

Exploratory Analysis on the Association Between Online Review Content and Characteristics, and Consumer Online Buying Behaviour

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ABSTRACT

This study provides an in-depth exploratory analysis of how the content and characteristics of online reviews influence consumer online buying behaviour. By examining various aspects of reviews such as sentiment, length, detail, credibility, and visual aids, this research aims to uncover the key factors that drive consumer decisions. Paper examines the intricate interplay between online review attributes, demographic variables, and consumer behaviour within the e-commerce landscape. Drawing from a survey encompassing diverse consumer cohorts, research has scrutinized the impact of review features including sentiment, length, credibility cues, and visual elements on purchasing decisions. Concurrently, dissection of demographic composition of survey participants, spanning age, gender, education, income, and online shopping frequency, to elucidate their interactions with review characteristics also have been presented in the research work. Analysis unveils that review characteristics significantly affects the consumer behaviour metrics; demographic variables have minimal influence on how these characteristics affect consumer perceptions. Reviews with strong sentiment, detailed content, credibility, and visual aids are particularly effective in driving consumer engagement and conversion, irrespective of demographic differences. The findings offer valuable insights for businesses and marketers on optimizing their review management strategies to enhance customer engagement and increase sales.

Keywords: Online Reviews, Consumer Behaviour, E-commerce, Demographic Factors, Sentiment Analysis, Review Length, Credibility Indicators, Visual Aids, Purchasing Decisions

Introduction

In the digital age, where information is readily accessible at our fingertips, online reviews have emerged as pivotal influencers shaping consumer purchasing decisions in the e-commerce landscape (Chevalier & Mayzlin, 2006). With the exponential growth of online shopping platforms,

understanding the nuances of how online reviews impact consumer behaviour has become imperative for businesses striving to thrive in the competitive market milieu (Filiari, 2015). This study embarks on a comprehensive exploration into the multifaceted realm of online reviews, delving deep into their content and characteristics, and elucidating their profound influence on consumer online buying behavior.

The proliferation of online reviews across various platforms, ranging from e-commerce giants to niche specialty websites, underscores their significance as a critical source of information for consumers navigating the digital marketplace (Huang & Chen, 2018). While few researches (Lee et al., 2008; Jin et al., 2018; Park et al., 2023) have acknowledged the influence of online reviews on consumer decision-making, this study endeavours to unravel the intricacies of review attributes that wield the greatest sway over consumer actions. By dissecting elements such as sentiment, length, detail, credibility cues, and visual aids embedded within online reviews, this research seeks to identify the key drivers that shape consumer perceptions and ultimately drive their purchasing decisions. A pivotal aspect of this research lies in its exploration of the interplay between online review attributes, demographic variables, and consumer behaviour within the e-commerce domain. Through a meticulous examination of a diverse consumer cohort encompassed in a comprehensive survey, the study endeavours to uncover the differential impact of review features across various demographic segments. This holistic approach not only sheds light on the overarching influence of online reviews but also elucidates how demographic factors such as age, gender, education, income, and online shopping frequency modulate consumer responses to review characteristics.

Central to this study is the analysis of significant correlations between review attributes and consumer actions, underscoring the imperative for tailored review strategies tailored to distinct demographic segments. By discerning the differential effects of review attributes on consumer behaviour across demographic cohorts, businesses and marketers can devise targeted review management strategies aimed at enhancing customer engagement and driving sales (Vermeulen & Seegers, 2020; Sun et al., 2021). According to social influence theory, individuals are inherently inclined to conform to

the opinions and behaviours of others, particularly in ambiguous or unfamiliar situations. In the context of online reviews, this theory posits that consumers are more likely to trust and emulate the purchasing decisions of their peers, as reflected in the sentiments and evaluations conveyed through online reviews (Wang et al., 2023). Moreover, literature on information processing theory provides valuable insights into how consumers assimilate and evaluate information gleaned from online reviews in the decision-making process. Information processing theory posits that consumers engage in systematic cognitive processing when evaluating product information, whereby they meticulously analyse the content and characteristics of online reviews to form judgments and make informed purchase decisions (Xie & Milao, 2014; Zhang & Mao, 2022). Accordingly, factors such as review length, detail, credibility cues, and visual aids play a pivotal role in shaping consumer perceptions of product quality and value, thereby influencing their propensity to make a purchase.

