THE USA JOURNALS
THE AMERICAN JOURNAL OF MANAGEMENT AND ECONOMICS INNOVATIONS (ISSN- 2693-0811)
VOLUME 06 ISSUE03

PUBLISHED DATE: - 26-03-2024
DOI: - https://doi.org/10.37547/tajmei/Volume06Issue03-04 **PAGE NO.: -26-40**

RESEARCH ARTICLE **Open Access**

THE INFLUENCE OF ARTIFICIAL INTELLIGENCE ON CUSTOMER BEHAVIOR

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Abstract
This study explores the complex interaction between artificial intelligence (AI) and consumer behaviour in Saudi Arabia. The study, while investigating, considers the influence of awareness and perception of artificial intelligence on buying behavior and purchase intention. Respondents belong to 3 major cities of Saudi Arabia and total of respondents were 228. The statistical package for social sciences (SPSS) was used to conduct data analysis for sample description and descriptive statistics. Along with descriptive analysis, regression, correlation analyses, Anova and Cronbach alpha were performed to explore the data. The findings concluded to have a significant relationship between artificial intelligence (Al) and consumer behavior. It was also concluded that awareness and perception of Al influence the impact of Al on buying behavior and purchase intention. This study will be helpful for researchers for future consideration in Saudi Arabia and may overlook the totality of consumer behaviour and artificial intelligence influence in a case with a conventional period or a short time in other regions.

Keywords Artificial Intelligence, Consumer Behavior, Awareness about Al, Perception about Al. Buying behavior, Purchase Intention.

INTRODUCTION

Artificial intelligence (AI) is one of the fastest-growing areas of research that focuses on developing computer systems that have the capability of doing things that human intelligence is capable of (Nazir et al., 2020). Instead, we are faced with the question of how to make computer systems start learning, solving problems, understanding the natural language, and considering general meaningful patterns. Dias et al. (2023) point to artificial intelligence (AI) as an indispensable area of research on shopping and purchasing habits; this is because AI technologies can transform the way companies analyze consumers and plan clients' relations. AI Auto technology could help businesses understand what the clients are looking for, what they anticipate getting and the service that the clients would want to be provided with, thus making them satisfied and loyal (De Bruyn et al., 2020)

Estimates for the global economic influence of AI are that the amount is expected to grow from only 20.82 billion dollars in 2020 to 15 billion dollars in 2030 (The Insight Partners, 2021). Artificial intelligence (AI) in Web 2.0 marketing applications proposed an interactive atmosphere for instant consumer necessity to be satisfied, and created a marketer's best

friend of the biggest pool of loyal consumers for the hospitality industry (Rabby, Chimhundu, & Hassan, 2021). AI is applied by many companies in their different marketing activities that involve the use of chatbots, consumer feature recognition, and content recommendation system, combining a high engagement rate on social media and offering a personalized online consumer experience that translates into high rates of recommended products and services purchase (Ehiorobo, 2020). Artificial Intelligence-based WEB 2.0 applications helped businesses counteract government measures, restrictions, and limits, like social distancing, lockdown, travel restrictions, etc. across the globe during COVID19 epidemic. Firms wanted to use AI-based and social media tools to influence their consumer via online platforms in order to grow and strengthen their relationship with the consumers (Chintalapati, & Pandey, 2022).

Even more, AI can help in the automation and optimization of specific consumer-servicing processes, such as consultations, product suggestions, and focused advertisements (Rabby, Chimhundu, & Hassan, 2021). The necessity for scrutinizing AI in light of consumer preferences is acute in the digital world of today, successful companies change every day, and one reason for their success is the wise use of AI mechanisms. And AI's influence is expected to grow and grow, hence, prospective employees, and employers in every major industry would grow smart to learn and invest in understanding AI's power.

RESEARCH PROBLEM

AI-driven technologies bring about upcoming transformations in consumer behaviour studies, which now have to adapt to smarter consumers and more advanced businesses in the AI age (Khatri, 2021). Consumers' tendencies and media together constitute a very vocal discourse about the telling part of AI with its correlates, such as machine learning, big data, and intelligent systems (Bawack et al., 2022) in consumer behaviour. This research has been done on AI and the behaviors of consumers; these behaviors are disaggregated into different aspects, such as the perception of consumers, brand evaluation (Chen et al., 2022; Minton et al., 2022), the responses (Sohn et al., 2020; Yun et al., 2021), consumers feelings (Pantano As far as artificial intelligence's effectiveness at engaging with consumer behaviour is concerned, significant advancements continue to be made, and an up-to-date overview would be ideal for capturing these improvements.

