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UNLOCKING CONSUMER BEHAVIOR IN AGE OF ARTIFICIAL INTELLIGENCE: A STUDY ON TAILORED DATA, PRIVACY RESERVATIONS, AND PURCHASE INTENTIONS

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ABSTRACT

This study investigates the complicated relationship between consumers and artificial intelligence (AI), precisely exploring the impact of tailored data (AI) on purchasing decisions. Drawing from a diverse sample of social media users in top five HEC ranked universities, the study investigates how factors such as privacy reservations and positive past experiences intersect with AI-driven personalization, impact consumer attitudes and willingness to make purchases online. The researcher applied survey method to collect data from 346 participants, primarily social media users, with the focus on those regularly engaging with the social media advertising and AI-based applications. This research tested three hypotheses wherein findings show significant influence of tailored data on consumer purchasing willingness and positive past experiences with AI ads. The privacy concerns, however, were found to have an insignificant impact on the online buying decisions. In this linking, these insights contribute to broader discourse on AI's role in consumer behavior, offering practical implications for various businesses navigating integration of artificial intelligence technologies in marketing strategies.

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INTRODUCTION

This year, the internet is expected to be consumed by over 5.3 billion persons for various purposes, including information recovery, social interactions, news consumption, & entertainment (Petrosyan, 2024). The pillar of these online-experiences, mainly in realm of digital advertising, is becoming increasingly reliant on the artificial intelligence (AI) and machine learning (ML). These technologies play vital role in improving efficacy and precision, helping users in determining content, and aiding

the distribution of significant products and services (Lad, Kumar, Chaitanya, Abhonkar, Chheda & Patel, 2023). Also, artificial intelligence is accommodating for producers and content providers in knowing, altering, and monetizing large amount of data that is collected over digital consumption. As explored by Dwivedi, Hughes, Ribeiro, Giannakis, Debei and Wamba (2022) that the framework of advertising especially digital advertising, AI and ML have rapidly changed the methodology of persuasion, creating a considerable influence upon how the business functions. Thus, in spite of their inevitable influence many critical concerns such as collection and tailoring of private data, privacy, and bias have come to the head of considerations within advertising as well as marketing domain (Dwivedi et al, 2022).

Researches have shown growing concerns, inquisitiveness and regulatory attention adjacent these topics as advertising industry is increasingly depending on digital platform that unconventionally fragment and select the audiences, provide suggestions, and adjust inspired content. The setting is observing a shift where more grave decisions in promotion and marketing are assigned to machines, stimulating a wider discourse on moral and supervisory deliberations linked with the widespread use of artificial intelligence & machine language digital advertising (Yuen, 2017). Incorporation of artificial intelligence (AI) into new-media podiums has produced thoughtful consequences for user conduct and real-life management practices. Tailored content-based endorsements are a hallmark of AI impact on social media, are empowered by complex algorithms and Processes that examine user performance and partialities (Haenlein & Kaplan, 2019). This has led to increasingly tailored user experience, where individuals are exposed to content aligned with their interests. The targeted advertising, another significant facet of AI impact, pulls algorithms to analyze user data for precise ad targeting, influencing user choices through exposure to the highly relevant products and services (Turow & Couldry, 2018).

According to research conducted by Makridakis in 2017, the artificial intelligence doesn't simply proclaim the eventual fate of advertising; it has likewise penetrated and changed buyer conduct. This system saddles innovation to upgrade the client venture, successfully knowing examples that educate heap regarding showcasing methodologies He expounds this era as a phase of technology where man made technologies are working smarter than its creators. Our choices are controlled or modified by the powerful tool called AI. It's not only the powerful solution to your marketing issues but also playing key role to deliver customized experience via machine in a very intelligent way (Makridakis, 2017). It has emerged as an influential marketing tool based on the advance machine learning techniques to deliver personalized experiences. By inducing bits of knowledge that expect clients' future activities and proposing custom-made proposals, computer-based intelligence isn't simply passing pattern yet an unfaltering power molding direction of showcasing (Chojecki, 2020). Schwartz, Vassilev, Greene and Hall (2022) stated that the rapid advancement and widespread adoption of AI systems have given rise to a host of the ethical concerns, particularly in the realms of privacy and bias.

