

Cognitive Virtue of Artificial Intelligence in Digital Marketing Services

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ABSTRACT

Cognitive Intelligence is studied among individuals' perception and the differences that they possess in human behavior. Artificial Intelligence has a major role in where the technologies and tools can interpret to explore the consumers' likes, dislikes, positive opinions, negative opinions, preferences, etc. The application of artificial intelligence (AI) in digital marketing has introduced a range of cognitive virtues that significantly enhance the effectiveness and efficiency of marketing strategies. Incorporating these cognitive virtues of AI into digital marketing strategies can lead to enhanced customer experiences, improved campaign effectiveness, and more informed decision-making. However, it's important to note that while AI can provide significant advantages, human oversight and creativity remain essential for ensuring ethical considerations, maintaining brand authenticity, and adapting to unforeseen situations. These cognitive virtues are qualities or capabilities exhibited by AI systems that contribute to improved decision-making, understanding, and problem-solving in the context of digital marketing. The applications of Artificial Intelligence Such as Machine Language, Neural Networks, Natural Language processing, big data, etc., obliges the cognitive analysis on Consumer Behaviour.

Keywords: artificial intelligence, customers, digital marketing, machine language, natural language processing



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INTRODUCTION

Artificial Intelligence has become a robust technology for the efficient performing of complex tasks with the pragmatic works of machine learning, neural networks, cognitive computing, deep learning, Natural Language Processing (NLP), big data, etc. Market Analysis Report of Grand View Research says that AI is projected to grow at a CAGR of 37.3% from 2023 to 2030. Artificial Intelligence is purveying its functions in multiple streams and most importantly its benefaction in marketing is prodigious. Also, Artificial Intelligence is to be expected to swap the marketing strategies, customer service, and even customer behaviour from their experience [1]. The acquisition of smartphones, digital devices, the internet, and various software has made the viability of marketing commuted into the digital era. The Launch of Digital Marketing in 1990 is now helping the business and corporate environment to utilize various channels to reach customers effectively. The functions like Search Engine Optimization, Search Engine Marketing, Social Media

Optimization, Content Marketing, Display advertisements, Email marketing, etc., are fetching recent developments in the current context of technology [2]. Artificial Intelligence interferes in crucial roles such as search engine marketing, online advertisements like Google ads, display advertisement, chatbot service, image and voice recognition, predictive analysis, sales prediction, etc., in the digital marketing processes [3-4]. Also, AI monitors the data from different sources such as social media platform, online reviews and feeds given by the Customers, and websites [5] which actually helps the Marketer to understand the Consumer perception and its functions draw a parallel with Marketing pursuit such as Personalization, Customization, Customer profiles, Branding and PR, Customer Service, etc that is expected to result in better market share, improving online sales strategies, better customer engagement and retention [6]. Artificial Intelligence has given a way to the digital marketing process in a way to analyze and understand consumer buying behaviour through

communication process especially chatbots [7] and it enhances the customer experiences that favour their buying behavior through service quality, building trust in the digital marketing platform. In today's digitally-driven world, staying ahead in the marketing game means embracing cutting-edge technologies. Artificial Intelligence (AI) is one such technology that is revolutionizing the way businesses approach digital marketing. With its ability to analyze vast amounts of data and perform complex tasks quickly and efficiently, AI is unleashing the power of cognitive virtue in the marketing landscape. By incorporating AI into their marketing strategies, businesses can gain valuable insights into consumer behavior, personalize customer experiences, and optimize their marketing efforts. AI-powered tools like chatbots, predictive analytics, and recommendation engines are enhancing customer engagement and driving conversions. But it's not just the big players who can benefit from AI. Small businesses can also harness the power of AI to level the playing field and compete with larger competitors. With AI, marketing campaigns become more targeted, messaging becomes more personalized, and customer interactions become more meaningful. In this article, we will explore how cognitive virtue, powered by AI, is transforming the digital marketing landscape. We'll delve into real-world examples of brands that have successfully implemented AI-powered strategies and discuss the potential challenges and opportunities that lie ahead. So, get ready to unlock the full potential of AI and take your digital marketing to new heights.

RESEARCH GAPS

The Research Gaps given below was identified from reviewing the various Research Articles where they have not exaggerated the discussions on the below mentioned concepts. This Study addresses the Significance of the identified Research gaps and provides eloquent Discussions.

