

Enhancing digital marketing performance through usage intention of AI-powered websites

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Article Info

Article history:

Received Dec 23, 2020

Revised Aug 28, 2021

Accepted Sep 19, 2021

Keywords:

Artificial intelligence

Digital marketing

Perceived ease of use

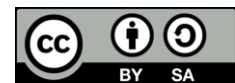
Perceived usefulness

Website interactivity

ABSTRACT

Digital and wireless technology are a crucial part of today's modern life. Artificial intelligence (AI) uses different technologies and systems for speech recognition, visual perception and decision making to mimic human functions. This study explores the impact of AI on website interactivity and the ease of use for enhancing digital marketing performance. The methodology used is qualitative with structured interviews, using three artificial intelligence-powered websites (Amazon, Alibaba, and Uber) as reference. The participants' structured interview responses were grouped into different thematic heading for coding and were subsequently analyzed by NVivo. The result found that artificial intelligence empowered websites were interactive, participants don't feel safe and secure, easy to use, and tend to boost digital marketing performances. This study implies that more digital marketing companies should consider integrating artificial intelligence capabilities in their business operations. More security features should be embedded to help customers calm the fears of web insecurities.

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1. INTRODUCTION

Technology is shaping business and customer lives at an advancing speed. For instance, imagine eye-recognition and face recognition software's, 3D and 4D apps including product testing and virtual tours of apartments and travel locations, and machine learning. In fact, artificial intelligence (AI) now impacts almost everything. Artificial intelligence mimics cognitive functions similar to humans and incorporates them into different technologies [1]. Digital marketing enables companies and marketers to persuade their customers to purchase products and services, using technology and the internet [2]. Artificial intelligence is an integration process between cloud computing, robots, network devices, digital content productions and computers. New technologies tend to make it possible to increase sales, reduce costs, grow, have a global reach, and interact constantly and more directly with customers [3]. Artificial intelligence holds an exceptional opportunity in the future of digital marketing. This implies that digital marketing activities would be driven by AI technologies in the future. These marketing activities will include many different sophisticated systems working together to help companies and organizations to boost its relationships with customers in both physical and virtual environments. AI technologies are based on automation and it can be seen in a broader sense as a physical substitution of human labor. This is because they are widely used in manufacturing and service industries [4]. In 2018, Siau and Wang [5] stated that the large volume of transactions and demographic data enables and strengthens AI, business analytics and machine learning. A

good example is that predictive analysis uses different algorithms and methods to predict the relationship between results and variables as this helps them to identify different data patterns. Digital marketing which is powered by AI and machine learning have now undertaking traditional marketing ways and strategies. In addition, buying procedures obtainable by customers in the past have also changed significantly from the traditional shopping methods to online shopping [6]. This is because AI tends to boost the performance of marketing activities in different ways that makes marketing easier and the possibility of reaching a wider audience/target market. In near future, AI may be used as a substitute to sales people; websites may be updated and reformatted automatically by eye-tracking data [7]. Recent changes and advancements in AI would also make the field of marketing to keep changing rapidly as more firms aims to incorporate AI technologies in their business operations. For instance, AI could be deployed to fast-track a seamless transaction and payment system, interact with customers, and provide specific updated information to users. AI also maintains a significant presence in supporting service innovation and customer retention [8]. It is evident that different AI technologies are evolving at an unprecedented rate, and companies that are already making the move in marketing through AI software's are at a distinct advantage to jump onto the next innovation [9].