As AI systems extensively leverage personal and sensitive data for training algorithms, the ethical implications of this practice become a focal point of inquiry. The primary concern revolves around whether the extensive use of personal and sensitive data within AI systems significantly contributes

significantly contributes to bring any change in attitude and purchasing intention of buyers (Turow & Couldry, 2018). The buyers may experience trust issues due to AI innovation in digital marketing, and as a result, clients are keen to spend more time educating themselves before they commit to a purchase (Singh, Kumar & Singh, 2019). AI refines its capacities and mechanizes assignments with emergent precision. Concurrently, potential perpetuation of biases in AI decision-making processes, especially in critical domains, presents another dimension of ethical scrutiny. This research seeks to address problem statement: To what extent does utilization of personal data in AI systems contribute to privacy concerns, and do AI systems trained on the diverse datasets tend to perpetuate existing biases, particularly in high-stakes decision-making processes? This research also intends to find the answer of this question either AI is more impactful than the past perceptions concerning the buyer purchasing behavior.

Finding the answers of these questions is inevitable as these ethical challenges are imperative for better understanding of AI and its impacts on consumer behaviors. In domain of Product promotion and content creation, the AI devices and tools are becoming instrumental. The privacy reservations involve consumer concerns and apprehensions about how their personal data is collected, stored, and used by the companies employing AI technologies (Haenlein & Kaplan, 2019). They help the marketer and advertisers in examining patterns and streamlining content techniques (Hosanagar, 2019). The advent of artificial intelligence (AI) has revolutionized consumer behavior by enabling highly personalized experiences, raising concerns about privacy & influencing purchase intentions (Puntoni, Reczek, Giesler & Botti, 2021). AI has also led to the selection of content, which influences the clients' decisions and the content provided with the given patterns. Roberts expounded that by deploying content control algorithms run by AI, the cyber-space is now safer as obscene material is blocked, and hence the manipulation of clients' choices occurs by creating the feeling of safe space. Thus, according to the literature, there was a journal publication by Roberts and coworkers in 2019 (Roberts & Mayo, 2019).

LITERATURE REVIEW

The concerns over privacy have been arising particularly with introduction of AI systems, mainly because the algorithms and the efficiency of the system are fine-tuned through giant datasets. The nature of the personal and sensitive information found within these datasets, is what brings into question answerable data morality. Pattern-recognition AI structures are most heavily dependent on elaborate and multivariate sets of data to differentiate designs and do exact arithmetic on a host of private facts. Although these ubiquitous datasets are essential for the genuine functioning of AI algorithms, their use has created lawful privateness concerns, as stressed in different analyses and discourses in literature (Wu, Duan, & Ni, 2023). Barocas and Selbst (2016) stress risk of AI systems perpetuating and enhancing existing biases present in data, presenting security dangers to people who might be unreasonably targeted or excluded. Specialists stress needs to faithfully consider the ramifications of using individual information in computer-based AI frameworks, especially in daily basis decision making process which may affecting people's lives (Barocas & Selbst, 2016). Acquisti et al. (2016) dive into more extensive outcomes of the raising accessibility of individual information in the digital era.

Their work examines difficulties connected with assent, stressing expected absence of mindfulness among people about how their information is being used and their battle to control or provide well-versed consent for miscellaneous ways in which AI systems procedure their information (Acquisti et al, 2016). The immense gathering and maintenance of individual data inside Artificial intelligence frameworks may be source of attraction to perform malicious work, representing a danger to both individuals and security overall. Of particular note is the use of generative AI, which raises critical worries because of its weakness to abuse in creating counterfeit profiles and controlling the pictures (Blauth et al., 2022). This innovation, like other AI counterparts, intensely relies upon information, subsequently highlighting significant ramifications it has for protection and security Cybercrimes have become rampant, with their impact intensifying security issues all over the world, affecting many companies (Rojas, 2023). Barocas and Selbst (2016) explain that one of the risky ways over which machine learning is prejudiced is if the training information is prejudiced. Thus, the authors highlight this issue emphasizing that with help of machine learning it is possible to either reinforce the existing prejudices and make them even more outspoken and result in discriminated treatment of the citizens.

