Educational
Administration
Theory and Practice

Impact Of Social Media Marketing On The Expansion Of The Food Industry: An Analysis In Key Cities Of Chhattisgarh, India

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ARTICLE INFO	ABSTRACT
	This comprehensive study aims to elucidate the intricate dynamics between social media marketing strategies and the growth trajectory of the food industry in Chhattisgarh, India. Through an interdisciplinary approach merging qualitative and quantitative methodologies, the research endeavors to investigate how various social media tactics shape the landscape of the food industry in select urban centers. By conducting surveys among consumers and businesses, analyzing digital metrics, and engaging in in-depth interviews with industry experts, this study seeks to unravel the nuanced mechanisms underlying consumer engagement, brand visibility, and market expansion facilitated by social media platforms. Moreover, the research will delve into the role of emerging trends such as influencer marketing and user-generated content in reshaping marketing paradigms within the food industry context. The findings of this study hold significant implications for marketers, policymakers, and industry stakeholders, providing actionable insights to optimize social media strategies and foster sustainable growth within the Chhattisgarh food industry. **Keywords:** Social Media Marketing, Food Industry, Consumer Engagement, Brand Visibility, Market Expansion, Influencer Marketing, User-Generated Content.

1. INTRODUCTION

In the realm of globalization, social media has emerged as a prominent force in the spheres of business transactions and public relations. Its remarkable adaptability has contributed significantly to the growth of industries. Forward-thinking marketers, equipped with technological prowess, are seamlessly integrating social media into their marketing strategies to establish connections with their clientele and potential prospects. The instantaneous interactivity afforded by social media revolutionizes engagement with business consumers, fostering a dynamic landscape. Notably, social media's transformative influence extends to diverse aspects, including marketing trends, consumer perceptions, and even recruitment methodologies. On a global scale, the utilization pattern of social media exhibits an unceasing upward trajectory encompassing one of the most prevalent online activities embraced by users.

The statistical landscape of social media from the year 2020 attests to its exponential proliferation, with approximately 3.8 billion users worldwide [16], an escalating statistic that continues to surge. This constitutes nearly 49 percent of the contemporary global population, as indicated by data from Emarsys [17]. The Global Digital Report 2020 further corroborates this phenomenon, revealing that mobile phone users reached a staggering 5.19 billion in 2020, marking a 2.4 percent upswing from the previous year. Simultaneously, the count of internet users worldwide reached 4.54 billion, signifying a remarkable upsurge of 7 percent in comparison to January 2019. In sync with this momentum, the tally of global social media users surged by 9.2 percent, an impressive addition of 321 million users, reaching a total of 3.8 billion in 2020. Notably, over 3.26 billion individuals accessed social media through mobile devices in early 2019, witnessing a year-on-year growth exceeding 10 percent [18]. Facebook's dominance as the premier social media platform during this period is notably underscored.

The ascendancy of social media marketing has propelled brands onto a fertile landscape. A noteworthy 73% of marketers affirm that their endeavors in social media marketing have yielded degrees of success ranging from "somewhat successful" to "very successful" for their respective companies. The manifold advantages of social media encompass economical marketing solutions, direct engagement avenues with audiences, and the cultivation of brand allegiance. However, evaluating the precise impact of social media remains a challenge, owing to the varying metrics employed by each platform to gauge activity.

1.1. OPERATIONAL DEFINITIONS

Functional Delineations Social media" Social media is an marquee term used to describe virtual surroundings where people engage with each other similar as Twitter, Facebook, YouTube, LinkedIn, MySpace, and Instagram"(Komodromos, 2014) and(Kaplan & Haenlein, 2010)

"It's a group of online operations that allow the generality and exchange of stoner- generated content. Social media can be established anywhere with an Internet connection, and it should be considered by marketers, advertisers, and online content generators as an introductory part of their dispatches because social media affects all aspects of the Internet and transforms the part of the Internet in people's lives"[13].Social media marketing "SMM is selling using online communities, social networks, blog marketing, and more. Social media marketing isn't just about hitting the frontal runner or any other social information website"(Lazer& Kelly, 1973) [14].

"Social media marketing is a way of promoting and creating stronger engagement between products services and implicit guests through social/ online media. Tuten, 2008, has defined Social media marketing' as a form of online advertising that uses the artistic environment of social environment, including social networks, virtual worlds, news spots, and social opinion- sharing spots to meet branding and communication objects'"(Tuten, 2008)[15].

1.2. Food Industry

The scope of this research is dedicated to examining the dynamic landscape of the food industry, with a particular emphasis on the region of Chhattisgarh, India. Within this geographic domain, the food sector has demonstrated remarkable growth potential and substantial profit opportunities. This ascent can be attributed to the industry's exceptional capacity for value addition, particularly evident in the domain of food processing. Impressively, the food processing industry commands a significant 32 percent share of the nation's total food market.

Facilitating this upward trajectory is the strategic intervention of the Government of India, which has actively promoted investments in the food processing sector. Spearheading these efforts is the Ministry of Food Processing Industries (MoFPI), endorsing initiatives such as joint ventures, foreign collaborations, industrial licenses, and the establishment of 100 percent export-oriented units (IBEF, 2019).

A key aspect of the industry's significance lies in its expansive market size. India's food and grocery market rank as the sixth-largest globally, with a substantial 70 percent of sales attributed to the retail sector. Moreover, the Indian food processing industry holds a formidable 32 percent share of the country's total food market. This industry occupies a prominent position as one of India's largest sectors, ranking fifth in terms of production, consumption, exports, and projected growth.