According to the insights of the Coomb (2020) before corona virus, people wanted a 'human element' avoiding a fully robotized experience. On the other hand, as pandemics become one of the biggest concerns of last years, there have been some changes in consumer habits, as contact with others now transmits diseases. Nowadays, we may face the very moment that gives a new great way of AI technology being applied by business processes, which in line with the option of a fresh attitude of the consumers towards automatic interactions may require business to face new challenges, and survive and overcome them.

There is a notable gap in understanding the impact of AI on consumer behavior, especially in the context of Saudi Arabia, where businesses increasingly adopt AI technology. AI is spreading rapidly, and many businesses have employed it, but there is a need for a detailed study to ascertain the effect of AI on consumer behavior in the Saudi Arabian service market. Thereby, addressing this gap is crucial: among the findings that you are interested in, may likewise be the unveiling of the nature of consumers in Saudi Arabia. By bridging this research gap, businesses operating in Saudi Arabia can better serve and engage their consumers, ultimately achieving more success in this market.

Objectives

- To analyse the current state of AI adoption in Saudi Arabia.
- To examine the relationship between artificial intelligence (Al) and consumer

behavior.

- To identify the influence of awareness and perception of Al on buying behavior and purchase intention.

LITERATURE REVIEW

3.1 History, Evolution and Global Trends in the AI Adoption

The historical progression of artificial intelligence (AI) has been an intriguing expedition, characterized by significant progress and widespread international popularity (Khatri, 2021). The course of AI technology can be retraced back to the 1950s when early computer programs, and their ability to perform logical reasoning and problem-solving, changed the concept of AI. Slowly, AI evolved from rule-based systems to complex neural networks, driving machines to learn from experience and make autonomous decisions. Dwivedi et al. (2021) highlighted that global adoption route of AI has been mind-bogglingly fast owing to organizations worldwide, from this sector to the other, using AI to enhance efficiency, productivity, and decision-making.

Moreover, the global use of AI in healthcare, financial and other fields, which serves to ignite a spark in the industry, has been remarkable (Rai & Kumar, 2023). AI technologies are evolving from hand-designed knowledge bases to massively scalable systems that can be enumerated upon massive volumes of continually updated, user-generated content and utterly massive amounts of sensor and stability data (Jacobides, 2021). Later, the worldwide adoption of AI reveals that AI is something that is about deeply embedding systems that perform better than humans in a fundamental human thing; that is, understanding language, understanding images (Gkikas, & Theodoridis, 2022). Bharadiya (2023) showed that AI is being brought to its highest point of leverage, namely understanding those things, making predictions about those things that we can consume and act upon. Having AI understand natural language, images, and making decisions using those techniques is important because this is at the top of the hierarchy of human needs (Biswas & Patra, n.d.). Currently, AI is the main impetus driving the way AI can be approached as of today. AI has been pushed by the decreasing costs of three big forces. They are declining data storage, the immense increase in data generation speed, and the increase in computing power (Martínez-Plumed, Gómez, & Hernández-Orallo, 2021). This includes the fact that many AI research projects can be handled much faster and at a fraction of the price.

3.2 AI in Business and Marketing

In their research, Eze and Belloadenike (2016) highlighted factors that impact consumers' behaviors towards marketing alterations in Nigeria's consumer goods. The study's objective was to determine the effects of social factors that affect the buying habits of the consumer clothing industry. The findings were that age, bad financial income, and the fashion organization you wore will influence buying behaviour. Chollabelle Vong, Subarna Panjey and Olivia Debisi (2019) in research focused on developing a tool that can support online vendors in predicting the behaviour of the patrons based on AISAS perspectives; per the conclusion, the research can only collect data from online shopping about not consumable goods and the research Centre completely focused on non-consumable goods type only. Rani & Gupta (2017) initiated a probe into the extent of the factors that influence consumer behaviour, and the research shows that many factors, properties, features, and consumers are the elements that play a key role in the consumer decision-making process. The observation was that businesses that give consumers the room to choose act as counsellors in marketing services to win consumer loyalty. Khrais (2020) shares his study's findings, which seeks to identify the key technological developments in e-commerce designed to impact consumers' shopping behaviour in some manner. It is seen that though the AI model in e-commerce facilitates the process, the ethical appropriateness of the

system is debatable (Bauer et al., 2020), and it is based on the problem of explain ability. Such research has affected the implementation of explainable XAI systems by requiring these systems to have components that will make these models understandable and comprehensible.

