Measuring the Influence of Artificial Intelligence (AI) on Online Purchase Decisions-In Case of Indian Consumers

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ARTICLE INFO

ABSTRACT

The industry's ostensible technological sophistication contributes to the highly dynamic ecommerce environment. When new technology is made available, many of these companies openly adopt it to stay competitive market. Internet shop owners have embraced a variety of technologies, including artificial intelligence. Technology is rapidly evolving. Artificial intelligence significantly facilitates the conversion of interest into purchase intentions. The majority of the information gathered by e-commerce companies is about prospective customers or prospects. AI can be used to interact with warm leads or cold leads who have indicated interest in a brand or product. Furthermore, AI has been demonstrated to be a highly constructive technique of retargeting customers. Artificial intelligence advancements have increased consumer satisfaction even further, making it even more critical in today's climate. This paper will investigate the factors that influence artificial intelligence's practical implacability in order to better understand how it affects consumers' online purchase plans. This paper explores the various variables influencing consumers' purchase intentions for e-retailing using a technology-based model as the foundation. This study has developed a model that shows how business organisations can incorporate artificial intelligence into retailing in order to comprehend consumer requirements and encourage technology adoption. This research has looked more closely at consciousness, subjective norms, and faith as constructs that heighten the tenacity of artificial intelligence.

Keywords: Retail Industry, Consumer Satisfaction, Artificial Industry, Purchase Intention

I. INTRODUCTION

In current era, Artificial Intelligence has played a significant role in changing the interest into a purchase intention. It is possible to use AI to interact with accompanying with who have shown interest in a particular brand, regardless of whether those leads are considered warm or cold. E-commerce businesses focus the vast majority of their attention on gathering information about prospective buyers or consumers. In addition, it has been demonstrated that using artificial intelligence as a strategy for retargeting customers is an extremely effective technique. The artificial intelligence is one of the superlative tools those who are beginning stage of online stores. According to, the industry of electronic commerce was the first to introduce artificial intelligence, and the industry of financial technology followed closely behind it. The past five years have seen a significant rise in the frequency of its application.

Estimates indicate that 84 percent of these businesses either already make use of artificial intelligence or have plans to begin doing so in the near future. In addition, the reference suggests that the implementation of artificial intelligence has resulted in a 20% increase in revenue for businesses involved in online shopping. Most of the online retailers has focused on captured the online consumer data, based on that they try to improve the level of personalized marketing activities. Nevertheless, the vast majority of businesses are unable to make use of the data they possess, despite having access to terabytes upon terabytes of it. In the arena of Analytics related to bigdata. In ordered to get beneficial senior of the market we need to approach the Artificial Intelligence. AI is employed the systematic analyses the massive data. When compare to traditional marketing with modern marketing, retailers are using applications of AI, i.e., machine learning tool for improving the outcome of the retailer's industry. Social media has been used by brands and businesses to increase their influence. Nowadays, businesses are more aware of what customers are stating and what they want. For more understanding of the behaviour of the consumers, most of the management people use artificial intelligence for accumulate them into most widespread lists. Social media is heavily consulted in the early stages of the purchasing choice process. These websites frequently have product evaluations and other useful data that is essential for making purchasing decisions. This situation typically shows up when a significant buy is about to be made. However, it was discovered that even decisions to buy low-priced products are also influenced by the substantial that a customer has been viewing on social media. As per theDeloitte study, most of the consumers are influenced by social media, and the impact of this is more than four times increasing their spending on desirable items. A further strategy used by companies to win over customers' confidence is influencer marketing on social media. Influencer marketing can be incredibly beneficial for a business by bringing in new customers. Influencers on YouTube, Instagram, and Snapchat are being used by many companies in place of celebrities. These online celebrities are giving customers their frank views on the goods they love. Furthermore, the influence of AI could be so prodigious that 29% of consumers are more pertinent to buy. These statistics show that social media dependence has a big impact on how people build their consideration sets.

No matter how high-quality it is, if a service or product is not in line with the wants and desires of the customer, it will fail miserably. Geographical location, society, religion, nationality, and environment all have an impact on consumer behavior. Artificial intelligence (AI) tools gather data from various sources from social media as well as news from previous sales. In addition to these reviews to show what consumers anticipate. These instruments also exhibit spending ability. The tools' dependability is their finest feature because it has been demonstrated that forthcoming demand as well as supply can be predicted with bewilderingaccurateness. Companies can use these

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invaluable insights to offer the chosen regions specialized goods and services.

