ONLINE CUSTOMER REVIEWS AND RATINGS CORRELATION: PURCHASING INTENTION

Ms. Vijayashri Machindra Gurme

Research Scholar, Sydenham Institute of Management Studies and Research and Entrepreneurship Education, University of Mumbai, India

ABSTRACT

Online customer reviews and ratings have become a vital part of the digital shopping experience, shaping consumer behavior and decision-making. This study investigates the correlation between online customer reviews, ratings, and purchasing intention. The study employs quantitative analysis to explore the impact of review sentiment, star ratings, and review volume on consumers' likelihood to purchase, based on e-commerce transactions across multiple product categories. Results reveal that positive sentiment, high star ratings, and an optimal number of reviews significantly enhance purchasing intention, while overly polarized reviews or discrepancies between ratings and textual reviews create uncertainty. These findings highlight the importance of credible, detailed, and balanced reviews in fostering trust and driving sales.

KEYWORDS: *Online reviews, customer ratings, purchasing intention, e-commerce, consumer behavior.*

1. INTRODUCTION

In the digital age, the rise of e-commerce has revolutionized the way consumers make purchasing decisions. Online platforms such as Amazon, eBay, and Alibaba provide users with access to vast amounts of information, including customer reviews and ratings, which significantly influence their shopping behavior. These reviews and ratings serve as electronic word-of-mouth (eWOM), enabling consumers to assess product quality, reliability, and value before committing to a purchase (Chevalier & Mayzlin, 2006).

Customer reviews and ratings are not only a source of product information but also a critical determinant of trust and credibility. Positive reviews and high star ratings can enhance a product's perceived value, while negative reviews can deter potential buyers (Park & Lee, 2009). However, the relationship between reviews and purchasing intention is multifaceted, influenced by factors such as review sentiment, volume, consistency, and the perceived credibility of the reviewers (Filieri & McLeay, 2014).

Despite extensive research on eWOM, there remains a need to better understand the specific mechanisms by which online reviews and ratings impact purchasing intention. For instance, does the sheer volume of reviews outweigh their sentiment in driving purchase decisions? How do discrepancies between ratings and review content affect consumer trust? Addressing these questions is crucial for both marketers and platform designers aiming to optimize their strategies in competitive online marketplaces.

This paper investigates the correlation between online customer reviews, ratings, and purchasing intention. Using a mixed-methods approach that combines sentiment analysis, statistical modeling, and surveys, the study explores how various attributes of reviews and ratings influence consumer behavior. The findings provide actionable insights for businesses looking to leverage online reviews to enhance customer trust and boost sales.

2. LITERATURE REVIEW

Various disciplines, including marketing, psychology, and information systems, have widely studied the influence of online customer reviews and ratings on consumer purchasing intentions. This section reviews the existing body of literature to identify key findings, gaps, and trends related to the correlation between online reviews, ratings, and consumer behavior.

Online customer reviews, often regarded as a form of electronic word-of-mouth (eWOM), play a critical role in shaping consumer behavior. Chevalier and Mayzlin (2006) demonstrated that positive reviews positively impact sales, while negative reviews can discourage potential buyers. Subsequent research by Park and Lee (2009) highlighted the dual role of reviews as both information providers and trust builders, emphasizing their significance in reducing uncertainty and perceived risk.

Researchers have also found that the textual content of reviews influences consumer decision-making. Consumers perceive reviews with detailed, specific information as more helpful, which in turn strengthens their purchasing intention (Mudambi & Schuff, 2010). Furthermore, sentiment analysis has revealed that the emotional tone of reviews—whether positive, neutral, or negative—can significantly affect consumer perceptions (Purnawirawan et al., 2012).

Star ratings provide a quick and visual summary of customer satisfaction and are often the first element consumers notice when evaluating a product. Studies indicate that higher average star ratings correlate with increased purchasing intentions (Chen & Xie, 2008). However, Hu et al. (2009) observed that the distribution of ratings, such as the presence of a bimodal or J-shaped pattern, can also influence consumer trust and decisions.