Overall, this research demonstrates the importance of careful examination of ethical consequences linked to the employment of skewed data in AI solutions, with a special focus on those industries that heavily depend on technology's presence (Barocas & Selbst, 2016). The fear of reinforcement of the existing bias and discrimination from the usage of AI systems has received much focus among researchers. If the data that help to train an AI system include prejudice, then the program is likely to facilitate those prejudices throughout its operations. This concern is especially true when it comes to employment, one of most critical areas in people's lives, where AI algorithms are likely to operate at core (Schwartz et al., 2022). The Ponemon Institute (2020) disclosed that approximately 80% of the companies are threatened by issues connected with cybersecurity. Misuse of personal data as it translates to today and with continuing advancement in Artificial Intelligence and sophisticated technologies bring catastrophic consequences, being why there is need to ensure security the data, ethics in progress and use of Artificial intelligence (Smith & Doe, 2018). That is why it's vital to solve these problems as deep AI gets increasingly developed, especially in context of advent of various risks in sphere of digital technologies, which require application of adequate protective measures (Smith et al., 2023).

In response to these issues there is a need to ensure that the application of AI technologies is done in a responsible manner. Listed technical assets of RAII include ethical frameworks that regulate the process of training data acquisition and utilization. This comes in handy to help explain decision-making and eliminate the bias in the models to improve the quality of results. Diakopoulos' (2016) research also suggest using fairness and accountability as an elemental component of the intended & employed AI systems that recognize and correct biases. Since AI systems are involved in curation and filtering of such items like search results, news, multimedia or next purchase recommendations, they actively help consumers by undertaking these tasks in an efficient and neutral manner. These may help in achieving a better match and, in the end, help to eliminate some of the search costs and information overload. It means that algorithms allow consumers to delegate the purchase decision-

making and lead to the emergence of the "algorithmic consumer" (Gal & Koren, 2017) to overcome bias and limitations for the availability of the rational reasons. Digital marketing via AI helps the companies reach the right people towards the accurate time depending on their business decisions (Ransbotham et al., 2017). I must note though, that the incorporation of AI in decision making is not without its drawbacks.

Thus, ML technologies, despite their advantages, may present disadvantages from the consumer's standpoint. The issues such as the selection bias and algorithm bias may come up, especially when the models are less interpretable and controllable. Prediction or objective biases can be due to data generation processes or can else include behavioral biases. For instance, algorithms in predicting recidivism in courtrooms have been criticized for bias, where Angwin et al. (2016) showed that the program equally had a greater tendency of wrongly classifying black defendants as high-risk and white defendants as low-risk. The use of the ML-based processes in decision-making that rely upon the extensive personal and demographical data will give rise to discriminative results in execution because of the unknown process of learning. This is rather non-transparent which leads to ethical concerns, as seen in the study on uses of 'Facebook-likes' for predictive purposes by Kosinski et al. (2013) where preferences such as the 'Curly Fries' were seen to predict intelligence (Kosinski et al., 2013). Discrimination can also be seen in terms of crowding-out effects, as observed by Lambrecht and Tucker (2019) that men were less likely have gender-neutral STEM job ads served for their click, even though more women clicked STEM job ads than men due to the higher prevalence of the latter (Lambrecht & Tucker, 2019).

Concerning the object of study of this research, it is crucial to differentiate consumers' awareness of product information & their decisions about its relevance, which can be aligned with Surveillance Theory (Puntoni et al., 2021). Given the objective, the study aims to examine the attitudes towards the AI algorithm's recommendation and willingness to shop online by merging together samples of social media users from the various universities. while explaining the Foucalt's Surveillance Theory Kirsti Ball explains that how important are surveillance, power and discipline mechanisms and how institutions regulate people through these mechanisms especially surveillance (Ball, Domenico & Nunan, 2016). As more and more technologies gather and scrutinize the individual data so the AI surveillance operates like Panopticon to modify behavior by making people feel like they are under surveillance all the time and through targeted advertisement and content delivery. Not only does this surveillance-capitalism relationship observe, but it also forms the consumer, their habits, tastes, and even the culture; thus, subsequent Foucauldian elements can be taken and applied to the modern technologies that permeate digital spaces and manifest control & power that emerge from data-collecting algorithms and networked information systems (Gutting, Oksala & Zalta, 2013). Based on presented theoretical framework, the research extends its hypotheses for which it gathers additional data.

