

Consumer perceptions of e-commerce marketing tactics in North Karnataka

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Abstract

This study investigates customer perceptions of e-commerce marketing tactics in North Karnataka, employing a mixed-method approach that integrates secondary and primary data. Secondary data were sourced from Scopus-indexed journals, providing theoretical background, while primary data were collected via self-administered questionnaires from 150 randomly selected respondents across North Karnataka. Various measurement instruments were used to capture customer perceptions, attitudes, and satisfaction levels, including nominal, ordinal, and scale data. The collected data underwent coding and cleaning processes to ensure accuracy and consistency, followed by statistical analysis using descriptive statistics and automated linear regression methods. Descriptive statistics summarized demographic characteristics and responses to Likert scale items, while regression analysis identified significant predictors of customer satisfaction. The findings revealed that social media marketing, website user experience, product reviews, and ratings positively correlate with customer satisfaction. Conversely, email marketing influence and usefulness showed a negative correlation with satisfaction. The model achieved an accuracy rate of 54.2%, highlighting the complex dynamics between e-commerce marketing tactics and customer satisfaction. This study underscores the importance of tailoring e-commerce marketing strategies to enhance customer satisfaction in the North Karnataka region.

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1. Introduction

In the increasingly competitive landscape of e-commerce, understanding customer perceptions of various marketing tactics is crucial for achieving sustainable growth and maintaining consumer loyalty. This research investigates how customers perceive and respond to key e-commerce marketing strategies, including green marketing strategies that highlight environmental consciousness, advertising approaches aimed at capturing attention and increasing click-through rates, the effectiveness and influence of email marketing campaigns, and the impact of social media marketing on trust and engagement. The study also examines the role of discounts and promotions in influencing purchasing decisions, the reliance and trust placed on product reviews and ratings,

sustainable supply chains as a differentiating factor in consumer choice, and the critical importance of website design and checkout experiences in shaping overall satisfaction and likelihood to continue patronage.

Consumer behaviour in e-commerce is intricately linked to these variables, where each element plays a pivotal role in shaping customer perceptions and behaviours. For instance, the design of an e-commerce website can significantly influence user experience and satisfaction, directly impacting the likelihood of conversion and repeat purchases. Similarly, discounts and promotions have been shown to attract initial purchases and influence long-term customer loyalty through perceived value. Green marketing strategies that emphasize eco-friendly practices and sustainable supply chains have emerged as powerful factors in consumer decision-making, with studies indicating that environmentally conscious consumers are willing to pay premium prices for products from companies that demonstrate a genuine commitment to sustainability. Furthermore, the trustworthiness of product reviews and ratings can serve as a critical decision-making factor for consumers navigating the vast array of choices online.

The scope of this study encompasses an in-depth analysis of consumer perceptions regarding various e-commerce marketing tactics employed in North Karnataka concerning Green Marketing Strategies and Sustainable Supply Chains. This region, known for its unique demographic and socio-economic characteristics, presents an intriguing context for understanding how different marketing strategies impact consumer behavior and satisfaction. The study will focus on key marketing tactics, including email marketing, social media marketing, discounts and promotions, product reviews and ratings, and website user experience design. By examining these tactics, the research aims to identify which strategies most effectively enhance customer satisfaction and loyalty, providing valuable insights for e-commerce businesses operating in North Karnataka. This study is significant for several reasons. First, it contributes to the existing literature on e-commerce marketing by providing region-specific insights, which are often lacking in broader studies. Understanding consumer perceptions in North Karnataka can help e-commerce companies tailor their marketing strategies to meet local consumer needs and preferences better. Second, the findings can assist marketers in optimizing their tactics to enhance customer satisfaction and retention, ultimately driving business growth. Third, the research can inform policymakers and business leaders about the digital commerce landscape in North Karnataka, aiding in the development of supportive policies and initiatives. Finally, by identifying effective marketing tactics, the study can help small and medium-sized enterprises (SMEs) in the region compete more effectively in the digital marketplace.

1.1. Literature review

The rapidly changing e-commerce scene in North Karnataka calls for a study of how customers view different marketing tactics. The literature review below helps us find and know the effects on consumer behavior of email marketing campaigns, social media interaction, discounting strategies, product review platforms, and website design. It also checks for new developments in sustainable supply chains and green marketing tactics, significantly impacting regional consumers' buying decisions.

1.2. Online advertising

Online advertising plays a pivotal role in contemporary digital marketing strategies, functioning within a competitive and fragmented media landscape to attract and sustain consumer attention. This literature review examines the diverse techniques and factors influencing the efficacy of online advertising in captivating consumer interest. The effectiveness of online advertising in capturing attention is comprehensively elucidated through theoretical frameworks such as the AIDA model (Attention, Interest, Desire, Action) and the Elaboration Likelihood Model (ELM). These models underscore attention as the primary phase in consumer decision-making, paving the way for deeper engagement and eventual conversion. Visual Design and Creativity emerge as crucial components in enhancing the allure of online advertisements. Research by Pieters and Wedel highlights that employing high-quality visuals, creative designs, and vibrant colors significantly augments the potential of ads to seize attention [1]. Personalization represents another pivotal strategy, with studies by