It is worthy to note that artificial Intelligence is basically any activity that is employed to make machines more intelligent, able to think and function on their own. This intelligence enables an entity to function appropriately, enhanced with the power of AI foresight, and being able to predict certain outcomes/events happening in its environment [9]. AI is also conceived as computer systems with minds that are similar to human mind but cannot be identical in some aspects [10]. Some researches such as [11] proposes that AI refers to programs, systems, algorithms and machines that demonstrate intelligence. It is very clear from the literatures that the overall aim of including AI in digital marketing is to make business operations simpler and easier. In the technology acceptance model (TAM) model for instance, Ease of use refers to perceived ease of use (PEOU) and it was defined as "the degree to which a person believes that using a particular system would be free from effort". This means that technology must be easy to use in terms of interface and steps in performing a given task. The model contends that the two variables (PU and PEOU) significantly impact the intention-to-use (ITU) by the targeted users. Big data analysis forms the basis of advanced technological developments. It is being integrated into consumers' daily lives and used for analyzing what they do [12]. Thus, many computer programs and software's have been developed to aid the extraction of knowledge and insights from big data [13]. In 2018, Martin [14] argued that AI and digital marketing are starting to have a well-connected relationship. This is because AI offers the potentials to increase business revenues and decrease costs simultaneously. Revenue can be increased through improved marketing decisions on pricing, and promotions. while business costs may be reduced through the automation of simple tasks, customer service [15].

Furthermore, there are potential connections between artificial intelligence and digital marketing. Digital marketing is a branch of marketing science that creates value for organizations, and it can also increase customers' engagements through artificial intelligence. This is obvious as the digital era has helped many industries to monitor their procedures such as promotion, branding, advertising, production and a whole host of others [16]. Many companies tend to increase their revenues by optimizing their digital marketing campaigns, audiences, channels, market performances and even customers buying behaviour using AI [17]. According to Martin [14], AI and digital marketing has interconnected relationship. He argues that AI competence in gathering data, analyzing it, and implementing it to gain insight is one thing that helps digital marketing strategies keep evolving. AI takes input data such as data from websites, analytic reports, sales, social media insights, reports, and processes to produce effective, productive, and highly optimized results. In 2018, Davenport and Ronanki [18] argues that artificial intelligence is likely to influence marketing strategies, including business models, customer behaviour, sales purposes, and customer service options in the future. In their book, they used three simple illustrations to explain. Also, Paschen and Kietzmann [19] contended that the recent advances in artificial intelligence is being fueled by digitalization, information, and communication technologies. According to them, this will have some significant implications for businesses and specifically business-to-business (B2B) marketing. According to Agrawal and other researchers in 2018 [20], artificial intelligence could make it possible for online retailers to predict what customers will want through analytics, and if this is possible with higher accuracy, retailers may use AI to identify certain customers preferences and ship the items to them without placing a formal order but with an option of customers returning the one's that they don't need. This can be made possible especially using different computer algorithms. Algorithms is basically a collection of principles for executing tasks, and it shows machine how to solve an obstacle [21]. Also, many academicians and researchers anticipated that AI would probably change the face of marketing strategies and customer behaviour. According to Huang and Rust [22], it is manifested by machines that exhibit aspects of human intelligence. As for Syam and Sharma [23], it involves mimicking intelligent human behaviour. Some examples to consider here are artificial intelligence based on speech recognition, visual perception, and decision-making. AI can also be defined in

terms of its marketing and business applications, such as automating business processes, gaining insights from available data or engaging customers and employees [18]. Digital marketing's supreme purpose is concerned with consumers and allowing them to intermingle with the product by digital media [24]. According to [25], [26], digital marketing's core objective is to accomplish marketing objectives through the application of data collection, digital communications, and others.

Website interactivity on the other hand uses various functions to engage customers which sometimes requires visitors to click on categories, communicate, and help solve quizzes through the help of visual and audio content. The main aim of website interactivity is to involve customers to participate and interact positively through the web to enhance experience and satisfaction. This is very evident in many companies especially in the banking sector where customers can perform variety of transactions without their physical presence [27]. The customers can choose, modify, and design products to suit their needs [28]. They can also select size, zoom to have a clear view of a product, and scroll through categories. This helps achieve customer interest and enhance experience.