H1: The utilization of tailored data by the AI positively influence consumer purchasing willingness.
H2: The Privacy reservations related to AI negatively affect the consumer buying decisions online.
H3: Positive past buying experiences with AI ads enhance consumer willingness to make purchase.

RESEARCH METHODOLOGY

For this research, a survey method was employed to gather data from participants. Dillman et al. (2014) affirm that utilizing surveys facilitates the collection of extensive data from a diverse set of respondents within a short timeframe, making it an efficient data collection technique. The survey comprises standardized questions, mitigating potential biases during questionnaire completion. The present study adopts a quantitative approach, employing questionnaires for information collection in cross-sectional study & data was collected using printed survey questionnaire and google sheets (online). This research focused on social media users enrolled in top 5 universities of Lahore, as per HEC Ranking 2022. The criteria ensured that these students engage in online activities and utilize AI-based application regularly. Non-probability convenience sampling technique were employed for data collection.

Creswell and Creswell (2017) justified the use of convenience sampling, emphasizing its practicality when faced with constraints in time and resources. Following the guideline proposed by Hair et al., (2011), multiplying the number of items by 10, the sample size was determined. This strategy aims to minimize sampling errors, resulting in a sample size of 300 for this study. The items for constructing this construct where adapted from survey developed by Moore and Benbasat (1991) and only those items that where most relevant to this study where use. Every variable was measured with their own 7-point Likert scale which range from 1=Strongly Disagree to 7=Strongly Agree. The last survey consisted of 30 questions; 5 questions which assessed Attitude Toward Tailored Experiences (ATTE), 5 questions that assessed Prior Purchase Experience (PPE), 7 questions about Privacy Concerns (PC), 6 questions in Purchase Readiness (PR), besides 7 questions about participants' demographic profile and contact details.

Reliability Testing

While evaluating the internal reliability of the concepts under consideration, Cronbach's alpha has been computed for all the variables. The internal reliability index, owing to its recognition in the literature, was assessed using Cronbach's alpha (Saunders et al., 2019). The criterion used most of the time in this literature checks alpha values greater than 0. 50 to justify the reliability of instrument in the current study (Ekolu & Quainoo, 2019). Thus, variables were categorized into distinct groups: purchase behaviour experience (French; 2003), personal privacy (Machleit & Levitan, 1993), and attitude towards personalization (Arnoud & Nijssen 2009) and purchase intention. Hypotheses 1 and 2 posited PBE and/or PR as the independent variables and ATTE and/or PW as the dependent variables of study. Thue, the reliability statistics provides the sufficient information about internal consistency of measures.

Table 1 Reliability Statistics

Calculated variables	Cronbach's Alpha	N of Items
Purchase Willingness (PW)	0.781	6
Attitudes Toward Tailored Experiences (ATTE)	0.863	5
Past Buying Experience (PBE)	0.754	5
Privacy Reservations related AI (PR)	0.652	7

DATA ANALYSIS

The data has been collected from Three hundred and Fifty participants. In which there are 58% of male respondents and 42% of respondents were female. Dominating majority 62% of respondents were falling into 26-35-year age bracket where as 28.0% of respondents were falling between 15-25 year of the age. All were using social media for more than 1 year and were aware about the basic concept of AI based content. In this connection, the majority of the respondents 41.0%were having Master Education and second dominating majority 34.0% were Respondents having graduation as per the results.