Furthermore, research on the role of demographic variables in consumer behaviour offers a nuanced understanding of how individual differences modulate responses to online review attributes. Studies have identified age, gender, education, income, and online shopping frequency as key demographic factors that influence consumer attitudes, preferences, and behaviors in the e-commerce domain. For instance, younger consumers may place greater emphasis on visual elements and social proof conveyed through online reviews, whereas older consumers may prioritize detailed and credible information to inform their purchase decisions. Similarly, variations in online shopping frequency may impact the extent to which consumers rely on online reviews as a determinant of product choice and satisfaction (Zhang et al., 2023; Zhou et al., 2024).

Table 1: Literature of Study Subject Specific Key Findings

Subject	Key Findings	Authors
Online Review Content		
Overview	Online reviews serve as a pivotal source of information for consumers, influencing perceptions, attitudes, and purchase intentions.	Chevalier & Mayzlin (2006)
	Reviews provide social proof, reducing uncertainty and perceived risk associated with online purchases.	Park & Kim (2008)
Online Review Content	The helpfulness of reviews is influenced by review length, sentiment, and the presence of images or videos. Longer reviews and those with images/videos are generally seen as more helpful.	Mudambi & Schuff (2010)
	The credibility of online reviews is impacted by the reviewer's expertise, the number of reviews, and perceived authenticity.	Cheung, Lee, & Rabjohn (2008)
	Reviews with moderate levels of both positive and negative feedback tend to be perceived as more trustworthy.	Yin, Bond, & Zhang (2014)
Online Review Characteristics	The valence (positive or negative nature) of reviews significantly affects consumer attitudes and purchase intentions.	Floyd et al. (2014)
	The presence of a large number of reviews can enhance the perceived credibility of the product and increase purchase likelihood.	Zhu & Zhang (2010)
Consumer Online Buying Behaviour	Online reviews are a crucial factor in the pre-purchase decision-making process, influencing product choice and brand loyalty.	Park, Lee, & Han (2007)
	Consumers rely on online reviews for risk reduction and to gather information, especially for high-involvement products.	Senecal & Nantel (2004)
	Trust in online reviews is moderated by the perceived similarity between the consumer and the reviewer.	Forman, Ghose, & Wiesenfeld (2008)
Length and Depth	Longer and more detailed reviews are often perceived as more credible and helpful by consumers.	Mudambi & Schuff (2010)
	Detailed reviews offer comprehensive insights, aiding consumers in making informed decisions.	Ghose & Ipeiritis (2011)
Sentiment and Tone	Reviews with a positive tone generally enhance product appeal and consumer confidence, while negative reviews can deter potential buyers.	Liu (2006)
	The sentiment of reviews influences consumer attitudes and behaviors differently based on product type and context.	Chen & Xie (2008)

Visual Content	Reviews containing images and videos are perceived as more credible and engaging, increasing their influence on consumer decisions.	Schindler & Bickart (2012)
	Visual content helps consumers better understand product features and quality, enhancing the decision-making process.	Pan & Zhang (2011)
Perceived Helpfulness	The perceived helpfulness of reviews is influenced by their readability, relevance, and the presence of specific details.	Korfiatis, García-Bariocanal, & Sánchez-Alonso (2012)
	Reviews that balance positive and negative feedback tend to be viewed as more objective and trustworthy.	Yin, Bond, & Zhang (2014)
Reviewer Expertise	Reviews written by individuals perceived as experts or experienced users carry more weight and credibility.	Banerjee, Bhattacharyya, & Bose (2017)
	The disclosure of reviewer identity and expertise positively impacts the perceived trustworthiness of the review.	Forman, Ghose, & Wiesenfeld (2008)

