the factor PSO, ACO and GA and Algorithms

## 5. Conclusion

The rapid development of artificial intelligence in this era of the Internet has had a huge impact on the way people live their lives because of the implications of this change. The development of unique intelligent products that are in line with the needs of a market that is undergoing rapid change is necessary for companies if they want to satisfy clients with intelligent goods and services. A timely adjustment of marketing strategies is required, and the success of a marketing strategy may be guaranteed to play a vital role in the creation of business value. Nevertheless, any strategy or plan for marketing that is intended to give customers a sense of novelty is short-lived. This is especially true when employing the same promotional materials to target different types of customers. At this moment, it is necessary for companies to devise a game-changing and flexible response to the demand placed on them by customers, adopt marketing strategies that are more innovative, and achieve sustainable development in their operations. The foundation of strategic brand management is a brand management system that is founded on the core principles of the brand. Thanks to the brand management system, which enables us to integrate the content of the entire company and control the entire business while accurately matching the brand design and the reference structure of the company with the company's own value, the brand can continue to develop and strengthen itself, and the

added value of the business can continue to increase in order to achieve sustainable development. This can be done to achieve the goal of sustainable development.

## 6. References

1. P. Norvig and S. Russell, "Artificial intelligence: a modern approach (all inclusive), 3/E," *Applied Mechanics & Materials*, vol. 263, no. 5, pp. 2829–2833, 2005.
2. M. Negnevitsky, "Artificial intelligence: a guide to intelligent systems," *Information & Computing Sciences*, vol. 48, no. 48, pp. 284–300, 2005.
3. P. R. Cohen, "Empirical methods for artificial intelligence," *IEEE Intelligent Systems*, vol. 11, no. 6, p. 88, 2016.
4. I. A. Hardabkhadze, "Analysis of the key influence factors on brand of higher education organizations. Feature of the fashion industry," *Journal of Marketing*, , vol. 4, no. 1, pp. 1–12, 2013.
5. F. Vlckner, H. Sattler, and T. Hennig-Thurau, "The role of parent brand quality for service brand extension success," *Social Science Electronic Publishing*, vol. 13, no. 4, pp. 379–396, 2010.
6. Ameen, N., Tarhini, A., Reppel, A., & Anand, A. (2021). Customer experiences in the age of artificial intelligence. *Computers in Human Behavior*, 114, 106548.
7. Bala, M., & Verma, D. (2018). A critical review of digital marketing. M. Bala, D. Verma (2018). A Critical Review of Digital Marketing. *International Journal of Management, IT & Engineering*, 8(10), 321-339.
8. Lison, P. (2015). An introduction to machine learning. Language Technology Group (LTG), 1(35). Liu, X. (2020). Analyzing the impact of user-generated content on B2B Firms' stock performance: Big data analysis with machine learning methods. *Industrial Marketing Management*. <https://doi.org/10.1016/j.indmarman.2019.02.021>.
9. Liu, X., Singh, P. V., & Srinivasan, K. (2016). A structured analysis of unstructured big data by leveraging cloud computing. *Marketing Science*, 35(3), 363–388.
10. Martínez-Lopez, ' F. J., & Casillas, J. (2013). Artificial intelligence-based systems applied in industrial marketing: An historical overview, current and future insights. *Industrial Marketing Management*, 42(4), 489–495.