Table 2 Demographic Information

Gender	Frequency	Percent
Male	201	58.0
Female	145	42.0
Total	346	100.0
Age Categories		
15-25	97	28.0
26-35	218	62.0
36-45	35	10.0
50-above	0	0.0

Table 2A Demographic Information

Gender	Frequency	Percent
Education Level		
Intermediate	7	2
Graduation	119	34.0
Masters	143.5	41.0
MPhil	59.5	17
PhD	21	6.0
Social media Usage		
Non-User	0	0
Around 6 months	0	0
More than 1 year	100	100

Pearson Correlation

The provided table 2 demonstrates outcome of a correlational analysis piloted using the statistical program (SPSS) to assess the strength and direction of associations among the constructed variables (Saunders et al., 2019). Table reveals predominantly positive relationships, as evidenced by values exceeding 0.2 threshold. This indicates a tendency towards positive associations between variables under consideration.

Table 3 Correlation Analysis

Pearson Correlation	PW	(ATTE	PBE	PR
Purchase Willingness (PW)	1	0,327**	0,337**	-,031
		<0.001	<0,001	,655

Attitudes Toward Tailored Experiences (ATTE)	0,327** <0,001	1	0,438** <0,001	-,031 ,655
Past Buying Experience (PBE)	0,337** <0,001	0,388** <0,00	1	-,081 .233
Privacy Reservations related AI (PR)	-,031 ,655	-,025 ,605	-,081 .233	1

The correlational-analysis specifies a statistically significant association between the two variables, Purchase willingness (PW) and Attitudes towards tailored Experience (ATTE), with the correlation coefficient exceeding 0.2. Similarly, the researchers introduced two distinct conceptual models for examination. According to the first model, dependent variable PR exhibits statistical significance with a single independent variable, Previous Buying Experience (PBE), scoring at 0,388**. In second model, the dependent variable Purchase Willingness demonstrates a positive correlation with two independent variables, PR and PBE, recording scores of 0,327** and 0.337** respectively, surpassing the 0.2 threshold.

H1: The Utilization of Tailored Data by AI Positively Influences Consumer Purchasing Willingness.

Table 4 Regression Analysis

Hypothesis	Regression Weights	SD Beta	t-value	p-value	Hypothesis
H1	ATTE→ PW	0.201	2.256	0.023	Supported

The table 4 regression analysis reveals a statistically significant and positive relationship between the variables, supported by a t-value of 2.256 and a p-value of 0.023, both below the conventional threshold of 0.05. The beta coefficient of 0.201 indicates a moderate but meaningful impact of the independent variable on dependent variable. This statistical and practical significance enhances confidence in the reliability of the findings. The researchers and practitioners can rely on the results, yet additional exploration of the contextual implications may be beneficial. In essence, the analysis highlights a robust positive relationship, substantiated by both statistical tests and the magnitude of the effect.

H2: Privacy Reservations Related to AI Negatively Affect Consumer Buying Decisions Online.

Table5 Regression Analysis

Hypothesis	Regression Weights	SD Beta	t-value	p-value	Hypothesis
H2	PR→ PW	0.041	0.623	0.356	Supported

The given regression results in table 5, with a t-value of 0.623, a standard coefficient (beta) of 0.041, and p-value of 0.356, indicate a statistically and practically non-significant relationship amid the independent and dependent variables. Relatively small t-value suggests that estimated coefficient is not significantly different from zero, indicating a lack of statistical significance. The modest beta value reinforces this observation, signifying a limited impact of independent variable on dependent variable. The elevated p-value of 0.356 further supports notion that observed results could likely be

due to random chance, emphasizing absence of meaningful relationship. These findings underscore standing of exercising caution in interpreting results, as identified relationship lacks both statistical and practical significance.

H3: Positive Past Buying Experiences with AI Ads Enhance Consumer Attitudes & Willingness to Purchase

Table 6 Regression Analysis

Hypothesis	Regression Weights	SD Beta	t-value	p-value	Hypothesis
H3	PBE→ PW	0.324	1.385	0.033	Supported

The regression analysis table 6 indicates a statistically and practically the significant relationship between the independent and dependent variables. The t-value of 1.385, standardized coefficient (beta) of 0.324, and a p-value of 0.033 collectively suggest a meaningful impact of independent variable on the dependent variable. In this connection, there was statistically significant difference according to the p-value test as it was below the standard 0. 05, increases the credibility of the conclusions of the study. The findings affirm the strong positive relationship between the identified variables of study.