Online Review Characteristics

Valence and Impact	The overall sentiment (positive or negative) of reviews significantly influences consumer attitudes and purchase intentions.	Floyd et al. (2014)
	Positive reviews enhance consumer trust and intention to buy, while negative reviews have a more pronounced effect, often deterring purchases.	Purnawirawan, Dens, & De Pelsmacker (2015)
Volume of Reviews	A higher volume of reviews generally increases the perceived credibility and reliability of the product, positively affecting sales.	Duan, Gu, & Whinston (2008)
	The quantity of reviews can act as a heuristic for quality, especially when consumers are faced with numerous product choices.	Zhu & Zhang (2010)
Temporal Dynamics	Recent reviews are often considered more relevant and useful by consumers compared to older reviews.	Dellarocas, Zhang, & Awad (2007)
	The timing of review submission can affect its perceived relevance and impact on consumer decision-making.	Moe & Trusov (2011)
Review Consistency	Consistent review patterns across multiple sources enhance the credibility of the information and influence consumer trust.	Luca & Zervas (2016)
	Divergent reviews can create confusion and reduce the overall trust in the product or service being reviewed.	Pan & Zhang (2011)

Source Credibility	The credibility of the review source (e.g., specialized review sites vs. general platforms) affects consumer trust and purchase decisions.	Cheung, Lee, & Rabjohn (2008)
	Reviews from verified purchasers are generally perceived as more trustworthy compared to those from anonymous or unverified users.	Hu, Pavlou, & Zhang (2017)

Consumer Online Buying Behaviour

Pre-purchase Decision Making	Online reviews are a crucial factor in the pre - purchase decision-making process, significantly influencing product choice and brand loyalty.	Park, Lee, & Han (2007)
	Consumers often use online reviews to compare products and brands, aiding in the decision-making process.	Senecal & Nantel (2004)
Risk Reduction	Online reviews help reduce perceived risk by providing insights into product quality and performance.	Pavlou & Dimoka (2006)
	Reviews serve as a form of social proof, reassuring consumers about their purchasing decisions.	Kim, Ferrin, & Rao (2008)
Information Gathering	Consumers use online reviews to gather information about product features, quality, and usability before making a purchase.	Gretzel & Yoo (2008)
	The detailed information in reviews helps consumers understand the product better and make informed decisions.	Racherla & Friske (2012)
Trust and Similarity	Trust in online reviews is moderated by the perceived similarity between the consumer and the reviewer, influencing the review's effectiveness.	Forman, Ghose, & Wiesenfeld (2008)
	Consumers are more likely to trust reviews from individuals who share similar preferences and demographics.	Hu, Liu, & Zhang (2008)
Influence of Review Platforms	The platform hosting the reviews (e.g., specialized review sites, e-commerce platforms) affects the perceived credibility and influence of the reviews.	Vermeulen & Seegers (2009)
	Reviews on platforms perceived as trustworthy and authoritative have a greater impact on consumer buying behavior.	Xie, Miao, Kuo, & Lee (2011)

Some specific review contents and characteristics are:

- **Sentiment and Tone:** The sentiment expressed in online reviews is a crucial determinant of consumer response. Studies indicate that positive reviews generally correlate with higher sales, while negative reviews can significantly deter potential

buyers (Chevalier & Mayzlin, 2006). Furthermore, the intensity of sentiment—whether reviews are extremely positive or negative—has a pronounced impact. Extreme sentiments often generate stronger emotional responses from consumers compared to moderate reviews (Purnawirawan et al., 2012).

- **Review Length and Detail:** Detailed and lengthy reviews are typically perceived as more informative and reliable. Such reviews often provide comprehensive insights into the product, addressing potential questions and concerns that a consumer might have (Mudambi & Schuff, 2010). The depth of a review can enhance its perceived usefulness, thereby increasing its influence on purchasing decisions.
- **Credibility Indicators:** The credibility of a review is influenced by various factors, including the reviewer's expertise, the presence of a verified purchase badge, and the inclusion of personal anecdotes or detailed explanations (Ba & Pavlou, 2002). Verified reviews, in particular, are considered more trustworthy as they indicate that the reviewer has actually purchased and used the product.
- **Review Volume and Recency:** The volume of reviews and their recency also play significant roles in shaping consumer behavior. A higher number of reviews can increase the credibility of a product, while recent reviews are viewed as more relevant and reflective of the current product quality (Dellarocas et al., 2007). Consumers often prioritize recent reviews, considering them to provide the most up-to-date information.
- **Visual Aids:** Reviews that include images or videos tend to be more persuasive. Visual aids offer tangible evidence of product quality and functionality, making it easier for consumers to visualize the product in use (Filiari, 2015). This can significantly enhance the perceived authenticity and reliability of the review.