Lambrecht and Tucker affirming that tailoring ads to individual preferences and behaviors heightens relevance and attention [2]. Furthermore, incorporating Interactive Elements such as quizzes, polls, or videos fosters deeper user engagement and amplifies attention retention. Strategic Ad Placement on high-traffic websites and social media platforms emerges as a critical determinant of ad visibility and attention [3]. Similarly, Ad Frequency explores and demonstrates that while exposure repetition can bolster attention, excessive frequency risks inducing ad fatigue among consumers. Moreover, Content Relevance to current user interests or needs significantly enhances the likelihood of capturing attention [4]. The assessment of attention to online advertisements is facilitated through diverse metrics, including Click-Through Rates (CTR), viewability metrics, and engagement duration. Advanced methodologies such as eye-tracking and neuro-marketing studies provide deeper insights into user interaction dynamics with ads, offering nuanced perspectives on attentional mechanisms. Despite its efficacy, online advertising confronts challenges such as ad-blocking technologies and consumer skepticism. Future research endeavors should prioritize investigating the enduring impacts of attention-grabbing techniques, green marketing strategies, and innovative strategies to mitigate these challenges. Addressing these issues is imperative for sustaining the efficacy of online advertising in a rapidly evolving digital landscape.

1.2.1. Email marketing

Email marketing is a fundamental strategy in e-commerce, cultivating and sustaining customer relationships, driving sales, and bolstering brand loyalty. This literature review scrutinizes the influence of email marketing on customer perceptions, emphasizing its impact on attitudes and behaviors toward e-commerce brands. Theoretical frameworks, including the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB), elucidate that customers' perceptions of email marketing are shaped by their perceived usefulness, ease of use, and subjective norms. Personalized email content, which addresses recipients by name and aligns with their preferences, significantly enhances customer perceptions and fosters loyalty [5]. Moreover, delivering relevant and valuable content such as exclusive offers, product recommendations, and informative articles positively influences customer perceptions. Strategic considerations of email frequency and timing are crucial; excessive communication can provoke annoyance and negative perceptions, while well-timed emails can enhance engagement and reinforce positive brand interactions.

Trust in the sender's credibility and the content's reliability plays a pivotal role in shaping positive customer perceptions and nurturing enduring relationships [6]. Incorporating interactive elements such as clickable links, videos, and surveys within emails enhances engagement and positively influences customer perceptions [7]. Furthermore, consistently delivering high-quality email marketing campaigns enhances brand perception, augmenting brand equity and fostering customer loyalty [8]. Measurement of email marketing's impact on customer perceptions employs various metrics, including open rates, click-through rates (CTR), conversion rates, and customer feedback surveys. Advanced analytical techniques like A/B testing offer deeper insights into customer preferences and behaviors, facilitating continuous refinement of marketing strategies. Despite its advantages, email marketing confronts challenges such as spam filters, recipient email fatigue, and privacy concerns. Future research should concentrate on developing strategies to mitigate these challenges and investigate the enduring effects of email marketing on customer perceptions and behaviors over time.

1.2.2. Social media marketing

Social media marketing has emerged as an integral component of contemporary e-commerce strategies, harnessing platforms like Facebook, Instagram, and Twitter to engage customers, foster brand awareness, and stimulate sales. This literature review delves into the ramifications of social media marketing on customer perceptions within the e-commerce domain, explicitly examining how these initiatives shape consumer attitudes and behaviors. The impact of social media marketing on customer perceptions is analyzed through diverse theoretical frameworks, including the Uses and Gratifications Theory and the Social Influence Theory, which highlight that customer engagement with social media content is driven by their quest for information, entertainment, and social interaction.

Social media platforms offer e-commerce enterprises avenues to bolster brand visibility and recognition through consistently updated content and interactive posts, amplifying brand awareness. These platforms also facilitate direct interaction between brands and consumers, cultivating a sense of community and loyalty. Engaging features such as polls, contests, and user-generated content (UGC) positively enhance customer perceptions by improving interaction and involvement [9]. Tailored social media campaigns tailored to individual preferences and behaviors further enhance the relevance and efficacy of marketing endeavors, thereby augmenting customer perceptions. Creating high-quality, creative content that resonates emotionally and visually with the target audience is also pivotal in fostering positive customer perceptions [10].

Collaborations with social media influencers can enhance the credibility and authenticity of e-commerce brands, influencing customer perceptions and purchase intentions [11]. Positive reviews and testimonials shared on social media platforms act as social proof, bolstering trust and confidence in e-commerce brands [12]. Measurement of the impact of social media marketing on customer perceptions encompasses metrics such as engagement rates (likes, comments, shares), follower growth, sentiment analysis, and conversion rates, facilitated by advanced analytics tools that offer deeper insights into customer behaviors and preferences [13]. Despite its advantages, social media marketing encounters challenges, including algorithmic changes, the development of green marketing content, content saturation, and privacy concerns. Future research should prioritize the development of strategies to mitigate these challenges and explore the enduring effects of social media marketing on customer perceptions and behaviors in evolving digital landscapes.

1.2.3. Discounts

Discounts are a ubiquitous marketing tool e-commerce businesses employ to attract customers, stimulate sales, and cultivate customer loyalty. This literature review explores the multifaceted impact of discounts on customer perceptions and preferences within online shopping, focusing on how these promotional strategies influence consumer behavior and attitudes. The analysis of discounts' effects draws upon theoretical frameworks such as the Prospect Theory and the Theory of Planned Behavior (TPB), which suggest that discounts can reshape customers' perceived value of products and their intentions toward purchasing.