DISCUSSION

Hypothesis 1 (Accepted)

The acceptance of hypothesis 1, which concluded that the use of tailored data by AI enhances the consumer purchasing willingness, be supported by existing literature on key benefits of adoptive marketing strategies (Rahman et al., 2023). This has profound implication in current social context that has observed a shift in the consumers' behavioral change due to customized AI techniques as highlighted above by Rathore (2019). Consequently, when the strategies are aimed at offering the products and providing recommendations that are closely linked towards the consumer's behavior and appeal, this does seem to positively influence the consumer's propensity to make the purchase, therefore presenting one perspective on the continuous development of the personalization in the marketing arena.

Hypothesis 2 (Rejected)

Similarly, closely related to expectations, hypothesis 2 postulating that privacy concerns towards artificial intelligence harm consumer buying process in the online marketplace is nullified. This is in conformity with other current studies that have showed that the users might not mind their privacy being infringed if comforts or perceived advantage to be enjoyed emanating from the AI-assisted platforms offered are enticing enough (Song et al, 2022). Thus, this brings about the function of the relationship between privacy and consumer behaviour especially with the growing use of artificial intelligence technology.

Hypothesis 3 (Accepted)

Therefore, Hypothesis 3, stating that positive previous buying experiences with AI ads improve consumers' attitude towards the advertisement and likelihood of purchase, aligns with recent works focusing on effects of positive experiences with AI art (Burlacu, 2023). Previous interactions with

AI-driven advertisement are all positive and therefore assist in shaping consumers' attitude which in this case is purchasing behavior. It must be remembered that positive interactions with artificial intelligence influence consumer decisions in a similar manner as established theories predict (Kim, Kang & Bae, 2020).

CONCLUSION

The study contributes to the understanding of the nature of the specified AI impact on consumers with reference to the latest studies conducted in field. Since accepting Hypotheses 1 and 3, it means that data customization & positive past experiences with the AI-ads are critical factors influencing consumers' sentiments and willingness to buy as highlighted in the recent literature by Skillius and Jacobsson (2024) and Babatunde, Odejide, Edunjobi and Ogundipe (2024). Rejection of hypothesis 2 implies that, at least for the investigated context, privacy concerns arising from AI do not have a significant detrimental effect on intent to buy online, contradicting expectations (Vimalkumar et al., 2021). These insights help to fill knowledge gap in area of AI, consumers' behavior and privacy concerns & offer business-related sanctions to organizations interested in using AI solutions in their advertising initiatives.

REFERENCES

Barocas, S., & Selbst, A. D. (2016). Big data's disparate impact. *California Law Review*, 104(3), 671-732.

Blauth, T. F., Gstrein, O. J., & Zwitter, A. (2022). Artificial intelligence crime: An overview of malicious use and abuse of AI. IEEE *Access*, 10, 77110-77122.

Chojecki, P. (2020). Artificial Intelligence Business: How you can profit from AI. Przemek Chojecki.

Dillman, D. A., Smyth, D., & Christian, L. M. (2014). Internet, phone, mail, and mixed-mode surveys: The tailored design method. John Wiley & Sons.

Dwivedi, Y. K., Hughes, L., Ribeiro, S., Giannakis, M., Debei, M. M., & Wamba, S. F. (2022). Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 66, 102542.

Ekolu, S. O., & Quainoo, H. (2019). Reliability of assessments in engineering education using Cronbach's alpha, KR and split-half methods. *Global Journal of Engineering Education*, 21(1), 24-29.

French, S. D. (2003). Modelling, making inferences and making decisions: The roles of sensitivity analysis. Top, 11, 229-251.

Gal, M. S., & Elkin-Koren, I. N. (2016). The Algorithmic consumers. Harv. JL & Technology., 30, 309.

Gutting, G., Oksala, J., & Zalta, E. N. (2013). Michel Foucault. Stanford Encyclopedia of Philosophy. Retrieved from https://plato.stanford.edu/entries/foucault/.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed, a silver bullet. *The Journal of Marketing Theory and Practice*, 19(2), 139-152.

Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. *California Management Review*, 61(4), 5-14.

