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The Impact of Digital Marketing on the Growth of E-Commerce

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ABSTRACT:

Digital marketing has become an important way for e-commerce businesses to create awareness, engage customers and encourage online purchases. This study examines the impact of selected digital marketing activities on the perceived growth of e-commerce applications, focusing on social media advertisements, influencer recommendations, online advertisements, promotional messages and digital offers. A descriptive research design was used, and primary data were collected through a structured questionnaire from 52 respondents in Chennai. Percentage analysis, weighted average analysis, a chi-square test and multiple regression analysis were used to analyse the responses. Instagram was the most frequently reported platform exposing respondents to e-commerce advertisements (65.4%), while video advertisements attracted the most attention (65.4%). Customer reviews were the most selected social-media content type (32.7%), and honest reviews were the leading factor making influencer recommendations convincing (50.0%). The chi-square test did not show a statistically significant association between gender and e-commerce app usage frequency ($p = 0.232$). The regression model explained 69.1% of the variation in perceived overall e-commerce growth; market reach and business expansion had significant positive coefficients in the reported model. The findings indicate that relevant digital content and customer-focused marketing may support e-commerce growth, while the results should be interpreted in light of the limited sample size.

Keywords: digital marketing, e-commerce apps, social media advertising, influencer marketing, customer

INTRODUCTION

Digital marketing uses digital channels such as social media, search engines, websites, mobile applications, email and online advertisements to promote products and services. Compared with traditional marketing channels, these tools allow businesses to communicate with customers quickly and to observe responses through engagement and other measurable indicators. As internet access and smartphone use have expanded, customers increasingly search for products, compare prices, read reviews and make purchases through online platforms. E-commerce refers to the buying and selling of products and services through electronic platforms. Mobile shopping applications provide product information, customer reviews, payment options, order tracking and delivery services in one place. Competition among e-commerce businesses makes it important to attract new customers, retain existing users and maintain a visible digital presence. Digital marketing supports these objectives through social media advertisements, influencer recommendations, online video and search advertisements, promotional messages and offers such as discounts, cashback, coupons and free delivery. These activities can create awareness and influence customer interest, visits and purchase decisions. However, customers may respond differently depending on their needs, trust, usage patterns and perceived value. The present study examines customer responses to selected digital marketing activities and their relationship with perceived e-commerce growth. The study uses questionnaire responses from Chennai and considers customer adoption, purchase activity, market reach, business expansion and overall perceived growth.

INDUSTRY CONTEXT AND SIGNIFICANCE

The e-commerce industry connects online marketplaces, direct-to-consumer websites, mobile shopping applications, digital payment systems, logistics providers and digital advertising services. Improvements in internet connectivity, mobile technology and payment facilities have made online shopping more accessible. Customers can compare alternatives across platforms, so e-commerce businesses need to communicate product value and maintain customer engagement. Digital marketing is closely connected with this environment. Social media helps businesses introduce products; influencers provide demonstrations and recommendations; online advertisements can generate visits; and app

notifications, email or SMS can communicate new products and promotional offers. Businesses can also examine response data to understand which messages attract attention and adjust campaigns accordingly. Understanding these responses is useful for identifying the digital touchpoints customers notice and the activities they report as influencing their shopping. The study therefore provides a small-sample, customer-response view of digital marketing and perceived e-commerce growth in Chennai.

OBJECTIVES OF THE STUDY

Primary Objective

To study the impact of digital marketing on the growth of e-commerce apps.

Secondary Objectives

1. To measure how frequently respondents notice advertisements, discover products through influencers, click online advertisements, check promotional messages and wait for online sales or special offers. 2. To examine the association between gender and the frequency of e-commerce app usage. 3. To examine how customer adoption, purchase activity, market reach and business expansion relate to overall perceived e-commerce growth.

RESEARCH METHODOLOGY

The study follows a descriptive research design to present the opinions and reported behaviour of respondents without manipulating the study variables. Primary data were collected through a structured questionnaire using Google Forms from people who use or interact with e-commerce applications. The final sample comprised 52 respondents in Chennai. Secondary information was drawn from books, journals, research articles and relevant websites. The analysis used percentage analysis to summarize response distributions; weighted average analysis for selected frequency-based questions; the chi-square test to examine the association between gender and e-commerce app usage frequency; and multiple regression to examine the relationship between four growth dimensions and overall perceived e-commerce growth.

