A STUDY ON THE IMPACT OF ARTIFICIAL INTELLIGENCE ON CONSUMER BEHAVIOURTOWARDS ONLINE SHOPPING

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ABSTRACT

Online shopping was increased due to technological advancement and E-Commerce development. E-Commerce is supported with AI in marketing their businesses to enhance personalization, improve efficiency, and drive better customer engagement. E-commerce websites uses AI to serve relevant ads to specific segments, to suggest products based on browsing history and past purchases, chatbots to handle customer inquiries 24/7, providing quick responses,guiding them through product selections, track orders or resolving issues toenhance user experience.This motivated the researcher to analyse the impact of Artificial Intelligence on Consumer Behaviour towards online shopping by using factor analysis and found that the role of AI in Personalizing the Online Shopping Experience, Consumer Trust and Security is important to influence consumer behaviour.

INTRODUCTION

Technological advancement have paved way for increase in online customers. Hence Industries and marketers have to understand the customer needs, wants, taste, preference, purchase patterns to tailor the products and services to customers which is possible only through Artificial Intelligence(AI) which monitors each and every move of online customers.AI helps marketers to optimize customer service, increase sales, and build deeper customer relationships.

OBJECTIVE OF THE STUDY

The main objective of the study is to identify the impact of Artificial Intelligence on Consumer Behaviour towards online shopping.

REVIEW OF LITERATURE

According to **Prakash, S. M. Babu, P. P. Kumar, S. Devi, K. P. Reddy and M. Satish (2023)** businesses are increasingly turning to AI-driven solutions that look into topics including machine learning algorithms, natural language processing, and deep learning models, which are used in consumer sentiment analysis, recommendation systems, and market trend predictions to gain valuable insights into consumer preferences and purchasing patterns.

G. Jangra and M. Jangra (2022) expressed that the artificial intelligence monitors the customer's choice, preferences, taste, and purchasing pattern, the frequency of purchases and the average amount spent over a specified period which provides detailed customer information to E-Commerce organisations to tailor the products and services according to their customer's specific needs and preferences.

D. C. Gkikas, P. K. Theodoridis (2022) expressed that the objective of the business, aims to attract new customers, predict consumer behaviour, along with the capability to personalize and predict demand

using “smart” systems which allow them to increase sales, mitigate the decision-making risk and increase customer satisfaction, customer loyalty, and sales predictions.

Rabby., F. Chimhundu., R. & Hassan, R. (2021) stated thatArtificial intelligence (AI) would enhance the digital experience while delivering personalised service to customers. AI helps the marketers to collect detailed information about real-time customer insights through which they can develop customised digital marketing experiences.

AI-driven systems like Chatbots, and messages are used by several companies to identify digital marketing buyers and provide individualised guidelines to help customers find relevant products and services **Haenlein & Kaplan (2019).**

AI-based digital marketing, would assist businesses to transform digital marketing interactions with customers to reach the right customers at the right time to improve customer satisfaction**Ransbotham, et al. (2017)**.

METHODOLOGY

The primary data was collected through a questionnaire from online buyers. A sample of 150 questionnaires were selected and used for the study.

DATA ANALYSIS AND RESULTS

Factor Analysis is applied to identify the Impact of Artificial Intelligence on Consumer Behaviour towards online shopping. To identify whether it is appropriate to employ, the principal component method with varimax rotation, Kaiser-Meyer-Olkin (KMO) test and Bartlett’s test of sphericity was conducted firstly.

Table no: 1 Table of KMO and Bartlett's Test on the Impact of Artificial Intelligence on Consumer Behaviour towards online shopping

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.736
Bartlett's Test of Sphericity	Approx. Chi-Square	1124.306
	df	66
	Sig.	.000

The above table indicates that the KMO value is 0.736 and Bartlett’s test of sphericity with Chi-square value approximately 1124.306 at 5% level of significance. Therefore, it is appropriate to conduct the factor analysis. The following communality table gives the Range of the variances of all the twelve variables.

