

## Impact of AI on Customers Purchasing Intention Towards Online Grocery Shopping: A Case Study of Delhi/NCR, India

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### ABSTRACT

Artificial Intelligence (AI) is an area which is fast growing in all over the world. It has already been applied in our daily life. With AI in business, all the industries rely on cheaper and faster and more suitable marketing techniques. The present research study is undertaken to find the relation between AI and consumer purchasing intention and secondly to know the difference between consumer purchasing intention based on their demographics. To prove these objectives, the researcher has collected data from 550 respondents from Delhi/NCR. The researcher has applied descriptive statistics, correlation, Cronbach alpha, Anova, Mann-Whitney Test and Kruskal-Wallis Test and has used SPSS 23.0 version for these tests. Findings of the study concluded that to have significant relationship between AI and consumer purchasing intention. It is concluded that there is a difference between consumer purchasing intention and gender & monthly income. These findings were supported with hypothesis testing.

**KEYWORDS**-Consumer Intention, Artificial Intelligence, Retail, Marketing Techniques

### INTRODUCTION

Online purchasing is getting famous for a number of reasons. There may be different factors such as rising fuel cost, difficulty in accessing regular stores etc. increasing the use of artificial intelligence technology helps in enabling business to deal with large amount of data. Artificial intelligence uses the technologies such as genetic algorithm, deep learning, natural language processing to train the machines to recognize patterns from large amount of data. Customer can find out more information related to the product and its updating. If anyone wants to purchase the product by using internet can take review of that product first.

Ecommerce is one of the former adopters of artificial intelligence, with use cases from personalized products recommendation and enhancing customer services to pricing optimization, smart logistics and sales forecasting. Artificial Intelligence can be defined as a technology has the abilities to perform tasks that require intelligence to perform when performed by human beings. Artificial intelligence modifies the customer experience in real time according to the command of users. For instance, if a customer is browsing certain types of products on websites, artificial intelligence can adjust the website's content to highlight the similar products by crating highly personalized shopping experience. The online business Industry has encountered fast development throughout the past years. Because of the quick development of online clients, understanding their necessities and behaviours is basic.

## LITERATURE REVIEW OF THE STUDY

Artificial Intelligence has turned into a ground-breaking power in the domain of web-based business, reforming the manner in which organizations cooperate with purchasers (akter & carillo,2022). With regards to online shopping, simulated intelligence includes a scope of innovations and instruments intended to improve the shopping experience. Computer based intelligence driven proposal frameworks examine buyer information to give custom fitted item ideas, accordingly customizing the internet shopping venture (park & Wamba,2023). By utilizing simulated intelligence calculations, organizations can break down purchaser information to make and convey advertising content, offers, and advancements that are exceptionally applicable to individual customers (Dwivedi,2021). The market seriousness powers routine checking and execution of new methodologies, or, in all likelihood the items will confront the gamble of being dismissed from the business sectors. Buyers will go searching for options on the off chance that they feel like they are not getting an adequate number of advantages for the cash spent. Clients anticipate that the retailers should be prepared with2 items that surpass or if nothing else match their assumptions (wong & sohal,2020)

## PROCESS OF ONLINE SHOPPING



Source: Slide Egg

## OBJECTIVES OF THE RESEARCH STUDY

RO1: To find the relation between AI And consumer purchasing intention.

RO2: To know the difference between customer purchasing intention based on their demographics.

## HYPOTHESIS OF THE RESEARCH STUDY

H1: There is a significant relationship between AI and Customer purchasing intention.

H2: There is a significant difference between customer purchasing intention based on their demographics (income & gender).

## SCOPE OF THE STUDY

### Functional Scope

Functional scope of the study is to know the impact of AI on customers purchasing intention towards online grocery shopping.

### Geographical Scope

Delhi/NCR is the region for this research study. The study covered the area – Delhi, Noida, Gurgaon, Ghaziabad, Faridabad