This aim of this study to investigate how artificial intelligence can be used to enhance digital marketing performances through AI-powered websites. Based on the research questions above, the TAM was used to understand artificial intelligence and its impact on website interactivity. It should be noted that the technology acceptance model is an information system that is used to explain how users accepts new technology, like and keep using it. This means that the more workers noticed that a particular technical system would make their task easier, the more they will likely embrace such system and keep using it. The model was propounded by [29]. According to the model, perceived usefulness (PU) is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance”. This means that people tend to use technology only if they perceive it to perform what they want it to do. Many researchers [30] have reported that perceived usefulness directly affect user’s intentions to adopt a new technology [31]. However, despite the general acceptance of the TAM model by many researchers, there are some limitations. The prominent one is that the behaviour of users is evaluated through subjective means known as behavioral intentions (BI). Also, human behaviour cannot be quantified in empirical investigations due to differences in cultures, norms and values of a particular society.

The model in Figure 1 proposes the impact of AI on website interactivity and perceived ease of use, and perceived usefulness to engage in intention to use. It depicts that the use of artificial intelligence can increase website interactivity, which in turns increases perceived ease of use and perceived usefulness. This leads to a greater intention to use the website which promotes digital marketing and customer engagement.

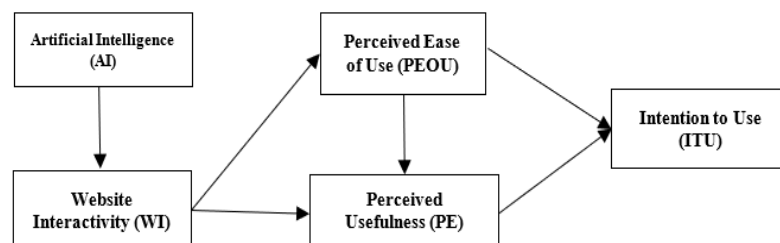


Figure 1. Conceptual model

2. MATERIAL AND METHODS

Based on the above model, this study uses primary qualitative research to investigate the impact of artificial intelligence on website interactivity and the ease of use for enhancing digital marketing performances. The study uses three companies that uses AI to enhance website interactivity (Amazon, Uber, and Alibaba) as a unique reference point for the investigation. Primary data are generated through the use of a structured telephonic interviews processed via computer using NVivo for the qualitative data analysis while secondary data are gathered in form of desktop literature reviews and scientific articles. The research was conducted with 20 qualitative interviews where participants were confronted with open-ended questions.

The interview respondents were selected using a convenience sampling method. The researcher engages the respondents critically via face-to-face meeting on social meeting app, Zoom. This method seems to make sense because the research was conducted in a middle of pandemic and the author could only conduct face-to-face interview with the participants that were close-by. The telephonic discussions and interviews were robust and it does not lower the quality or standard of the research. The results of the interviews were analyzed though a computerized statistical software's (NVivo) which allows the authors to

draw patterns, findings, and hidden information from the respondents. This is in line with previous empirical research works that has been conducted in this domain such as [7], [32], and [33]. They all used the structured interview method as bases for their methodology. For instance, [7] investigated the impacts of artificial intelligence in marketing: a perspectives of marketing professionals of Pakistan. The researcher used the qualitative research method which involved structured interviews with 10 different marketing professionals from different firms in Pakistan. Similarly, [32] investigated the impacts of artificial intelligence in customer service in the banking industry where 20 interviews were conducted.

2.1. Data collection

The data used in this study was collected from COMSATS University Islamabad students, Pakistan using telephonic structure interviews through convenience sampling. This is because the students were cooperative and well informed and were easy to access to provide information, hence matching the target population characteristics. Thus, data was collected from both local and international students alike. This comprises of mainly Ph.D. and master's student. The pre-requisite for choosing the participants for the structured interviews was that he/she must have an idea about artificial intelligence and the various ways by which it can be used to optimize websites thereby making it interactive. The 20 participants were from various disciplines and departments of the school.

