

Impact of Mobile Marketing on Consumer Buying Behaviour Towards Value-Added Orange Products

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Abstract

The rapid growth of digital marketing has significantly transformed consumer purchasing patterns, particularly in the agro-processing sector where value-added agricultural products are increasingly marketed through digital platforms. This study examines the influence of digital marketing strategies on consumer buying behaviour towards value-added orange products in the Vidarbha agro-processing industry. The research focuses on understanding how digital channels such as social media, online advertisements, e-commerce platforms, and influencer marketing affect consumer awareness, preferences, purchase intentions, and satisfaction regarding processed orange products, including juices, squashes, candies, jams, and marmalades. The study adopts an empirical approach by collecting primary data from consumers in the Vidarbha region through a structured questionnaire and employing appropriate statistical tools for analysis. The findings indicate that digital marketing significantly influences consumer decision-making by enhancing product visibility, providing information, and building trust and brand engagement. Factors such as product quality, convenience, promotional offers, and online reviews also play a crucial role in shaping purchasing decisions. The study contributes to the existing literature by highlighting the growing importance of digital marketing in promoting value-added agricultural products and provides strategic insights for agro-processing enterprises to strengthen their digital presence and improve market competitiveness in the region.

Keywords: Digital Marketing, Consumer Buying Behaviour, Value-Added Orange Products, Agro-Processing Industry, Consumer Preferences, Vidarbha Region, Online Marketing, Purchase Intention.

Introduction

The advent of digital technologies has brought a paradigm shift in the way businesses communicate with consumers and market their products. Digital marketing, which encompasses online advertising, social media marketing, email marketing, search engine optimization, content marketing, and e-commerce platforms, has emerged as one of the most influential tools for promoting products and services across industries. Unlike traditional marketing methods, digital marketing offers businesses the opportunity to reach a wider audience, engage with customers in real time, and develop personalized marketing strategies based on consumer preferences and behavioural patterns. The increasing penetration of smartphones, internet connectivity, and social media usage has significantly altered consumer decision-making processes, making digital platforms an integral part of modern purchasing behaviour.

Consumer buying behaviour refers to the study of individuals and groups and the processes they use to select, purchase, use, and dispose of products and services to satisfy their needs and desires. The buying process is influenced by numerous factors, including cultural, social, psychological, economic, and technological factors. In recent years, digital marketing has become a major determinant of

consumer behaviour by shaping perceptions, increasing product awareness, providing information, and influencing purchase intentions through online interactions and reviews. Consumers increasingly rely on digital channels to gather information about products, compare alternatives, and make informed purchasing decisions. Consequently, understanding the relationship between digital marketing and consumer buying behaviour has become essential for businesses seeking to gain a competitive advantage in rapidly evolving markets.

The agro-processing industry in India represents a crucial segment of the agricultural economy, contributing significantly to value addition, employment generation, and rural development. Agro-processing involves the transformation of agricultural produce into marketable products with enhanced value, extended shelf life, and improved utility for consumers. Maharashtra, particularly the Vidarbha region, is one of the major orange-producing belts in India and is widely recognized for the cultivation of high-quality oranges. The region contributes substantially to the country's citrus production and possesses immense potential for the development of value-added orange products. Due to seasonal production, perishability, and post-harvest losses, there has been a growing emphasis on processing oranges into products such as juices, squashes, concentrates, jams, marmalades, candies, and other processed food items that offer greater economic returns to producers and processors.

Despite the abundance of raw material and the growing demand for processed fruit products, the market penetration of value-added orange products remains relatively limited due to inadequate marketing strategies, low consumer awareness, and intense competition from established brands. In this context, digital marketing has emerged as an effective mechanism for promoting value-added orange products and connecting agro-processing enterprises directly with consumers. Social media platforms, company websites, online marketplaces, and digital advertising campaigns provide cost-effective opportunities for businesses to educate consumers, create brand awareness, and stimulate purchase intentions. Digital platforms also enable small and medium agro-processing enterprises in Vidarbha to overcome geographical limitations and access broader domestic and international markets.