AI has increasingly pervaded business and marketing, inducing a fundamental makeover to consumer processes and significantly affecting consumer attitude (Lee et al., 2023). The usage itself is multi-dimensional, willing to undertake different aspects of interaction with consumers and supply service. One of the typical utilizations is to use chatbots with AI ability. With their supervision, an instant and tailor-made answer can be synthesized for what consumers ask and, at the same time, efficacious consumer support can be made available rapidly (Williamson & Eynon, 2020). Also, in terms of examining consumer aspects in advances, AI is also an essential statistical device (Kronemann, 2022). The data thus collected can help those traders understand what the consumers' potential behavior is, then launch strategies towards them, as a result of which the stratagem could be more central to suit in with the conditions of buyers, having a knack for preparing more profits (Helo & Hao, 2022). Challenges occur within the context that consumers have become more attracted and dependently obsessed with the new AI applications as it has become more pervasive over the years. Likewise, consumer awareness, and necessity satisfaction have paved the way compared to shopping now; the new algorithm (Baum et al., 2021), AI, hits more specifically, allows each and any consumer to be attended to by what's the actual demand of them.

3.3 AI Impact on Pandemic

The coronavirus crisis is challenging every aspect of the business world and is, therefore, leading to substantial changes in societies. Recent investigations point to AI and machine learning technologies that are now regarded as promising tools in the fight against the COVID-19 outbreak. They argue that it is done because it increases the processing speed and reliability and can perform tasks for which humans are inferior. Lalmuanawma et al. (2020), respectively, give a point of view on the merits of the applying this technique in screening for COVID-19 patients. As per research, different ultrasound uses have an average of 95% accuracy, which is very skilful and promising. Through the systematic assessment of different evidence-based sources, including articles, studies, and books, it may be noticed that a large proportion of the latest research and studies were related to or aimed at the medical field (Grover et al., 2022).

In contrast, the work carried out to address the Covid-19 crisis, which companies manage through AI, has already been completed. As seen by Sreeharsha (2020), some enterprises are serious about designing new artificial intelligence, yet they are aimed at carrying out social distance regulation within the workplaces. This shows a roadmap to surpass the limits of the regulations imposed by several governments. Regarding different companies, starting up operations without problems will be feasible. Custom-tailored AI technologies may grant the appearance of unforeseen or even deceiving outcomes following the purpose they were previously developed (Walter et al., 2023). Yet, its importance may lie in the speedy ways of addressing problems people can no longer reflect on (Packin, 2020). The necessity of telling about the creation of technology to combat COVID-19 and adopting the existing technology may be a solution or remedy. AI-powered automatic contact control tool based on the SaaS built for asset management within the building was developed, known as PwC (Sreeharsha, 2020). Social distancing has also been made possible by using it to control the proximity between employees. Another such system, in the Smartvid range, allows for identifying the distance between two individuals and whether they are meeting with more than ten individuals through AI. The system processes the images, and this is done to enforce the social distancing norms in a particular region or area; thus, the system helps

in fighting the pandemic and controlling the spread of the COVID-19 virus among the people who are readily going back to their routine lives, jobs and work (Young, 2021). The consequence is increased efforts by businesses to realize what opportunities are out there, which can include but is not limited to new products, new consumers, and shifting of operations to new destinations to remain relevant and compete in this new economic era (Kim, & Mauborgne, 2005).

