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A STUDY ON THE IMPACT OF AI-DRIVEN STRATEGIES ON CONSUMER BUYING BEHAVIOUR IN CHENNAI'S ONLINE FOOD AND GROCERY DELIVERY MARKET

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ABSTRACT

This study aims to assess the moderating effect of demographic factors on the relationship between AI-driven, loss aversion-based marketing strategies and consumer buying behaviour in Chennai's online food and grocery delivery market. Focusing on leading platforms such as Swiggy, Swiggy Instamart, Zomato, Zomato- Blinkit, Zepto and Big Basket, the research explores the role of demographic characteristics as moderating variables in shaping the relationship between AI marketing and consumer buying behavior

Keywords: AI-driven marketing, Loss aversion, Consumer behaviour, Online food and grocery delivery platforms

I. INTRODUCTION

Artificial Intelligence has transformed digital marketing across multiple industries, including the rapidly growing online food and grocery delivery sector. Chennai, one of India's most dynamic metropolitan markets, has witnessed exponential adoption of platforms such as Swiggy, Instamart, Zomato, Blinkit, Zepto and Big Basket. The Chennai market, characterized by dense urban populations and rapid digital adoption, presents an ideal context for studying the link between AI marketing practices and consumer psychology. This paper proposes to assess the role of demographic factors in influencing AI marketing triggers that activate loss-aversion mechanisms and shape consumer purchase decisions.

II. REVIEW OF LITERATURE

Divya R. P. and Dr. V. Deepa (2024) examine the effectiveness of personalized AI-based marketing and the factors that influence it. It focuses on how customers perceive such marketing and their level of satisfaction with it. Data was collected from 100 respondents through a structured questionnaire using a non-probability sampling technique. Personalized product suggestions were found to be the most appreciated AI marketing feature. Many appreciated how these tools saved them time and gave them access to special deals. Overall, customers valued the personalized content and felt that AI understood their interests better. The study also found that satisfaction levels varied by age, marital status and occupation, but not by

gender or educational background. Businesses should be transparent in their practices, utilize advanced AI, adhere to ethical standards, and prioritize customer needs to thrive in the digital market

Kumar, V., Abdul R. Ashraf, Waqar Nadeem (2024) studied the present use of AI in different areas of marketing and its potential to shape future marketing practices. The study concludes that to use AI effectively in marketing, companies need to combine smart technology with human judgment, so that AI supports – not replaces – the human touch of marketing.

Dr. Rohan P. Dahivale (2024) investigated the impact of AI-driven marketing strategies on consumer purchase behavior. The findings revealed that AI-based suggestions, emotional analysis and ads significantly influence consumers' buying decisions.

Zhenghong Gu1, Yujia Zhang, Zimo Zhang (2022) investigate how the psychological principle of loss aversion influences consumer decisions and marketing strategies. It is based on the behavioral economics work of Kahneman and Tversky (1979), who experimentally established that people feel losses more intensely than equivalent gains. The research identifies age, education, experience, evaluation frequency, and type of public relationships as factors affecting loss aversion. Marketers leverage loss aversion bias through strategies such as free trials, odd-even pricing, and time-saving technologies. The findings indicate that older individuals and less educated or inexperienced consumers show higher loss aversion. Education and relevant experiences reduced the effects of loss aversion. Public relations and higher evaluation frequency exacerbate loss aversion. Real-life strategies like free trials, online shopping, odd-even pricing and time-saving tactics decrease the level of loss aversion as consumers feel they’re not risking anything, so they’re more likely to try the product. Consumers can reduce loss aversion effects by enhancing their cognitive ability, gaining experience through repeated transactions, and understanding marketing tactics to make rational, emotion-free decisions.

III. STATEMENT OF THE PROBLEM

This study will provide valuable insights into the role of demographic factors (Gender & Age) in shaping loss aversion induced consumer behavior and the effectiveness of AI driven marketing strategies in the digital food and grocery delivery industry. Since limited research has been done in this framework, the findings will help service providers optimize their marketing efforts to better align with consumer psychology

IV. OBJECTIVES OF THE STUDY

- To study the concepts relating to Loss aversion, AI powered Marketing Strategies used by online food and grocery delivery apps.
- To analyze whether there exists any difference of opinion between genders towards online food and grocery purchases due to loss aversion.

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- To assess the moderating effect of different age groups on the relationship between AI-driven, loss aversion-based marketing strategies and consumer buying behaviour in Chennai's online food and grocery delivery market.