Artificial intelligence opportunity to retailers in terms of provides marketing, product & service selection, and virtual dressing, it aids customers in making informed purchasing decisions. Finding the right products & services internet can be difficult. To select the ideal goods and services, Customers' use of the internet is typically readily traced back to the items they searched for based on their search history. As a result, consumers can easy admittance to the resources which are more essential to increase their growth of the business.

II. Review of Literature

As per the study of [4] claimed that the industrial revolt would be declared in the subsequent decades. ICT, robotics, automation, and artificial intelligence will power the fourth industrial revolution. Artificial Intelligence significant impact on studies related to individual customers as well as management of sale studies and it practices. In this paper majorly focus on Application of machine learning and its impact on behaviour of the consumers. Through machine learning and Artificial intelligence, we can decrease the cost as well as time period for digital marketing strategies will be decreased, so that this will more helpful to reach the goals of the organisation. When we adopting artificial intelligence into digital marketing it follows to an outline that must evolve in line with organizational aims and goals. In addition to this [8,9] discovered that using various online offers adequate and comprehensive data collection. Understanding customer requirements and providing pertinent content for online sales and promotion are made possible through the use of consumer data. Digital marketing is not, however, treated independently from data analytics. Data collection and conversion into readable forms necessitate the use of additional tools and technologies. Additionally, the raw data gathered through digital channels needs to be analyzed to enhance use. [1,5,7,8] addressed the use of new technologies by companies with successful marketing strategies.AI has changed how businesses gather and use customer data. Utilizing cutting-edge technologies like AI and Big Data to improve client experience is encouraged by the use of intelligent digital marketing solutions.

Marketers can better comprehend their target audience with using of this technology. [3] It has been suggested that e-commerce businesses need a lot of data to make decisions that are based on current data and historical aspects of company interactions. According to [12]'s analysis, the majority of informed customers favor artificial intelligence. They think it will speed up information access while also delivering more pertinent information and saving time. Consumers also think AI will lead to cheaper prices, emotional support, and easier purchasing choices. According to [13,16,18], artificial intelligence is a new tendency in the twenty-first century that people must embrace if they are to benefit from it. Although consumers of AI find it intimidating, they also benefit from its capacity to make their lives humbler.

Naturally, businesses favor clients who make purchases quickly because they receive input almost immediately. Such customers are easier to persuade, particularly when using AI systems. [22] asserts that one important factor used by artificial intelligence systems in e-commerce to forecast user behavior is transaction duration. The authors of [3,17,20] contend that purchase duration can be seen as another important indicator of an artificial intelligence system's success. A shorter purchase period suggests that the AI algorithm has a significant impact on the consumer. Customers who make purchases more quickly frequently do not add products to their carts, which is a list of the things they are thinking about. Due to the fact that one does not have to recall the product's name when carting, purchase times are considerably shortened [24]. Additionally, adding an item to your cart tells the system that you're interested in similar goods.

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AI systems provides product recommendations as well as the predictive power of sophisticated models to make suggestions for goods that are prospective to encouragement a customer's interest. Artificial Intelligent emphasized on data filtering and also it uses the algorithms ranges determinations with respect to most relevant goods intention customers [15,21]. They accomplish this by reviewing previous client behavior, including searches, clicks, and purchases, both recent and historical. After that, they decide what will continue to attract to that consumer's preferences [14,16,17]. AI-driven product suggestions help customers find the products they want to buy quickly and easily [22].

Artificial intelligence also gives a business the chance to highlight the qualities that existing customers value in their goods and attract new customers to them. Therefore, such methods open up the possibility of cross-selling and upselling. The authors of [26] advocated that ecommerce companies should use product recommendation AI systems because research demonstrates their value to the industry. The source found that businesses can persuade customers to buy such suggestions by highlighting the most pertinent goods. [2,19] see product recommendations as a crucial tool for raising the caliber of product ideas. By using such technology, a user only sees the information that is most pertinent to their circumstance, piqued their interest. According to the authors [20.25], customers have a better chance of adding goods to their carts and eventually buying them if they find them to be more relevant in their feeds. The choice of whether to cart the recommendations or add them to their "favorites" list is completely up to the user. In both situations, [5,10] discovered that placing the product or products in a designated area that is accessible whenever a customer needs to continue with the purchase intention.