3.4 Cultural Factors in Saudi Arabian Consumer Behavior

Cultural aspects are critical for the consumer's behavior, and it is essential to understand the character of these aspects when studying the effects of AI on consumer behavior in Saudi Arabia (Gera & Kumar, 2023). Consumer behavior in Saudi Arabia is heavily influenced by cultural traditions and values. These cultural intricacies significantly affect purchasing decisions and preferences. For instance, the concept of collectivism is significant, highlighting the importance of the family and society (Khrais, 2020). A shared mindset might sometimes cause a shopper to take comfort in the input and consideration of other community members when buying certain items. Also, religion is a key factor that matters much on follower extent. Particularly, Islam determines this. Those products and services which support Islamic principles and values may find the consumer closer to them when running final touches. It is very much the tendency of the buyers to seek "elitist" products or services that can lift their social rank as well as improve their image in their vicinity. The cultural attention towards image could affect the acceptance and adoption of AI-driven technologies such that the consumers could associate AI usage with modernity and respect, promoting their adoption and being perceived as up to date (Khrais, 2020).

Hence, it is paramount to factor in culture acceptance while implementing such technology in Saudi Arabia. In addition, the conservative bias of public opinion may get in the way of subjecting particular AI uses to approval. As another example, privacy, offering a good point in the Saudi Arabian culture, might be an obstacle for in coverage AI-driven futures which rely on large scale databases (Chandran & Alammari, 2021). Therefore, AI developers and organizations must watch the applications of AI to make sure it avoids conflicts with cultural patterns and traditions. To achieve this, they must be cautious to address any privacy concerns which may lead to a lack of consumer confidence in AI. Furthermore, language intertwines the cultural medium which AI is embedded upon. To guarantee, AI comes in the right way besides Arab people's culture features, interfaces should be modified to Arabic and their campaigns (Al-Maroof et al., 2020). Introducing cultural content and styling in AI-driven applications as well as improves user engagement and is more likely to be accepted by the target audience as it keeps in step with the cultural phases.

3.5 Awareness and Perception of AI in Saudi Arabia

In the last few years, there has been a gradual increase in how much Saudi Arabia knows about and what it thinks about AI (Martínez-Plumed, Gómez & Hernández-Orallo, 2021). Saudi Arabia has been at the forefront of the Middle East in developing new technologies, which have made the country a perfect candidate to research AI and experiment with creating it. In Saudi Arabia there is growing recognition of the way AI can change things for the better. The people in charge of the government are working proactively to spread awareness about how much Saudi Arabia could benefit from using AI (Haleem et al., 2023). They are also installing rules and regulations for people to follow in the workplace if they want to try and make AI work for them. In 2030, a government-created group called the Saudis' Vision was born. This program is working hard to try and make Saudi use tech better and look into the future to see what other tech could be upsetting us. Creating future plans has actually made a lot of Saudi people very interested in starting their own businesses that include using

AI. Not everyone is sure if AI can be counted on to work well with human beings. Some people have started to worry about working a bad job and needing money. The people in power and in the houses of religious leaders are certain and set motion to make sure that AI develops in a way that never threatens humans.

3.6 Purchase Intention and buying behavior

Concept of purchase intention is given by experts can be inferred in a way that purchase intention is a buying decision process completed by someone, which starts from intention, consideration, expectation, and purchase plan which is influenced by external elements. Intention shows a key role in determining that how people act. The word "purchase intention" has been derived from the term intention and is mostly used in knowing the intention of consumers when they make a purchase decision. Purchase intention of a consumer can be also explained as "the consumer's self-instruction to purchase the product (or take alternative purchase related action)" (Rossiter & Percy 1998, p 126). Purchase intention indicates that consumers would keep an eye on mental needs, examining the data from the external environment, assess alternatives, purchase decision and post-purchase understanding (Naderibani et al., 2016). As stated by Hosseini & Hossein Norouzi (2017), purchase intention can be explained as a pre-confined thought for having services in the future; it is also considered as predictor of consumers buying behaviour.

On the other hand, Consumer buying behavior is important to illuminate the psychology of how consumers think, feel, argue, and choose among available options, how the environment impacts the consumer, and finally, how the consumers' motivation and decision strategies differ between products (Stankevich, 2017). The consumer is playing three distinct roles of user, payer and buyer in consumer behavior study, which is based on consumer buying behavior (Jayaraj, 2017). However, in today's increasingly competitive world, where many brands sell the same products, consumers have a wide range of choices and many different factors influence their buying behavior (Kumar and Babu, 2014).

HYPOTHESES

H1: There exists a relationship between Artificial Intelligence (Al) and consumer behavior.

H2: Awareness of Al influence the impact of AI on buying behavior.

H3: Awareness of Al influence the impact of AI on Purchase Intention.