The telephone interview method was used as a major instrumentation. To carry out the research findings, 24 interviews were initially scheduled of which 20 were duly completed. Due to some issues, some of the respondents were conspicuously absent and thus they could not make it. The interview was conducted by using three separate methods and these include face-to-face interview, telephonic interview via zoom, and a video interview in only one case. Also, a Google form that contains the interview questions and explanations of key terms was also sent out to each respondent before the actual interview. Having these varied options was very important for the respondents as the research was conducted in a pandemic time (COVID-19). Consequently, a total of 20 interviews were conducted and it was made up of both local and international students of COMSATS University Islamabad, Pakistan. For the interview, the researcher grouped the research variables into five categories with a different set of questions. These questions and statements were critical as it enabled the researcher to get insight into respondents' perspectives concerning each of the raised questions.

2.2. Interview protocols/questions

Firstly, the respondents were required to log-in to Amazon, Uber and Alibaba to do an overall check-up. Each respondent was asked to mimic a specific transaction scenario on the website to determine how effective and easy they are. The interview sessions were structured in nature. It should be noted that most of the interview questions were developed and modified from previous empirical works [7], [32], [33].

3. RESULTS AND DISCUSSION

To identify themes in the collected data, the transcripts were reviewed, and general themes were formulated from it. All the transcripts were read carefully before coding them into themes and categories. This helps to check the validity of the transcripts. The main reason for doing this was to eventually bring down the interview transcripts' content into similar sets and categories that can be analyzed to explain the impacts of artificial intelligence on website interactivity and ease of use for enhancing digital marketing performances. The entire process of coding resulted in 6 categories with various sub-themes under each given in Figure 2.

After categorizing the themes, the researcher transcribes the interview answers by each participant into office word document for easy analysis. These transcribe interviews were exported to NVivo for further analysis and findings. Subsequently, the transcripts were used to divide the interview responses from the participants into 6 themes. These themes include artificial intelligence-related questions (which helps us to understand the response, and how they view artificial intelligence and its interaction with websites), website interactivity and safety (questions here borders on the three websites and their safety issues), impacts of AI on global digital market (this helps us to gain insights about each participants thoughts and opinions about AI and its future potentials in global digital marketing). Also, themes such as intentions to use AI (enable us to get insights from each participant on what motivates and push them to use AI), and perceived usefulness (which enables respondents to explain usefulness of AI). The last themes which was perceived ease of use, directly discussed whether the three AI powered was easy or not or people get adapted to them. These themes were subsequently divided into sub-themes for finding easy linkages and connections. The theme was practical and very helpful as they capture similar ideas that emerge from the interview questions together. Also, the categories and themes of the interview questions were plotted for more visual effect.

Furthermore, the word frequency cloud was plotted to show the most occurring word during the research interviews. The research questions that made up the study were also tested, and it was discovered that it conforms with the result of the interviews. The word cloud is plotted in Figure 3. As shown below, the word cloud is a chart that shows the most frequently occurring words in a research interview. From the visual text image below, it can be observed that words such as “websites”, “use”, “marketing”, and “intelligence”. were some of the words that appear most throughout the entire interview process. Next, the major findings of the research were highlighted briefly by the author. From the codes derived and themes generated the four important observations were made.