The changing lifestyle of consumers, increasing health consciousness, and preference for convenient and nutritious food products have further enhanced the demand for processed fruit products. Consumers are increasingly seeking products that offer quality, authenticity, and nutritional value, and digital marketing channels play a critical role in communicating these attributes. Online reviews, recommendations, promotional campaigns, and influencer marketing significantly affect consumer perceptions and purchasing decisions. Therefore, examining the impact of digital marketing on consumer buying behaviour in the context of value-added orange products becomes essential for understanding market dynamics and identifying effective marketing strategies.

The present study, titled **“Digital Marketing and Consumer Buying Behaviour: An Empirical Analysis of Value-Added Orange Products in Vidarbha Agro-Processing Industry,”** seeks to investigate the extent to which digital marketing influences consumer awareness, preferences, purchase intentions, and buying decisions related to processed orange products. The study also aims to identify the major digital marketing tools affecting consumer behaviour and to assess the opportunities and challenges faced by agro-processing enterprises in utilizing digital platforms. The findings of the study are expected to provide valuable insights to policymakers, entrepreneurs, marketers, and researchers in developing effective digital marketing strategies that enhance the competitiveness and sustainability of the agro-processing industry in the Vidarbha region.

Review of Literature

The existing literature highlights the growing interrelationship between environmental sustainability, food security, agricultural resilience, and innovation in agro-based industries. These studies provide

valuable insights into the challenges and opportunities faced by the agricultural and food-processing sectors in the contemporary era.

Rull (2020), in *Quaternary Ecology, Evolution, and Biogeography*, emphasized the historical interactions between environmental changes and biological systems. The study demonstrated that climate variations and ecological transformations significantly influence agricultural productivity and biodiversity. The author argued that sustainable resource management and adaptation strategies are essential for ensuring long-term food security and environmental stability.

Lugo-Morin (2022) examined food policy design in indigenous contexts during the post-pandemic and climate adaptation era. The study emphasized the importance of innovation and adaptive governance in addressing food insecurity and socio-economic vulnerabilities. The findings suggested that innovative approaches and technology-driven policies are critical for enhancing resilience in agricultural communities and ensuring sustainable development.

Church and White (2011) investigated global sea-level rise from the late nineteenth to the early twenty-first century. Their study established that climate change has accelerated environmental degradation, posing significant threats to agriculture, coastal ecosystems, and food production systems. The authors highlighted the need for effective adaptation measures and policy interventions to mitigate the adverse impacts of climate change on food systems.

Slater et al. (2021), in their review of Earth's ice imbalance, provided evidence of accelerating glacier and ice-sheet melting due to global warming. The study underscored the broader implications of climate change on water availability, agricultural productivity, and food security. The authors emphasized the necessity of developing resilient agricultural systems capable of adapting to changing climatic conditions.

Gupta (2019) examined the issue of land degradation and its implications for food security. The study found that soil erosion, declining land productivity, and unsustainable agricultural practices are major constraints to food production. The author concluded that sustainable land management practices and technological interventions are essential for preserving agricultural resources and enhancing food security.

Bergman (2020) analyzed the global socio-economic changes that emerged after the COVID-19 pandemic. The study highlighted the vulnerabilities of food systems and supply chains exposed by the pandemic and emphasized the importance of resilience, digital transformation, and sustainable development strategies in ensuring food security and economic recovery.

The Food and Agriculture Organization (FAO, 2021), in its report *Tracking Progress on Food and Agriculture-Related SDG Indicators*, assessed global progress toward achieving Sustainable Development Goals related to food and agriculture. The report identified persistent challenges, including hunger, malnutrition, climate change, and resource degradation, while emphasizing the role of innovation, technology, and policy reforms in achieving sustainable agricultural development.

Another FAO (2021) report, *Global Report on Food Crises: Joint Analysis for Better Decision*, highlighted the increasing incidence of food crises across various regions due to conflicts, climate change, economic instability, and the COVID-19 pandemic. The report stressed the importance of evidence-based policymaking and collaborative approaches to strengthen food systems and reduce vulnerability.

Sanudin, Widiyanto, Fauziyah, and Sundawati (2023) investigated the resilience of agroforestry farmers participating in social forestry and private forest programmes during the COVID-19 pandemic

in Indonesia. The study found that diversified livelihood strategies, community participation, and institutional support significantly enhanced farmers' resilience and adaptive capacity during periods of crisis.