1. Significance of Sentimental analysis in Digital Marketing Environment.
2. Challenges faced by Digital Marketing Services
3. Customer Delight on Psychometric Technological Support in Online User Experience.
4. Measurement of Customer Satisfaction on the Digital Marketing Services in various areas of Online Services.
5. Customer Relationship Management Strategies pertaining to Digital Marketing Effectiveness.

RESEARCH OBJECTIVES

The below given are the Research Objectives constructed for this study and the entire Study is done based on these objectives. It shows the importance of Digital Marketing Practices by keeping Customer Psychology as their priority for Customer Delight.

1. Discussion of Crucial aspects of Artificial Intelligence in Digital Marketing.
2. Identification of Technological attributes which enhances the Cognitive process of Artificial Intelligence.
3. Exploration of the Significance of Psychometric analysis on Customer Behaviour.
4. Emphasize of Theoretical Models to strengthen the reputation of Digital Marketing Services.

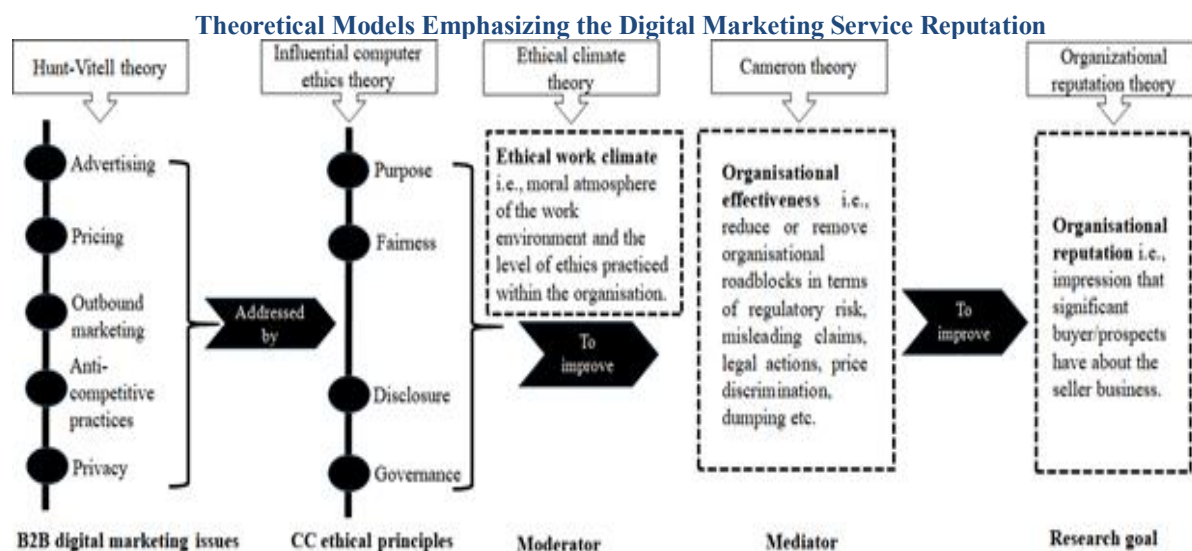


Figure.1: Theoretical framework (Source adapted from Bynum, 2011, Cameron, 1981, Gotsi and Wilson, 2001, Hunt and Vitell, 1986, Victor and Cullen, 1988)

