

A STUDY ON THE EFFECTIVENESS OF ARTIFICIAL INTELLIGENCE IN E-SHOPPING – WITH REFERENCE TO CHENNAI CITY

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ABSTRACT

Artificial Intelligence is the gift in this 21st century. Artificial Intelligence helps to develop the marketing especially e- shopping. Customer centric search, Hyper Personalization, Chatbot system, visual search, AI fake detection, Virtual personal shoppers, Voice based search, New Intelligent Agent, Product recommendations & categorization, etc, are all outcome of the AI. This study based on the Primary data, used Simple Random Sampling among 177 respondents. The study revealed that the customer centric search, chatbot system, visual search, hyper personalization, virtual personal shoppers, product recommendation and categorization are the highly considered and AI fake detection and New intelligent agent are least considered in this study.

Introduction

Artificial intelligence is a scientific term but used in social science very often nowadays. The essence of AI is increasing in social sciences to improve its efficiency. In this 21st century, AI had taken another step of evolving the globe especially in trade and commerce. Modern E-commerce is highly developed to facilitate the business in online with the help of Artificial Intelligence. The consumers are not accessing the computers, but the computers are accessing the consumers through Artificial intelligence. The AI reads the minds of the consumers through their sights, touches and walks. Hence, the AI understands the consumer wants through their search engine and provides not only the respected goods but also complementary goods. AI stores the information of the customers in its memory and sends notifications to the customers as well as do sales promotion for the product. AI does sales representation also virtually for the consumers and clarifies all the doubts with regard to products. Hence, the features of Artificial Intelligence are taken in this study to find the relationship with the online shopping.

Review of Literature

Shyna Kakkar and Vishal Monga (2017) conducted a study on the artificial intelligence in e-business and found customer service and voice powered search are the influencing

factors in online shopping. Assistants of AI, Recommendation engine, optimal pricing were the primary factors of artificial intelligence in the study of Xia Song, Shiqi Yang, Ziqing Huang and Tao Huang (2019). In the study of R.D. Lande (2019) found that the virtual personl shoppers and Conversational commerce chat influences the e-business. . The study of Jiwang Yin, Xiaodong Qiu (2021) revealed that the accuracy, insight, and interaction experience of AI marketing technology each have a significant positive impact on consumers' perceived utility value and hedonic value. Diptikanta Panigrahi, Meher Karuna (2021) identified that the Automated order placing system, chatbots and customer feedback system plays a major role in online shopping.

Objectives

- To study the conceptual issues, and review of literary background of the e-business in general and to Artificial intelligence in specific
- To analyze the effects of artificial intelligence in online shopping
- To discover the relationship between the artificial intelligence and online shopping
- To provide the suggestions for the improvement of online shopping, using artificial intelligence

Limitations of the study

1. The Study is conducted only from the online users of Chennai city.
2. The study considered only the artificial intelligence factors that are used in the online shopping.
3. The study did not cover the financial aspects nor the software of the online shopping.

Research methodology

This study is based on the primary data and simple random sampling is utilized to collect the data from the online users of online shopping in Chennai city and did not get the information from the non-users of online shopping. The study made an attempt to get the information from 200 samples but collected validated the questionnaire only from the 177 respondents. Pilot study resulted with the alpha cronbach value of 0.784, validated the questionnaire.

Research Variables

The study incorporate the Dependent variables such as Customer centric search, Hyper Personalization (Push Notification), Chatbot system (Automated Order Processing), visual search, AI fake detection, Virtual personal

shoppers, Voice based search (Voice Input), New Intelligent Agent (Negotiation system), Product recommendations & categorization to analyze the impact of the artificial intelligence in online shopping.

Statistical tools used

The Study used Chi-square test to find the relationship between the artificial intelligence and online shopping. To analyze the variances between the dependent variable and independent variable, the study used One way ANOVA. The study implied descriptive statistics to find the predominant variable of the study.

Analytical Process on the artificial intelligence and Online shopping

From the below table, the study attempted to find the relationship between the dependent variables such as Customer centric search, Hyper personalization, chatbot system, visual search, AI fake detection, virtual personal shoppers, voice based search, new intelligent agent and product recommendation & categorization with the single independent variable online shopping

TABLE SHOWING THE CHI-SQUARE VALUES

Variables	Pearson Chi-square	Asymp. Sig (2-sided)	Likelihood Ratio
Customer centric search	36.408	0.012	42.261
Hyper personalization	42.606	0.633	39.510
Chatbot system	27.183	0.462	34.008
Visual search	68.296	0.027	70.025
AI Fake detection	71.583	0.608	75.966
Virtual personal shoppers	53.237	0.002	62.187
Voice based search	41.176	0.036	45.289
New Intelligent Agent	52.614	0.721	49.500
Product recommendation & categorization	58.007	0.007	69.186

It is clear from the above table that the Customer centric search (36.408, $p=0.012$), Chatbot system (27.183, $p=0.462$), visual search (68.296, $p=0.027$), Virtual personal shoppers (53.237, $p=0.002$), voice based search (41.176, $p=0.036$), product recommendation and categorization (58.007, $p=0.007$) have

relationship with the independent variable online shopping. It is also further noted that the hyper personalization (Push notification) (42.606, $p=0.633$), AI fake detection (71.583, $p=0.608$) and New Intelligent Agent (52.614, $p=0.721$) do not find any relationship with Online shopping.