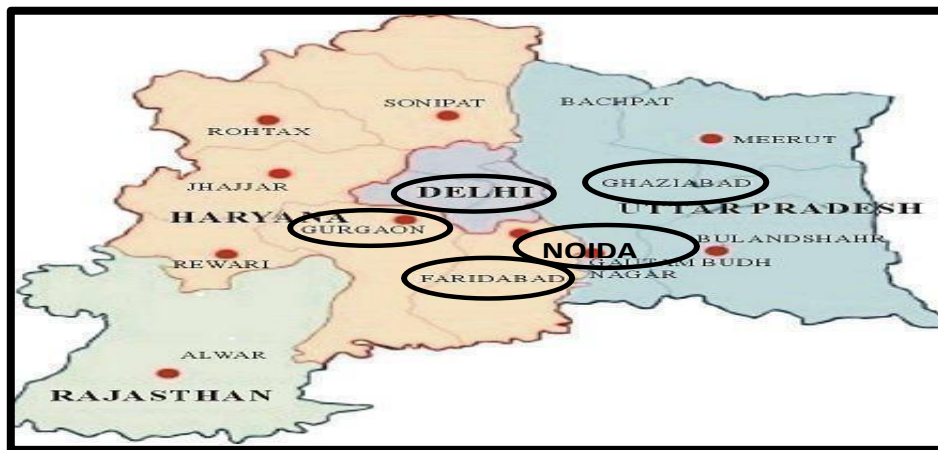


Figure: DELHI/NCR MAP

## CONCEPTUAL FRAMEWORK OF THE STUDY

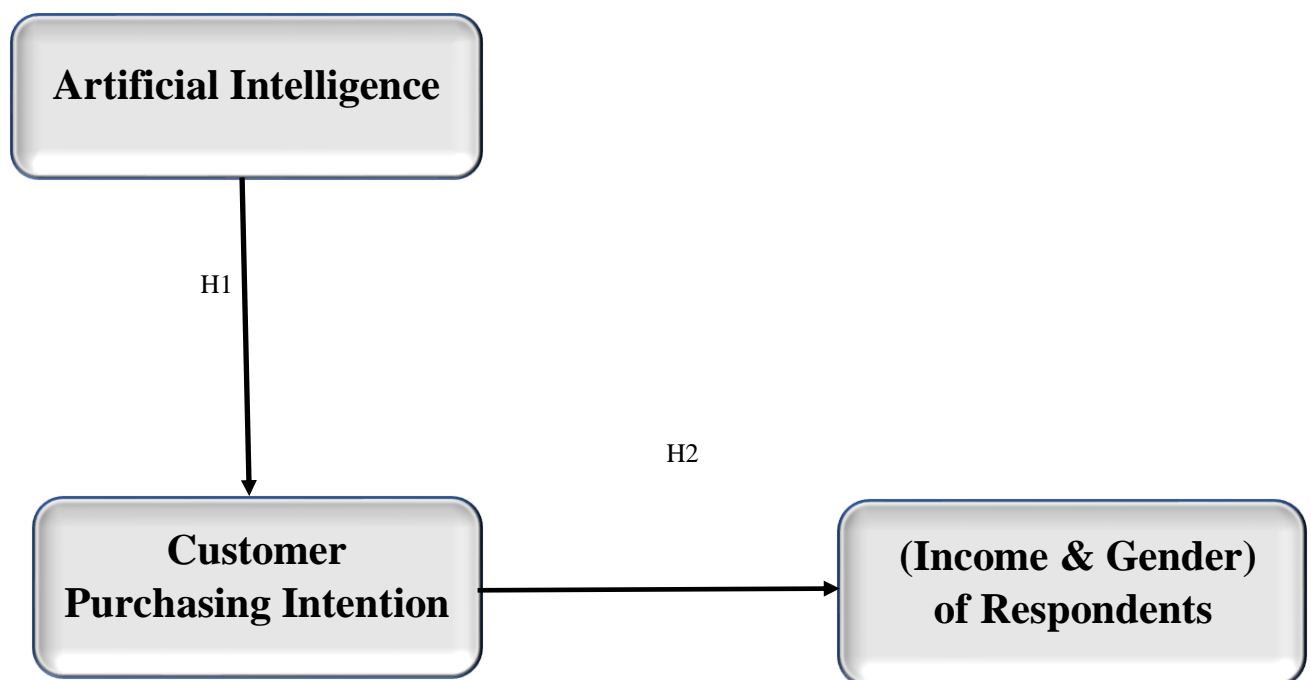


Figure: Conceptual Framework

## RESEARCH METHODOLOGY

Research Type: Descriptive research study has been used because it will describe the various characteristics of the variables used.

Sampling Technique: Convenient Sampling which is non-probability sampling method. It is a method in which samples are taken from a portion near the population sample unit & sample size.

Sample Size: The questionnaire was distributed to 580 customers who are willing to do online grocery shopping, out of these 550 customers have provided full details of their purchasing intention. Thus, making sample size – 550.

## TARGET POPULATION

The target population includes customer who are willing to do online grocery shopping in Delhi/NCR.

## DATA COLLECTION METHOD

The questionnaires were utilized for collecting the data from customers who purchase online. The questionnaire was divided into two parts.

Part A: It consists of demographic information

Part B: It consists of questions related to the artificial intelligence and customer purchasing intention.

**Primary Data:** The primary data was collected through questionnaire. 5 points likert scale was used to frame the questionnaire.

**Secondary Data:** The data collected through books, websites, magazines etc.

## RESULTS & DISCUSSION

### Part A- Demographic Analysis

This part consists the information about the respondent's demographic characteristics.

Table: Demography of the Respondents

		Frequency	Percentage (%)
Gender	Male	133	43.31
	Female	175	56.69
Age	15 – 20	34	10.19
	21 – 25	90	28.99
	26 – 30	74	24.20
	31 – 35	53	16.24
	Above 36	63	20.38
Education	X or XII	32	9.55
	Graduate	143	46.18

	Post Graduate	96	30.89
	More than PG	42	13.38
	Homemaker	87	27.71

Occupation	Private Work	72	22.93
	Government Employee	53	16.88
	Business	69	21.97
	Other	33	10.51
Marital Status	Married	249	79.3
	Unmarried	51	16.24
	Other	14	4.46
Monthly Income	Less than 25000	71	22.61
	25001 to 35000	107	34.08
	35001 to 45000	89	28.34
	Above 45001	47	14.97
Total		550	100

#### Part B: Analysis of Artificial Intelligence and Customer Purchasing Intention

This part consists analysis to drive a conclusion by keeping in mind the objectives of the research work.