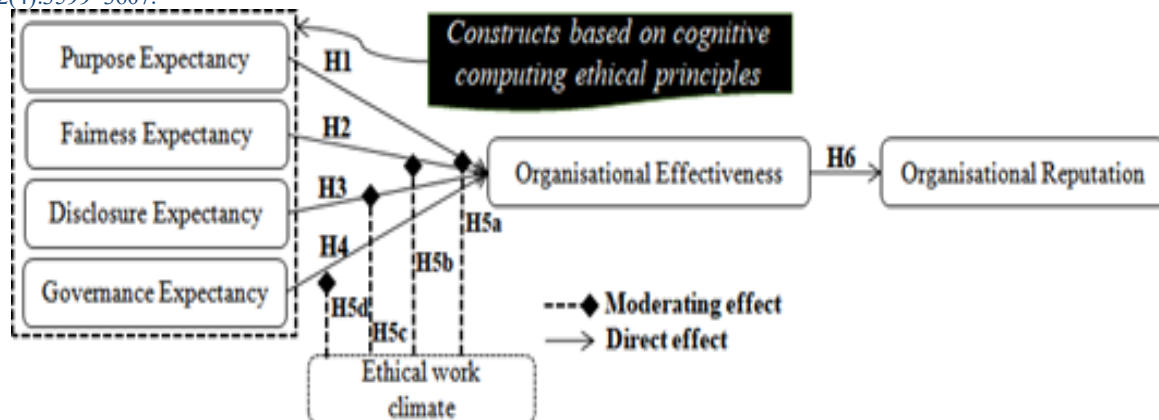


Figure. 2: Proposed conceptual model (Source adapted/referred from Zoble and Lehman, 1969; Austin et al., 1980; Wilson and Rappaport, 1974; Reidpath and Allotey, 2006; Victor and Cullen, 1988; Zinko et al., 2007; Mishra and Misra, 2017)

Table 1: Construct definition and source

Construct	Definition	Source/Reference
Organisational Effectiveness (OE)	It is defined as the degree to which roadblocks of B2B organisations are reduced or removed in terms of regulatory risk, misleading claims, legal actions, price discrimination, dumping, etc.	Mishra and Misra, 2017
Purpose Expectancy (PE)	It is defined as the degree to which the CC ethical principle named ‘Purpose’ is created to administer B2B digital marketing challenges such as advertising, pricing, and outbound marketing, etc. to influence OE.	Zoble and Lehman, 1969
Fairness Expectancy (FE)	It is defined as the degree to which the CC ethical principle named ‘Fairness’ treats B2B digital marketing challenges such as advertising and pricing etc. without favoritism or discrimination to influence OE.	Austin et al., 1980
Disclosure Expectancy (DE)	It is defined as the degree to which the CC ethical principle named ‘Disclosure’ discloses B2B digital marketing challenges such as advertising, pricing, outbound marketing, and privacy, etc. to influence OE.	Wilson and Rappaport, 1974
Governance Expectancy (GE)	It is defined as the degree to which the CC ethical principle named ‘Governance’ governs B2B digital marketing challenges such as advertising, pricing, outbound marketing, anticompetitive practices, and privacy, etc. to influence OE.	Reidpath and Allotey, 2006
Ethical Work Climate (EWC)	It refers to the moral atmosphere of the work environment and the level of practice of organisational ethics.	Victor and Cullen, 1988
Organisational Reputation (OR)	It is the subjective perception of individual buyers regarding the seller’s intangible resources reflecting organisational affective or emotional evaluation from social perception, including financial aspects, sustainability, media exposure, and public sensitivity at a point in time and overtime.	Zinko et al., 2007

REVIEW OF LITERATURE

1. Viability of Artificial Intelligence

Chen et al. (2016) [8] appraises on Artificial Intelligence as a powerful technology for personalization and Automated Services such as Customer Assistance, Virtual Assistance and other business solutions like forecasting, marketing decision making, data mining social networking etc. Also, Artificial Intelligence is viewed as a disruptor in the way of transforming the era of marketing. It is derived from human intelligence, and it is instilled to machines for multi-performance where it plays a crucial role in marketing tasks such as customer engagement using chatbots to analyse customer preferences and execution of CRM activities. Artificial Intelligence supports to building the strategy in marketing planning and promotes segmentation targeting and positioning [9]. The potentiality of Artificial Intelligence in Online advertising, digital marketing campaigns such as email,

social media, mobile marketing, and other user experiences transforms digital marketing into a market leader. Digital era has emerging scope and its prevalence in the consumer market irrespective of various sectors. It has a valuable influence over multidisciplinary areas [10]. AI applications not only facilitates the user interface, but also does significant tasks of digital marketing such as sales forecast, personalization services, customer categorization etc., which eventually builds trustworthy customer relationship [11]. One of its expertise is to create personalised experiences integrated to various activities involved in marketing pertaining to segmenting the customers and creating experiences such as application user interface, promotional campaigns and customer support using Natural Language Processing (NLP) and machine learning, etc [12]. Advanced way of Artificial Intelligence is it plays a significant role in smart technologies such as personal assistants, home devices

and other sectors. It is influencing the consumers to shift towards smart experiences especially in their decision making. Therefore the current marketing era focuses on rejuvenating the strategies for digital marketing which appreciates smart consumer moves [13].

