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ORIGINAL RESEARCH

Survey on Impact of Artificial Intelligence on Consumer Buying Behaviour towards Cosmetic Industry

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ABSTRACT

The Cosmetic Industry is witnessing transformative shifts in consumer behaviour, largely influenced by advancements in Artificial Intelligence (AI) technologies. The integration of AI technologies, including recommendation systems such as virtual try-ons and personalized marketing algorithms has revolutionized the way consumers interact with cosmetic products. Currently, with the rapid enhancement of AI, Cosmetic Industry experiencing transformative changes. Hence, there is need to study how artificial intelligence affects buying decisions and post purchase behaviour of customer purchasing cosmetic products. The aim of present work was to study impact of AI on consumer buying behaviour towards cosmetic industry, in Nagpur region. The existing research work is based on the quantitative research methods. The primary data was collected through the online questionnaire by using Google Form (link- https://docs.google.com/forms/d/1wKcV8Inw7FxR5DfhuXOHbotQsum-cHCtVMTgPVn6l1M/edit) to capture as many responses as possible. Convenience sampling method was used to collect sample. From the population of 109 the 85-sample size was selected and validated. For the present study Null hypothesis (H0) was **"**There is no significant impact of AI on consumer buying behaviour towards cosmetic industry" and Alternative hypothesis (H1) was "There is significant impact of AI on consumer buying behaviour towards cosmetic industry". The data was analysed using descriptive analysis, Cronbach' alpha testing method and Correlation analysis method. From the findings of the survey, the survey result rejected null hypothesis and supported the alternative hypothesis. The findings highlighted that there is significant relationship between artificial intelligence and consumer buying behaviour. Hence, it can be concluded that Artificial intelligence may be used by online businesses at every stage of the customer experience, including need-identification, information search, assessment, decision-making throughout the purchasing process and post-purchase behaviour to determine the purchasing patterns of customers on online platforms. The study has provided valuable insights into the transformative impact of Artificial Intelligence (AI) on consumer behavior within the cosmetic industry. It has been shown that virtual try-on tools and personalized suggestions have a significant impact on customer engagement and purchase decisions.

KEY WORDS: Artificial Intelligence, Impact of AI, Consumer buying behaviour, Online business, Statistical analysis, Purchasing, Cosmetic industry

INTRODUCTION

Artificial Intelligence (AI)

Artificial Intelligence (AI) is a specific field that deals with the development of computer system and machines that can think logically learn, and act in a way that requires human intelligence or deals with data whose scope exceeds what human can analyse (Manjula *et al.,* 2021; https://easyweek.io/artificial-intelligence-in-beauty-industry.html). The usage of voice assistants, face recognition to unlock smartphones, and machine learning-based fraud detection are a few of the most well-known instances of AI software being used in daily life. The growth of the beauty market is due to the integration of advanced technologies like AI into the beauty industry, which provides new opportunities for customer engagement and

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offers efficiency and tailored solution such as virtual try-ons and personalized products (Kim *et al.,* 2008),

The cosmetic industry has witnessed significant transformation in recent years, largely driven by advancements in technology. One such transformative force is Artificial Intelligence (AI), because of its ability to analyse vast amounts of data, extract valuable insights and personalize experiences (Caldarini *et al.,* 2020). AI has the potential to revolutionize the way consumer interact with and make purchasing decision in cosmetic industry.

This study aims, to explore the impact of AI on consumer buying behaviour within the cosmetic industry. This can be examined by studying the influence of AI-driven technologies, such as virtual try-on application, personalized recommendation and augmented reality to understand how these advancement shape consumer perceptions, preferences, and ultimately their purchasing decisions.

AI tools used for buying cosmetic product

There are many ways that AI software can be used in a beauty salon to improve the customer experience and optimize operations. Skin analysis, Chatbots, Virtual try-ons, Customer feedback and sentiment analysis

RESEARCH METHODOLOGY

Source of Data: The study is based on both primary and secondary data.

Sampling: Convenience sampling method has been used for collecting the response from the respondents.