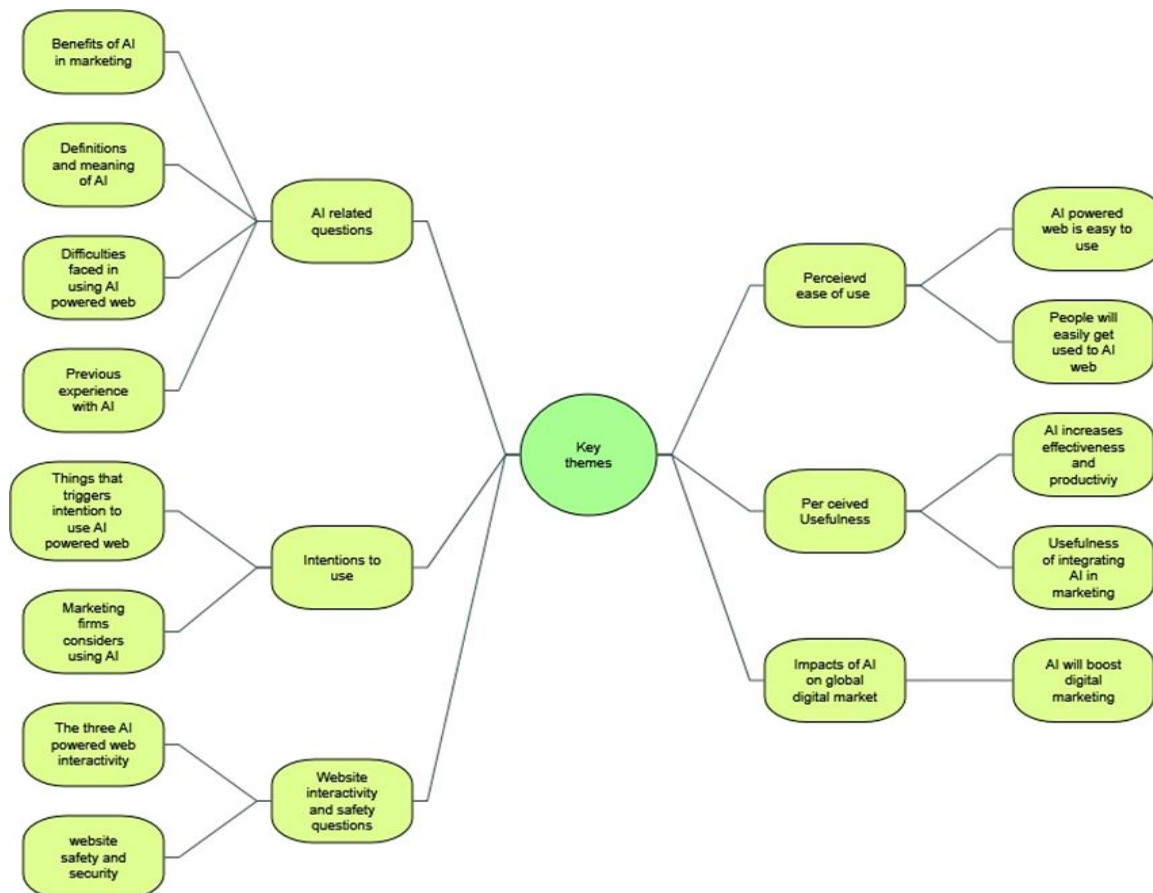


Figure 1. Categories of coding and themes generated

3.1. The three artificial intelligence websites are interactive

From the analysis of the interview results that was conducted it was discovered that the three artificial intelligence powered websites (Amazon, Alibaba and Uber) that was used in this study were interactive and user-friendly. This is because many of the participants indicated that the website was simple and very easy to perform transactions remotely. From the results found it was observed that about 90% (18) of the participants indicated that the three websites were interactive enough while the remaining 10% (2) participants indicated that the websites are not interactive enough. The participants contended that the websites were not interactive enough argued that the interactive features are somewhat confusing especially for a non-techie or an uneducated person as different pop-ups keep showing up. These pops-ups can easily deviate users from the main activity that brought them to the websites. For instance, participant 5 insisted that frequent pops-up in form of adverts made it difficult to navigate the site at times.



Figure 3. Word cloud

3.2. Artificial intelligence website is not safe and secured enough

Based on the participants' interview result, the researcher discovers that AI websites were not safe and secured enough for the majority of the participants. More improvements need to be done in this case to gain customers trust and safety when using the websites. It was observed that 13 participants explained that they do not feel safe and secured when using AI websites. This is due to the potentials of hacking, activities of fraud and a whole host of other security issues. However, 5 participants explained that they feel safe and secured when using AI websites, especially the three websites used for this study. They argued that these websites are safe and secured due to some embedded security features and the good credibility's that the companies have maintained over the years. This implies that these tech companies have better equipped and sophisticated systems that limits fraud and other security issues on their site. However, as for respondent 17, she argued that her safety and security depend on the type of activity that she performs on the web. She explained that she is indifferent and easily get frightened when asked during a transaction to release sensitive information's like card details, banks.