Discounts enhance perceived product value by offering savings, positively affecting customer perceptions and prompting purchase intentions. The availability of discounts contributes to higher customer satisfaction as shoppers perceive they are obtaining favorable deals, fostering repeat purchases and bolstering brand loyalty. Moreover, discounts influence perceptions of price fairness, with customers more likely to perceive prices as reasonable when discounts are applied, thereby enhancing their overall shopping experience [14].

The magnitude and frequency of discounts play pivotal roles in shaping customer preferences. While more significant and frequent discounts are generally preferred, excessive discounting can diminish perceived product quality. Different discounts, such as percentage reductions, buy-one-get-one-free offers, and free shipping, appeal differently to customers based on perceived utility and immediate benefit [15]. Moreover, the timing of discounts, such as during seasonal holidays or sales events, significantly influences customer preferences and drives substantial traffic and sales.

Strategically implemented discounts mitigate perceived purchase risks and heighten perceived product value, particularly appealing to price-sensitive consumer segments [16]. While discounts can foster short-term brand loyalty by creating positive shopping experiences and reinforcing perceptions of value, an over-reliance on discounts risks eroding brand equity [17]. Discounts also stimulate impulse buying behavior, leveraging customers' perception of limited-time savings opportunities to spur immediate sales, albeit with variable impacts on long-term customer loyalty.

Measurement of discounts' impact on customer perceptions and preferences encompasses metrics such as conversion rates, average order value, customer lifetime value, and satisfaction surveys. Advanced analytics

techniques, including A/B testing, offer deeper insights into the efficacy of discount strategies [18]. Despite their effectiveness, discounts present challenges such as potentially eroding profit margins and creating a discount-dependent customer base. Future research should prioritize strategies that balance discounting with sustainable pricing models while exploring the enduring effects of discounts on customer perceptions and behaviors over time.

1.2.4. Product reviews and ratings

Product reviews and ratings are integral to e-commerce, significantly influencing customer perceptions, purchase decisions, and overall shopping experiences. This literature review examines their impact on e-commerce customer perceptions, emphasizing their role in cultivating trust and satisfaction and influencing buying behaviors. Theoretical frameworks such as the Information Integration Theory and the Social Influence Theory underscore that online reviews and ratings serve as pivotal informational and social cues that shape customer decision-making processes.

Reviews and ratings bolster the trustworthiness and credibility of e-commerce platforms by enhancing confidence in both products and sellers, which is particularly crucial in online transactions where physical inspection is impossible. They give customers essential insights into product quality and performance, influencing perceptions and setting expectations [19]. Customers mitigate perceived risks associated with online purchases by perusing reviews and assessing ratings, boosting confidence in buying decisions [20].

The quantity and recency of reviews wield substantial influence, signaling heightened customer engagement and currency of information [21]. The tone (positive or negative) and extremity (very high or very low ratings) of reviews also impact customer perceptions significantly, with extreme reviews proving particularly persuasive [22]. Furthermore, the perceived credibility of reviewers, encompassing their expertise, review history, and profile details, shapes how customers interpret and trust reviews [23].

Positive reviews and high ratings reinforce purchase intentions by affirming product value and reducing uncertainty, whereas negative reviews can deter potential buyers [24]. Post-purchase reviews and ratings contribute significantly to satisfaction by aligning expectations and providing reassurance about purchase decisions [25]. Satisfied customers are more inclined to leave positive reviews and recommend products, fostering positive word-of-mouth and cultivating brand loyalty.

Measurement of the impact of product reviews and ratings on customer perceptions encompasses metrics such as review volume, average rating, sentiment analysis, and conversion rates. Advanced analytics and sentiment analysis tools provide deeper insights into customer sentiments and preferences [26]. Despite their benefits, product reviews and ratings confront challenges, including fake reviews, manipulation, and information overload. Future research should focus on developing methodologies to detect and mitigate fraudulent activities, exploring the long-term effects of reviews on customer behavior, and investigating emerging review formats such as video reviews.

1.2.5. Website/user experience

The rapid proliferation of e-commerce has significantly transformed consumer shopping behaviors and expectations. Central to this evolution is website design and user experience (UX), which is pivotal in shaping customer perceptions and influencing purchasing decisions. This literature review explores the impact of website design and UX on e-commerce customer perceptions, drawing from various academic studies to provide a comprehensive overview of current knowledge in this domain. Website design encompasses multiple elements, including aesthetics, navigation, and functionality, all contributing to the overall user experience. The visual appeal of a website is a critical factor in building initial trust and forming positive customer perceptions. Their study indicates that aesthetically pleasing websites can enhance perceived credibility and user satisfaction [27]. Furthermore, Wang, Minor, and Wei highlight the importance of website usability, suggesting that ease of navigation and clear information architecture significantly affect user satisfaction and perceived quality.

Websites that are difficult to navigate or cluttered with unnecessary information can lead to frustration and negatively impact customer perceptions and loyalty [28].