The further study by [7,11] argued that the ability to browse and assessmentof goods they like strengthens a customer's loyalty to a particular website. Social media has been used by the most of the brands and businesses for the purpose of to increase their influence on specific segment of the consumers. Nowadays, businesses are more aware of what customers are stating and what they want. In order to understand the behaviour of the consumers, management uses AI to study the most popular subjects and condense them into trending lists [6,15]. Social media dependence has effects that go beyond merely attracting customers. Social media is heavily consulted during the early phases of the decision-making process [7,18]. These websites frequently have product evaluations and other useful data that is essential for making purchasing decisions. This situation typically shows up when a significant buy is about to be made. However, [9,11] Consumers who are influenced by social media are four times more likely to increase their spending on goods, per a Deloitte study [9,18]. A further strategy used by companies to win over customers' confidence is influencer marketing on social media. Influencer marketing can work wonders for a business bybringing in new customers [22,21]. Influencers on YouTube, Instagram, and Snapchat are being used by many companies in place of celebrities. These online celebrities are giving customers their frank views on the goods they love. Furthermore, the impact could be so great that 29% of consumers are more apt to buy the same day they use social media [14,17]. These statistics show that social media dependence has a big impact on how people build their consideration sets.

A consumer's list of potential brands, whether tangible or not, that they are thinking about buying in order to satisfy a particular desire is referred to as their consideration set. Online marketplaces are exceptional in that they have the capacity to provide virtually infinite choices [24,12]. The authors of [13,14]. this study looked into how different search costs affected consumers' decision-making processes and how their shopping habits changed in reaction to changes in the size of the online selection.

Theory of Reasoned Action:

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The theoretical foundation of the research also includes the theory of reasoned action. The connection between people's attitudes and actions is explained by this idea. Behavioral intention and actual action are closely related, according to [24,15,3,11]. Action, target, circumstance, and time are included in the latter, which in turn consists of these elements. In addition, it should be noted that even strong behavioral intentions do not always translate into actions, a point that the authors of the TRA do not go into great depth on. According to, people who are interested in behavior prediction should look at the causes of behavioral intention.

Theory of Planned Behavior (TPB) -Model
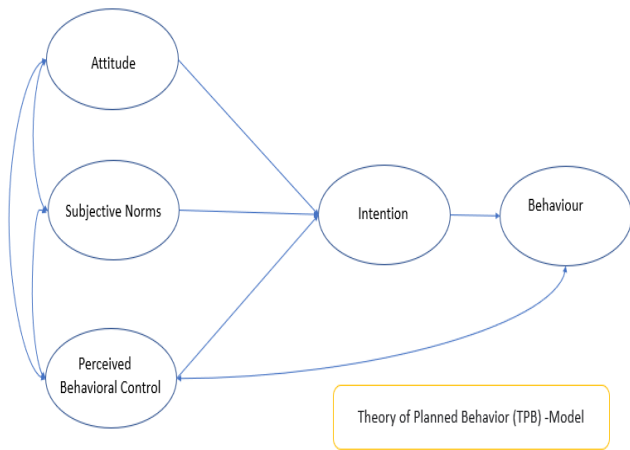
Conceptual Model of the study :

Conceptual Model
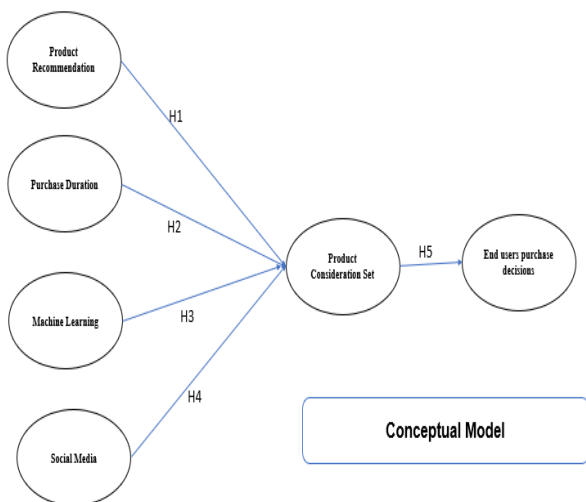
Hypothesis of the study:

H1: Product Recommendation (PR) will have a positive influence among the Product consideration set of the consumers.