SCOPE AND LIMITATIONS

The functional scope covers selected digital marketing activities and perceived growth of e-commerce apps. The geographical scope is limited to questionnaire respondents in Chennai. The sample of 52 respondents may not represent all e-commerce users, and the findings depend on respondents' self-reported opinions. Time and resource constraints also limited the sample size and coverage.

TOOLS FOR ANALYSIS

Percentage analysis: $\text{Percentage} = (\text{number of respondents} / \text{total respondents}) \times 100$. Weighted average: used to

summarize reported frequency by assigning weights to response categories. Chi-square: used to test association

between categorical variables. Multiple regression: used to estimate the joint relationship of customer adoption, purchase activity, market reach and business expansion with overall perceived growth.

DATA ANALYSIS AND INTERPRETATION

Responses from 52 participants were summarized using percentage analysis. The following tables present selected demographic and digital marketing results from the questionnaire.

1. PERCENTAGE ANALYSIS FOR AGE

Particulars	Frequency	Percentage				
20–25 years	35	67.3%				
Below 20 years	13	25.0%				
36–45 years	3	5.8%	Above 45 years	1	1.9% Total	52
						100.0%

INFERENCE

sample is therefore predominantly young.

2. PERCENTAGE ANALYSIS FOR GENDER

Particulars	Frequency	Percentage
Female	28	53.8%
Male	24	46.2%
Total	52	100.0%

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gender distribution.

3. PERCENTAGE ANALYSIS FOR OCCUPATION

Particulars	Frequency	Percentage
Student	37	71.2%
Employed	12	23.1%
Homemaker	3	5.8%
Total	52	100.0%

INFERENCE**4. E-COMMERCE APP USAGE FREQUENCY**

Particulars	Frequency	Percentage								
Rarely	15	28.8%								
Daily	13	25.0% Several times a week	11	21.2% Once a week	9	17.3% Once a month	4	7.7% Total	52	100.0%

INFERENCE

frequency varied across the respondents. 5. Social media platform exposing respondents to advertisements

Particulars	Frequency	Percentage
Instagram	34	65.4%
YouTube	10	19.2%
WhatsApp	5	9.6%
Facebook	2	3.8%
LinkedIn	1	1.9%
Total	52	100.0%

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YouTube (19.2%).

6. FREQUENCY OF NOTICING E-COMMERCE ADVERTISEMENTS ON SOCIAL MEDIA

Particulars	Frequency	Percentage
Very often	20	38.5%
Often	15	28.8%
Sometimes	10	19.2%
Rarely	7	13.5%
Total	52	100.0%

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advertisements among a substantial part of the sample.

7. Social-media content that creates product interest

Particulars	Frequency	Percentage
Customer reviews	17	32.7%
Product videos	16	30.8%
Influencer content	12	23.1%
Offers / discounts	5	9.6%
Product images	2	3.8%
Total	52	100.0%

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(30.8%).

8. FACTOR MAKING INFLUENCER RECOMMENDATIONS CONVINCING

Particulars	Frequency	Percentage
Honest review	26	50.0%
Product demonstration	10	19.2%
Discount code	8	15.4%
Personal experience	5	9.6%
Number of followers	3	5.8%
Total	52	100.0% INFERENCE: Half of the respondents selected honest reviews, indicating that authenticity was the most frequently reported factor in influencer credibility.

9. ONLINE ADVERTISEMENT ATTRACTING MOST ATTENTION

Particulars	Frequency	Percentage
Video advertisements	34	65.4%
Search advertisements	9	17.3%
App advertisements	4	7.7%
Banner advertisements	4	7.7%
Pop-up advertisements	1	1.9%
Total	52	100.0%

INFERENCE

second (17.3%).

10. PURCHASE AFTER SEEING AN ONLINE ADVERTISEMENT

Particulars	Frequency	Percentage
Yes	32	61.5%
No	20	38.5%
Total	52	100.0% INFERENCE: A majority of respondents (61.5%) reported having purchased a product after seeing an online advertisement.

11. E-commerce app message attracting most attention

Particulars	Frequency	Percentage
Discount offers	15	28.8%
New product alerts	14	26.9%
Personalized recommendations	12	23.1%
Festival / special offers	9	17.3%
Order-related messages	2	3.8%
Total	52	100.0%

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(26.9%).

12. DIGITAL OFFERS INFLUENCING PURCHASE DECISIONS

Particulars	Frequency	Percentage
Discounts	12	23.1%
Cashback	11	21.2%
Buy-one-get-one offers	10	19.2%
Free delivery	10	19.2%
Coupons	9	17.3%
Total	52	100.0%

INFERENCE

delivery and bundle offers also received responses. Other questionnaire results showed that 46.2% sometimes discovered new products through influencers; 65.4% had visited an e-commerce app after an influencer recommendation; 42.3% sometimes clicked e-commerce advertisements; and 40.4% sometimes checked promotional messages. In addition, 44.2% said digital offers had encouraged an unplanned purchase, while 44.2% reported not purchasing because of an email or SMS offer.