Data Collection: The data has been collected by using Google form.

Hypothesis

Null hypothesis (H0): There is no significant impact of AI on consumer buying behaviour towards cosmetic industry.

Alternative hypothesis (H1): There is significant impact of AI on consumer buying behaviour towards cosmetic industry.

Analytical Method_[11,12,13]

This study aims to determine the association between several independent factors (Demographic, Knowledge of AI, buying behaviour, Impact of AI, Reference group) and single dependent variable (Buying behaviour). The influence of the independent and dependent variables is examined using a statistical analysis. The demographic elements are included in order to obtain a deep profile of the respondents. This section contains the statistical analysis that began with a correlation analysis between the variables to examine the relationship and statistical differences between them. A hypothesis testing will follow to prove if relationship between variables is valid.

RELIABILITY AND VALIDITY

Reliability and validity are used to estimate the quality of the quantitative research. Cronbach's alpha test is used to measure the consistency of responses to a set of questions (scale items) that are combined as a scale to measure a particular concept. It is composed of an alpha coefficient that ranges from 0 to 1. Validity is the assessment that meets the purpose of the research and gauges what it intended to measure or the veracity of the findings of the inquiry.

RESULT

Sources of Data: The primary data has been collected by using a questionnaire and the secondary data has been collected from books, magazines and the internet.

Sampling: From total of 109 responses 85 of respondents were selected for the study.

Data collection A survey was conducted with the help of Google form link- https://docs.google.com/forms/d/1wKcV8Inw7FxR5DfhuXOHbotQsum-cHCtVMTgPVn6l1M/edit to collect the data for present research analysis.

Demographic Findings

Table 1: Age Group and their frequency with percent

Age Group	Frequency	Percent
18-21	11	12.1%
22-24	46	55.1%
25-30	20	23.4%
30-40	6	6.5%
40 Above	2	3%

Table 2: Gender and their frequency and percent

Gender	Frequency	Percent
Female	63	30.8%
Male	22	69.2%

Table 3: Education qualification of respondants and their frequency with percent

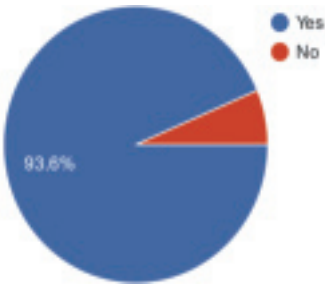
Educational Qualification of the respondants	Frequency	Percent
Higher Secondary Certificate	6	8.4%
Graduation	44	54.2%
Post-Graduation	35	37.4%
Doctorate (Ph.D.)	0	0

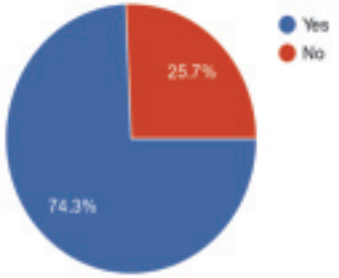
Table 4: Income of respondents and their frequency with percent

Income	Frequency	Percent
10k-20k	50	57%
20k-30k	15	18.7%
30k-40k	12	15%
40k above	8	9.3%