H4: Perception of Al influence the impact of AI on buying behavior.

H5: Perception of Al influence the impact of AI on Purchase Intention.

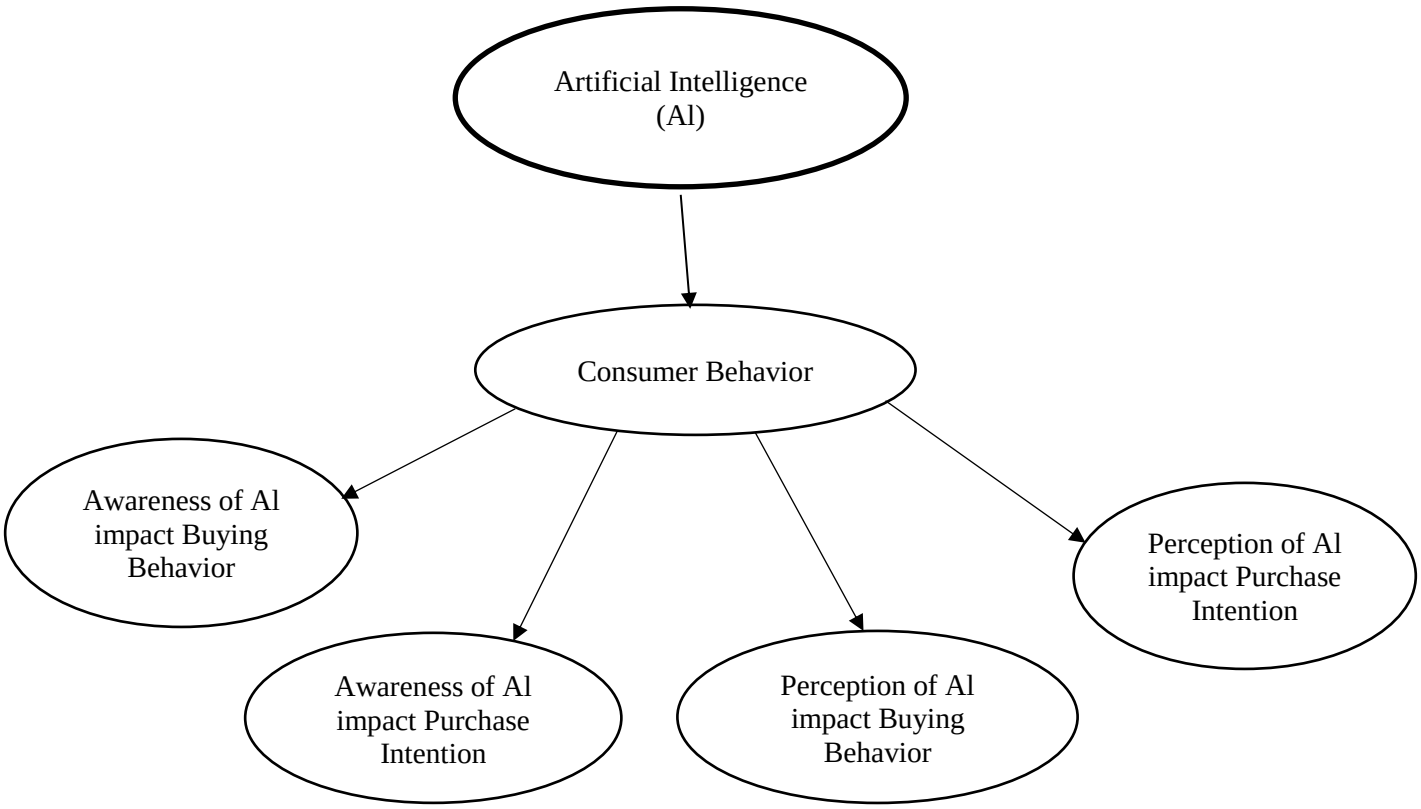

Figure 1: Research Model

METHODOLOGY

5.1 Study Design

The current study is a type of quantitative research. In order to analyze the collected information, both primary and secondary data were gathered. The latter was collected from books, reports, and other written publications with analysis. In contrast, primary data was obtained through a detailed questionnaire (Kumar, 2018). The data was collected from individuals who had various and diverse educational backgrounds. The data was analyzed using such methods of statistical analyses as correlation and regression.