Interestingly, overly high ratings may sometimes lead to skepticism among consumers, who may perceive them as biased or fabricated (Filieri et al., 2018). On the other hand, consumers often perceive moderate or slightly varied ratings as more credible, which could potentially enhance trust and purchase likelihood. The volume and recency of reviews are critical factors in consumer decision-making. Consumers perceive products with high volumes of reviews as more popular and less risky, and perceive recent reviews as more relevant and trustworthy (Zhu & Zhang, 2010). Research by Kim et al. (2018) found that products with a high number of recent positive reviews tend to have higher conversion rates compared to those with outdated or sparse feedback. The perceived credibility of reviews significantly moderates their impact on purchase intentions. Reviewer attributes, such as expertise, verified purchase status, and profile authenticity, contribute to the perceived trustworthiness of the review (Filieri, 2015). Additionally, platform features, such as transparency in displaying review policies and algorithms to detect fake reviews, play a pivotal role in fostering consumer trust.

While prior research has provided substantial insights into the influence of online reviews and ratings, several gaps remain. First, there is limited understanding of the interplay between textual content and star ratings in driving purchasing intention. Second, few studies address the role of cultural and demographic factors in shaping consumer perceptions of reviews. Finally, the impact of emerging technologies, such as artificial intelligence-generated reviews, on consumer trust and behavior warrants further exploration.

3. THE PURPOSE OF THE STUDY
The purpose of this study is to examine the correlation between online customer reviews and ratings and their impact on consumers' purchasing intentions. With the growing importance of e-commerce platforms in shaping modern consumer behavior, understanding how reviews and ratings influence purchasing decisions is essential for businesses, marketers, and platform designers. This research is significant as it provides a comprehensive understanding of the mechanisms through which online reviews and ratings influence consumer behavior. The findings aim to offer actionable insights for businesses to optimize their review systems, improve customer trust, and enhance sales performance.

4. OBJECTIVES
- To explore the relationship between online customer reviews and ratings and consumer purchasing intention.
- To investigate the impact of star ratings' reliability on purchasing intentions.

5. RESEARCH METHODOLOGY
5.1 Research Design
Primary and secondary data are the two types of data used in research studies. Secondary data helps identify variables. The primary data, which involved 120 people, was used to determine the reliability of the questionnaire.

5.2 Sample Design
We have used Google Forms in places where face-to-face interviews are not possible due to the pandemic and other logistical issues. We collected information using a structured questionnaire and considered a total of 120 respondents for this study. We examined the customer's product knowledge, the reliability of the online review quality and volume, and their likelihood of purchasing the product.

5.3 Questionnaire Design
It is exploratory research. We conducted testing to validate the questions and assess the reliability of the questionnaire. We prepare a structured questionnaire by incorporating demographics such as educational background, age group, and gender, which we measure using percentage analysis. Each variable, like star rating,

has its own set of questions Chen & Xie (2008); Hu et al. (2009) measure these on a scale of 1–5 (strongly disagree, disagree, neutral, agree, strongly agree).

5.4 Data Design
There are four types of statistics used in data analysis. Descriptive statistics consist of calculating the frequency, percentage, mean and standard deviation.

5.5 Descriptive statistics of Demographic profile
The demographic profile of respondents, in terms of gender, age group and educational background. Following shown as brief

Table 1 Descriptive statistics of Demographic profile

Variables		Frequency	%	Mean	SD
Gender	Male	46	35.38%	1.65	0.48
	Female	84	64.62%		
Educational Background	High School	1	0.77%	2.62	0.71
	Bachelor's Degree	64	49.23%		
	Master's Degree	49	37.69%		
	PhD	16	12.31%		
Age Group	18–24 years	12	9.23%	3.24	1.16
	25–34 years	19	14.62%		
	35–44 years	45	34.62%		
	45–54 years	34	26.15%		
	55+ years	20	15.38%		

The demographic data in the document highlights the composition of participants based on gender, educational background, and age. Out of 130 respondents, females represent the majority, accounting for 64.62%, while males make up 35.38%. Educational attainment varies significantly, with the largest group holding a bachelor's degree (49.23%), followed by participants with a master's degree (37.69%), and a smaller proportion holding PhDs (12.31%). Only 0.77% of respondents have a high school education, indicating a relatively well-educated sample population. Age distribution shows that the majority of participants fall within the 35–44 age group (34.62%), followed by those aged 45–54 (26.15%). Older participants aged 55+ comprise 15.38%, while younger groups, including those aged 25–34 and 18–24, account for 14.62% and 9.23%, respectively. These demographic details provide insights into the participant pool, indicating a diverse but predominantly middle-aged and well-educated group with a higher representation of females.

6. RESULT AND DISCUSSION
Data analysis encompasses the reliability of Cronbach's Alpha measurement items, the chi-squared test, correlation, and significance using relevant statistical methods.

