

# Artificial Intelligence and its Role in Transforming Marketing and Impact on Consumer Perception

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**Abstract**

With every changing product and service landscape the customer needs and their expectations are also evolving. In terms of quick delivery and quick response to customer queries an organization is left with no choice but to adapt to the latest technologies like Artificial Intelligence (AI). Artificial Intelligence is the capacity of machines to recognize, learn and make decision from its surrounding environment. This paper is an attempt to identify the ways how artificial intelligence is transforming marketing. It also aims to study the impact of awareness of AI on perception of use of AI with reference to different uses of AI during the customer journey. The select sample belongs to the area of Hyderabad and Secunderabad. Correlation and regression results showed that impact of awareness of AI on perception of use of AI with reference to voice search was found to be having significant influence. However, it was found that there was no impact of awareness of AI on perception of other four uses in the study. AI is one among the emerging technologies which is still in the introduction stage and to some extent an inscrutable event though AI is already impacting the customers lives in a big way.

**Keywords:** Artificial Intelligence, Consumer Buying, Transforming Marketing, Chatbots, Marketing Automation

**Introduction**

Customer needs and their expectations in terms of quick delivery and quick response to query has left marketer with no choice but to adapt to the latest technologies like Artificial Intelligence (AI). Artificial Intelligence is the capacity of machines to recognize, learn and make decision from its surrounding environment. Dave Chaffey (2019) has highlighted that even though many AI techniques are available only few of them are useful for the marketers and customers. AI-generated content, smart content curation, voice search, programmatic media buying, propensity modelling, predictive analytics, lead scoring, Ad targeting, dynamic pricing, Web and app personalization, chatbots, re-targeting, predictive customer service and marketing automation. All these AI techniques are available for marketers but when it comes to

customer different techniques are helpful in various stages of customer journey – customer attracting, customer conversion or retargeting. It was observed by Davenport (2020) in his research that AI is effective if it is augmented along with the efforts of human managers rather than using AI as a total replacement for human. AI is making a very authentic and constructive contribution in improving business operations and in delighting customers with smart products and services. Everyday smart assistants like Siri and Alexa or facial recognition of Face-book or curated personalized suggestions of videos or audio are all real-life examples of contribution of AI.

According to a Weber Firm survey, it has become apparent that customers around the globe conclude that AI's effect on society is optimistic rather than negative. In addition, a study: AI- Ready or Not, II conducted by KRC Research, commissioned by Weber Shandwick in June 2016 to poll 150 CMOs (Chief Marketing Officers) in the UK, China and the USA, concluded that approximately 55% of CMOs assume that AI would have a huge effect on marketing as well as interactions and consumer relationships better than social media.

## Literature Review

Davenport et. al (2019) explored the potential developments of artificial intelligence in marketing in consumer preferences and marketing practices. The authors stressed the question of user protection that could be violated by the AI, bias and ethics. Finally, the authors concluded that AI should not be a replacement for human. Cannella (2018) studied the benefits that the organisations could gain when AI was introduced in their business. The study focuses on how AI was created as a measure to provide customers with personalized service through the efficient review, collection and generalization of data that produces greater and more satisfactory results for customers, marketers and businesses as well. Marinchak & Forrest & Hoanca (2018) study observed pros and cons of the marketing implication of AI. The study analyzed the rate of dispersion of AI in the marketing and consumer acceptance. Yang & Siau (2018) carried a quantitative study that provided insight into the evolution of marketing and sales and application of artificial intelligence. The study