3.3. Artificial intelligence websites are organized and easy to use

From the result analysis, it was discovered that artificial intelligence powered websites were found to be very organize and easy to use. This is because all the participants unanimously voted and explained that the websites were very easy to use from their respective experiences. Some of the reasons put forward for this was that that they save time, provide convenience chat box, reliability, and easy accessibility to their customers. These responses do not come as a surprise because the three websites generally make it easier for customers to perform transactions (Amazon and Alibaba) or to carry out services (Uber) that otherwise would have been complex and stressful to do. The integration of AI and its various features in these business models eradicate the need for physical transactions in some cases. For instance, Amazon and Alibaba makes it easier to simply order products and get it shipped to one's doorstep without any hassles. Similarly, Uber eradicate the needs for the traditional taxi system which has varying problems and identity issues.

3.4. Artificial intelligence will impact and boost global digital market output in future

From the interview result analysis, it was discovered that all the 20 participants suggested that artificial intelligence will boost global digital marketing activities in future. Various reasons and explanations were put forward by each participant to buttress this point. Some of the major reasons that were given include possible increase in total output and production capacities across the world, rapid advancement in recent technologies such as machine learning and augmented visual reality, the cost-effectiveness and reducing costs of integrating AI in businesses, and potential of reaching global audience/target market. Based on these points, each participant argued that they were convinced that AI will boost and increase digital marketing output in the future. Attached below is the frequency graphic representation of respondent responses.

4. CONCLUSION

This study was done to investigate the impact of artificial intelligence on website interactivity and the ease of use for enhancing digital marketing performances. Then the study proceeded to use the structured interview method as a significant source of data collection. This method was chosen because it fits well into the aim and objective of the overall research. Major findings from the study suggested that the three artificial intelligence powered websites were interactive enough for customers to perform transactions. The results further showed that some participants don't believe that the websites were safe and secured enough. These findings and other ones in the study present new knowledge in the areas of digital marketing as they haven't been investigated before.

5. IMPLICATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This study suggests that there is a need to integrate AI in the marketing functions to improve the performance of businesses. Thus, the study hereby recommends more digital marketing companies to consider integrating artificial intelligence capabilities in their business operation. This is because it ensures effectiveness, boost productivity, and significantly reduces the cost of performing business operations. Secondly, more securities features should be embedded in AI-powered websites to help customers in calming the fears of insecurities such as hackers, and advanced fee fraud.

Future empirical research could focus on examining the linkages between artificial intelligence and digital marketing with a much wider perspective and samples from specific areas. Also, future research could be done to offer insights and discussions about how the COVID-19 pandemic impacted and increased the usage of artificial intelligence in marketing activities to reduce physical touches and maintain social distancing rules.

ACKNOWLEDGEMENT

The Queen Elizabeth Commonwealth Scholarship is highly appreciated for their support and making this research work a success (#FE-2019-99).