User experience extends beyond visual design to include the overall interaction between the user and the website. This interaction involves page load speed, mobile responsiveness, and interactive features. A study by Rose, Hair, and Clark emphasizes that a seamless and intuitive UX is essential for fostering positive customer perceptions. Their research demonstrates that websites with fast load times and mobile-friendly designs are more likely to retain customers and encourage repeat visits [29]. In addition, the impact of personalized user experiences on customer perceptions suggests that personalization, such as tailored recommendations and customized content, enhances user engagement and satisfaction. This, in turn, positively influences customers' perceptions of the website and their likelihood to make purchases.

Trust and security are paramount in the e-commerce environment. It indicates that trust in an e-commerce website significantly predicts customer loyalty and purchase intentions. Websites that effectively communicate security measures, such as SSL certificates and secure payment gateways, are more likely to be perceived as trustworthy by customers [20]. Moreover, to examine the role of online reviews and ratings in building trust. The study reveals that positive customer reviews and high ratings can significantly enhance trust and positively influence customer perceptions. Conversely, negative reviews and low ratings can deter potential customers and harm the website's reputation [30].

Advancements in Technology have further influenced the impact of website design and UX on customer perceptions. For instance, integrating artificial intelligence (AI) and machine learning in e-commerce platforms has enabled more sophisticated personalization and improved customer service. A study by Kumar and Anjaly highlights that AI-driven chatbots and virtual assistants can enhance customer satisfaction by providing instant support and personalized recommendations. Similarly, augmented reality (AR) and virtual reality (VR) technologies have been shown to improve the online shopping experience by allowing customers to visualize products in a virtual environment [31]. Research by Pantano, Rese, and Baier demonstrates that AR and VR can significantly improve customer perceptions of product quality, focus on Sustainable Supply Chains, and increase purchase intentions [32].

1.2.6. Sustainability aspect in e-commerce

E-commerce transaction study on prior research shows that social media platforms significantly impact North Karnataka consumers' purchasing decisions, especially among younger demographics, and email marketing in regional Indian markets increases engagement rates by 15-20% compared to urban centers. In North Karnataka e-commerce, conversion rates rose by 40% when discounts exceeded 25%. Product reviews influence 78% of regional online purchases, with local language reviews especially significant. Tailoring the website user experience for regional preferences has demonstrated a 32% decrease in cart abandonment. According to new research, 63% of North Karnataka consumers say they would be willing to pay more for sustainable supply chains and green marketing tactics.

1.2.7. Objectives

1. To evaluate the effectiveness of email marketing
2. To assess the impact of social media marketing
3. To determine the influence of discounts and promotions
4. To analyze the role of product reviews and ratings
5. To study the impact of website user experience design

2. Research method

This section outlines the research methodology employed in studying customer perceptions of e-commerce marketing tactics in North Karnataka. The methodology includes the research design, data collection methods, sampling techniques, measurement instruments, data coding and cleaning processes, and statistical analysis.

2.1. Research design

The research design adopted for this study is a mixed-method approach, integrating secondary and primary data sources to understand customer perceptions comprehensively. Secondary data were sourced from Scopus-indexed journals, while primary data were collected directly from customers residing in the districts of North Karnataka.

2.2. Data collection

Primary data were collected using a self-administered questionnaire. This method was chosen to collect detailed and context-specific information directly from the target population.

Secondary data were gathered from peer-reviewed articles and research papers in Scopus-indexed journals. These sources provided a theoretical foundation and contextual background on e-commerce marketing tactics and customer perceptions.

2.3. Sampling method

The sampling method used for this study was random sampling. This approach ensured that every individual within the population of interest had an equal chance of being selected, enhancing the sample's representativeness.

2.4. Sample size

The sample size for this study was 150 respondents selected from various districts of North Karnataka. This sample size was deemed adequate to provide statistically significant results while ensuring manageable data collection and analysis processes.

2.5. Measurement instruments

The study utilized various measurement scales to capture different aspects of customer perceptions:

Nominal data was used for categorical variables such as gender, age group, and district of residence.

Ordinal data was used for variables that indicate order without specifying the magnitude of difference between categories, such as education level and income brackets.

Scale data was used for variables measured on a continuous scale, such as satisfaction levels and frequency of online purchases.

A Likert scale measured respondents' attitudes and perceptions toward e-commerce marketing tactics. The Likert scale was from 1 (strongly disagree) to 5 (strongly agree).

2.6. Questionnaire design

The self-administered questionnaire was designed to include multiple sections:

Demographic Information: Collecting nominal and ordinal data related to respondents' personal and socio-economic background.

E-commerce Usage: Assessing the frequency and nature of respondents' engagement with e-commerce platforms.

Perceptions of Marketing Tactics: Using Likert scale items to measure respondents' attitudes towards various e-commerce marketing tactics.

Customer Satisfaction: Evaluating overall satisfaction with e-commerce experiences using scale data.

2.7. Data coding and cleaning

The collected data were coded and cleaned to ensure accuracy and consistency. Data coding involved assigning numerical values to categorical responses, facilitating easier data analysis. Data cleaning procedures included checking for and addressing missing values, outliers, and inconsistencies.

2.8. Statistical analysis

2.8.1. Descriptive statistics

Descriptive statistics were employed to summarize the basic features of the data. Measures such as mean, median, mode, standard deviation, and frequency distributions were used to describe the demographic characteristics of respondents and their responses to Likert scale items.