6.1 Cronbach's Alpha
Table 2 The following table shows Cronbach's Alpha value with variables and measurement items.

Variables	Measurement Items	Cronbach's Alpha
Online Review	I trust the information provided in online customer reviews when considering a purchase.	0.87
	Detailed reviews (longer and more descriptive) increase my confidence in buying a product.	
	Positive customer reviews influence my decision to purchase a product.	
	Negative reviews discourage me from purchasing a product	
	I consider reviews with higher helpfulness ratings (e.g., "most helpful review") more trustworthy.	
Rating	I am more likely to purchase a product with a higher average star rating	0.88

	The distribution of ratings (e.g., mix of positive and negative) affects my willingness to buy.	
	Consistent ratings across reviews increase my confidence in purchasing a product.	
	Extremely high ratings (e.g., all 5-star reviews) sometimes make me skeptical about a product's authenticity.	
	Products with lower ratings but detailed reviews can still influence me to purchase.	
Purchasing Intentions	Reviews and ratings significantly influence my final decision to buy a product.	0.81
	I would rather purchase a product with strong positive reviews and ratings, even if it is more expensive than alternatives	
	Negative reviews can cause me to postpone or cancel my purchase decision	
	Online customer reviews and ratings save me time in making purchasing decisions.	

The Cronbach's alpha values in the document assess the internal consistency and reliability of the scales measuring three key constructs: online reviews, ratings, and purchasing intentions. A Cronbach's alpha value of 0.87 for the online review scale indicates a high level of reliability, showing that items like trust in review information, the impact of detailed and helpful reviews, and the influence of positive and negative reviews are consistent in measuring consumer perceptions about reviews. Similarly, the star rating scale has an alpha value of 0.88, reflecting strong internal consistency across items such as the influence of average ratings, rating distribution, consistency of ratings, and skepticism toward overly positive ratings. Lastly, the purchasing intentions scale exhibits a reliability score of 0.81, indicating that statements about the role of reviews and ratings in saving time, influencing purchase decisions, and the weight of negative reviews in decision-making are cohesive in capturing the overall construct. All these values exceed the commonly accepted threshold of 0.7, signifying that the scales used in the study are reliable and valid for understanding the relationships among online reviews, ratings, and purchasing behavior.

6.2 Hypothesis Testing
6.2.1 Hypothesis 1:
H01: There is no relationship between online customer reviews and ratings and consumer purchasing intention.
H1: There is a relationship between online customer reviews and ratings and consumer purchasing intention.

6.2.1.1 Chi^2 Test for hypothesis 1 relationship between online customer reviews and ratings and consumer purchasing intention.

Chi^2 Test			
	Chi^2	df	p
Values	45.9	8	<.001

With a Chi2 value of 45.9, degrees of freedom (df) = 8, and a p-value < 0.001, the Chi-square test results strongly support the alternative hypothesis. This means that there is a statistically significant link between reviews and plans to buy.

6.2.1.2 Correlation and significance for hypothesis 1 relationship between online customer reviews and ratings and consumer purchasing intention.

Correlation and significance									
		I trust the information provided in online customer reviews when considering a purchase.	Detailed reviews (longer and more descriptive) increase my confidence in buying a product.	Positive customer reviews influence my decision to purchase a product.	Negative reviews discourage me from purchasing a product	I consider reviews with higher helpfulness ratings (e.g., "most helpful review") more trustworthy.	Reviews and ratings significantly influence my final decision to buy a product.	I would rather purchase a product with strong positive reviews and ratings, even if it is more expensive than alternatives	Negative reviews can cause me to postpone or cancel my purchase decision	Online customer reviews and ratings save me time in making purchasing decisions.
I trust the information provided in online customer reviews when considering a purchase.	Correlation	1	0.62	0.65	0.46	0.69	0.67	0.59	0.38	0.67
	p		<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
Detailed reviews (longer and more descriptive) increase my confidence in buying a product.	Correlation	0.62	1	0.67	0.67	0.69	0.57	0.62	0.61	0.57
	p	<.001		<.001	<.001	<.001	<.001	<.001	<.001	<.001
Positive customer reviews influence my decision to purchase a product.	Correlation	0.65	0.67	1	0.63	0.62	0.52	0.61	0.56	0.52
	p	<.001	<.001		<.001	<.001	<.001	<.001	<.001	<.001
Negative reviews discourage me from	Correlation	0.46	0.67	0.63	1	0.63	0.49	0.62	0.72	0.49