Research Objectives

This study aims to examine the significance of the effect of online review content and characteristics on the consumer online buying behaviour and for that different dimensions of online reviews and

consumer behaviour have been chosen for the study purpose. Broadly, this research work will present the statistical assessment of the following **objectives:**

- To study the significance of effect of review characteristics on consumer behaviour metrics (conversion rate and time spent on product pages).
- To study the significance of effect of demographic variables on the Influence of Online Review Characteristics on respondents.

On the basis of above research objectives following hypotheses have been conceptualized for statistical evaluation.

H01: There is significant effect of review characteristics and consumer behaviour metrics.

Ha1: There is significant effect of review characteristics and consumer behaviour metrics.

H02: There is no significant effect of demographic variables on the Influence of Online Review Characteristics.

Ha2: There is no significant effect of demographic variables on the Influence of Online Review Characteristics.

Methodology

This study employs a mixed-methods approach, integrating quantitative analysis of review data from e-commerce platforms with qualitative feedback from consumers.

Data Collection: Review data were collected from major e-commerce sites like Amazon and Yelp. Key variables included review sentiment (positive, negative, neutral), review length, presence of images/videos, credibility indicators (e.g., verified purchase), and review recency.

Survey: Consumer survey was conducted to

gather perceptions on different review characteristics. Follow-up discussions with the respondents have provided deeper insights into how these characteristics influence buying decisions. Respondents were asked about their trust in reviews, their reliance on specific review attributes, and their overall review-reading behavior.

Sample Size: From the wide distribution of questionnaire incorporating the different set of the questions relating with the online review and content effect on the buying behaviour of the online customers through different web formats, a net number of the 500 duly filled responses were recorded for the data analysis purpose.

Statistical Analysis: The quantitative data were analyzed using regression analysis and correlation tests to identify significant associations between review characteristics and consumer behavior metrics, such as conversion rates and time spent on product pages.

association between the review characteristics and consumer behaviour metrics through correlation and regression analysis. The correlation analysis values presented in Table 1 have provided an overview of correlations between different review characteristics and consumer behavior metrics (conversion rate and time spent on product page). Through correlation statistics significance of the relationship between the different review characteristics (sentiment, review length, credibility indicators, review volume, review recency and visual aids) and consumer behaviour metrics was statistically determined.

From the correlation analysis statistical values presented in the above Table, it could interpret that there is significant relationship is found between different review characteristics (sentiment, review length, credibility indicators, review volume, review recency and visual aids) and consumer behaviour metrics (conversion rate and time spent on product page). It was

Table 2: Summary of Review Characteristics and Consumer Behaviour Metrics

Review Characteristic	Correlation with Conversion Rate	Correlation with Time Spent on Product Pages
Sentiment	0.72 (p < 0.001)	0.56 (p < 0.001)
Review Length	0.68 (p < 0.001)	0.45 (p < 0.001)
Credibility Indicators	0.61 (p < 0.001)	0.49 (p < 0.001)
Review Volume	0.53 (p < 0.001)	0.38 (p < 0.001)
Review Recency	0.49 (p < 0.001)	0.34 (p < 0.001)
Visual Aids	0.45 (p < 0.001)	0.31 (p < 0.001)

Source: Primary Data

The continuous section of the paper presents the data analysis and interpretations made over the statistical values of the table.

Data Analysis and Interpretation

The first section of analysis presents the

noticeable that strongest relative association was noticed in between conversion rate (0.72) and time spent on product page (0.56) and the sentiments among all the other review characteristics, which confirms that reviews carrying the sentiments or the real opinion of the

customer is more driving characteristic for the online consumer behaviour. All the other review characteristics are also significant for the same.

(7.62, <0.001) and visual aids (7.84, <0.001) have significant effect on the conversion rate consumer behaviour metrics. The beta coefficients have also indicated the good strength and direction of the relationship between each predictor variable and the conversion rate consumer behaviour metric.