further, examined the changes that took place with the implementation of AI in marketing and sales of an organization. Andre & Carmon (2017) highlighted the effect of AI on preference, well-being, consumer welfare of the and along with that they also give the new ways to undertake future research to solidify this reality in the future. Forrest & Honaka (2017) study investigated the extraordinary initiations put in the hand of marketers through the implementation of the AI in the marketing in the form of improvement in the communication capabilities. Rekha & Abdulla (2016) analyzed how SVDD (Support Vector Data Description) is used to pick contacts on the basis of certain requirements or to identify customers. The research provided insights into how the consumer data classification is done with the help of application of the modern SVDD methodology to direct marketing. This approach has been able to minimize the complications and errors of the other techniques, within the minimum execution time. Kose & Sert (2015) study was about the content marketing as an approach to achieve change in the functioning of marketing and the combination of AI in content marketing for overall growth. Stalidis et. al (2014) investigated the use of artificial intelligence in tourism marketing. It was found that Thessaloniki tourism was able to assist individual Tourist who were not experts in selecting destination for their vacation by using AI.

From the above review of literature, it was found that even though artificial intelligence was used by companies the concept is still new and the research related to consumer perception was not much done. Hence, this study was conducted to identify the ways artificial intelligence is transforming marketing and to study the impact of awareness of AI (artificial intelligence) on customer perception of uses of AI (artificial intelligence).

## Objectives

1. To identify the ways how artificial intelligence is transforming Marketing.
2. To study the impact of awareness of AI (artificial intelligence) on customer perception of uses of AI (artificial intelligence)
3. To study age as an interaction (moderation variable)

with awareness of AI (artificial intelligence) on customer perception of uses of AI (artificial intelligence)

## Hypothesis

**H0 1:** AI (artificial intelligence) awareness doesn't have significant impact on the customer perception towards uses of AI (artificial intelligence)

**H02:** Age as a moderation variable along with AI (artificial intelligence) awareness doesn't have significant impact on the customer perception towards uses of AI (artificial intelligence)

## Research Methodology

The present research was carried out by administering a structured interview schedule containing few questions related to demographic details and rest of the questions related to AI application in a consumer life in the twin cities of Hyderabad and Secunderabad. The data was collected during the months of March 2020 and April 2020. Out of 110 respondents 55 i.e., 50 % of the respondents are male and other 55 i.e., 50 percent of the respondents are female. The majority of the respondents, who have answered the questionnaire belonged to age group of 33-45 i.e., 33.6%, 18-24 i.e., 31.8 % and 25-32 i.e. 30% of the total sample of 110 with other age groups that is 46-59 to 5 i.e. 4.5%. When it comes to the occupation 50 i.e., 45.5 % are employed showing that 45.5 percent of the respondents are earning an income. To identify the ways how AI (artificial intelligence) is transforming marketing the different variables considered for the study were: AI in digital marketing will allow companies to obtain a competitive advantage than

traditional marketing, AI helps in target advertising of a product, AI helps to drive more sales compared to traditional marketing and use of AI in marketing saves time by automation of jobs. To study the impact of awareness of AI (artificial intelligence) on perception of uses of AI the different variables selected are: AI Chatbots, AI saves time in purchase decision, AI provides greater purchase convenience, Ease of use of voice search and AI curated products as recommendation are better. Cross Tabulations, correlation and regression were the statistical tools used for the purpose of data analysis.

For the purpose of studying the first hypothesis the proposed model is as follows:

$$Y = a + bX$$

Where the awareness of AI is the independent variable (Y) and uses of AI (X) are all dependent variables, a is intercept and b is the co-efficient of X.

## Data Analysis

To identify the ways how artificial intelligence is transforming marketing cross tabulation was used for data analysis. To study the impact of awareness of AI on customer perception of uses of AI statistical tools correlation and regression is applied. The results of the same are presented in tables 1 to 6.

### AI Allows a Sustainable Competitive Advantage

The table 1 of cross tabulation explains row variable (age), and the column variable AI allows a sustainable competitive advantage (Strongly agree, agree, neutral, disagree and strongly disagree) and then the total.