TABLE SHOWING ONE-WAY ANOVA

Dependent Variables	Sum of squares	Df	Mean Square	F	Sig.
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Customer centric search	Between groups	30.621	2	9.145	6.083	0.000
	Within groups	956.210	175	1.585		
	Total	986.831	177			
Hyper personalization	Between groups	41.119	2	5.687	5.173	0.004
	Within groups	1286.394	175	1.006		
	Total	1327.513	177			
Chatbot system	Between groups	26.227	2	6.179	9.007	0.008
	Within groups	927.005	175	1.783		
	Total	953.232	177			
Visual search	Between groups	38.685	2	4.148	5.214	0.002
	Within groups	1278.420	175	1.012		
	Total	1317.105	177			
AI Fake detection	Between groups	27.528	2	5.002	3.289	0.684
	Within groups	892.697	175	1.694		
	Total	920.225	177			
Virtual personal shoppers	Between groups	27.619	2	9.048	5.784	0.000
	Within groups	1458.812	175	1.762		
	Total	1486.431	177			
New Intelligent Agent	Between groups	36.912	2	7.193	6.045	0.057
	Within groups	1375.901	175	1.864		
	Total	1412.813	177			
Product recommendation & categorization	Between groups	19.201	2	3.177	5.213	0.004
	Within groups	895.364	175	1.025		
	Total	914.565	177			

The above table reveals that the variables of artificial intelligence such as Customer centric search ($F=6.083$, $p = 0.000$), hyper personalization ($F=5.173$, $p=0.004$), chatbot system ($F=9.007$, $p = 0.008$), visual search ($F=5.214$, $p=0.002$), virtual personal shoppers ($F=5.784$, $p=0.000$), new intelligent agent

($F=6.045$, $p=0.057$) and product recommendation & categorization ($F=5.213$, $p=0.004$) strongly influence the online shopping but the artificial intelligence variable of AI Fake detection does not found any influence with the online shopping.

Table showing the descriptive statistics

Sub factors	N	Mean	Std. deviation	Std. error mean`
Customer centric search	177	4.0091	0.75482	0.07416
Hyper personalization	177	3.8757	0.56370	0.05258
Chatbot system	177	4.2539	0.42871	0.03874
Visual search	177	4.1093	0.68327	0.06465
AI fake detection	177	3.5180	0.25849	0.02461
Virtual personal shoppers	177	3.9012	0.55943	0.04673
New intelligent agent	177	3.8947	0.62782	0.05877
Product recommendation & categorization	177	4.2573	0.45768	0.04750

The above table of descriptive statistics clarifies that the Customer centric search, chatbot system, visual search, production recommendation & categorization are the predominant variables in the online shopping with regard to artificial intelligence as the mean value is more than 4 and for rest of the variables

the mean value is above 3.5 which shows that all the variables are significant.

Findings

1. The artificial intelligence variables of Customer centric search (36.408, $p=0.012$), Chatbot system (27.183, $p=0.462$), visual search (68.296, $p=0.027$), Virtual personal shoppers

(53.237, $p=0.002$), voice based search (41,176, $p=0.036$), product recommendation and categorization (58.007, $p=0.007$) have positive relationship with the online shopping.

2. The variables such as Customer centric search ($F=6.083$, $p = 0.000$), hyper personalization ($F=5.173$, $p=0.004$), chatbot system ($F=9.007$, $p = 0.008$), visual search ($F=5.214$, $p=0.002$), virtual personal shoppers ($F=5.784$, $p=0.000$), new intelligent agent ($F=6.045$, $p=0.057$) and product recommendation & categorization ($F=5.213$, $p=0.004$) strongly influence the online shopping but the artificial intelligence variable of AI Fake detection do not find any significant role in online shopping.

3. Customer centric search, chatbot system, visual search, production recommendation & categorization are playing predominant role in the online shopping with regard to artificial intelligence in online shopping.

Conclusions

Customer centric search, chatbox system, visual search, production recommendation and categorization are the vital variables in concern with artificial intelligence in online shopping. Especially the variables such as AI fake detection and New intelligent agent are least considered in the study.

Suggestions

Though there are lot of improvements in online services, it is always becoming need to talk about the security and risk. Hence the study suggests to improve the security factors of online shopping in order to improve the fake detection..

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