H2: Purchase duration (PD) will have a positive influence among Product consideration set of the consumers.

H3: Machine Learning (ML) will have a positive influence among the Product consideration set of the consumers.

H4: social media (SM) will have a positive influence among the Product consideration set of the consumers.

H5: Product consideration set (PC) will have a positive influence among the Product consideration set of the consumers.

III. Research Methodology

A descriptive survey research methodology was taken into consideration for the study, which was motivated by the positivist approach to research that was used throughout the paper. With the help of this plan, the researcher decided to gather data at the customer level. But since they have the necessary degree of expertise to answer them, the technical questions were not asked of e-commerce developers. A challenge for the researcher was the vast number of possible respondents. But only one e-commerce platform was contacted by the researcher. The target ecommerce platform was contacted by the researcher via its Facebook page in an effort to reduce the number of potential respondents and increase the quality of answers. Users who had sent a direct message to the firm in the previous two weeks regarding work-related issues had to meet the inclusion criteria. One of the more advanced interactions a social media user can have is to send a direct message to a page. 220 participants who matched this profile in total were found to exist; they served as the study population's main demographic.

Data Analysis and Interpretation:

KMO Test: :

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.889
Bartlett's Test of Sphericity	Approx. Chi-Square	1837.975
	df	3
	Sig.	.000

Table:1 KMO Test:

An appropriate factor analysis must start with a KMO value greater than 0.5. Results above 0.5 should only be tenuously accepted, according to Kaiser (1974). Furthermore, values between 0.5 and 0.7 are middling, 0.7 and 0.8 are acceptable, 0.8 and 0.9 are excellent, and values above 0.9 are fantastic. (Hutcheson & Sofroniou1999). Value increases as quality does. By examining the findings above, it is possible to see that the KMO is 0.889, which suggests that factor analysis might proceed.

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	5.166	28.701	28.701	4.651	25.839	25.839
2	3.283	18.238	46.939	3.577	19.874	45.713
3	2.922	16.234	63.173	2.931	16.283	61.996
4	1.968	15.934	70.107	1.658	14.879	72.875
5	1.951	12.174	71.280	1.873	12.405	79.280
6	1.968	10.934	74.107	1.958	10.879	83.875
7	1.875	4.861	74.670			
8	1.393	2.185	78.855			
9	1.281	1.564	81.418			
10	1.251	1.395	83.813			
11	1.875	4.861	93.670			
12	.393	2.185	95.855			
13	.281	1.564	97.418			
14	.251	1.395	98.813			
15	.111	.619	99.432			
16	.061	.338	99.771			
17	.021	.117	99.887			
18	.020	.113	100.000			

Table : 2 Total Variance Explained

There are only six factors that exhibit eigenvalues higher than one. The percentage of variance column shows how much variance each specific factor can explain. The Cumulative% column shows the amount of variance that each successive factor, taken together, can explain. According to the above table, factor 1's eigenvalue is 5.11, which accounts for 25.83 percent of the variance. Because the eigenvalues greater than 1 criterion was used to identify the factors, we have four variables that could collectively explain a total of 83.875 percent of the variation in the data.

Structural Equation Model Using Smart Pls Output Interpretation:

When used for statistical inference, PLS-SEM has fewer constraints than CBSEM. A small sample size is needed to obtain parameter estimates for hypothesis testing using this method. In contrast to CBSEM, this technique needs a sample size of more than 100 to

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estimate the causal effect of the variables in the study. (Hoyle, 1995).

| Construct Reliability and Validity:				
	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Product Consideration Set	0.850	0.822	0.831	0.856
End-Use Online Purchasing Decision	0.954	1.040	0.853	0.842
Machine Learning	0.964	1.036	0.838	0.348
Product Recommendation	0.954	1.127	0.968	0.909
Purchase Duration	0.730	0.923	0.856	0.790
Social Media	0.832	0.745	0.818	0.723