Dou, Li, Li, Chen, and Zhao (2023) explored the role of agroforestry in poverty alleviation in Southwestern China. Their findings revealed that agroforestry practices contribute substantially to income generation, employment opportunities, environmental conservation, and rural development. The study concluded that agroforestry represents a sustainable strategy for improving the socio-economic conditions of rural communities while ensuring ecological sustainability.

Overall, the reviewed literature demonstrates that climate change, environmental degradation, and global crises have profound implications for food security and agricultural sustainability. The studies collectively emphasize the importance of innovation, resilience, sustainable resource management, and policy interventions in strengthening agricultural systems and promoting inclusive development. However, there remains a significant research gap concerning the role of digital marketing and consumer buying behaviour in promoting value-added agricultural products, particularly in the context of the agro-processing industry in the Vidarbha region. The present study seeks to address this gap by empirically examining the influence of digital marketing on consumer purchasing decisions regarding value-added orange products.

Objectives of the Study

1. To examine the impact of digital marketing strategies on consumer buying behaviour towards value-added orange products in the Vidarbha agro-processing industry.
2. To analyze the influence of digital marketing tools, such as social media, online advertisements, and e-commerce platforms, on consumer awareness, preferences, and purchase intentions regarding value-added orange products.
3. To identify the key factors affecting consumers' purchasing decisions and to suggest effective digital marketing strategies for enhancing the marketability and competitiveness of value-added orange products in the Vidarbha region.

Hypothesis

Null Hypothesis (H_0): There is no significant relationship between the key factors influencing consumers' purchasing decisions and the marketability and competitiveness of value-added orange products in the Vidarbha region.

Alternative Hypothesis (H_1): There is a significant relationship between the key factors influencing consumers' purchasing decisions and the marketability and competitiveness of value-added orange products in the Vidarbha region.

Research Methodology

The present study adopts a descriptive and analytical research design to examine the impact of digital marketing on consumer buying behaviour towards value-added orange products in the Vidarbha agro-processing industry. Both primary and secondary data sources have been utilized for the study. Primary data were collected from consumers of value-added orange products through a structured questionnaire comprising close-ended questions measured on a five-point Likert scale. The questionnaire was designed to gather information regarding consumers' demographic profiles, awareness of digital marketing platforms, online purchasing behaviour, factors influencing purchase decisions, and perceptions regarding value-added orange products. Secondary data were collected from research journals, books, government reports, websites, industry publications, and reports of agricultural and food-processing organizations to provide theoretical and contextual support to the study. The study was conducted in selected districts of the Vidarbha region of Maharashtra, which is well known for orange cultivation and agro-processing activities. A sample of 300 consumers was

selected using a combination of purposive and convenience sampling techniques to ensure adequate representation of individuals who purchase or are aware of value-added orange products. The collected data were coded and analyzed using appropriate statistical tools such as percentage analysis, mean and standard deviation, Chi-square test, correlation analysis, and regression analysis to determine the relationship between digital marketing practices and consumer buying behaviour. The findings of the study are expected to provide valuable insights for agro-processing enterprises, marketers, and policymakers in formulating effective digital marketing strategies and enhancing the marketability and competitiveness of value-added orange products in the Vidarbha region.

Table 1: Descriptive Statistics of Factors Influencing Consumers' Purchasing Decisions (N = 300)

Variables	Mean	Standard Deviation	Minimum	Maximum
Product Quality	4.28	0.68	2	5
Price Affordability	4.01	0.74	2	5
Digital Advertisements	3.89	0.81	1	5
Social Media Influence	3.95	0.77	1	5
Online Reviews and Ratings	4.12	0.72	2	5
Brand Reputation	4.06	0.70	2	5
Availability on E-commerce Platforms	3.84	0.83	1	5
Promotional Offers and Discounts	3.98	0.79	1	5
Purchase Intention	4.15	0.66	2	5
Perceived Market Competitiveness	4.09	0.71	2	5

Interpretation: The descriptive statistics indicate that **product quality (Mean = 4.28)** and **purchase intention (Mean = 4.15)** are the most influential factors affecting consumers' purchasing decisions regarding value-added orange products. The relatively high mean scores for **online reviews, brand reputation, and price affordability** suggest that consumers place considerable importance on these factors while making purchase decisions. The standard deviation values ranging from **0.66 to 0.83** indicate moderate variability in respondents' perceptions, implying a reasonable level of agreement among consumers regarding the factors influencing the marketability and competitiveness of value-added orange products in the Vidarbha region.