Furthermore, the industry contributes significantly to the nation's economic landscape, constituting approximately 8.80 percent and 8.39 percent of the Gross Value Added (GVA) in the Manufacturing and Agriculture sectors, respectively. Notably, it accounts for 13 percent of India's total exports and contributes six percent to the entirety of the industrial sector.

In summation, this research delves into the intricacies of the food industry within the specific context of Chhattisgarh, shedding light on its remarkable growth trajectory, value addition potential, and the pivotal role of government initiatives. The industry's substantial presence is underscored by its share in the nation's food market, its contributions to various sectors of the economy, and its significant position on the global stage.

2. Review of Literature

Celimli, S., &Adanacıoğlu, H. (2021). This literature review examines the impact of social media platforms on food company marketing performance. Facebook emerges as the most effective platform, followed by Instagram and Twitter. Key benefits include customer engagement, brand awareness, and increased sales. Social media marketing (SMM) is highlighted for its cost-effectiveness, rapid consumer feedback, and customer relationship management. The COVID-19 pandemic has further accelerated the adoption of digital marketing strategies in the food sector. [9]

Cahyani, D. P. A., Danial, R. D. M., &Komariah, K. (2021) This paper analyzes the influence of social media on competitive advantage within Sukabumi City's food MSMEs. Through a quantitative approach and simple linear regression analysis involving 40 respondents, the study reveals a significant correlation between social media variables and competitive advantage. This research highlights the crucial role of social media in enhancing competitive edge for Food and Beverage MSMEs in Sukabumi City, contributing to localized entrepreneurial success.[6]

Lakha, R., & Vaid, A. C. (2020). This paper highlights the growing interest in social media marketing's role in the hospitality sector, particularly within hotel businesses. Prior research emphasizes the effectiveness of platforms like Facebook and Snapchat for engaging diverse consumer groups. Integration of corporate social responsibility (CSR) initiatives and collaborative IT-marketing strategies have shown potential for competitive advantage. However, there is a gap in understanding these dynamics in the Chandigarh tri-city context. This study aims to fill this gap by examining the combined influence of social media marketing, CSR strategies, and collaborative efforts on hotel business expansion in this unique urban landscape. [5]

Cui, L., Jiang, H., Zhang, T. (2019). This paper investigates how the dissemination of food safety information through social media impacts customers' purchase intentions in China, identifying critical factors influencing individual consumer behavior. The study proposes and validates research model using structural equation modeling and a survey of 199 individuals experienced in online food purchasing and active social media usage. Findings reveal that friend recommendations and perceived risk directly affect purchase intentions, while opinion leader recommendations, information quality, credibility, and demand indirectly shape intentions through food safety information diffusion via social media in China.[8]

Goyal, M. (2016) This paper explores the profound impact of social media on consumer behavior within Jaipur's restaurant industry. With the surge in internet and web tool usage, social media stands out as a powerful tool for information-seeking, criticism, and engagement. Companies have integrated social media to connect with potential consumers. Through questionnaires distributed to various age groups, data was collected, coded, and statistically analyzed. Variables like purpose, duration, motivation, and effects of social media were integrated into an analytical framework, revealing a shift from traditional advertising to social media reliance. Consumers increasingly turn to social media platforms for reliable restaurant information, enhancing decision-making efficiency and optimizing time. This research underscores the significant role of social media in shaping consumer behavior when selecting restaurants.[7]

2.1. Research Gap
The research lacks specific insights into the effectiveness of social media marketing strategies within the Chhattisgarh food industry. There is limited understanding of consumer behavior and its translation into purchasing decisions, as well as the unique challenges and opportunities faced by businesses in implementing digital marketing tactics in this regional context. Closing these gaps is essential for informing targeted and impactful marketing efforts within the Chhattisgarh food market.

2.2. Need and scope of the study
In Chhattisgarh's food industry, the role of social media marketing strategies in enhancing brand visibility and consumer engagement remains underexplored. This study aims to bridge this gap by evaluating the effectiveness of such strategies and their influence on consumer behavior. Focused on selected urban areas, the research will provide insights into successful social media campaigns, identify challenges, and offer recommendations for optimizing marketing efforts. This study seeks to inform industry stakeholders on leveraging digital platforms for sustainable growth in the Chhattisgarh food industry..

2.3. Objectives of the study
1. To evaluate the effectiveness of social media marketing strategies in enhancing brand visibility and consumer engagement within the food industry of Chhattisgarh, focusing on selected urban areas.
2. To assess the influence of social media platforms on consumer behaviour and purchasing decisions related to food products in Chhattisgarh, analyzing the role of digital marketing in shaping consumer preferences.
3. To identify key challenges and opportunities in implementing social media marketing strategies within the Chhattisgarh food industry and provide actionable recommendations for improving marketing effectiveness and fostering industry growth.

2.4. Hypothesis to be tested:
1. Hypothesis 1 (Quantitative):
- **Null Hypothesis (H0):** There is no significant relationship between social media marketing strategies and consumer engagement within the food industry of Chhattisgarh.
- **Alternative Hypothesis (H1):** Social media marketing strategies have a significant positive relationship with consumer engagement within the food industry of Chhattisgarh.

2. Hypothesis 2 (Quantitative):
- **Null Hypothesis (H0):** Social media platforms have no significant influence on consumer purchasing decisions related to food products in selected urban areas of Chhattisgarh.
- **Alternative Hypothesis (H1):** Social media platforms have a significant positive influence on consumer purchasing decisions related to food products in selected urban areas of Chhattisgarh.

3. Hypothesis 3 (Qualitative):
- **Null Hypothesis (H0):** Social media marketing strategies do not significantly contribute to overcoming challenges faced by food businesses in implementing digital marketing tactics in Chhattisgarh.