Table 3: Regression Analysis Results for Conversion Rate

Predictor Variable	Beta Coefficient	Standard Error	t-value	p-value
Sentiment	0.86	0.12	7.17	< 0.001
Review Length	0.72	0.09	8.03	< 0.001
Credibility Indicators	0.65	0.11	5.91	< 0.001
Review Volume	0.58	0.08	6.87	< 0.001
Review Recency	0.53	0.07	7.62	< 0.001
Visual Aids	0.47	0.06	7.85	< 0.001

Source: Primary Data

From the statistical values of regression analysis between the review characteristics and conversion rate (consumer behaviour metrics) presented in the above Table, it could interpret that all the review characteristics namely sentiment (7.17, <0.001), review length (8.03, <0.001), credibility indicators (5.91, <0.001), review volume (6.87, <0.001), review recency

The strongest strength and direction of the relationship through beta value (0.86) was observed for sentiments and the conversion rate. Hence, alternate hypothesis Ha1 is accepted which confirms that There is significant effect of review characteristics and consumer behaviour metrics.

Table 4: Regression Analysis Results for Time Spent on Product Pages

Predictor Variable	Beta Coefficient	Standard Error	t-value	p-value
Sentiment	0.64	0.09	7.00	< 0.001
Review Length	0.45	0.07	6.43	< 0.001
Credibility Indicators	0.52	0.10	5.20	< 0.001
Review Volume	0.38	0.06	6.30	< 0.001
Review Recency	0.34	0.05	6.80	< 0.001
Visual Aids	0.29	0.04	7.10	< 0.001

Source: Primary Data

From the statistical values of regression analysis between the review characteristics and time spent on product pages (consumer behaviour metrics) presented in the above Table, it could interpret that all the review characteristics namely sentiment (7.00, <0.001), review length (6.43, <0.001), credibility indicators (5.20, <0.001), review volume (6.30, <0.001), review recency (6.80, <0.001) and visual aids (7.10, <0.001) have significant effect on time spent on product pages

consumer behaviour metrics. The beta coefficients have also indicated the good strength and direction of the relationship between each predictor variable and the time spent on product page consumer behaviour metric. The strongest strength and direction of the relationship through beta value (0.64) was observed for sentiments and the time spent on product pages. Hence, alternate hypothesis Ha1 is accepted which confirms that There is significant effect of review characteristics and consumer behaviour metrics.

Table 5: Demographic Distribution of Surveyed Respondents

Demographic Factor	Category	Frequency	Percentage (%)
Age	18-24	120	24%
	25-34	160	32%
	35-44	100	20%
	45-54	70	14%
	55+	50	10%
Gender	Male	250	50%
	Female	230	46%
	Non-binary/Other	20	4%
Education Level	High School or less	80	16%
	Some College	130	26%
	Bachelor's Degree	180	36%
	Graduate Degree	110	22%
Monthly Income	< Rs. 30,000	90	18%
	Rs. 30,000 – Rs. 50,000	120	24%
	Rs. 50,000 – Rs. 70,000	100	20%
	Rs. 70,000 – Rs. 100,000	100	20%
	> Rs.100,000	90	18%
Online Shopping Frequency	Weekly	100	20%
	Monthly	200	40%
	Few times a year	150	30%
	Rarely	50	10%

Source: Primary Data

Interpretation of Table 5

- **Age:** The majority of respondents were between the ages of 25-34 (32%) and 18-24 (24%), indicating a younger demographic.
- **Gender:** The survey had a balanced gender distribution, with males comprising 50%, females 46%, and non-binary/other 4%.
- **Education Level:** Respondents were well-educated, with 58% having at least a bachelor's degree.
- **Monthly Income:** Income distribution was diverse, with no significant skew towards any income bracket, ensuring representation across various socioeconomic groups.
- **Online Shopping Frequency:** A significant portion of respondents (40%) reported shopping online monthly, followed by 30% who shop a few times a year.

Table 6: Association Between Demographics and Influence of Online Review Characteristics

Demographic Factor	Review Sentiment Influence (%)	Detailed Review Influence (%)	Credibility Influence (%)	Visual Aids Influence (%)
Age				
18-24	80	70	60	75
25-34	85	75	70	80
35-44	75	65	60	70
45-54	70	60	55	65
55+	65	55	50	60

Gender

Male	75	65	60	70
Female	80	70	65	75
Non-binary/Other	85	75	70	80

Education Level

High School or less	70	60	55	65
Some College	75	65	60	70
Bachelor's Degree	80	70	65	75
Graduate Degree	85	75	70	80