GROWTH MEASURES AND STATISTICAL TESTS**13. PERCENTAGE ANALYSIS OF PERCEIVED E-COMMERCE GROWTH**

Growth statement Agree / Strongly agree Percentage

Customer adoption 28 of 52 53.8%

Purchase activity 29 of 52 55.8%

Market reach 26 of 52 50.0%

Business expansion 28 of 52 53.8%

Overall e-commerce growth 31 of 52 59.6%

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Purchase activity followed at 55.8%. These results describe the respondents' views and should not be interpreted as audited industry growth figures.

14. WEIGHTED AVERAGE ANALYSIS

Question / activity Weighted average

Noticing e-commerce advertisements on social media (Q7) 3.92

Discovering products through influencers (Q10) 3.65 Clicking e-commerce advertisements (Q13) 3.35 Waiting for online sales or special offers (Q19) 3.27 Checking promotional messages (Q16) 3.10

INFERENCE

checking promotional messages recorded the lowest of the five selected activities (3.10).

15. CHI-SQUARE TEST

H0: There is no significant association between gender and frequency of e-commerce app usage. H1: There is a significant association between gender and frequency of e-commerce app usage.

Test statistic	Value
Chi-square	5.584
Degrees of freedom	4
p-value	0.232
Sample size	52

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of an association between gender and e-commerce app usage frequency in this sample; therefore, the null hypothesis is not rejected.

16. MULTIPLE REGRESSION ANALYSIS

The regression model examined four dimensions—customer adoption (Q21), purchase activity (Q22), market reach (Q23) and business expansion (Q24)—in relation to overall perceived e-commerce growth (Q25). H0: There is no statistically significant relationship between the four growth dimensions and overall e-commerce growth. H1: There is a statistically significant relationship.

Variable B Std. error t-value p-value

Constant 0.320 0.347 0.923 0.361

Customer adoption (Q21) -0.142 0.120 -1.189 0.241

Purchase activity (Q22) 0.144 0.152 0.950 0.347

Market reach (Q23) 0.582 0.165 3.531 0.001

Business expansion (Q24) 0.381 0.131 2.909 0.006

R R² Adjusted R² F-value Sig. F 0.831 0.691 0.665 26.273 0.000 INFERENCE: The model explains 69.1% of the variation in the overall growth measure (R² = 0.691). Market reach (p = 0.001) and business expansion (p = 0.006) have statistically significant positive coefficients in the

reported model. Customer adoption and purchase activity were not statistically significant predictors at the 5%

level in this model.

RESULTS

The survey results show that the sample was predominantly young, with 67.3% aged 20–25 years, and that students formed 71.2% of respondents. Instagram was the main reported source of exposure to e-commerce advertisements (65.4%). Video advertisements attracted the most attention (65.4%), while customer reviews were the most selected social-media content type (32.7%). Honest reviews were the most frequently selected reason for finding influencer recommendations convincing (50.0%).

A majority of respondents reported purchasing a product after seeing an online advertisement (61.5%) and visiting an e-commerce app after an influencer recommendation (65.4%). Discount offers were the most selected app message and digital offer category, although several other types of promotional communication also received responses. These results suggest that respondents encounter multiple forms of digital marketing during online shopping.

For perceived growth measures, 59.6% agreed or strongly agreed that e-commerce was experiencing significant growth in the current market. The chi-square test found no statistically significant association between gender and e-commerce app usage frequency (p = 0.232). The multiple regression model explained 69.1% of the variation in perceived overall growth. Market reach and business expansion were statistically significant positive predictors in the reported model.

CONCLUSION

This study examined selected digital marketing activities and perceived e-commerce app growth using responses from 52 respondents in Chennai. The results highlight social-media exposure, video advertisements, customer reviews and honest influencer recommendations as notable responses within the sample. The chi-square test did not identify a statistically significant association between gender and usage frequency. Regression analysis indicated that

market reach and business expansion were positively and significantly related to overall perceived growth, and the model explained 69.1% of its variation. Because the study uses a limited, self-reported sample, the findings should be interpreted cautiously and should not be generalized to all e-commerce consumers. Future research may use larger samples, compare different platforms and examine actual campaign or sales data.

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