Table 2: Reliability Test

S. No	Construct	Cronbach Alpha	No. of Items
1.	Artificial Intelligence	0.876	10
2	Customer Purchasing Intention	0.784	8

Source: output of SPSS

A reliability coefficient of 0.70 or higher is usually acceptable. Artificial intelligence and customer purchasing intention having coefficients of 0.876 & 0.784 respectively which indicates high reliability.

Table 3: Correlation analysis

	Artificial Intelligence	Consumer Intention
Artificial Intelligence	1	0.896
Sig.(2-tailed)		0.000
Customer Purchasing Intention	0.765	1
Sig.(2-tailed)	0.000	

Source: output of SPSS

Table 3 concluded about correlation matrix. The above table has two variables i.e, artificial intelligence and consumer intention. It is found that artificial intelligence and customer purchasing intention have positive relationship with each other. Also, there exist a significant relationship between these two variables at 0.001 level.

### HYPOTHESIS TESTING

#### Regression Analysis

H1: There is a significant relationship between AI and Customer purchasing intention.

To test the hypothesis H1, a simple regression model was constructed between the independent and dependent variables (consumer purchasing intention and artificial intelligence).

Table:4 ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	235.675	1	282.65	7618.08	.000*
Residual	13.456	382	.023		
Total	249.131	383			

Source: output of SPSS

The above table shows that the outcome of regression analysis between customer purchasing intention and artificial intelligence. Calculated F value in the table shows the results were compared to F tabulated was significant:  $F(1/382) = 7618.08, p < 0.005$ , which implies that artificial intelligence have strong significant relationship with customer purchasing intention.

Table 5: Simple Regression

Model	Unstandardized Coefficients		Unstandardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constants)	.103	.039		2.533	.011
AI	.959	.011	.982	93.419	.000

Source: Output of SPSS

The table above shows the results of simple regression, which confirms the result of Anova with AI being significant,  $t(2.533) = 93.419, p < .05$ . The coefficient of determination was .961, meaning that the effect of AI is 96.1% in the distinction of consumer behaviour. Hence, Hypothesis 1 is accepted.

H:2 There is a significant difference between customer purchasing intention based on their demographics (income & gender).

To test the hypothesis H2, the researcher has taken Mann-Whitney test for gender and Kruskal wallis test for income.

Table 6: Mann -Whitney test for customer purchasing intention in accordance to gender

VARIABLES	GENDER		MANN- WHITNEY TEST U	WILCOXON W	Z	SIGN. *
	MALE	FEMALE				
	MEAN RANK					
CUSTOMER PURCHASING INTENTION	125.1	245.6	4467	23467	-13.11	.000

Source: output of SPSS

The value of significance is .000 which is less than 0.05 which gives evidence to reject the null hypothesis and accept the alternate hypothesis. The overall conclusion is that there is significant difference between customer purchasing intention and gender.

Table 7: Kruskal Wallis Test for customer purchasing intention in accordance to income

VARIABLES	MONTHLY INCOME				CHI-SQUARE	DF	SIG.*
	LESS THAN 20000	20000 TO 30000	30000 TO 40000	40000 And Above			
	MEAN RANK						
CUSTOMER PURCHASING INTENTION	162.3	134.7	122.63	236.86	1621.5	2	.000

Source: output of SPSS

The value of significance is .000 which is less than 0.05 which gives evidence to reject the null hypothesis and accept the alternate hypothesis. The overall conclusion is that there is significant difference between customer purchasing intention and income. Hence, Hypothesis 2 is accepted.

## CONCLUSION

The conclusion of the study provided the valuable results that impact of artificial intelligence on customer purchasing intentions in context of the online grocery shopping. The hypothesis was tested and the findings strongly supported the effectiveness of artificial intelligence in enhancing customer purchasing intention and shaping new experiences for online shopping. Simulated intelligence keeps on developing, it will stay a vital participant in the computerized commercial centre, reshaping the manner in which shoppers communicate with online retailers and pursue informed buy choices. Along these lines, online business coordinated artificial intelligence empowered innovation to discover client requirements and inclinations with respect to online products and services. These discoveries give significant direction to organizations hoping to remain serious and receptive to the changing scene of web-based shopping. The purpose of this research study is to find the relationship between artificial intelligence and customer purchasing intention and to find the difference between customer purchasing intention on their demographics (income and gender). It is concluded from the analysis that there is a positive relationship between artificial intelligence and customer purchasing intention. On the other hand, the significant difference was found between customer purchasing intention in accordance to gender and income. And it is concluded that gender affects the purchasing decision.

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