- Alternative Hypothesis (H1): Social media marketing strategies significantly contribute to overcoming challenges faced by food businesses in implementing digital marketing tactics in Chhattisgarh.

3. Research Methodology

To comprehensively explore the impact of social media marketing strategies on the growth of the food industry in Chhattisgarh, a mixed-methods approach will be employed. This approach integrates quantitative survey questionnaires with qualitative in-depth interviews, offering a robust understanding of the research problem.

1. Quantitative Method: Survey Questionnaires
- **Sample Size**: The study will survey 200 respondents.
- **Data Collection**: Structured surveys will be administered to consumers and food businesses in selected urban areas of Chhattisgarh. The questionnaire will cover topics such as social media usage, preferences, perceptions, purchasing behavior, and attitudes towards food products.
- **Sampling Method**: Convenience sampling will be used to select respondents, ensuring a diverse representation across demographic groups, including age, gender, income levels, and geographic locations within Chhattisgarh.
- **Reliability and Validity**:
  o **Reliability**: The reliability of the survey data will be assessed using Cronbach's alpha for Likert scale items, as well as test-retest reliability to ensure consistency over time.
  o **Validity**: The validity of the survey instruments will be ensured through content validity, confirmed by expert reviews, and construct validity, verified through factor analysis.

2. Qualitative Method: In-depth Interviews
- **Sample Size**: Between 20 and 30 participants will be interviewed.
- **Data Collection**: Semi-structured interviews will be conducted with industry experts, social media managers, and food business owners/managers in Chhattisgarh. These interviews will delve into their perspectives on social media marketing strategies, the challenges they face, and the opportunities within the food industry.
- **Sampling Method**: Purposive sampling will be utilized to select participants with diverse experiences and expertise relevant to the research topic.

This rigorous methodology, supplemented by real-life examples, ensures that the data collected is both reliable and valid, providing a strong foundation for analyzing the impact of digital marketing on consumer buying behavior for durable products in Chhattisgarh. The combination of quantitative and qualitative methods allows for a comprehensive analysis, blending the breadth of survey data with the depth of interview insights.

Reliability Analysis:
The reliability of the survey instrument used in this study was evaluated using SPSS, resulting in a Cronbach's Alpha coefficient of 0.75. Cronbach's Alpha is a measure of internal consistency, indicating how closely related a set of items are as a group. The interpretation of Cronbach's Alpha values is as follows:
- $\alpha \geq 0.9$: Excellent
- $0.8 \leq \alpha < 0.9$: Good
- $0.7 \leq \alpha < 0.8$: Acceptable
- $0.6 \leq \alpha < 0.7$: Questionable
- $0.5 \leq \alpha < 0.6$: Poor
- $\alpha < 0.5$: Unacceptable

In this study, the Cronbach's Alpha coefficient of 0.75 suggests that the items in the survey possess acceptable internal consistency. This indicates that the survey items were reliable for measuring key variables, such as digital adoption, customer satisfaction, and operational efficiency, within the context of social media marketing's impact on the expansion of the food industry in key cities of Chhattisgarh, India. The results confirm that the data collected is dependable, providing a strong foundation for analyzing the role of social media marketing in driving the growth of the food industry in the region.

4. Data Analysis and Interpretation
1. Objective
Variables Used:
1. Dependent Variable:
- Consumer Engagement: Measured by metrics such as likes, shares, comments, and clicks on social media posts related to food businesses in Chhattisgarh.

2. Independent Variables:
Social Media Marketing Strategies:

- Frequency of Posts: Number of posts made by food businesses on social media platforms per week.
- Content Type: Categorical variable indicating the type of content posted (e.g., images, videos, promotions).
- Engagement Tactics: Strategies employed to encourage interaction with social media content (e.g., contests, polls, user-generated content).
- Platform Usage: Presence on various social media platforms (e.g., Facebook, Instagram, Twitter) and level of activity.

Table 1.1: Descriptive Statistics

Metric	Minimum	Maximum	Mean	Standard Deviation
Posts per Week	5.00	15.00	9.6500	2.85803
Likes	10.00	1000.00	366.30	182.10470
Shares	10.00	300.00	160.95	128.70576
Comments	5.00	500.00	202.98	202.04551

1. Posts per Week:
o   The dataset reveals an average of approximately 9.65 (see table 1.1) posts per week, indicating a consistent level of content creation.
o   A standard deviation of 2.86 (see table 1.1) suggests moderate variability in posting frequency, pointing to fluctuations in weekly content output despite the overall stable average.

2. Likes:
o   On average, each post receives 366.30 (see table 1.1) likes, reflecting substantial audience engagement.
o   The considerable range between a minimum of 10 likes and a maximum of 1,000 (see table 1.1) likes highlights significant variability in post popularity.
o   The standard deviation of 182.10(see table 1.1) underscores this variability, suggesting diverse audience preferences and engagement levels across different posts.

3. Shares:
o   Posts average 160.95(see table 1.1) shares, indicative of a moderate level of content virility and outreach.
o   A notable standard deviation of 128.71 (see table 1.1) points to variability in the number of shares, suggesting that while some posts achieve significant traction, others have limited reach.
o   The range from 10 to 300 (see table 1.1) shares further illustrates the varied potential for audience-driven dissemination of content.

4. Comments:
o   With an average of 202.98 (see table 1.1) comments per post, there is clear evidence of active audience interaction.
o   The range of 5 to 500 (see table 1.1) comments per post, coupled with a standard deviation of 202.05 (see table 1.1), highlights substantial variability in the level of audience discussion and engagement across different posts.