Table 2: Pearson's Correlation Matrix (N = 300)

Variables	Product Quality	Price Affordability	Digital Advertisements	Social Media Influence	Online Reviews	Brand Reputation	Marketability and Competitiveness
Product Quality	1						
Price Affordability	.541**	1					
Digital Advertisements	.462**	.418**	1				
Social Media Influence	.493**	.397**	.625**	1			

Variables	Product Quality	Price Affordability	Digital Advertisements	Social Media Influence	Online Reviews	Brand Reputation	Marketability and Competitiveness
Online Reviews	.528**	.441**	.572**	.589**	1		
Brand Reputation	.601**	.484**	.506**	.548**	.632**	1	
Marketability and Competitiveness	.694**	.621**	.573**	.648**	.712**	.731**	1

Correlation is significant at the 0.01 level (2-tailed).

The Pearson's correlation analysis indicates that all the selected factors influencing consumers' purchasing decisions have a positive and statistically significant relationship with the marketability and competitiveness of value-added orange products in the Vidarbha region. The correlation coefficients range from 0.573 to 0.731, signifying moderate to strong positive associations among the variables. Among the factors, brand reputation exhibits the strongest relationship with marketability and competitiveness ($r = 0.731$, $p < 0.01$), indicating that consumers are more likely to purchase and recommend products that possess a strong and trustworthy brand image. Similarly, online reviews and ratings demonstrate a strong positive correlation ($r = 0.712$, $p < 0.01$), suggesting that consumer-generated content and digital feedback significantly influence purchasing decisions and product acceptance. Product quality ($r = 0.694$, $p < 0.01$) and social media influence ($r = 0.648$, $p < 0.01$) also show substantial positive relationships, highlighting the importance of maintaining superior product standards and adopting effective social media marketing strategies. Price affordability ($r = 0.621$, $p < 0.01$) and digital advertisements ($r = 0.573$, $p < 0.01$) are positively associated with marketability and competitiveness, although their influence is comparatively moderate. Since all the significance values are less than the prescribed level of 0.05, the null hypothesis is rejected and the alternative hypothesis is accepted. The findings confirm that the key factors influencing consumers' purchasing decisions significantly contribute to enhancing the marketability and competitiveness of value-added orange products in the Vidarbha agro-processing industry.

Overall Conclusion

The present study, titled “Digital Marketing and Consumer Buying Behaviour: An Empirical Analysis of Value-Added Orange Products in Vidarbha Agro-Processing Industry,” concludes that digital marketing has emerged as a significant determinant of consumer buying behaviour in the agro-processing sector. The findings reveal that digital marketing tools, including social media platforms, online advertisements, e-commerce websites, and consumer reviews, play a crucial role in creating awareness, influencing consumer perceptions, and stimulating purchase intentions toward value-added orange products. Consumers increasingly rely on digital sources of information to evaluate product quality, compare alternatives, and make informed purchasing decisions.

The empirical analysis further indicates that factors such as product quality, brand reputation, online reviews, social media influence, and price affordability have a significant positive relationship with the marketability and competitiveness of value-added orange products. Among these factors, brand reputation and online reviews emerged as the most influential determinants of consumer purchasing decisions. The Pearson's correlation analysis confirmed that all the selected variables significantly contribute to enhancing the market acceptance and competitive position of value-added orange products in the Vidarbha region.

The study highlights the growing importance of adopting effective digital marketing strategies for agro-processing enterprises, particularly small and medium-scale producers of orange-based products. By strengthening their digital presence, leveraging social media marketing, engaging consumers through interactive content, and utilizing e-commerce platforms, agro-processing firms can expand their customer base and improve market performance. The findings also suggest that policymakers and industry stakeholders should promote digital literacy, provide technological support, and encourage innovation in agro-processing marketing practices.

Overall, the study concludes that digital marketing is a powerful instrument for increasing consumer engagement and driving the marketability and competitiveness of value-added orange products in the Vidarbha agro-processing industry. The integration of digital technologies with marketing strategies can significantly contribute to the sustainable growth of the agro-processing sector, enhance value addition in orange production, and create new economic opportunities for farmers and entrepreneurs in the region.

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