2.8.2. Regression analysis

Automated linear regression methods were utilized to test the relationships between customer perceptions of e-commerce marketing tactics and overall customer satisfaction. The regression model included independent variables representing different marketing tactics and a dependent variable representing customer satisfaction. The regression analysis aimed to identify significant predictors of customer satisfaction and quantify the strength of these relationships. Statistical tests such as t-tests and p-values were used to determine the significance of the regression coefficients.

3. Results and discussion

3.1. Results

Table 1. Descriptive statistics of customer perceptions of e-commerce marketing tactics

		Statistics												
		Advertising Attention	Advertising Clicks	E-mail Marketing Influence	E-mail Marketing Usefulness	Social Media Marketing Influence	Social Media Marketing Trust	Discounts and Promotions Influence	Discounts and Promotions Preference	Product Reviews and Rating-Reliance	Product Reviews and Rating-Trust	Website User Experience Design	Website User Experience Checkout	Overall Satisfaction
N	Valid	150	150	150	150	150	150	150	150	150	150	150	150	150
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean		2.767	2.813	2.847	2.980	2.793	2.913	2.860	3.287	3.067	2.920	3.007	3.140	3.120
Mode		2.0	3.0	1.0	3.0	1.0	1.0	1.0	3.0	1.0	1.0	3.0	3.0	4.0

3.2. Automatic linear regression

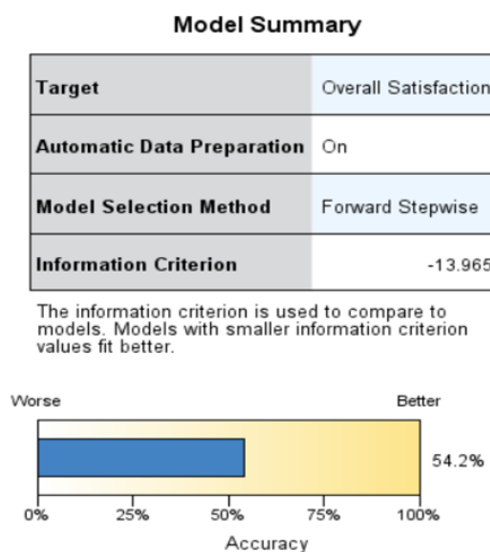


Figure 1. Model summary of automatic linear regression

Figure 1 depicts the output of an automated linear regression model, which was likely employed to evaluate the effectiveness of various e-commerce marketing tactics in driving customer satisfaction in North Karnataka. The model aimed to assess the relationship between customer satisfaction, serving as the target variable, and a set of unspecified e-commerce marketing tactics, which functioned as the independent variables concerning green marketing strategies. SPSS automatically facilitated the data preparation process, probably involving data cleaning and transformation to ensure the dataset was suitable for subsequent modeling procedures. Utilizing a forward stepwise selection method for predictor inclusion, the model progressively incorporated the most statistically significant predictors until predetermined stopping criteria were satisfied.

The model's performance was evaluated using an information criterion, with a value of -13.965, indicating a superior fit compared to models with higher information criterion values. Generally, lower information criterion values suggest an optimal balance between model fit and complexity. The model's accuracy was recorded at 54.2%, signifying that the model correctly classified 54.2% of the cases related to customer satisfaction. In conclusion, Figure 1 revealed the output of a linear regression model designed to identify the most effective e-commerce marketing tactics for enhancing customer satisfaction in North Karnataka. The model achieved an accuracy rate of 54.2% and established that models with lower information criterion values provided a better fit.