5.2 Population and Sample

The study's population is composed of ordinary Saudi residents. The Jeddah, Riyadh and Dammam regions form the focus of the data collection. Reflecting the reality; the sample's selection mirrors the full range of population groups. Three inquiries pertain to personal history, with a dozen others gauging differing forms of social inclusiveness using a system of five benchmarks. The inclusion and exclusion criteria required the participants to have Saudi nationality, and a work experience of at least a year at the current company. These polls, employing Google Form, were issued in Saudi major urban districts and a total of 228 officials answered the survey.

5.3 Sampling Technique

The convenient sampling technique is utilized to collect data in a manner that is convenient for the researcher. This type of non-probability sampling allows data to be collected according to convenient availability (Kumar, 2018). Given the impracticality of obtaining data from all Saudi Arabian residents, this technique involves the selection of major cities and the use of Google Forms as a data collection method. One

advantage of this form of sampling is that it allows for the rapid assembly of data from a large population.

5.4 Statistical Technique

In this analysis, the statistical package for social sciences (SPSS) was used to conduct data analysis for sample description and descriptive statistics. Along with descriptive analysis, regression, and correlation analyses were performed to explore the data further.

RESULTS AND ANALYSIS

Table 1: Demographics

Demographics		Frequency	Percentage
Gender	Male	102	44.73%
	Female	126	55.26%
Age	18-25	74	32.45%
	26-36	43	18.85%
	37-47	62	27.19%
	48 and above	49	21.49%

The demographic data collected from the survey (table 1) participants reveals interesting patterns regarding gender distribution and age groups. In terms of gender, the study reflects a relatively balanced representation, with 102 male participants constituting 44.73% of the sample and 126 female participants making up 55.26%. This balanced gender distribution enhances the generalizability of the study findings, ensuring that insights drawn are not skewed towards a particular gender.

Analyzing the age distribution within the sample, it is evident that participants span a diverse range of age groups. The majority of respondents fall within the age bracket of 18 to 25 years, comprising 32.45% of the sample. Following closely, the age group of individuals between 37-47 years' accounts for 27.19%, contributing significantly to the overall demographic makeup. Furthermore, the age categories of 26-36 and 48 and above exhibit descending proportions, with 18.85% and 21.49%, respectively.

The prevalence of participants aged 18 to 25 may indicate a higher degree of technological familiarity and adaptability within this age cohort. However, the inclusion of diverse age groups, including those between 37-47 aged 48 and above, allows for a comprehensive exploration of how different age demographics perceive and interact with artificial intelligence.

6.1 Reliability Testing

Each variable was individually examined for validity using factor analysis. The results revealed that all variables loaded onto a single factor, and on the whole, the validity of the variables was loaded onto four distinct constructs. These findings indicate that the data is valid and suggest that additional investigation is warranted.

Table 2: Values of Charon Bach alpha

Values of Charon Bach alpha		
Variables	No of Items	Charon Bach Alpha

Artificial Intelligence	7	0.782
Consumer behavior	6	0.791
Buying Behavior	3	0.873
Perceptions about AI	4	0.798
Purchase Intention	2	0.755
Awareness about AI	3	0.801

The measurement scales for the variables in the study are showed in table 2, as claimed by Cronbach's alpha statistics, satisfactory. Cronbach's alpha test is a statistical technique that is used to assess the internal consistency or reliability of the scale, and a score closer to 1.0 indicates a higher level of reliability. An example of an "Artificial Intelligence" variable seven items and a Cronbach's alpha coefficient that is equal to 0.782 is: This, perhaps, shows a significant value level of internal consistency among the items building artificial intelligence. The variable "buying behavior" comprising 3 items, with a Cronbach's alpha of 0.873, pointing out that the items are not only measuring some lexical uncommonalities but also capturing a common latent construct. The variable of "Perceptions About AI," with four items that reported a Cronbach's alpha coefficient of 0.798. This value signifies an adequate level of internal consistency among the items, tapping into AI perceptions and uniting the components into one measurement with a concept in mind. The variable "Purchase Intention," comprising 2 items, exhibits a Cronbach's alpha coefficient of 0.755. While slightly lower than the other variables, this value still suggests a reasonable level of internal consistency among the items measuring purchase intention. Finally, for the variable "Awareness about AI," consisting of 3 items, the Cronbach's alpha coefficient is 0.801. This indicates a strong level of internal consistency among the items measuring awareness about AI.