V. RESEARCH METHODOLOGY

This study started with the literature survey via journals, magazines that helped to comprehend the various factors of AI marketing. A structured sample questionnaire contains the questions related to loss aversion, AI marketing and consumer behaviour towards online food and grocery delivery sector was distributed. Purposive sampling method is adopted. The target sample size was 700 respondents belonging to different age groups from Chennai. A pilot study was conducted to verify the reliability of the questionnaire. The Cronbach's alpha of the questionnaire is 0.884. The collected data were subjected to statistical analysis utilizing percentage distributions, independent-samples t-tests and analysis of variance (ANOVA).

VI. CONCEPTUAL FRAMEWORK OF THE STUDY

Demographic factors are taken as moderating variables which influence the mediating variable of loss aversion and dependent variable consumer behaviour in online food and grocery delivery sector. The conceptual model is shown below:

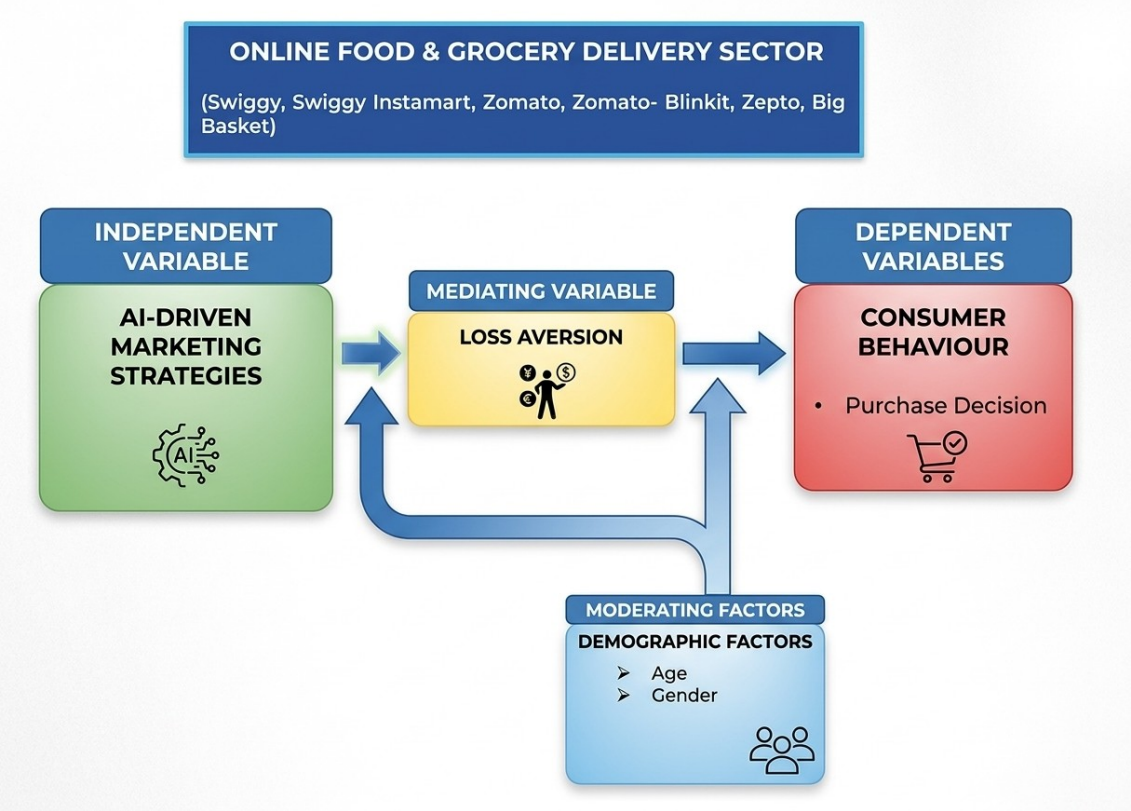


Figure 1: Conceptual framework of the study

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VII. LIMITATIONS OF THE STUDY

- The study has limitations like unwillingness of consumers to respond.
- The study was limited to respondents from Chennai City.
- Majority of respondents are female.

VIII. DATA ANALYSIS AND INTERPRETATION

PERCENTAGE ANALYSIS

Table 1: Gender and Age of Respondents

		PERCENTAGE (%)
GENDER	Male	41.29
	Female	58.71
AGE	18-25	67
	26-35	18.14
	36-45	7.86
	46-55	4.57
	Above 55	2.43

Interpretation

From the Table 1, it was observed that female respondents constitute the majority of the sample (58.71%), while male respondents account for 41.29%. With regard to the age group the largest proportion, at 67%, falls within the 18 to 25 year age range, followed by 18.14% between 26-35 years old. Moving down, 7.86% are between 36 and 45, with 4.57% aged 46 to 55, and finally, 2.43% are above 55 years old.