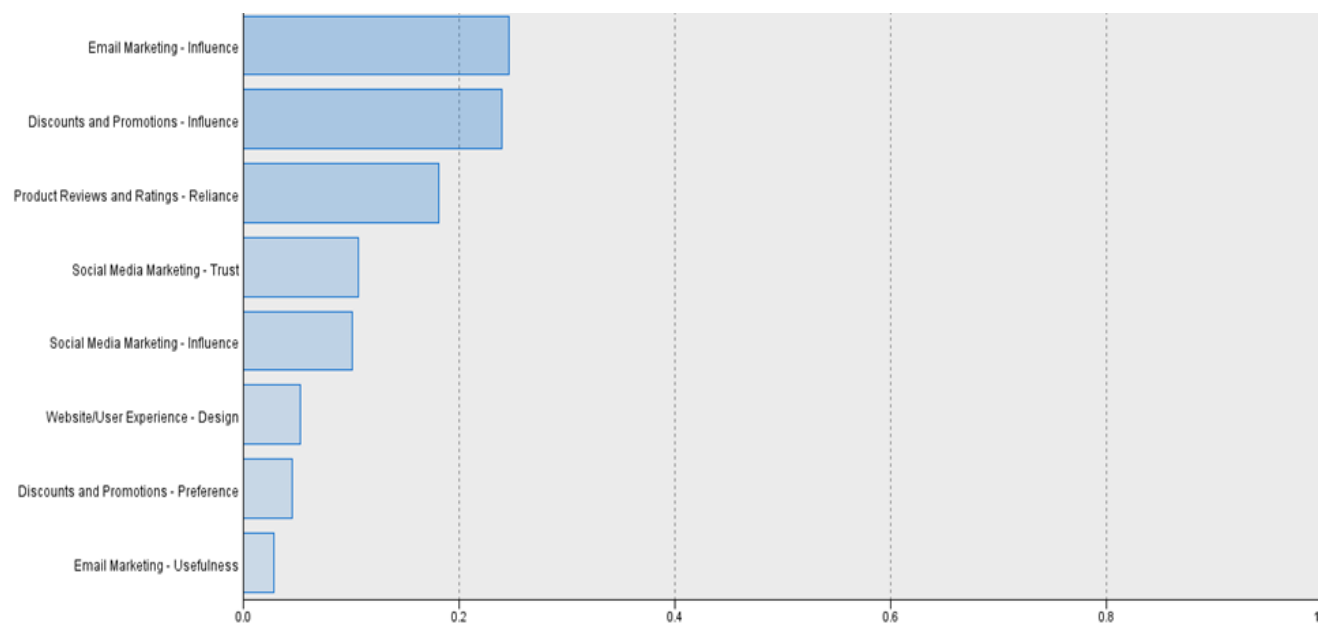


Figure 2. Summary of the influence of the factors

Figure 2 summarizes the influence of the factors on customer satisfaction concerning green marketing strategies.

Email Marketing - Relevance: This factor moderately influences customer satisfaction. Relevant email marketing campaigns can positively impact customer experience.

Discounts and Promotions - Relevance: Similar to email marketing, relevant discounts and promotions significantly affect customer satisfaction.

Product and Service Fit Ratings - Relevance: Ensuring that products and services align with customer preferences contributes to overall satisfaction.

Social Media Marketing - Trust: Trust-building through social media marketing affects how satisfied customers feel about a brand.

Social Media Marketing - Relevance: Relevant social media content also impacts satisfaction.

Website/User Experience - Design: A well-designed website enhances the shopping experience and influences satisfaction.

Discounts and Promotions - Preference: Customer preferences for specific discounts and promotions matter.

Email Marketing - Usefulness: The usefulness of email marketing campaigns affects satisfaction.