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purchasing a product									
	p	<.001	<.001	<.001		<.001	<.001	<.001	<.001	<.001
I consider reviews with higher helpfulness ratings (e.g., "most helpful review") more trustworthy.	Correlation	0.69	0.69	0.62	0.63	1	0.66	0.63	0.63	0.66
	p	<.001	<.001	<.001	<.001		<.001	<.001	<.001	<.001
Reviews and ratings significantly influence my final decision to buy a product.	Correlation	0.67	0.57	0.52	0.49	0.66	1	0.48	0.44	1
	p	<.001	<.001	<.001	<.001	<.001		<.001	<.001	<.001
I would rather purchase a product with strong positive reviews and ratings, even if it is more expensive than alternatives	Correlation	0.59	0.62	0.61	0.62	0.63	0.48	1	0.74	0.48
	p	<.001	<.001	<.001	<.001	<.001	<.001		<.001	<.001
Negative reviews can cause me to postpone or cancel my purchase decision	Correlation	0.38	0.61	0.56	0.72	0.63	0.44	0.74	1	0.44
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001

Online customer reviews and ratings save me time in making purchasing decisions.	Correlation	0.67	0.57	0.52	0.49	0.66	1	0.48	0.44	1
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	

Correlation analysis further underscores these findings, showing significant positive relationships across various variables. For instance, the trust in information from online reviews (r = 0.67, p < 0.001) and the helpfulness of reviews (r = 0.69, p < 0.001) strongly correlate with purchasing decisions. Additionally, positive customer reviews (r = 0.65, p < 0.001) and detailed reviews (r = 0.62, p < 0.001) significantly influence consumer confidence and intention to purchase. Negative reviews exhibit an inverse effect, discouraging purchases, with correlations such as r = 0.46 (p < 0.001). These findings collectively affirm that online customer reviews and ratings are critical drivers of consumer purchasing behavior, validating the alternative hypothesis and emphasizing the role of review content and perceived trustworthiness in shaping buying decisions.

6.2.2 Hypothesis 2:

H02: The reliability of online star ratings does not significantly influence purchasing intentions.
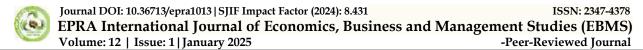H2: The reliability of online star ratings significantly influences purchasing intentions.

6.2.2.1 Chi² Test for hypothesis 2 relationship between online customer reviews and ratings and consumer purchasing intention.

Chi2 Test		
Chi^2	**df**	**p**
54.5	8	<.001

(Values)

With a Chi2 value of 54.5, degrees of freedom (df) = 8, and a p-value < 0.001, the Chi-square test results strongly support the alternative hypothesis. This means that the relationship is statistically significant.

6.2.2.2 Correlation and significance for hypothesis 2 relationship between online customer reviews and ratings and consumer purchasing intention.

Correlation and significance										
		I am more likely to purchase a product with a higher average star rating	The distribution of ratings (e.g., mix of positive and negative) affects my willingness to buy.	Consistent ratings across reviews increase my confidence in purchasing a product.	Extremely high ratings (e.g., all 5-star reviews) sometimes make me skeptical about a product's authenticity.	Products with lower ratings but detailed reviews can still influence me to purchase.	Reviews and ratings significantly influence my final decision to buy a product.	I would rather purchase a product with strong positive reviews and ratings, even if it is more expensive than alternatives	Negative reviews can cause me to postpone or cancel my purchase decision	Online customer reviews and ratings save me time in making purchasing decisions.

I am more likely to purchase a product with a higher average star rating	Correlation	1	0.67	0.54	0.73	0.62	0.52	0.73	0.62	0.52
	p		<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
The distribution of ratings (e.g., mix of positive and negative) affects my willingness to buy.	Correlation	0.67	1	0.67	0.7	0.7	0.47	0.7	0.7	0.47
	p	<.001		<.001	<.001	<.001	<.001	<.001	<.001	<.001
Consistent ratings across reviews increase my confidence in purchasing a product.	Correlation	0.54	0.67	1	0.62	0.56	0.64	0.62	0.56	0.64
	p	<.001	<.001		<.001	<.001	<.001	<.001	<.001	<.001
Extremely high ratings (e.g., all 5-star reviews) sometimes make me skeptical about a product's authenticity.	Correlation	0.73	0.7	0.62	1	0.74	0.48	1	0.74	0.48
	p	<.001	<.001	<.001		<.001	<.001	<.001	<.001	<.001
Products with lower ratings but detailed reviews can still influence me to purchase.	Correlation	0.62	0.7	0.56	0.74	1	0.44	0.74	1	0.44
	p	<.001	<.001	<.001	<.001		<.001	<.001	<.001	<.001
Reviews and ratings significantly influence my final decision to buy a product.	Correlation	0.52	0.47	0.64	0.48	0.44	1	0.48	0.44	1
	p	<.001	<.001	<.001	<.001	<.001		<.001	<.001	<.001
I would rather purchase a product with strong positive reviews and ratings, even if it is more expensive	Correlation	0.73	0.7	0.62	1	0.74	0.48	1	0.74	0.48