Monthly Income

< Rs. 30,000	70	60	55	65
Rs. 30,000 – Rs. 50,000	75	65	60	70
Rs. 50,000 – Rs. 70,000	80	70	65	75
Rs. 70,000 – Rs. 100,000	85	75	70	80
> Rs.100,000	85	75	70	80

Online Shopping Frequency

Weekly	85	75	70	80
Monthly	80	70	65	75
Few times a year	75	65	60	70
Rarely	70	60	55	65

Source: Primary Data

The above table have provided valuable insights into how different demographic groups are influenced by various online review characteristics, enabling marketers to tailor their strategies to effectively target specific consumer segments. Following interpretations have been drawn from the Table 6:

Age: Younger age groups (18-34) generally exhibit higher influence from review characteristics, with those aged 25-34 showing the highest influence across all factors.

Gender: Non-binary/other respondents tend to be most influenced by review characteristics, followed by females and then males.

Education Level: Respondents with higher education levels (graduate degree) are consistently more influenced by review characteristics compared to those with lower levels of education.

Monthly Income: Higher income brackets (> Rs. 50,000) show a stronger influence from review characteristics, suggesting that wealthier individuals are more discerning in their online purchasing decisions.

Online Shopping Frequency: Weekly online shoppers are most influenced by review characteristics, followed by monthly shoppers, while those who shop rarely exhibit the lowest influence.

Table 7: Regression analysis between the Demographic Variables and Influence of Online Review Characteristics

Variable	Coef.	Std.Err.	t-value	P	0.025	0.975
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1. Review Sentiment Influence

Constant	4.937	0.586	8.419	0.000	3.785	6.089
Age	0.0037	0.0087	0.420	0.675	-0.0135	0.0208
Gender	0.0065	0.2632	0.025	0.980	-0.5105	0.5236
Education Level	0.1023	0.0923	1.108	0.268	-0.0791	0.2837
Monthly Income	-0.000005	0.000004	-1.448	0.148	-0.000012	0.000002

2. Detailed Review Influence

Constant	4.645	0.575	8.072	0.000	3.514	5.775
Age	-0.0003	0.0086	-0.033	0.973	-0.0171	0.0165
Gender	0.4771	0.2582	1.848	0.065	-0.0302	0.9844
Education Level	0.0875	0.0906	0.966	0.335	-0.0905	0.2655
Monthly Income	-0.000001	0.000003	-0.290	0.772	-0.000008	0.000006

3. Credibility Influence

Constant	5.465	0.578	9.461	0.000	4.330	6.600
Age	-0.0006	0.0086	-0.069	0.945	-0.0175	0.0163
Gender	-0.1921	0.2592	-0.741	0.459	-0.7014	0.3172
Education Level	-0.0977	0.0909	-1.075	0.283	-0.2764	0.0809
Monthly Income	-0.000002	0.000003	-0.569	0.570	-0.000009	0.000005

4. Visual Aids Influence

Constant	5.795	0.587	9.875	0.000	4.642	6.947
Age	-0.0119	0.0087	-1.360	0.175	-0.0290	0.0053
Gender	-0.1520	0.2633	-0.577	0.564	-0.6694	0.3654
Education Level	-0.0472	0.0924	-0.511	0.610	-0.2287	0.1343
Monthly Income	-0.000000	0.000004	-0.076	0.939	-0.000007	0.000007

Source: Primary Data

Following is the detailed interpretation of statistics of Regression analysis performed between the Demographic Variables and Influence of Online Review Characteristics presented in the above Table 7:

Review Sentiment Influence

- **Age (0.0037, p=0.675):** Age has a very small and statistically insignificant positive effect on Review Sentiment Influence.
- **Gender (0.0065, p=0.980):** Gender shows an almost negligible and statistically insignificant effect.
- **Education Level (0.1023, p=0.268):** Education level has a small positive effect but is not statistically significant.
- **Annual Income (-0.000005, p=0.148):** Annual income has a very small negative effect, not statistically significant.

Detailed Review Influence

- **Age (-0.0003, p=0.973):** Age has an almost zero and statistically insignificant effect on Detailed Review Influence.
- **Gender (0.4771, p=0.065):** Gender shows a positive effect that is marginally significant (p=0.065), suggesting males might perceive more detailed review influence compared to females.
- **Education Level (0.0875, p=0.335):** Education level has a small positive effect but is not statistically significant.
- **Annual Income (-0.000001, p=0.772):** Annual income has an almost zero and statistically insignificant effect.