2. Artificial Intelligence in Consumer Psychology

It emphasizes the importance of Artificial Intelligence and pertaining its identity of disruptive technologies [14]. The application of Artificial Intelligence in multiple scenarios like marketing and marketing mix components, strategy and planning that caters the cognitive needs of Consumers. Artificial Intelligence promotes the Customer experience especially the psychological aspects like sentimental analysis and builds better strategies for development. [15] Schepman proposed General Attitudes towards Artificial Intelligence Scale (GAAIS). The scale indicates the psychometric analysis of positive and negative perceptions about the Artificial Intelligence from the participants. Comfortability, Capability, and the combination of various opinions were identified. The integration of artificial intelligence in digital marketing brings a multitude of benefits to businesses. One of the key advantages is the ability to automate repetitive tasks, freeing up valuable time for marketers to focus on strategic initiatives. AI-powered chatbots, for instance, can handle customer inquiries and provide real-time support, reducing the need for manual intervention. This not only improves customer satisfaction but also allows businesses to provide round-the-clock support without increasing their workforce. Furthermore, AI enables marketers to make data-driven decisions with greater accuracy. By analyzing vast amounts of customer data, AI algorithms can uncover valuable insights that would be difficult for humans to identify. These insights can then be used to optimize marketing strategies, refine targeting, and improve campaign performance. This data-driven approach also minimizes the risk of making subjective or biased decisions, as AI processes information objectively and without human prejudice. It is important to monitor and follow up the attitudes of the end users about the Artificial Intelligence that helps in creation of useful impact for the society [16] identified that dynamic scenario of marketing transition towards Digital Marketing with the use of Artificial Intelligence. The Inception of Information Technology in the last decade inclined the way for data analytics, AI, Machine Learning, Digital Marketing. These strong suit tools have changed the lifestyle of the Society, Business and Trade. Digital Marketing with the great support of AI, it augments the Consumer behaviour, Predictive marketing using social media tools, lead generation, Chatbots for communication, Email Marketing, etc that empowers the Marketing World. The greatest advantage of AI in contributing to marketing sector or any other sector is to understand Consumers as an Individual with their preferences towards product and services in digital medium through netnography methods which will help the sectors to build the strategies in their business [17]. The

influence of Machine Learning is pondered with Artificial Intelligence, and it now highly emerges in cognitive analysis to build strategies in STP process and marketing mix. The taxonomy of ML and AI is applied to personalization, enhancing customer experience, customer service, pricing, and media optimization [18].

3. AI in Digital Marketing

Dumitriu & Popescu (2020) [19] the transition of Marketing is deviated towards Artificial Intelligence. The traditional method of marketing is becoming unsubstantial, and the increase of Digital marketing has advanced all the activities like personalization, customization to the websites. The Study has designed four step sequential model of Digital Marketing that highlights the importance of Keyword relevancy. The Artificial Intelligence based software would support the Digital marketing process like Search Engine Optimization which improves the Marketing Intelligence [20] shell outs the facts of Artificial Intelligence and Digital Marketing in a Banking Sector. Artificial intelligence, or AI, refers to the development of computer systems that can perform tasks that typically require human intelligence. In the realm of digital marketing, AI plays a crucial role in analyzing large volumes of data to identify patterns, trends, and insights that can inform marketing strategies. This ability to process and interpret data at a rapid pace allows marketers to make data-driven decisions and optimize their campaigns for maximum effectiveness. AI-powered algorithms can analyze customer behavior, preferences, and demographics, enabling marketers to create personalized experiences and targeted campaigns. This level of personalization goes beyond traditional segmentation techniques, as AI can identify individual preferences and tailor content accordingly. For example, an e-commerce website can use AI to recommend products based on a customer's browsing history, purchase behavior, and preferences. This not only enhances the customer experience but also increases the likelihood of conversion. Banking sector needs to adopt the protocols, systems and ethical practices pertaining to the integration of Artificial Intelligence application with Digital Marketing. AI supports in the activities like social media, e-mail, websites, and advertisement with the great support of Big data, robotic technology and Natural Language Processing that interacts with Customers. Thus AI in Digital Marketing results in retaining quality data, ethical process, enhancing customer experience, information delivery and human role in the Sector [21] analyses the impact of Artificial Intelligence on Digital Marketing. National Language Processing, Image, and Voice Recognition, Problem Solving and Reasoning are some of the identified advantages of AI towards digital marketing. The concept of cognition is being advent through Artificial Intelligence process even in the Small and Medium Enterprises to reduce the cost of human resources. Therefore, Companies must implement AI based technologies for marketing effectiveness to generate the revenue. It discusses on Influence of Artificial Intelligence towards Strategic

decision-making in the marketing process and its operation. AI supports the Companies to escalate the customer experience and customer relationship by predicting the customer preferences and finally they position the products accordingly. These operations implements digital marketing process like content personalization, Search Engine Optimization, etc., to provide marketing solutions. Profitability and Return on Investment can be grabbed with the AI technology to boost the Customer Relationship Management and as well as the efficient Marketing Management.