**Table 1: Cross Tabulation of Age and AI allows a Sustainable Competitive Advantage**

Count of AI allows a sustainable competitive advantage than traditional marketing						
Age (years)	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Grand Total
18-24	12 (11%)	13 (12%)	7 (6%)	2 (2%)	1 (1%)	35 (32 %)
25-32	7 (6%)	9 (8%)	12 (11%)	3 (3%)	2 (2%)	33 (30%)
33-45	11 (10%)	8 (7%)	12 (11%)	1 (1%)	5 (5%)	37 (34%)
46-59	1(1%)	4(4%)				5
<b>Grand Total</b>	<b>31 (28%)</b>	<b>34 (31%)</b>	<b>31 (28%)</b>	<b>6 (5)</b>	<b>8 (7%)</b>	<b>110 (100%)</b>

Source: Primary Data

The analysis of table 1 reveals that column total 31% (34/110) of the respondents strongly agree that AI allows a sustainable competitive advantage than traditional marketing and helps in transforming marketing. It is also evident that column total of 28% (31/110) of the respondents agree that AI allows a sustainable competitive advantage than traditional marketing and helps in transforming marketing.

**Table 2: Cross Tabulation of Age and AI help in Target Advertising of a Product**

Count of target advertising						
Row Labels	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Grand Total
18-24	15 (14%)	11 (10%)	8 (7%)		1(1%)	35 (32%)
25-32	11 (10%)	13(12%)	5(5%)	2 (2%)	2(2%)	33 (30%)
33-45	15 (14%)	7(6%)	14(13%)		1(1%)	37 (34%)
46-59	5 (5%)					5(5%)
<b>Grand Total</b>	<b>46(42%)</b>	<b>31 (28%)</b>	<b>27 (25%)</b>	<b>2 (2%)</b>	<b>4(4%)</b>	<b>110 (100%)</b>

Source: Primary Data

From table2, it is evident that irrespective of the age groups 42% (46/110) in column total 28%(31/110) column total strongly agree and agree that AI helps in target advertising of a product when compared to traditional advertising.

### AI help in Target Advertising of a Product

The table 2 of cross tabulation explains row variable (age), and the column variable AI helps in target advertising of a product (Strongly agree, agree, neutral, disagree and strongly disagree) and then the total.

### AI Helps to Drive More Sales

The table 3 of cross tabulation explains row variable (age), and the column variable AI Helps to Drive more Sales (Strongly agree, agree, neutral, disagree and strongly disagree) and then the total.

**Table 3: Cross Tabulation of Age and AI Helps to Drive more Sales**

Count of sales compared to traditional marketing						
Row Labels	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Grand Total
18-24	14(13%)	11(10%)	10 (9%)			35(32%)
25-32	7(6%)	9 (8%)	12(11%)	3(3%)	2(2%)	33(30%)
33-45	12(11%)	6(5%)	13(12%)	3(3%)	3(3%)	37 (34%)
46-59	3(3%)	2(2%)				5 (5%)
<b>Grand Total</b>	<b>36 (33%)</b>	<b>28 (25%)</b>	<b>35 (32%)</b>	<b>6 (5%)</b>	<b>5(5%)</b>	<b>110 (100%)</b>

Source: Primary Data

From table 3 it is analysed that irrespective of any age of the respondents 32% (36/110) of column total strongly agree that AI helps to drive more sales when compared to traditional marketing. Further, it is evident that 25%

(28/110) column total of the respondents agree that that AI helps to drive more sales when compared to traditional marketing.

### AI Saves Time by Marketing Automation

The table 4 of cross tabulation explains row variable (age), and the column variable AI AI Helps in Marketing

Automation (Strongly agree, agree, neutral, disagree and strongly disagree) and then the total.