REFERENCES

- [1] A. B. Arrieta *et al.*, "Explainable artificial intelligence (XAI): Concepts, taxonomies, opportunities and challenges toward responsible AI," *Information Fusion*, vol. 58, pp. 82-115, 2020, doi: 10.1016/j.inffus.2019.12.012.
- [2] A. Capatina, M. Kachour, J. Lichy, A. Micu, A.-E. Micu, and F. Codignola, "Matching the future capabilities of an artificial intelligence-based software for social media marketing with potential users' expectations," *Technological Forecasting and Social Change*, vol. 151, pp. 119-794, 2020, doi: 10.1016/j.techfore.2019.119794.
- [3] M. Ianenko, M. Ianenko, D. Huhlaev, and O. Martynenko, "Digital transformation of trade: problems and prospects of marketing activities," in *IOP Conference Series: Materials Science and Engineering*, 2019, vol. 497, no. 1, pp. 012118, 2019, doi: 10.1088/1757-899X/497/1/012118.
- [4] S. Ivanov and C. Webster, "Robots, artificial intelligence and service automation in travel, tourism and hospitality," Emerald Publishing Limited, vol. 8, no. 1, pp. 7-37, 2019, doi: 10.1108/9781787566873.
- [5] K. Siau and W. Wang, "Building trust in artificial intelligence, machine learning, and robotics," *Cutter Business Technology Journal*, vol. 31, no. 2, pp. 47-53, 2018.
- [6] T. Thiraviyam, "Artificial intelligence marketing," *International Journal of Recent Research Aspects*, vol. 12, no. 2, pp. 449-452, 2018.
- [7] M. Z. Shahid and G. Li, "The impact of artificial intelligence in marketing: A perspective of marketing professionals of Pakistan," *Global Journal of Management and Business*, vol. 19, no. 2-E, pp. 5-17, 2019.
- [8] T. Fatima, T. M. Awan, and M. Kamran, "Impact of Interactive and supportive service innovation in customer retention: an interplay of value creation and participation," *Foundation University Journal of Business and Economics*, vol. 6, no. 1, pp. 23-35, 2021.
- [9] N. Murgai, "Methods and systems for dynamically providing content," vol. 10, no. 5, pp. 1-17, 2018.
- [10] P. Wang, "On Defining artificial intelligence," *Journal of Artificial General Intelligence*, vol. 10, no. 2, pp. 1-37, 2019, doi: 10.2478/jagi-2019-0002.
- [11] V. Shankar, "How artificial intelligence (AI) is reshaping retailing," *Journal of retailing*, vol. 94, no. 4, pp. 6-11, 2018, doi:10.1016/S022-4359(18)30076-9/.
- [12] M. Favaretto, E. D. Clercq, and B. S. Elger, "Big data and discrimination: perils, promises and solutions. A systematic review," *Journal of Big Data*, vol. 6, no. 12, pp. 10-23, 2019, doi: 10.1186/s40537-019-0177-4.
- [13] A. Oussous, F.-Z. Benjelloun, A. A. Lahcen, and S. Belfkih, "Big data technologies: a survey," *Journal of King Saud University-Computer and Information Sciences*, vol. 30, no. 4, pp. 431-448, 2018, doi: 10.1016/J.JKSUCI.2017.06.001.
- [14] N. Martin, "How AI Is Revolutionizing Digital Marketing," Nov. 2018. [Online]. Available: <https://www.forbes.com/sites/nicolemartin/2018/11/12/how-ai-is-revolutionizing-digital-marketing/>.