4. Machine Learning and Cognitive Intelligence

In the context of human Intelligence, Artificial Intelligence has the potential to perform cognitive functions such as perceiving, reasoning, learning, interacting, problem-solving, decision-making and demonstrating creativity [22] and Machine Learning models has the potential to simulate human being's cognitive abilities, and also interprets in applied linguistics that impacts the keyword search in the digital platform [23]. Machine Learning protocols are utilized in cognitive analytics with inputs and outputs based on Algorithms, which is highly focusing about Prediction [24]. While the benefits of adopting cognitive virtue in digital marketing are evident, there are challenges that businesses must overcome to fully leverage AI's power. One such challenge is the availability and quality of data. AI algorithms require large volumes of accurate and relevant data to make accurate predictions and recommendations. However, many businesses struggle with data silos, inconsistent data formats, and data quality issues. Overcoming these challenges requires a robust data management strategy and the implementation of data governance practices. Another challenge is the complexity of AI implementation. AI technologies can be complex and require specialized knowledge and skills to implement effectively. Many businesses may not have the necessary expertise in-house and may need to invest in training or external resources. Additionally, integrating AI into existing marketing systems and workflows can be challenging, requiring careful planning and coordination. Its application supports in understanding in language such as converting from audio, visual, speech, text and other sources of information and computes the conversion [25] as well as the integration of deep learning with machine learning that results in the effective process of data analysis [26]. It acts in facilitating Speech Emotion Recognition (SER), Speech Emotion Verification for a quality service for the users [27].

5. Neural Network in Cognitive Process

Artificial neural networks is an architecture designed in such a way as the human brain that enables to perform tasks as well as to group the information in different patterns [28]. Neural network technologies have the tendency to study the user perception in social media platform on a situation with reference to the verbal data that leads to the conclusion and decision-making [29]. Artificial neural networks perform tasks such as speech recognition, and image analysis and simultaneously the

updated trends of artificial neural networks are implemented in the area of artificial intelligence [30]. Emotional analysis is one of the differences between human beings and current intelligent machines. However, the discipline of emotion, psychology, cognitive science, and physiological and psychological processes, can be interpreted through artificial intelligence with the support of neural network algorithm. Neural network process supports cognitive functions that includes analytic thinking i.e., calculation, statistics, analysis, reasoning, abstraction, conceptual thinking etc., and its framework is designed to influence the way to solve cognitive problems as how humans interpret [31].

6. Natural Language Processing

As AI continues to advance, ethical considerations become increasingly important in the realm of digital marketing [32]. The use of AI raises concerns about privacy, data security, and transparency. Marketers need to ensure that they are using customer data responsibly and in compliance with applicable regulations such as the General Data Protection Regulation (GDPR). Transparency is also crucial, as customers should be informed about the use of AI and how their data is being utilized [33]. Ethical considerations also extend to the potential biases and discrimination that can be present in AI algorithms. AI algorithms are only as good as the data they are trained on, and if the data includes biases, the algorithms may perpetuate and amplify those biases [34]. Marketers need to be vigilant in identifying and mitigating biases in AI models, ensuring fair and equitable treatment for all customers. The future of cognitive virtue in digital marketing is promising, with several trends and advancements on the horizon. One such trend is the integration of AI with voice assistants and smart devices [35]. As voice search continues to rise in popularity, marketers will need to optimize their content for voice-based queries. AI-powered voice assistants can analyze user intent and provide personalized responses, opening up new opportunities for brands to engage with their audience. Another trend is the use of AI in augmented reality (AR) and virtual reality (VR) experiences. AI algorithms can analyze user behavior and preferences in real-time, enhancing the immersive experience and personalizing the content displayed [36]. This allows marketers to create highly engaging and interactive campaigns that captivate their target audience. To fully leverage the power of artificial intelligence in digital marketing, businesses can utilize a range of resources and tools. There are several AI platforms and software solutions available that enable marketers to easily implement

AI algorithms and analyze data [37]. These platforms often provide pre-trained models, data integration capabilities, and visualization tools to simplify the AI implementation process. Additionally, there are numerous online courses and educational resources available to help marketers learn about AI and its applications in digital marketing. These resources provide valuable insights into AI technologies, best

practices, and case studies, enabling marketers to stay informed and make informed decisions [38-40]. Digital Marketing supports both the push and pull strategy in promotional activities for example, retail sector where online promotion are adopting push strategy and customer adoption to the service is referred to pull strategy [41].