INDEPENDENT SAMPLE T- TEST

GENDER AND LOSS AVERSION TOWARDS ONLINE FOOD AND GROCERY DELIVERY

An independent sample t -test was used in the study to analyze whether there exists any significant difference of opinion between genders towards online food and grocery purchases due to loss aversion.

$H_{0:}$ There is no significant difference between gender towards online food and grocery purchases due to loss aversion

Table 2: Gender and Loss Aversion

	Gender	No. of Respondents	Mean	Std. Deviation	t-value	P value
Loss Aversion	Male	289	3.55	1.086	0.415	.679
	Female	411	3.52	.998		

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Interpretation

This independent sample t test analysis shows that 289 are male respondents had a mean of 3.55 and 411 are female respondents had a mean of 3.52 with regard to online purchases. It was found that there is no significant difference between genders with respect to loss aversion as the p value of 0.679 is greater than 0.05.Therefore, null hypothesis is accepted which indicates that both male and female respondents tend to be influenced by loss aversion based AI driven marketing strategies like offers, discounts and personalized recommendations provided by online platforms.

GENDER AND PURCHASE DECISION TOWARDS ONLINE FOOD AND GROCERY DELIVERY

H_0 : There is no significant difference between gender towards online food and grocery purchases made due AI driven marketing strategies.

Table 3: Gender and Purchase Decision

	Gender	No. of Respondents	Mean	Std. Deviation	t-value	P value
Purchase Decision	Male	289	3.60	1.082	0.001	.999
	Female	411	3.60	1.032		

Interpretation

From the above table 3, it was found that 289 are male respondents had a mean of 3.60 and 411 are female respondents had a mean of 3.60 with regard to purchase behaviour. The results indicated that there is no significant difference between genders in their buying decision towards AI induced online food and grocery purchases as the p-value of 0.999 is greater than 0.05. Therefore, the null hypothesis was accepted. Both genders were influenced equally by AI driven marketing strategies and make purchases.

AGE AND LOSS AVERSION TOWARDS ONLINE FOOD AND GROCERY DELIVERY

Ho= There is no significant difference between the various age groups with regard to the impact of loss aversion induced by online food and grocery delivery apps

Table 4: Age and Loss Aversion

	Sum of Squares	df	Mean Square	F	P value
Between Groups	23.623	4	5.906	5.665	.001
Within Groups	724.554	695	1.043		
Total	748.177	699			

Interpretation

One way analysis of variance was conducted to test whether there is significant difference between the various age groups of customers with regard to the impact of loss aversion induced by online food and grocery delivery apps. The P-value 0.001 which is <0.05 indicates there is a significant difference between the thinking of people of various age groups with respect loss aversion based AI marketing strategies.

AGE AND PURCHASE DECISION TOWARDS ONLINE FOOD AND GROCERY DELIVERY

Ho= There is no significant difference between the various age groups with regard to online food and grocery purchase decisions made due AI driven marketing strategies.

Table 5: Age and Purchase Decision

	Sum of Squares	df	Mean Square	F	P value
Between Groups	8.719	4	2.180	1.979	.096
Within Groups	765.480	695	1.101		
Total	774.199	699			

Interpretation

One way analysis of variance was conducted to test whether there is significant difference between the various age groups of customers with regard to online food and grocery purchase decisions made due AI driven marketing strategies.The P-value 0.096 which is >0.05 indicates there is no significant difference between the purchase decisions made by people of various age groups.

IX. SCOPE FOR FUTURE STUDIES

Future research could replicate this study across different geographical locations, incorporating larger and more demographically diverse sample sizes.

X. FINDINGS AND CONCLUSION

It was found that there is no significant difference between gender with respect to loss aversion and purchase decision influenced by AI driven marketing strategies in online food and grocery delivery sector. It can be concluded that both male and female do unplanned loss aversion induced purchase in online due to AI Driven marketing strategies like limited time offers, discounts and personalized recommendations.

The findings also indicate that age significantly influences consumers' loss aversion, suggesting that consumers of different age groups perceive potential losses associated with online food and grocery purchases differently. However, age does not significantly influence

their purchase decisions, indicating that differences in loss aversion across age groups do not necessarily translate into significant differences in actual purchase decisions.

Based on the above results and findings, the online food and grocery delivery organizations should formulate their strategies accordingly to increase the satisfaction of the customers and try to reduce the loss aversion.

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