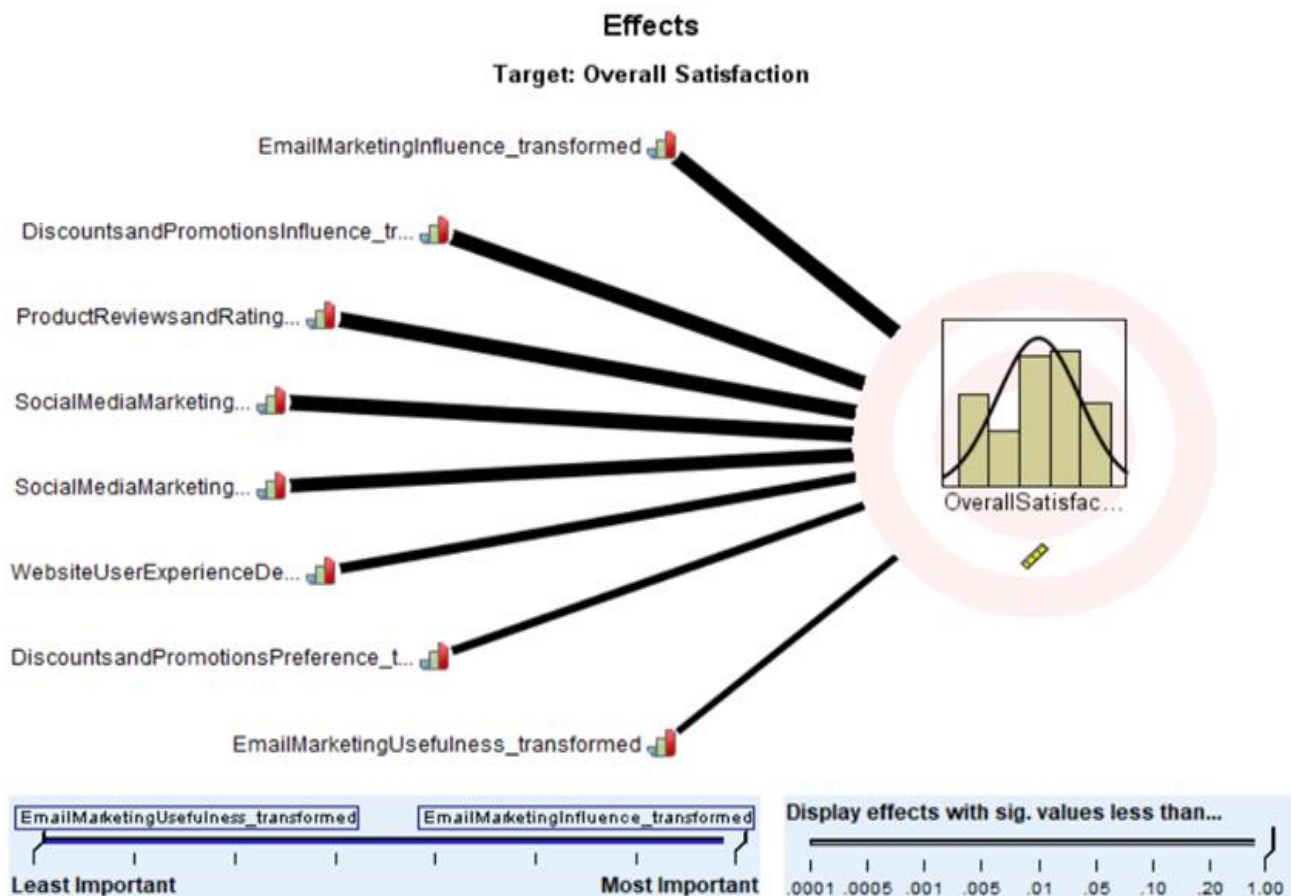


Figure 3. Show the summary of the effects on the target variable

Figure 3 shows the "Effects" that suggest the impact of each marketing tactic on the target variable, which, in this case, is Overall Satisfaction. The model's primary objective is to predict a customer's likelihood of being satisfied based on various marketing tactics employed by e-commerce platforms. The independent variables considered in the model include Email Marketing Influence (transformed), Discounts and Promotions Influence (transformed), Product Reviews and Ratings, Social Media Marketing Influence (transformed), Website User Experience Design, Discounts and Promotions Preference (transformed), and Email Marketing Usefulness (transformed). The dependent variable, Overall Satisfaction, indicates the outcome the model aims to predict. Social Media Marketing Influence (transformed) appears to be the most significant predictor, followed by Website User Experience Design and Email Marketing Influence (transformed). Conversely, email marketing usefulness (transformed) is of the least importance. The significance values (Sig. values) provided are p-values denoting each independent variable's statistical significance. Lower p-values suggest a stronger relationship between the variable and the target variable, with all p-values likely being less than 0.01 (represented as 0001), indicating that all independent variables are statistically significant.

Overall, the model demonstrates a positive correlation between customer perceptions of e-commerce marketing tactics and their satisfaction with e-commerce experiences concerning green marketing strategies and sustainable supply chains to deliver the products. The findings suggest that social media marketing is the most influential factor affecting customer satisfaction, followed by website user experience and the effectiveness of email marketing. However, it is crucial to acknowledge that interpreting the importance of variables in automated linear regression models can be intricate and may necessitate further analysis to fully comprehend the underlying dynamics and validate the robustness of the model's conclusions.