RESULT AND DISCUSSION

Data Collection involved conducting reviews among various literatures with relevant data. In this study, it seems to be focused on several aspects: Benefits of AI in Marketing, Barriers to Integration, AI Usage in Marketing Strategies, SMEs and AI Integration and Impact on Costs and Revenues. To use appropriate data analysis techniques, such as qualitative coding or statistical analysis, to support your findings [42-49]. Additionally, ensure that the analysis is rigorous and that your conclusions are well-supported by the data you collected. AI can handle large volumes of data and tasks at a much faster pace than humans. For instance, it can process and analyze a massive number of social networking posts in a matter of minutes, which would be impossible for a human to do in the same amount of time. By automating repetitive and time-consuming tasks, AI can significantly reduce operational costs. With AI handling routine tasks like data segmentation, behavioral analysis, and consumer journey tracking, marketers can dedicate more time and energy to creative and strategic activities, such as developing innovative marketing campaigns and making data-driven decisions. AI enables marketers to create highly personalized user experiences for customers without appearing intrusive. It can help boost sales by providing customized recommendations and insights that can guide marketing efforts. It can also analyze data to optimize marketing investment allocation [50-55]. AI can automate various marketing processes, making them more efficient and effective and allows organizations to rebuild personal relationships with their customers by providing tailored experiences and anticipating their needs. Data gathered and analyzed by AI provide valuable insights into both current and future customer needs, helping businesses stay competitive and responsive. This study is exploratory in nature, which aims to generate insights and hypotheses rather than providing definitive answers. Qualitative methods are often suitable for such studies as they allow for a deeper understanding of the subject matter. While qualitative methods may not be ideal for generalization, they are well-suited for understanding the reasons behind the results. This is a valid point, as qualitative research can provide valuable insights into the "why" and the context of the phenomena under investigation. The limitations of this study, which is essential for the reader to understand the scope and reliability of your results. It's important to remember that all research has limitations, and acknowledging them demonstrates the integrity of your study [56-64].

IMPLICATIONS

Social Implications

The discussions and findings of this study signify the value creation for Digital marketing services that can delight consumers and customers through proper implementation of AI applications and services. Digital marketing services with AI integration can reduce the disruptive technology and involve consumers and customers to introspect their needs and desires which eventually make them to have a strengthened interaction with technological tools.

Marketing Implications

Rejuvenation of marketing strategies for Digital marketing services by analysing the different perspectives of AI. Traditional marketing concepts are promoted in the online platform that doesn't lose its essence and it can be redesigned in the AI era where the services are delivered through digital marketing methods. This study has given importance to cognitive nature of consumers, customers and technologies with AI and digital marketing to cater to the marketers that can strengthen B2B marketing services.

Research Implications

This study has explored the complete qualitative and comprehensive discussions by reviewing the concepts of consumer psychology and the potential of technological services to delight the consumers in marketing activities. The examination on AI in consumer psychology and cognitive aspects are clearly discussed. The support of AI technology in digital marketing services is explored by showcasing the different important theoretical models. Further studies can develop on the consumer behaviour towards the digital marketing services such as Ad fatigue, transforming disruptive technology into sustainable marketing using technology by implementing quantitative research methods such as surveys, observations, tests and other secondary research evidences.

CONCLUSION

Artificial intelligence is revolutionizing the field of digital marketing, enabling businesses to optimize their strategies with unparalleled precision and efficiency. By harnessing the power of cognitive virtue, marketers can create personalized experiences, deliver targeted campaigns, and make data-driven decisions. However, the adoption of AI in digital marketing also comes with challenges and ethical considerations that need to be addressed. As AI continues to advance, businesses need to embrace the power of cognitive virtue and leverage the opportunities it presents. By staying informed, investing in the necessary resources and skills, and adopting ethical practices, marketers can unlock the true potential of artificial intelligence in driving successful marketing campaigns. The future of digital marketing is undoubtedly intertwined with the power of AI, and those who embrace it will be at the forefront of innovation and success.

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