Table 5: Result of Google form data Collection in Graphical Form

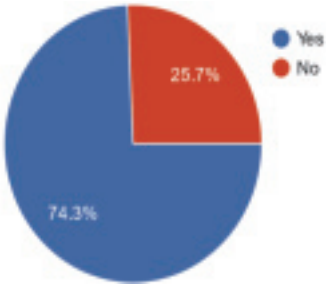
Knowledge about AI — AI Awareness



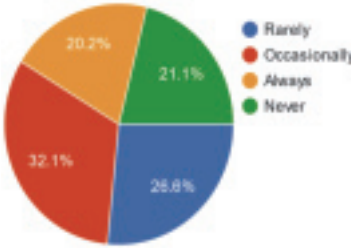


Familiar with AI

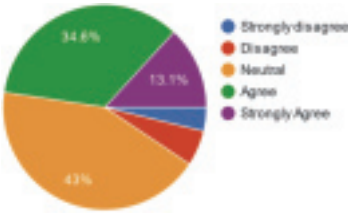
Have you everd used AI



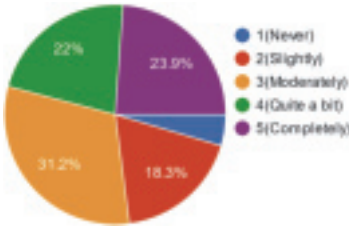
Buying Behaviour — How often used



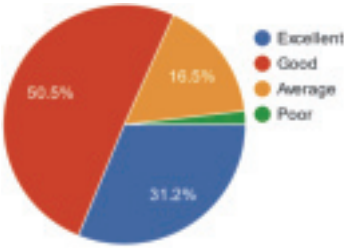
Camera quality affect decision



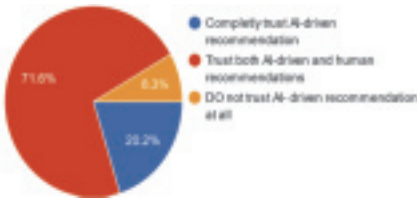
Trust on AI



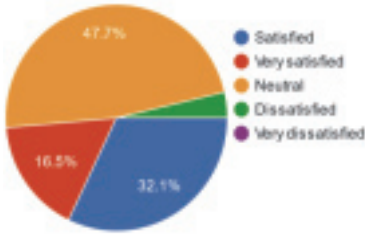
Impact of AI — Brand effort rating



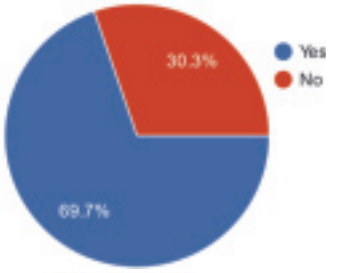
Trust on AI and recommen-dation



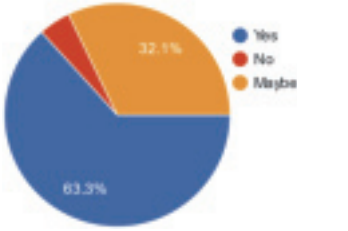
Satisfied with AI



Reference Group — AI influence people



Are you recommend AI to others



Hypothesis: The findings of survey strongly support the validity of alternative hypothesis. (H1- There is significant impact of AI on consumer buying behaviour towards cosmetic industry).

Analytical Method: Hypothesis testing is the technique to recognize whether there is a particular connection between the dependent variable with independent factors.

Correlation analysis statistical significance and

Hypothesis 1: The data indicates a strong statistically significant correlation between AI impact on consumer as the P-value 0.3173(significance value) is greater than 0.05 (95% confidence level).

In the hypothesis significance values are greater and Positive than the critical value, which is the sufficient evidence to reject null hypothesis and accept the alternative hypothesis.

RELIABILITY AND VALIDITY

Standard Value

Table 6: Corona Batch's alpha test results of Standard Value

Alpha Value	Variables
0.90 and above	Excellent
0.80 – 0.89	Good
0.70 – 0.79	Acceptable
0.60 – 0.69	Questionable
0.50 – 0.59	Poor
Below 0.50	Unacceptable

Observed Value

Table 7: Cronbach's alpha test results of Observed Value.

Variables	Alpha Value
Buying Behaviour	0.8285
Impact of AI	0.7728

CONCLUSION

The study has provided valuable insights into the transformative impact of Artificial Intelligence (AI) on consumer behavior within the cosmetics industry. It has been shown that virtual try-on tools and personalized suggestions have a significant impact on customer engagement and purchase decisions. Based on the results of the survey and the analysis conducted, it can be concluded that the null hypothesis, which states there is no significant impact of AI on consumer buying behavior, is rejected. Additionally, the Cronbach alpha value indicates that there is significant impact of AI on consumer buying behavior. By providing individual experiences, increasing ease and building trust, the use of AI in the cosmetic sector significantly changes customer purchasing behavior.

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