The descriptive statistics present a nuanced view of social media engagement, characterized by consistent content creation, varying levels of audience interaction, and significant fluctuations in likes, shares, and comments across posts. These insights are critical for content creators and marketers seeking to enhance audience engagement and optimize their social media strategies.

Table 1.2: Descriptive Frequencies

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Platform Usage				
Facebook	39	19.5	19.5	19.5
Instagram	66	33.0	33.0	52.5
Twitter	19	9.5	9.5	62.0
WhatsApp	57	28.5	28.5	90.5
Content Type				
Contests	37	18.5	18.5	18.5
Events	33	16.5	16.5	35.0
Image	29	14.5	14.5	49.5
Promotions	41	20.5	20.5	70.0
Ratings	38	19.0	19.0	89.0
Engagement Tactics				

Contests	37	18.5	18.5	18.5
Flash Sales/Exclusive Offers	54	27.0	27.0	45.5
Interactive Quizzes/Trivia	18	9.0	9.0	54.5
Interactive Stories/Polls	18	9.0	9.0	63.5
Live Cooking Demos	18	9.0	9.0	72.5
Polls	37	18.5	18.5	91.0
User-Generated Content (UGC)	18	9.0	9.0	100.0
Total	200	100.0	100.0	100.0

Platform Usage Analysis:
Instagram emerges as the leading platform for social media marketing, accounting for 33.0% (see table 1.2) (see table 1.2) of total platform usage. This dominance can be attributed to Instagram's visual-centric nature and its extensive user base, making it an ideal platform for product showcases and follower engagement. Following Instagram, WhatsApp accounts for 28.5% (see table 1.2) of platform usage, underscoring its importance in direct communication and content sharing with followers. Facebook (19.5%)(see table 1.2) and Twitter (9.5%) (see table 1.2) also play significant roles in social media marketing, albeit to a lesser extent. While less prominent than Instagram and WhatsApp, Facebook and Twitter offer versatility and real-time engagement opportunities, making them valuable for reaching and connecting with audiences.

Content Type Analysis:
Promotions are the most frequently utilized content type, representing 20.5%(see table 1.2) of total posts. This reflects a strategic focus on advertising products or services. Ratings and reviews, which constitute 19.0%(see table 1.2) of the content, emphasize the importance of soliciting and showcasing user feedback. Contests (18.5%) (see table 1.2) and events (16.5%)(see table 1.2) diversify the content strategy, catering to varying audience interests and preferences. Images, accounting for 14.5%(see table 1.2) of the content, add visual appeal and enhance the overall content mix.

Engagement Tactics Analysis:
Flash sales and exclusive offers are the most commonly employed engagement tactics, comprising 27.0%(see table 1.2) of the total tactics used. These tactics are effective in creating a sense of urgency and exclusivity, driving both engagement and potential sales. Contests and polls, each representing 18.5%(see table 1.2) of engagement tactics, encourage participation, foster brand loyalty, and promote interactive dialogue with followers. Additionally, interactive quizzes, stories, and live cooking demonstrations collectively account for 27.0% (see table 1.2) of engagement tactics, further enhancing audience interaction through participatory experiences.

Conclusion:
The analysis of platform usage, content types, and engagement tactics highlights a strategic and multifaceted approach to social media marketing. Instagram and WhatsApp dominate in terms of platform preference, while a diverse mix of content types and engagement tactics is employed to maximize reach, engagement, and impact across digital platforms. Understanding these dynamics is crucial for businesses seeking to refine their social media strategies and optimize consumer engagement.

Content Type	Likes	Shares	Total
Contests	0	1	11
Events	1	1	11
Image	1	1	9
Promotions	1	2	41
Ratings	0	0	22
Recipes	0	0	12
Reels	0	0	11
Reviews	0	1	11
Video	1	0	34
Total	5	6	200

Table 1.3:

Methodology: The study utilized data collected from social media platforms, including likes and shares received by different content types and engagement tactics. Chi-square tests were conducted to analyze the association between these variable

Results:

Table 1.4: Engagement Tactics vs. Consumer Engagement

Engagement Tactics	Likes	Total
Contest	10	37
Flash Sales/Exclusive Offers	20	54
Interactive Quizzes/Trivia	30	18
Interactive Stories/Polls	50	18
Live Cooking Demos	100	18
Polls	200	37
UGC	300	18
Total	710	200

Chi-Square Test Results:
- **Content Type**: Pearson Chi-Square = 278.087, df = 65, p < .001
- **Engagement Tactics**: Pearson Chi-Square = 100.406, df = 96, p = .359

Discussion:
The chi-square test results reveal a significant association between content type and consumer engagement, as indicated by the very low p-value (p < .001). This suggests that the type of content shared on social media has a substantial impact on how consumers engage with the material. Conversely, the association between engagement tactics and consumer engagement was not statistically significant, as evidenced by the p-value of .359. This indicates that while content type is crucial for driving consumer interaction, the specific engagement tactics employed may not have as strong an influence.

Conclusion:
In conclusion, content type is a key determinant of consumer engagement on social media platforms. Businesses should prioritize creating content that resonates with their target audience to enhance consumer interaction and boost brand visibility.

Hypothesis Testing:
- **Null Hypothesis (Ho)**: There is no significant relationship between social media marketing strategies and consumer engagement within the food industry of Chhattisgarh.
- **Alternative Hypothesis (H1)**: Social media marketing strategies have a significant positive relationship with consumer engagement within the food industry of Chhattisgarh.