**Table 4: Cross Tabulation of Age and AI Saves Time by Marketing Automation**

Count of saves time of marketers by automating their jobs						
Row Labels	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Grand Total
18-24	15 (14%)	10 (9%)	8 (7%)		2 (2%)	35 (32%)
25-32	13 (12%)	7 (6%)	9 (8%)		3 (3%)	33 (30%)
33-45	11 (10%)	12 (11%)	10 (9%)	2 (2%)	3 (3%)	37 (34%)
46-59	4 (4%)	1 (1%)				5 (5%)
<b>Grand Total</b>	<b>43 (39%)</b>	<b>30 (27%)</b>	<b>27 (25%)</b>	<b>2 (2%)</b>	<b>8 (7%)</b>	<b>110 (100%)</b>

Source: Primary Data

Table 4 highlights that 39% strongly agree + 27% agree (From the age group of 33- 45 years column total 31% (34/110) and 28% (31/110) either strongly agree or agree that AI helps in marketing automation than traditional marketing and helps in transforming marketing.

### Impact of Awareness of AI on Customer Perception of Uses of AI

In table 5 the results of descriptive statistics: Mean, Standard Deviation and total count of all variables measured for uses of AI are presented. In table 6 the result of regression model is displayed that shows the impact of awareness of AI on the AI ease of use of voice search when compared to traditional method of typing.

**Table 5: Descriptive Statistics of Awareness of AI and Variables Measured for Uses of AI**

	Awareness of Artificial Intelligence	AI Chatbots interaction	AI saves time in purchase decision	AI provides greater convenience	AI ease of using Voice searches	AI recommendations of products are accurate
Mean	3.045455	3.172727	3.745455	3.736364	4	3.709091
Standard Deviation	1.528844	1.210498	1.191994	1.178378	1.004577	1.052262
Count	110	110	110	110	110	110

Source: Primary Data

Table 5 shows the details of Mean, Standard Deviation and count of the variables considered for uses of AI.

**Table 6: Regression Result of Awareness of AI and AI ease of using Voice searches**

Statistics	Result
F value	0.006
P.value	0.006
T.stat	2.762
Intercept (a)	1.4818
Coefficient	0.390
R square	0.006



From table 6 it is evident that 'F' value is 0.006 and this is statistically significant as it is less than 0.05. T.Stat is found to be 2.762 and greater than the 1.96. hence, It may be said that AI awareness has a significant direct effect on the Use of AI (ease of voice search). However, from the result of regression analysis of other four variables it was found that AI awareness of the customer has no significant direct effect on other uses of AI variables considered for the purpose of study (AI Chatbots interaction, AI saves time in purchase decision, AI provides greater convenience and AI recommendations of products are accurate).

$$Y = 1.4818 + 0.390X$$

Where the awareness of AI is the independent variable (Y) and uses of AI (X) are all dependent variables, 1.4818 is intercept and 0.390 is the co-efficient of X. From the obtained data analysis of regression (table 6), it was found that R square was 0.06 or which explains that the predictive power of awareness of AI is limited to 6% of the use of AI (ease of voice search) which may be considered as a small effect for those who responded to this survey.

When the effect of age was studied for interaction effect of awareness of AI and use of AI. It was found that the 'F' value was not statistically significant, hence, it may be said that there was no significant interaction effect of awareness of AI and age on use of AI (ease of voice search).

## Findings and Conclusion

As per the respondents it was found that AI (artificial intelligence) was transforming marketing by allowing companies to obtain a competitive advantage than traditional marketing. From the study it was found AI helped transforming marketing in target advertising of a product, helped to drive more sales compared to traditional marketing and AI was useful saves time with marketing automation of jobs. However, when the impact of awareness of AI (artificial intelligence) on perception of uses of AI was studied (AI Chatbots, AI saves time in purchase decision, AI provides greater purchase convenience, Ease of use of voice search and AI curated products as recommendation are better), awareness of AI had a significant direct effect on the ease of use of voice search only and this was found to be as a small effect.

As this area is really new, there is scope for future research. The present research was limited to only the area of Secunderabad and Hyderabad and only few AI uses were considered. In future research it could be extended to pan India with all of AI Uses.

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