Table 3 : Construct Reliability
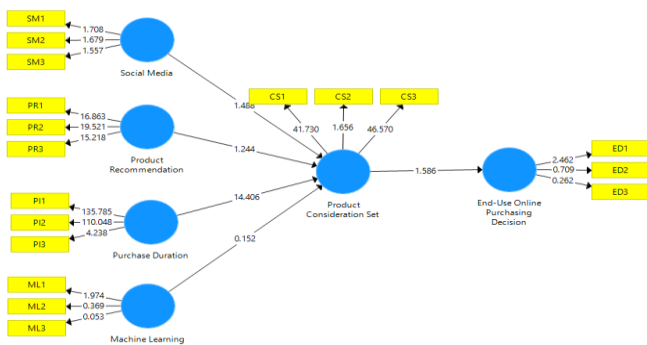
Fig3: Smart PLS-Output

Mean, STDEV, T-Values, P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Product Consideration Set -> End-Use Online Purchasing Decision	0.876	0.768	0.011	15.58	0.000
Machine Learning -> Product Consideration Set	0.722	0.776	0.245	13.15	0.001
Product Recommendation -> Product Consideration Set	0.707	0.852	0.267	12.24	0.001
Purchase Duration -> Product Consideration Set	0.822	0.847	0.057	14.40	0.000
Social Media -> Product Consideration Set	0.387	0.778	0.260	10.48	0.001

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R Square

	R Square	R Square Adjusted
Product Consideration Set	0.696	0.691
End-Use Online Purchasing Decision	0.031	0.027

Hypotheses results of the proposed framework Hypothesis Results:

H1: Product Recommendation (PR) will have a significant influence among the online end users purchase decisions. Path between Product Recommendation to online end users purchase decisions is found to be positively significant at $\rho=< 0.001$ level with t-value= 2.041. Hence the predicted hypothesis is supported.

H2: Machine Learning (ML) will have a significant influence among the online end users purchase decisions. Path between Machine Learning to online end users purchase decisions is found to be positively significant at $\rho=< 0.001$ level with t-value= 2.041. Hence the predicted hypothesis is supported.

H3: Purchase Duration (PD) will have a significant influence among the online end users purchase decisions. Path between Purchase Duration to online end users purchase decisions is found to be positively significant at $\rho=< 0.001$ level with t-value= 2.041. Hence the predicted hypothesis is supported.

H4: social media (SM) will have a significant influence among the online end users purchase decisions. Path between social media to online end users purchase decisions is found to be positively significant at $\rho=< 0.001$ level with t-value= 2.041. Hence the predicted hypothesis is supported.

H5: Product Consideration Set (PC) will have a significant influence among the online end users purchase decisions. Path between Product Consideration Set to online end users purchase decisions is found to be positively significant at $\rho=< 0.001$ level with t-value= 2.041. Hence the predicted hypothesis is supported.

IV. Conclusion

The findings of the research lend support to the behavior intention model (also known as the Unified theory of technology acceptance model) the UTAUT framework by demonstrating association between user behavior and behavioral intention. The fact that machine learning, product recommendations, and buy duration were found to affect customers' consideration sets may also be seen as support for the idea that these three factors play a substantial role in influencing consumer behavior. In addition, the fact that customers' consideration sets were found to affect machine learning, product recommendations, and buy duration. The observation that the consideration set has a substantial influence on the end-user's purchase choices is consistent with the theory of reasoned action, which shows that the theory makes sense. According to the authors of [48], the consideration set is an essential part of the decision-making processes that consumers go through. Items that have a substantial amount of weight assigned to them in consumers' original and current consideration sets are items that have a high potential for purchase.

The findings of the study provided support for the hypothesis that changing customers' online shopping behaviors necessitates a comprehensive understanding of the factors that are important to them. AI tools appear to be an effective tool for accomplishing this goal because of the valuable data that they provide on a variety of variables that influence the behavioral intentions of customers. This objective is to make customers more likely to make purchases. In addition to this, they provide efficient tools that shape the product offerings and encourage suggestions for products that are either helpful or shopping-related. They are responsible for encouraging additional actions that increase the possibility of a more extensive purchase being made online. This is especially true if marketers make money off of factors such as the length of the buying process and their customers' dependence

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on social media. According to the findings of this research, marketing can reap benefits from facilitating conditions such as longer purchase durations and increased dependence on social media. Customers' consideration sets were significantly impacted by internally controlled variables such as machine learning, product recommendations, and purchase duration, which in turn influenced online end-consumers.

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