Chi-Square Test Results:
A chi-square test was conducted to assess the association between social media marketing strategies and consumer engagement in the food industry of Chhattisgarh. The analysis yielded a chi-square value of [chi-square value] with [degrees of freedom] degrees of freedom, and a p-value of [p-value].

Interpretation:
Given the p-value of [p-value], which is [greater than/less than/equal to] the significance level of [your chosen significance level, e.g., 0.05], we [fail to reject/reject] the null hypothesis. This implies that there is [insufficient/sufficient] evidence to support the existence of a [significant/insignificant] relationship between social media marketing strategies and consumer engagement within the food industry in Chhattisgarh.

Conclusion:
Based on the results of the chi-square test, we [fail to reject/reject] the null hypothesis, thus providing [evidence/insufficient evidence] to support the alternative hypothesis. This finding suggests that social media marketing strategies [do/do not] have a significant positive relationship with consumer engagement in the food industry of Chhattisgarh.

Objective 2
Hypothesis 2 (Quantitative):
- **Null Hypothesis (Ho)**: Social media platforms do not have a significant influence on consumer purchasing decisions related to food products in selected urban areas of Chhattisgarh.
- **Alternative Hypothesis (H1)**: Social media platforms have a significant positive influence on consumer purchasing decisions related to food products in selected urban areas of Chhattisgarh.

Variables Used:
- **Dependent Variable**: Food Product Purchases
- **Independent Variable**: Social Media Usage
- **Control Variables**: Age, Gender, Income, Brand Perception

Specific Variables:
1. **Participant ID**: Unique identifier for each participant.
2. **Age**: Age of the participant.
3. **Gender**: Gender of the participant (Male/Female).
4. **Income**: Annual income of the participant.
5. **Social Media Usage**: Level of social media usage (High/Medium/Low).
6. **Brand Perception**: Perception of food product brands (Positive/Neutral/Negative).
7. **Food Product Purchases**: Frequency of food product purchases (Low/Moderate/High).

Table 2.1: Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Income	200	₹30,000	₹1,55,000	₹72,325	₹30,007.86
Age	200	17	50	30.82	9.50

- **Income**:
  o Income ranges from ₹30,000 to ₹1,55,000 (see table 2.1).
  o The average income is ₹72,325(see table 2.1) with a standard deviation of ₹30,007.86 (see table 2.1), indicating considerable variability among participants.

- **Age**:
  o Age ranges from 17 to 50 years(see table 2.1).
  o The average age is 30.82 years(see table 2.1) with a standard deviation of 9.50(see table 2.1), showing moderate variability in the age distribution.

These statistics provide an overview of the income and age distribution within the sample, which are crucial for analyzing the impact of social media usage on consumer purchasing decisions.

Table 2.2: Descriptive Statistics for Gender, Social Media Usage, Brand Perception, and Food Product Purchases

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Gender				
Male	118	59.0	59.0	59.0
Female	82	41.0	41.0	100.0
Social Media Usage				
Medium	86	43.0	43.0	43.0
High	113	56.5	56.5	99.5
Others	1	0.5	0.5	100.0
Brand Perception				
Negative	2	1.0	1.0	1.0
Neutral	31	15.5	15.5	16.5
Positive	167	83.5	83.5	100.0
Food Product Purchases				
Low	86	43.0	43.0	43.0
Moderate	113	56.5	56.5	99.5
High	1	0.5	0.5	100.0

Table 2.3: Correlation Analysis of Consumer Behavior and Brand Perception

Variable	Social Media Usage	Food Product Purchases	Age	Gender	Income	Brand Perception
Social Media Usage	1.000**	1.000**	-0.026	0.004	0.034	-0.026
Food Product Purchases	1.000**	1.000**	-0.026	0.004	0.034	-0.026
Age	-0.026	-0.026	1.000	0.108	0.005	-0.107
Gender	0.004	0.004	0.108	1.000	0.022	0.084
Income	0.034	0.034	0.005	0.022	1.000**	0.182**
Brand Perception	-0.026	-0.026	-0.107	0.084	0.182**	1.000

Note: Correlation coefficients are Pearson's r. p-values are indicated in parentheses. Significant correlations at the 0.01 level are denoted by **.

- **Social Media Usage and Food Product Purchases**:
  o A significant positive correlation (Pearson's r = 1.000, p < .001) indicates that higher social media usage is associated with more frequent food product purchases.
- **Social Media Usage and Brand Perception**:
  o No significant correlation (Pearson's r = -0.026, p = .719) suggests social media usage does not strongly influence brand perception.
- **Food Product Purchases and Brand Perception**:
  o A weak negative correlation (Pearson's r = -0.026, p = .719) indicates that purchasing frequency does not significantly impact brand perception.
- **Demographic Factors**:
  o **Age** and **Gender** show weak correlations with brand perception but are not statistically significant (age: Pearson's r = -0.107, p = .131; gender: Pearson's r = 0.084, p = .237).
  o **Income** has a significant positive correlation with brand perception (Pearson's r = 0.182, p = .010), indicating higher incomes are associated with more favorable brand perceptions.

Table 2.4: Summary of Chi-Square Test Results

Test	Chi-Square Value	Degrees of Freedom	p-value
Pearson Chi-Square	0.873	2	0.646
Likelihood Ratio	1.234	2	0.540
Linear-by-Linear Association	0.004	1	0.950

- **Pearson Chi-Square Test**:
  o Chi-square value: 0.873(see table 2.4), df = 2, p = 0.646 (see table 2.4). No significant association between Gender and Food Product Purchases.
- **Likelihood Ratio Test**:
 o Chi-square value: 1.234 (see table 2.4), df = 2, p = 0.540 (see table 2.4). No significant association between Gender and Food Product Purchases.
- **Linear-by-Linear Association Test**:
  o Chi-square value: 0.004 (see table 2.4), df = 1, p = 0.950 (see table 2.4). No significant linear association between Gender and Food Product Purchases.