Table no: 2 Table of Communalities

Communalities

	Initial	Extraction
AI1	1.000	.689
AI2	1.000	.354
AI3	1.000	.756
AI4	1.000	.417
AI5	1.000	.400
AI6	1.000	.885
AI7	1.000	.907
AI8	1.000	.816
AI9	1.000	.792
AI10	1.000	.748
AI11	1.000	.437
AI12	1.000	.690

Extraction Method: Principal Component Analysis.

From the above table it is clear that the Range of the variable is from 0.354 to 0.907 and the prevailing variable of sampling distribution varies from 35.4% to 90.7%. This leads to the conclusion that the factor extraction process is justified to formulate meaningful factors. The number of factors is identified from the following total variance table.

Table no: 3 Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.674	38.954	38.954	4.674	38.954	38.954	4.661	38.845	38.845
2	1.971	16.421	55.375	1.971	16.421	55.375	1.929	16.078	54.923
3	1.246	10.381	65.756	1.246	10.381	65.756	1.300	10.833	65.756
4	.984	8.200	73.956						
5	.829	6.906	80.862						
6	.746	6.218	87.079						
7	.615	5.126	92.205						
8	.370	3.080	95.285						
9	.220	1.833	97.118						
10	.186	1.548	98.666						
11	.089	.742	99.407						
12	.071	.593	100.000						

Extraction Method: Principal Component Analysis.

From the above table it is found that the twelve variables are converted into major three factors with individual variances 38.845, 16.078 and 10.833. The total variance explained by the variable is 65.756which are significant at 5% level of significance. The following variables loading gives the details about formation of new factors with appropriate variable loadings.

Table No: 4 Rotated Component Matrix[a]

	Component		
	1	2	3
AI7	.946		
AI6	.933		
AI8	.896		
AI9	.889		
AI10	.861		
AI11	.640		
AI3		.850	
AI1		.828	
AI4		.552	
AI12			.809
AI2			.560
AI5			.493

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

On the first dimension, factor loadings is varied from 0.640 to 0.946. Among twelve variables, AI systems feels trusted to make decisions that are in best interest showed higher factor loadings at (0.946)followed by AI systems feel comfortable that access personal data like browsing history, past purchases to provide personalized shopping experiences at (0.933) AI-powered features like chatbots, virtual assistants, one-click purchasing would improve the convenience of the shopping experience at (0.896)AI-driven product recommendations such as ads or suggestions would feel more confident in purchase decisions at (0.889) AI-driven personalization like product recommendations, discounts makes shopping experience more enjoyable at (0.861) The quality of customer support is good when interacting with AI like chatbots and automated help centers at (0.640).From this it could be inferred that these variables are related to **Consumer Trust and Experience with AI in E-Commerce.**

The key variables identified in Second dimension are AI-powered features like product recommendations, chatbots, or virtual assistants are encountered while shopping online showed a factor loadings at (0.850) followed by the product recommendations provided by AI are relevant to my preferences and needs at (0.828) and Purchase decisions are made when AI offers real-time personalized discounts or pricing at (0.552). From this it could be inferred that these variables are related to**The Role of AI in Personalizing the Online Shopping Experience.**

At last the key variables identified in Third dimension are AI would influence to purchase a product or services that didn't initially plan to buy showed a factor loadings at(0.809) followed by AI such as voice assistants or automated customer service are used to complete a purchase or resolve a shopping issue at

(0.560) and AI-driven fraud detection systems ensures secure purchases at(0.493). From this it could be inferred that these variables are related to**Consumer Purchasing Decisions and Security.**

CONCLUSION

E-Commerce business can use Artificial Intelligenceto sustain in this competitive environment to analyse a shopper's browsing history, past purchases, search behaviours, and preferencesto provide a smooth shopping experience for the customers.Artificial Intelligence provides personalized shopping experience with trust, confidence and security.

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