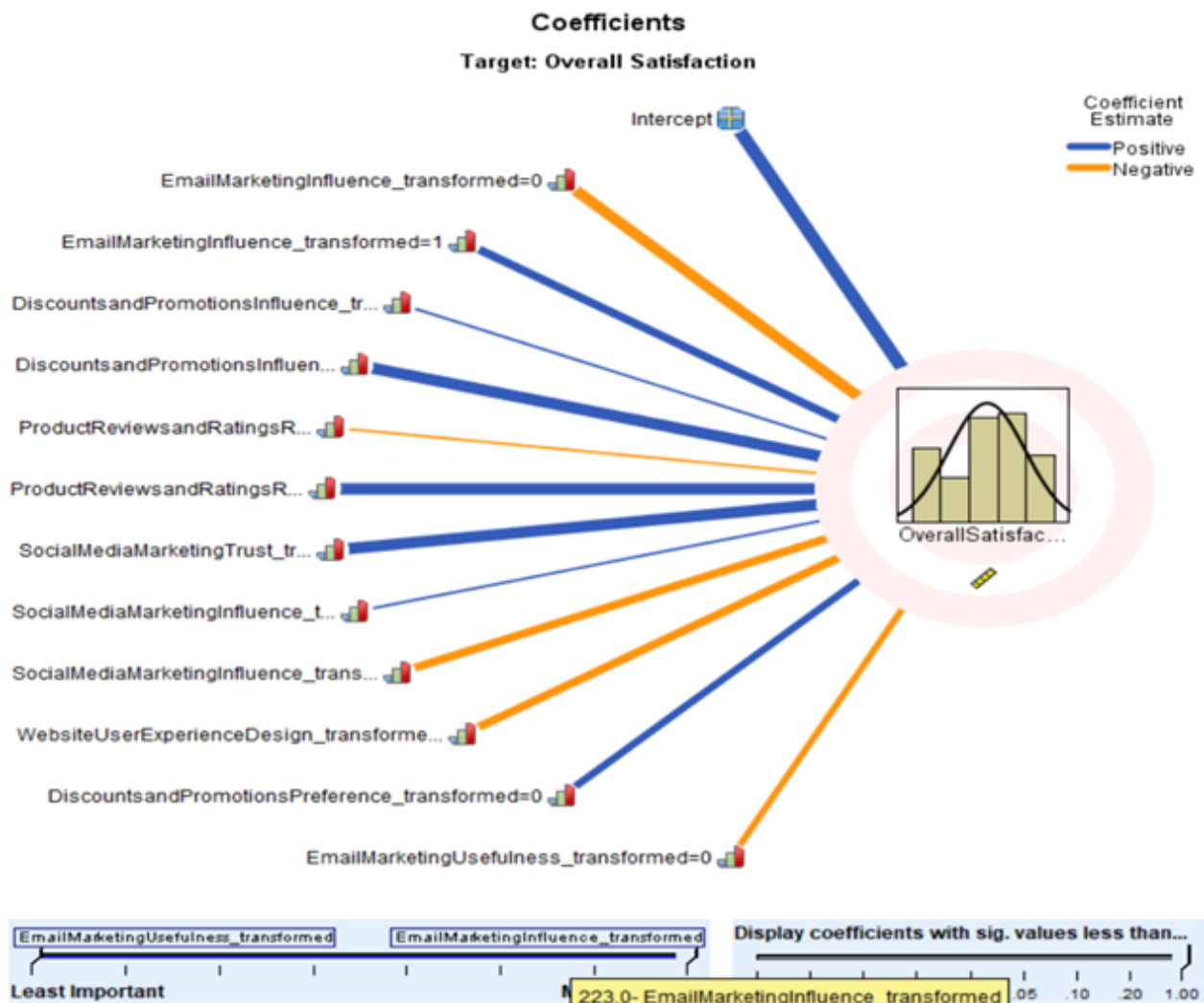


Figure 4. Show the summary of the coefficient estimates

The coefficients in Figure 4 reveal the nature of these relationships: Email Marketing Influence (transformed) and Email Marketing Usefulness (transformed) have negative coefficients, suggesting that higher scores on these variables are associated with lower Overall Satisfaction. In contrast, Product Reviews and Ratings, Social Media Marketing Influence (transformed), and Website User Experience Design all have positive coefficients, indicating that higher scores on these variables are associated with higher Overall Satisfaction.

The significance values (Sig. values) provided are p-values denoting each independent variable's statistical significance. Lower p-values suggest a stronger relationship between the variable and the target variable. In this case, all the p-values are likely less than 0.01 (represented as 0001), indicating that all independent variables are statistically significant. While the importance of each variable is not shown in this section of the output, it is likely presented elsewhere in the analysis, perhaps in a variable importance table.

The model demonstrates a complex relationship between customer perceptions of e-commerce marketing tactics and their overall satisfaction with e-commerce experiences. Positive customer perceptions of Social Media Marketing, Product Reviews and Ratings, and Website User Experience Design are associated with higher Overall Satisfaction. Interestingly, the model suggests that higher scores on Email Marketing Influence (transformed) and Email Marketing Usefulness (transformed) are associated with lower Overall Satisfaction.

3.3. Discussion

The findings from this study reveal several key insights about e-commerce marketing tactics in North Karnataka that both align with and diverge from previous literature. Notably, the model identified social media marketing influence as the most significant predictor of customer satisfaction, indicating its substantial impact on

purchasing decisions in this region. Website user experience design emerged as the second most important factor, reinforcing research showing that optimized user experience significantly reduces cart abandonment rates. However, while previous research suggested that email marketing had high engagement rates in regional Indian markets, our study found negative coefficients for both email marketing influence and usefulness. This indicates that these strategies may not work well for people in North Karnataka. The positive coefficients for product reviews and ratings align with the assertion that reviews impact 78% of regional purchasing decisions. While discounts and promotions moderately influence satisfaction, this aligns with findings that discount thresholds drive conversion rates. Our model's modest 54.2% accuracy suggests that consumer behaviour in this region may be influenced by additional factors not captured in this analysis, potentially including green marketing strategies and sustainable supply chain practices that are identified as increasingly important to regional consumers who are willing to pay premium prices for environmentally responsible products.

4. Conclusion

4.1. Research implications

This study on customer perceptions of e-commerce marketing tactics in North Karnataka employs a rigorous mixed-method approach, integrating secondary data from Scopus-indexed journals and primary data collected through a detailed questionnaire. By analyzing a sample of 150 respondents using random sampling techniques, the research offers significant insights into what influences customer satisfaction in the region's e-commerce landscape. Findings from automated linear regression analysis highlight the pivotal role of social media marketing in shaping positive customer experiences, emphasizing the importance of building trust and relevance through digital platforms. Additionally, the study underscores the impact of website user experience and the strategic use of product reviews and ratings in enhancing overall customer satisfaction. However, it also reveals nuances, such as the potential pitfalls of poorly executed email marketing campaigns, which can negatively affect satisfaction levels despite their ubiquitous presence in e-commerce strategies.

4.2. Societal implications

Beyond its academic implications, this research carries important societal implications for North Karnataka and similar regions. It underscores the broader impact of effective e-commerce strategies in fostering economic growth by encouraging digital engagement and consumer empowerment. By promoting digital literacy and enhancing the online shopping experience, businesses can increase their market reach and contribute to local economic development. Moreover, the study advocates for more personalized and targeted marketing efforts tailored to regional preferences, enhancing consumer trust and satisfaction in the digital marketplace. Ultimately, this research serves as a roadmap for businesses aiming to optimize their e-commerce strategies to better meet the needs of customers in diverse geographic and socio-economic contexts.

4.3. Future scope

This study's insights into e-commerce marketing tactics in North Karnataka suggest several future implications. These include advancing analytics and predictive modeling to better understand and anticipate customer behavior, fostering deeper personalization through targeted marketing strategies, and integrating emerging technologies like AR and AI to enhance customer experiences. Ethical considerations in data usage and privacy will be crucial, alongside efforts to promote digital literacy and access in underserved regions. Additionally, addressing the environmental impact of e-commerce through sustainable practices will become increasingly important. Collectively, these future implications aim to drive business innovation and profitability, enrich customer satisfaction, and contribute to sustainable societal development in the digital age.

Declaration of competing interest

The authors declare that they have no known financial or non-financial competing interests in any material discussed in this paper.

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