- [15] T. Davenport, A. Guha, D. Grewal, and T. Bressgott, "How artificial intelligence will change the future of marketing," *Journal of the Academy of Marketing Science*, vol. 48, no. 1, pp. 24-42, 2020, doi: 10.1007/s11747-019-00696-0.
- [16] P. K. Theodoridis and D. C. Gkikas, "How artificial intelligence affects digital marketing," in *Strategic Innovative Marketing and Tourism*, 2019, pp. 1319-1327, doi: 10.1007/978-3-030-12453-3_151.
- [17] T. R. Ch, T. M. Awan, H. A. Malik, and T. Fatima, "Unboxing the green box: an empirical assessment of buying behavior of green products," *World Journal of Entrepreneurship, Management and Sustainable Development*, 2021, doi: 10.1108/WJEMSD-12-2020-0169.
- [18] T. H. Davenport and R. Ronanki, "Artificial intelligence for the real world," *Harvard business review*, vol. 96, no. 1, pp. 108-116, 2018, [Online]. Available: <https://hbr.org/>.
- [19] J. Paschen, J. Kietzmann, and T. C. Kietzmann, "Artificial intelligence (AI) and its implications for market knowledge in B2B marketing," *Journal of Business and Industrial Marketing, emerald publications.*, vol. 34, no. 7, pp. 1410-1419, 2019, doi: 10.1108/JBIM-10-2018-0295.
- [20] A. Agrawal, J. Gans, and A. Goldfarb, "The economics of artificial intelligence," *McKinsey Quarterly*, vol. 19, no. 1, pp. 139-159, 2018.
- [21] P. S. Sajja and R. Akerkar, "Deep learning for big data analytics," in *Nature-Inspired Algorithms for Big Data Frameworks*, 2019, pp. 1-21, doi: 10.4018/978-1-5225-5852-1.ch001.
- [22] M.-H. Huang and R. T. Rust, "Engaged to a robot? the role of ai in service," *Journal of Service Research*, vol. 10, no. 3, pp. 23-35, 2020. doi: 10.1177/1094670520902266.
- [23] N. Syam and A. Sharma, "Waiting for a sales renaissance in the fourth industrial revolution: Machine learning and artificial intelligence in sales research and practice," *Industrial Marketing Management*, vol. 69, pp. 135-146, 2018, doi: 10.1016/j.indmarman.2017.12.019.
- [24] N. S. Sahni, S. Narayanan, and K. Kalyanam, "An experimental investigation of the effects of retargeted advertising: The role of frequency and timing," *Journal of Marketing Research*, vol. 56, no. 3, pp. 401-418, 2019, doi: 10.1177%2F0022243718813987.
- [25] D. Chaffey and F. Ellis-Chadwick, "Digital marketing," Harlow, England New York: Pearson, 2019. [Online]. Available at: <https://www.pearson.com/>.
- [26] T. Fatima, S. Kashif, M. Kamran, and T. M. Awan, "Examining factors influencing adoption of m-payment: Extending UTAUT2 with perceived value," *International Journal of Innovation, Creativity, and Change*, vol. 15, no. 8, 2021.
- [27] M. Z. Tahir, N. U. Hadi, and T. M. Awan, "The role of person-organization fit and affective commitment in inspiring citizenship behaviors among banking sector employees of Pakistan," *International Journal of Innovation, Creativity, and Change*, vol. 15, no. 6, 2021.
- [28] P. Purwanto, K. Kuswandi, and F. J. G. Fatmah, "Interactive applications with artificial intelligence: the role of trust among digital assistant users," *Foresight and STI Governance*, vol. 14, no. 2, pp. 64-75, 2020, doi: 10.17323/2500-2597.2020.2.64.75.
- [29] F. D. Davis, R. P. Bagozzi, and P. R. Warshaw, "User acceptance of computer technology: a comparison of two theoretical models," *Management science*, vol. 35, no. 8, pp. 982-1003, 1989, doi: 10.1287/MNSC.35.8.982
- [30] I. Erkan and C. Evans, "The influence of eWOM in social media on consumers' purchase intentions: An extended approach to information adoption," *Computers in Human Behavior*, vol. 61, pp. 47-55, 2016, doi: 10.1016/j.chb.2016.03.003.
- [31] P. Papastamoulis, "Clustering multivariate data using factor analytic Bayesian mixtures with an unknown number of components," *Statistics and Computing*, vol. 30, no. 3, pp. 485-506, 2020, doi: 10.1007/s11222-019-09891-z.
- [32] E. Åberg and Y. Khati, "Artificial Intelligence in Customer Service: A Study on Customers' Perceptions regarding IVR services in the banking industry," M.S. Thesis, Linnaeus University, pp. 74-86, Sweden, 2018. [Online]. Available: <https://diva-portal.org/>.
- [33] J. Johansson and S. Herranen, "The application of artificial intelligence (AI) in human resource management: Current state of AI and its impact on the traditional recruitment process," M.S. thesis, Jönköping University, Jönköping International Business School pp. 60-75, 2019. [Online]. Available: <https://diva-portal.org/>.