Hosnagar, K. (2019). A Human's Guide to Machine Intelligence: How Algorithms Are Shaping Our Lives and How We Can. Penguin Books.

Kosinski, M., Stillwell, D., & Graepel, T. (2013). Private traits and attributes are predictable from digital records of human behavior. *Proceedings of the National Academy of Sciences*, 110(15), 5802-5805.

Lad, K. S., Kumar, K., Chaitanya, K., Abhonkar, V., Chheda, K., & Patel, H. (2023). An Exploration of Marketing's Impacts on Influencing Consumer Behavior and Society. *Journal of Informatics Education and Research*, 3(2).

Lambrecht, A., & Tucker, C. (2019). Algorithmic bias? An empirical study of apparent gender-based discrimination in the display of STEM career ads. *Management Science*, 65(7), 2966-2981.

Lee Yuen, M. R. (2017). Ambient advertising: An examination of ad features influencing consumer engagement (Doctoral dissertation, University of Warwick).

Machleit, K. A., Allen, C. T., & Madden, T. J. (1993). The mature brand and brand interest: An alternative consequence of ad-evoked affect. *Journal of Marketing*, 57(4), 72-82.

Makridakis, S. (2017). The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms. *Futures*, 90, 46-60.

Moore, C., & Benbasat, I. (1991). Development of an instrument to measure perceptions of adopting an information technology innovation. *Information Systems Research*, 2(3), 192-222.

Petrosyan, A. (2024). Internet and social media users in the world 2024. Statista. Retrieved from https://www.statista.com/statistics/617136/digital-population-.

Puntoni, S., Reczek, R. W., Giesler, M., & Botti, S. (2021). Consumers and artificial intelligence: An experiential perspective. *Journal of Marketing*, 85(1), 131-151.

Rahman, M. M., Al Mahi, A., & Hossian, M. A. Z. (2024). Application of AI in Halal Marketing: Navigating the Ethical Crossroads. *West Science Interdisciplinary Studies*, 2(04), 920-926.

Ransbotham, S., Kiron, D., Gerbert, P., & Reeves, M. (2017). Reshaping business with artificial intelligence: Closing the gap between ambition and action. *MIT Sloan Management Review*, 59(1).

Rathore, H. (2019). An inventory model with advertisement dependent demand and reliability consideration. *International Journal of Applied and Computational Mathematics*, 5(2), 33.

Roberts, L. M., & Mayo, A. J. (2019). Toward a racially just workplace. *Harvard Business Review*, 2019, 1-10.

Schwartz, R., Schwartz, R., Vassilev, A., Greene, K., Perine, L., Burt, A., & Hall, P. (2022). Towards a standard for identifying and managing bias in the artificial intelligence (Vol. 3, p. 00). US Department of Commerce, National Institute of Standards and Technology.

Singh, B., Kumar, R., & Singh, V. P. (2022). Reinforcement learning in robotic applications: A comprehensive survey. *Artificial Intelligence Review*, 55(2), 945-990.

Skillius, E., & Jacobsson, A. (2024). Beyond the Algorithm-How AI-Driven Personalized Ads Shape Consumer Loyalty and.

Song, H., Kim, M., Park, D., Shin, Y., & Lee, J. G. (2022). Learning from noisy labels with deep neural networks: A survey. *IEEE Transactions on Neural Networks and Learning Systems*, 34(11), 8135-8153.

Turow, J., & Couldry, N. (2018). Media as data extraction: Towards a new map of a transformed communications field. *Journal of Communication*, 68(2), 415-423.

Valencia Rojas, A. L. (2023). The Rise of Net-States in the Cyberspace: Cyber Power Dynamics and the Disruption of International Security.

Vimalkumar, M., Sharma, S. K., Singh, J. B., & Dwivedi, Y. K. (2021). 'Okay google, what about my privacy?': User's privacy perceptions and acceptance of voice-based digital assistants. *Computers in Human Behavior*, 120, 106763.

Wu, X., Duan, R., & Ni, J. (2023). Unveiling security, privacy, and ethical concerns of ChatGPT. *Journal of Information and Intelligence*. 18 (2), 966-979.