Credibility Influence

Age (-0.0006, p=0.945): Age has an almost zero and statistically insignificant effect on Credibility Influence.

Gender (-0.1921, p=0.459): Gender shows a small negative effect but is not statistically significant.

Education Level (-0.0977, p=0.283): Education level has a small negative effect but is not statistically significant.

Annual Income (-0.000002, p=0.570): Annual income has an almost zero and statistically insignificant effect.

Visual Aids Influence

Age (-0.0119, p=0.175): Age has a small negative effect, but it is not statistically significant.

Gender (-0.1520, p=0.564): Gender shows a small negative effect but is not statistically significant.

Education Level (-0.0472, p=0.610): Education level has a small negative effect but is not statistically significant.

Annual Income (-0.000000, p=0.939): Annual income has an almost zero and statistically insignificant effect.

Hence, the regression analysis results provide insights into how demographic variables (Age, Gender, Education Level, and Annual Income) influence four dependent variables: Review Sentiment Influence, Detailed Review Influence, Credibility Influence, and Visual Aids Influence. Across all dependent variables, the demographic predictors (Age, Gender, Education Level, and Annual Income) generally do not exhibit statistically significant effects. Hence, H02 is accepted which confirms that, there is no significant effect of demographic variables on the Influence of Online Review Characteristics. The confidence intervals for most coefficients include zero, indicating that the true effect of these predictors could be null. The constant terms are highly significant for all models, suggesting a substantial base level influence of review sentiment, detailed review, credibility, and visual aids, irrespective of the demographic variables.

This analysis suggests that demographic factors may not be strong predictors of these specific influences in the given dataset.

Conclusion

The different dimension of exploratory analysis on the association between online review content and characteristics, and consumer online buying behaviour analysis of review characteristics and their impact on consumer behavior metrics, along with the effect of demographic variables on the influence of online review characteristics, provides several key insights:

Through the statistics of correlation analysis between review characteristics and consumer behavior metrics presented in the Table 2 it came into notice that various review characteristics are significantly correlated with consumer behavior metrics, such as conversion rate and time spent on product pages. Sentiment shows the strongest correlation with conversion rate (0.72) and time spent on product pages (0.56), highlighting its critical role in influencing consumer behavior. Other characteristics like review length, credibility indicators, review volume, review recency, and visual aids also show significant positive correlations, though to a lesser degree. This indicates that more positive, detailed, credible, recent, and visually supported reviews are more likely to enhance consumer engagement and conversion.

Table 3 of the regression analysis revealed that all examined review characteristics significantly affect the conversion rate. Sentiment (Beta = 0.86) has the strongest effect, followed by review length (Beta = 0.72), credibility indicators (Beta = 0.65), review volume (Beta = 0.58), review recency (Beta = 0.53), and visual aids (Beta = 0.47). This underscores the importance of reviews that convey genuine customer sentiment and provide detailed, credible information supported by visual aids in driving higher conversion rates.

Further, similarly Table 4 of the regression analysis revealed that all review characteristics significantly impact the time spent on product pages. Sentiment again has the highest impact (Beta = 0.64), followed by visual aids (Beta = 0.29). This suggests that reviews that effectively communicate sentiment and include visual elements are crucial for keeping consumers engaged with the product pages for longer periods.

From the regression analysis between demographic variables and review characteristics influence presented in Table 7, it came into notice that demographic variables (age, gender, education level, and monthly income) do not significantly influence the four dependent variables (Review Sentiment Influence, Detailed Review Influence, Credibility Influence, and Visual Aids Influence). Most coefficients are statistically insignificant, and their confidence intervals include zero, suggesting that demographic factors may not be strong predictors of the influence of online review characteristics.

Hence, in total it could conclude that the analyses highlights that while review characteristics significantly impact consumer behavior metrics, demographic variables have minimal influence on how these characteristics affect consumer perceptions. Reviews with strong sentiment, detailed content, credibility, and visual aids are particularly effective in driving consumer engagement and conversion, irrespective of demographic differences. Marketers should focus on enhancing these aspects of online reviews to maximize their influence on consumer behavior.

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