6.2 Correlation Analysis

Table 3 (a): The correlation matrix

	Artificial Intelligence (Al)	**Consumer Behavior (CB)**
Al	1	0.738**
Sig. (2-tailed)		.000
CB	0.738**	1
Sig. (2-tailed)	.000	0.341**

Note: **Correlation is significant at 0.01 level (2-tailed)

Table 3(a) depicts about correlation matrix. The table shows the relationship between artificial intelligence and consumer behavior. The correlation coefficient between (Al) and (CB) is (0.738) in which correlation is significant at 0.01. It is evident that the relationship between artificial intelligence (Al) and consumer behavior (CB) is a positive relationship with each other. Also, the relationship is a significant between all items at the level of 0.01.

Table 3 (b): The correlation matrix

Correlations				
	BB	**PAI**	**PI**	**AAI**
Buying Behavior	1			
Perceptions about AI	0.652**	1		
Purchase Intention	0.411**	0.524**	1	
Awareness about AI	0.414**	0.341**	0.287**	1
**Correlation is significant at 0.01(2-tailed); *Correlation is significant at 0.05 (2-talied)				

The correlation matrix in table 3(b) displays interesting connections amid the factors being inspected. The correlation coefficient between Buying Behavior (BB) and Perceptions about AI (PAI) is leading to 0.652. Displaying strong and beneficial associations at a 0.01 significance point. This will show that as perceptions of AI get a decisive outcome, there is obtaining significance. The analysis demonstrates Purchase Intention (PI) shows essential beneficial bonds amongst Perceptions about AI (0.524) and Buying Behavior (0.411) at the 0.01 significance point. Meaning, people with high opinions about AI and high procurement are likely to agree to purchase more consistently in the future. Additionally, AAI or Awareness of Artificial Intelligence is notably connected with all the other factors; having rates of 0.414 with Buying Behavior, 0.341 with perceptions of Artificial Intelligence, and 0.287 with the purchase intention. All of these rates are significant at the 0.01 probability level. These numbers demonstrate incrementally positive tendencies in buying, perceptions, and purchase tendencies as the awareness of AI itself increases.

6.3 Regression Analysis

The regression analysis shows in table 4 the R value of 0.357, and a R square value of 0.127, with adjusted R square value of 0.122

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.357[a]	.127	.122	9.16415	1.797
a. Predictors: (Constant), Buying Behavior, Perceptions about AI, Awareness about AI					
b. Dependent Variable: Purchase Intention					

The analysis of variance (ANOVA) in table 5; demonstrates that the regression model significantly improved the prediction of purchase intention compared to the null model ($p < .001$). The predictors collectively accounted for a significant portion of the variance in purchase intention ($F(3, 481) = 23.361$, $p < .001$).

Table 5: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5885.789	3	1961.930	23.361	.000[b]
	Residual	40395.193	481	83.982		
	Total	46280.981	484			
a. Dependent Variable: Purchase Intention						
b. Predictors: (Constant), Buying Behavior, Perceptions about AI, Awareness about AI						

The coefficients in table 6 provides insight into the contribution of each predictor to the regression model. All variables a statistically significant positive relationship with purchase intention ($p < .001$), indicating that as AI awareness, perception and behavior understanding increases, purchase intention tends to increase.

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.412	2.060		11.363	.000
	Perceptions about AI	.674	.959	.030	.703	.042
	Awareness about AI	5.331	.639	.361	8.343	.000
	Buying Behavior	-.511	.843	-.026	-.606	.045
a. Dependent Variable: Purchase Intention						

HYPOTHESES TESTING

No	Hypothesis	Result
H1	*There exists a relationship between Artificial Intelligence (AI) and consumer behavior*	**Accepted**
H2	*Awareness of AI influence the impact of AI on buying behavior*	**Accepted**
H3	*Awareness of AI influence the impact of AI on Purchase Intention*	**Accepted**
H4	*Perception of AI influence the impact of AI on buying behavior*	**Accepted**

H5	*Perception of Al influence the impact of AI on Purchase Intention*	**Accepted**

KEY FINDINGS

This study was conducted to explore the relationship between artificial intelligence (Al) and consumer behavior (CB). The study also identified the influence of (Al) awareness and perception on purchase intention and buying behavior. The findings highlighted that the relationship between (Al) and (CB) is a positive relationship. The study results also mentioned that awareness and perception of (Al) influence the impact of (Al) on buying behavior and purchase intention. All variables are statistically significant positive relationship with each other. Means when the level of awareness and perception of (Al) increase, buying behavior and purchase intention tend to increase as well.