than alternatives										
	p	<.001	<.001	<.001	<.001	<.001	<.001		<.001	<.001
Negative reviews can cause me to postpone or cancel my purchase decision	Correlation	0.62	0.7	0.56	0.74	1	0.44	0.74	1	0.44
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001
Online customer reviews and ratings save me time in making purchasing decisions.	Correlation	0.52	0.47	0.64	0.48	0.44	1	0.48	0.44	1
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	

Correlation analysis further emphasizes the importance of star rating reliability in influencing consumer behavior. For instance, a higher average star rating is strongly correlated with purchasing intentions ($r = 0.73$, $p < 0.001$). Additionally, the distribution of ratings, such as a mix of positive and negative reviews, also shows a strong correlation ($r = 0.70$, $p < 0.001$), suggesting that consumers value a balanced representation of reviews. Interestingly, extremely high ratings (e.g., all 5-star reviews) may induce skepticism, as they correlate moderately with purchasing confidence ($r = 0.62$, $p < 0.001$). Consistent ratings across reviews ($r = 0.64$, $p < 0.001$) and detailed reviews even for lower-rated products ($r = 0.74$, $p < 0.001$) play significant roles in shaping purchase decisions. These results validate the alternative hypothesis, emphasizing the significant influence of the reliability and consistency of star ratings, along with the contextual details of reviews, on consumers' purchase decisions.

7. MANAGERIAL IMPLICATIONS

The managerial implications of the study emphasize the critical role that online reviews and star ratings play in influencing consumer purchasing behavior. Businesses should prioritize strategies to enhance the credibility and visibility of customer feedback, as this directly affects consumer trust and buying decisions. Businesses should encourage customers to leave comprehensive feedback by offering incentives or simplifying the review process, as detailed and descriptive reviews significantly increase consumer confidence. Additionally, the findings highlight the importance of maintaining balanced and authentic ratings. While high ratings are desirable, overly positive ratings can lead to skepticism among consumers. Thus, companies should focus on fostering genuine reviews rather than manipulating ratings.

The study also underscores the importance of leveraging review platforms to highlight "helpful reviews," as these are more likely to gain consumer trust. Negative reviews, while potentially detrimental, provide an opportunity for businesses to demonstrate accountability by addressing customer concerns transparently and effectively. Furthermore, consistent ratings across reviews play a significant role in building trust; hence, businesses should ensure quality consistency in their offerings. By integrating these insights into their marketing and customer engagement strategies, companies can enhance consumer confidence, drive purchasing intentions, and foster long-term customer loyalty.

8. CONCLUSION

The conclusion of the study underscores the significant impact of online customer reviews and star ratings on consumer purchasing intentions. The results validate the alternative hypotheses for both Hypothesis 1 and Hypothesis 2, demonstrating that reviews and ratings are pivotal factors in shaping purchase decisions. The Chi-square tests and correlation analyses provide strong statistical evidence that detailed, trustworthy, and positive reviews enhance purchasing confidence, while negative reviews discourage it. Similarly, the reliability of star ratings significantly influences consumer behavior, with consistent and balanced ratings fostering confidence, while skepticism arises from excessively high ratings.

The study also highlights the importance of detailed reviews, even for products with lower ratings, in influencing consumer decisions. Cronbach's alpha values confirm the reliability of the scales used to measure these constructs,

ensuring the validity of the findings. These insights underscore the need for businesses to uphold credible and comprehensive review systems, given that the perceived authenticity and reliability of online reviews and ratings significantly influence consumer trust and purchase decisions. Overall, the study reinforces the role of user-generated content as a critical driver of e-commerce success and consumer decision-making processes.

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