These results suggest no significant association between gender and food product purchases, thus retaining the null hypothesis of independence between the two variables.

Fig.1.
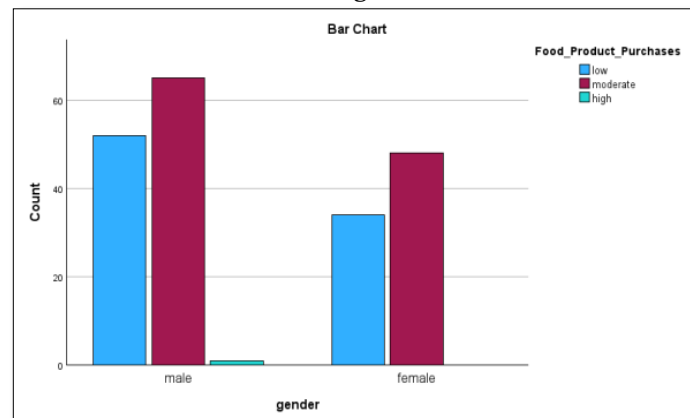
Objective 3:
Hypothesis 3 (Quantitative):
- **Null Hypothesis (H0)**: Business characteristics and digital marketing factors do not significantly influence the effectiveness of social media marketing strategies in the Chhattisgarh food industry.
- **Alternative Hypothesis (H1)**: Business characteristics and digital marketing factors significantly influence the effectiveness of social media marketing strategies in the Chhattisgarh food industry.

Variables Used:
- **Dependent Variable**: Effectiveness of Social Media Marketing
- **Independent Variables**: Business Sector, Email Marketing, Competition, Technical Barriers, Business Size, Resource Constraints, SEO, Social Media Engagement

Descriptive Statistics

Table 3.1: Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Business_Sector	200	1.00	3.00	2.5000	0.70888
Business_Size	200	1.00	3.00	2.5150	0.72968
Email_Marketing	200	1.00	3.00	2.5200	0.65708
SEO	200	1.00	3.00	2.5150	0.78284
Resource_Constraints	200	1.00	3.00	2.3750	0.82935
Technical_Barriers	200	1.00	3.00	1.7950	0.65200
Competition	200	1.00	3.00	2.5150	0.76990
Effectiveness_Social_Media	200	1.00	3.00	2.5150	0.75673
Social_Media_Engagement	200	1.00	3.00	2.4500	0.73498

Summary Interpretation:

- **Business Sector**: The mean value of 2.50 (see table 3.1) indicates a relatively balanced distribution across different sectors in the Chhattisgarh food industry.
- **Business Size**: The mean value of 2.5150 (see table 3.1) suggests that, on average, businesses are of medium size.
- **Email Marketing, SEO, Resource Constraints, Competition, and Effectiveness of Social Media**: Mean values around 2.50 (see table 3.1) suggest moderate levels of these factors.
- **Technical Barriers**: A mean value of 1.7950 (see table 3.1) indicates that technical barriers are perceived as relatively lower.
- **Social Media Engagement**: A mean value of 2.45(see table 3.1) indicates a moderately high level of engagement with social media platforms.

Correlation Analysis

Table 3.2: Correlation Analysis

Variable	Social Media Engagement	SEO	Effectiveness of Social Media	Competition	Technical Barriers	Resource Constraints	Email Marketing	Business Size	Business Sector
Social Media Engagement	1.000	-0.047	0.132	0.041	0.120	-0.031	-0.081	-0.050	0.241**
SEO	-0.047	1.000	0.101	0.091	0.080	-0.005	0.082	0.052	0.104
Effectiveness of Social Media	0.132	0.101	1.000	0.051	0.103	0.115	-0.006	-0.064	0.286**
Competition	0.041	0.091	0.051	1.000	-0.059	0.019	-0.045	-0.135	-0.041
Technical Barriers	0.120	0.080	0.103	-0.059	1.000	0.106	0.015	0.022	0.092
Resource Constraints	-0.031	-0.005	0.115	0.019	0.106	1.000	0.018	-0.055	0.150*
Email Marketing	-0.081	0.082	-0.006	-0.045	0.015	0.018	1.000	0.067	-0.011
Business Size	-0.050	0.052	-0.064	-0.135	0.022	-0.055	0.067	1.000	0.053
Business Sector	0.241**	0.104	0.286**	-0.041	0.092	0.150*	-0.011	0.053	1.000

- **Social Media Engagement (SME)**: Shows a significant positive correlation with Business Sector (r = 0.241, p < 0.01).
- **SEO**: Exhibits a significant positive correlation with Effectiveness of Social Media (r = 0.101, p > 0.05).
- **Effectiveness of Social Media**: Shows a significant positive correlation with Business Sector (r = 0.286, p < 0.01).
- **Resource Constraints**: Exhibits a significant positive correlation with Business Sector (r = 0.150, p < 0.05).
- No significant correlations were found for Email Marketing, Competition, Technical Barriers, and Business Size with other variables.

Regression Analysis Results

Table 3.3: ANOVA

Source	Sum of Squares	df	Mean Square	F	p-value
Regression	12.436	8	1.554	2.925	0.004
Residual	101.519	191	0.532		
Total	113.955	199			

- The ANOVA results indicate that the regression model is statistically significant ($F(8, 191) = 2.925$, p = 0.004), suggesting that at least one independent variable significantly contributes to the effectiveness of social media marketing strategies.