From literature, the rapid technological changes underway in Saudi Arabia have placed the adoption of artificial intelligence (AI) at the forefront. With crucial factors driving and shaping the AI landscape in the nation, the government has been nothing short of pivotal in ensuring the successful integration of AI into almost every part of the economy, owing to the countless initiatives and support dished out. This is also largely dependent on the Vision 2030, which, through a plan to diversify the national economy, has made technology the most significant medium of implementation for itself. Furthermore, the entire AI world in Saudi Arabia is delicate and subject to various factors, but having a treasure trove of economic successes can never be the ultimate solution. It's important to have hard, robust technological supports, which at the least must be on par with cutting-edge technology to win a local and regional contest (Khatri, 2021). Government, of course, has never wavered in ensuring this happens by being very effective in policy and funding. Just like investment in technology or AI alone is never sufficient, sweet regulation for the industry is necessary to ensure everything in Saudi Arabia runs smoothly and ethically in the AI world. This is the impact of AI on consumer behaviour in Saudi Arabia is a complex trend consisting of all the main parameters, such as awareness, perception, cultures. Initially, the Consumer Awareness and Perception axis is essential, participating in which the level of AI awareness among Saudi Arabian consumers is reached. With a growing tempo and the involvement of AI in various aspects of daily activities, measuring consumer awareness levels just serves as a base from which to start. On the matter of consumer behaviour, more importantly, probing into the perception of AI's influence sheds light on the public's mindset and gives insight into their expectations of AI technology. Additionally, AI's fields of Personalization and Recommendations also play a major role in understanding how AI interactions occur at the decision-making stage (Nazir et al., 2020). Moreover, AI with personalized offers is the force that shapes and changes people's choices. While investigating how individuals react to interactive environments aided by AI, scientists can smartly develop the tastes and features that govern particular financial transactions. Unravelling what consumers think about such an individual approach contributes to an insight into the readiness and willingness of consumers to buy AI-led recommendations in the Saudi market.

The AI's relation with consumers' behaviour in Saudi Arabia is basically because of the many factors involved in guiding this relationship, among which the most prominent are awareness and perception about Al. However, from literature, the cultural inclinations of the Saudi people that the AI adoption rate rises to the top as the trend for the Kingdom. When it comes to incorporating AI into people's ways of life, comprehending what conventionality and culture mean in adopting and utilizing AI cannot be overlooked. Whether AI applications supplement the culture or just replicate the society mores, evaluating their level of acceptance is critical in ensuring devices are

consistent with the Saudi Arabian culture. Also, the introduction of AI technologies' accessibility across social and economic varieties expounds on the gap between AI-related facilities and the ability to use them across other social classes. Comprehension of such a gap matters vitally for developing strategies to serve the various social and economic structure aspects of the Kingdom of Saudi Arabia better.

CONCLUSION

In layman's terms, the research lays bare the intricate intertwinement of determinants defining the consumer behavior in Saudi Arabia via AI. Discussing awareness, perceptions about artificial intelligence and their influence on the impact of Al on buying behavior and purchase intention. Besides, the nation's strong government involvement, AI companies' engagement in various industries, and regulations frameworks are some of the indicators, just to mention a few, that demonstrate the nation's AI integration effort. Information garnered from such knowledge enriches the awareness of AI effects, and as a result, it enables businesses to develop informed strategies. Along with the emerging technological shift, the commitments not only address the importance of considering AI's application with cultural perspectives to reach an enduring and integrated adaptation.

The limited scope of research is important because of just one non-generalizable factor, which can be attributed to the commonality of cultural attributes and demographic values, which are not of observation. Moreover, the assessment is limited to a particular technique (a questionnaire survey, for example), which can only base the outcome on the derived points; thus, the advantages are also confined to that matter. Researchers may overlook the totality of consumer behaviour and artificial intelligence influence in a case with a conventional period or a short time in other regions.

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