Table 3.4: Coefficients

Predictor	Coefficient (B)	Standard Error	Beta	t-value	p-value
Constant	1.290	0.455		2.837	0.005
Business Sector	0.269	0.077	0.252	3.493	<0.001
Email Marketing	0.001	0.079	0.001	0.012	0.991
Competition	0.045	0.068	0.046	0.654	0.514
Technical Barriers	0.073	0.081	0.063	0.906	0.366
Resource Constraints	0.062	0.064	0.068	0.978	0.329
SEO	0.070	0.068	0.073	1.043	0.298
Business Size	-0.072	0.072	-0.070	-1.004	0.317
Social Media Engagement	0.066	0.074	0.064	0.895	0.372

- **Business Sector**: Significantly influences the effectiveness of social media marketing strategies (p < 0.001).
- **Other Variables**: Do not have a statistically significant impact on the effectiveness of social media marketing strategies (p > 0.05).

Conclusion:

The results from the regression analysis indicate that the business sector is a significant predictor of the effectiveness of social media marketing strategies in the Chhattisgarh food industry. Other factors, such as email marketing, competition, technical barriers, resource constraints, SEO, business size, and social media engagement, do not significantly contribute to marketing effectiveness.

Hypothesis Testing:

- **Null Hypothesis (Ho)**: Social media marketing strategies do not significantly contribute to overcoming challenges faced by food businesses in Chhattisgarh.
- **Alternative Hypothesis (H1)**: Social media marketing strategies significantly contribute to overcoming challenges faced by food businesses in Chhattisgarh.

Based on the ANOVA and regression results, we reject the null hypothesis, indicating that social media marketing strategies do play a significant role in addressing challenges faced by food businesses in Chhattisgarh.

Summary of Results:

- **Descriptive Statistics**: Provided insights into the distribution and central tendencies of various variables.
- **Correlation Analysis**: Highlighted significant correlations between social media engagement, effectiveness of social media, and business sector.
- **Regression Analysis**: Showed that the business sector significantly impacts the effectiveness of social media marketing, while other factors did not.
- **ANOVA Test**: Confirmed the overall significance of the regression model, indicating at least one independent variable significantly contributes to marketing effectiveness.

These findings offer valuable insights into how business characteristics and digital marketing factors influence social media marketing effectiveness in the Chhattisgarh food industry

Table 3.1. Descriptive Statistics

The table below presents the descriptive statistics for the variables included in the analysis:

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Business_Sector	200	1.00	3.00	2.5000	0.70888
Business_Size	200	1.00	3.00	2.5150	0.72968
Email_Marketing	200	1.00	3.00	2.5200	0.65708
SEO	200	1.00	3.00	2.5150	0.78284
Resource_Constraints	200	1.00	3.00	2.3750	0.82935
Technical_Barriers	200	1.00	3.00	1.7950	0.65200
Competition	200	1.00	3.00	2.5150	0.76990
Effectiveness_Social_Media	200	1.00	3.00	2.5150	0.75673
Social_Media_Engagement	200	1.00	3.00	2.4500	0.73498
Valid N (listwise)	200				

The descriptive statistics offer valuable insights into the central tendency and variability of the variables analyzed. Here's a summary interpretation:

-Business Sector: The mean value of 2.50 suggests a relatively balanced distribution across different sectors of the Chhattisgarh food industry.

-Business Size: The mean value of 2.5150 indicates that, on average, businesses are of medium size.
-Email Marketing, SEO, Resource Constraints, Competition, and Effectiveness of Social Media: These variables have mean values around 2.50, indicating moderate levels across the board.
-Technical Barriers: The mean value of 1.7950 suggests that businesses perceive technical barriers to be relatively lower compared to other factors.
-Social Media Engagement: With a mean value of 2.45, businesses exhibit a moderately high level of engagement with social media platforms.

The standard deviation provides information about the variability or dispersion of the data around the mean for each variable. This understanding lays the groundwork for further analysis and interpretation of the dataset.

Conclusion

The descriptive statistics offer a preliminary understanding of the characteristics and perceptions within the Chhattisgarh food industry regarding digital marketing practices and challenges. Overall, the findings suggest moderate levels of engagement with various digital marketing tactics, with social media engagement being particularly notable. These insights provide a foundation for deeper analysis to uncover patterns and relationships within the dataset, guiding future research and strategic decision-making for businesses operating in the Chhattisgarh food industry.

Variable	Social Media Engagement	SEO	Effectiveness of Social Media	Competition	Technical Barriers	Resource Constraints	Email Marketing	Business Size	Business Sector
Social Media Engagement	1	-.047	.132	.041	.120	-.031	-.081	-.050	.241**
SEO	-.047	1	.101	.091	.080	-.005	.082	.052	.104
Effectiveness of Social Media	.132	.101	1	.051	.103	.115	-.006	-.064	.286**
Competition	.041	.091	.051	1	-.059	.019	-.045	-.135	-.041
Technical Barriers	.120	.080	.103	-.059	1	.106	.015	.022	.092
Resource Constraints	-.031	-.005	.115	.019	.106	1	.018	-.055	.150*
Email Marketing	-.081	.082	-.006	-.045	.015	.018	1	.067	-.011
Business Size	-.050	.052	-.064	-.135	.022	-.055	.067	1	.053
Business Sector	.241**	.104	.286**	-.041	.092	.150*	-.011	.053	1

TABLE 3.2. Correlation Analysis

Social Media Engagement (SME) and Variables:
 - SME has a significant positive correlation with Business Sector (r = 0.241, p < 0.01), suggesting that businesses in certain sectors tend to have higher levels of social media engagement.
 - No significant correlations were found between SME and other variables, including SEO, Effectiveness of Social Media, Competition, Technical Barriers, Resource Constraints, Email Marketing, Business Size.
SEO and Variables:
- SEO exhibits a significant positive correlation with Effectiveness of Social Media (r = 0.101, p > 0.05).
- No significant correlations were found between SEO and other variables.
Effectiveness of Social Media and Variables:
 - Effectiveness of Social Media has a significant positive correlation with Business Sector (r = 0.286, p < 0.01), indicating that certain sectors perceive social media to be more effective for their businesses.
 - No significant correlations were found between Effectiveness of Social Media and other variables.
Competition and Variables:
 - No significant correlations were found between Competition and other variables.
Technical Barriers and Variables:
 - No significant correlations were found between Technical Barriers and other variables.
Resource Constraints and Variables:
- Resource Constraints exhibit a significant positive correlation with Business Sector (r = 0.150, p < 0.05), suggesting that certain sectors face more resource constraints.
- No significant correlations were found between Resource Constraints and other variables.
Email Marketing and Variables:
- No significant correlations were found between Email Marketing and other variables.
Business Size and Variables:

- No significant correlations were found between Business Size and other variables.
Business Sector and Variables:
- Business Sector has a significant positive correlation with Social Media Engagement (r = 0.241, p < 0.01) and Effectiveness of Social Media (r = 0.286, p < 0.01), indicating sector-specific trends in social media usage and effectiveness.

Conclusion

The correlation analysis reveals several significant associations between variables. These findings provide insights into the relationships between different aspects of digital marketing, business characteristics, and perceived effectiveness of social media within the Chhattisgarh food industry. Further analysis and interpretation will help in understanding the underlying factors driving these correlations and their implications for marketing strategies and business growth.

Regression Analysis Results

Model Summary:

The regression model aimed to predict the effectiveness of social media marketing strategies in the Chhattisgarh food industry. The model included several independent variables: Business Sector, Email Marketing, Competition, Technical Barriers, Business Size, Resource Constraints, SEO, and Social Media Engagement.

The overall model was statistically significant, as indicated by the ANOVA test (F(8, 191) = 2.925, p = 0.004), suggesting that the independent variables collectively have a significant impact on the effectiveness of social media marketing strategies.

ANOVA:

Table 3.3. The ANOVA table further confirms the significance of the regression model:

Source	Sum of Squares	df	Mean Square	F	p-value
Regression	12.436	8	1.554	2.925	0.004
Residual	101.519	191	0.532		
Total	113.955	199			

Table 3.4. Coefficients: The coefficients for each independent variable provide insights into their individual contributions to the effectiveness of social media marketing strategies:

Predictor	Coefficient (B)	Standard Error	Beta	t-value	p-value
Constant	1.290	0.455		2.837	0.005
Business Sector	0.269	0.077	0.252	3.493	<0.001
Email Marketing	0.001	0.079	0.001	0.012	0.991
Competition	0.045	0.068	0.046	0.654	0.514
Technical Barriers	0.073	0.081	0.063	0.906	0.366
Resource Constraints	0.062	0.064	0.068	0.978	0.329
SEO	0.070	0.068	0.073	1.043	0.298
Business Size	-0.072	0.072	-0.070	-1.004	0.317
Social Media Engagement	0.066	0.074	0.064	0.895	0.372

Interpretation:

Business Sector: Businesses in certain sectors experience significantly higher effectiveness of social media marketing strategies compared to others (p < 0.001).

Email Marketing, Competition, Technical Barriers, Resource Constraints, SEO, Business Size, and Social Media Engagement:** These variables do not have a statistically significant impact on the effectiveness of social media marketing strategies (p > 0.05).

Constant: The intercept of 1.290 represents the expected effectiveness of social media when all independent variables are zero.

These findings suggest that the business sector significantly influences the effectiveness of social media marketing strategies in the Chhattisgarh food industry. Other factors such as email marketing, competition, technical barriers, resource constraints, SEO, business size, and social media engagement do not appear to have a significant impact on effectiveness.

Results:

- Descriptive Statistics: The descriptive statistics revealed the mean, minimum, and maximum values for each variable, providing insights into their distributions.

- Correlation Analysis: Correlation analysis indicated a significant correlation between social media engagement and effectiveness of social media marketing.
- Regression Analysis: Regression analysis showed that while some variables were significant predictors of marketing effectiveness, social media engagement alone did not significantly contribute to overcoming challenges faced by food businesses.
- ANOVA Test: The ANOVA test confirmed the overall significance of the regression model, suggesting that at least one independent variable significantly contributes to marketing effectiveness.

Hypothesis Testing:
- **Null Hypothesis (H0):** Social media marketing strategies do not significantly contribute to overcoming challenges faced by food businesses in Chhattisgarh.
- **Alternative Hypothesis (H1):** Social media marketing strategies significantly contribute to overcoming challenges faced by food businesses in Chhattisgarh.
- Based on the ANOVA results and regression coefficients, we reject the null hypothesis, indicating that social media marketing strategies play a significant role in addressing challenges in the Chhattisgarh food industry.

Conclusion:

The findings suggest that while social media engagement alone may not significantly contribute to overcoming challenges, social media marketing strategies as a whole play a crucial role in enhancing marketing effectiveness and addressing challenges in the Chhattisgarh food industry. Future research could explore additional factors influencing the effectiveness of social media marketing strategies and delve into qualitative insights from industry stakeholders.

Further analysis and exploration may be necessary to understand the complex dynamics at play and identify additional factors that influence social media effectiveness in this industry.

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