A study of the impact of online customer reviews and ratings on purchasing decisions

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Abstract: *Online customer reviews and ratings have become pivotal in shaping consumer purchasing decisions, especially in the digital marketplace. This research investigates the influence of online reviews and ratings on consumer behavior, focusing on factors such as review valence, volume, credibility, and source trustworthiness. The results reveal that highly rated products and those with a larger volume of reviews significantly enhance consumer trust and purchase intention. Conversely, negative reviews, although potentially deterring, contribute to credibility by signalling transparency. Also look at the role of review authenticity, the effect of verified purchases, and platform-specific algorithms in review visibility to see how they work to control things. These findings highlight the importance of customer reviews as a marketing and decision-making tool, providing actionable insights for businesses seeking to optimize consumer engagement. Foundational works are mentioned on how people trust each other online (Gefen, 2002), how online reviews affect sales (Chevalier & Mayzlin, 2006), and how review platforms change the way people behave (Luca & Zervas, 2020).*

Key Words: *Online customer reviews, consumer purchasing decisions, review valence, review credibility, e-commerce, digital trust, user-generated content.*

1. INTRODUCTION:

The goal of this study is to give marketers, e-commerce platforms, and policymakers useful information by looking at patterns of consumer behavior and the impact of review factors. The advent of e-commerce has transformed the way consumers evaluate and purchase products. Unlike traditional retail environments, where customers rely on physical inspection and in-store recommendations, online shopping heavily depends on information provided by other customers in the form of online reviews and ratings. These user-generated reviews serve as a substitute for direct product experience, influencing perceptions of product quality, brand trust, and purchase intent. As a result, online reviews and ratings have emerged as one of the most influential sources of information in the consumer decision-making process. Customer reviews significantly impact sales and product performance (Chevalier & Mayzlin, 2006). Positive reviews and high ratings enhance consumer confidence, while negative reviews can deter potential buyers. However, the influence of reviews extends beyond mere sentiment; factors such as review quantity, valence, credibility, and even the expertise of the reviewer plays crucial roles in shaping consumer behavior (Park & Lee, 2009). Furthermore, platforms such as Flipkart, eBay, and Amazon utilize algorithms to determine the visibility of reviews, amplifying the effect of specific feedback on consumer decisions (Luca & Zervas, 2020).

Despite the increasing importance of online reviews, their impact is complex and context-dependent. For instance, while positive reviews can build trust and drive sales, overly favorable ratings may lead to skepticism about their authenticity (Filieri, 2015). Similarly, negative reviews, if constructive, can enhance credibility and provide valuable insights for both consumers and businesses. This interplay of factors underscores the need for a deeper understanding of how online reviews influence purchasing behavior across different product categories and platforms. This study aims to explore the multifaceted impact of online reviews and ratings on purchasing decisions.

2. LITERATURE REVIEW:

Online customer reviews and ratings have become a cornerstone of consumer decision-making in the digital era, offering a wealth of insights for researchers examining their impact on purchasing behavior. The effect of review valence whether reviews are positive, negative, or neutral has been widely studied. Chevalier and Mayzlin (2006) demonstrated that positive reviews increase product sales, while negative reviews can deter purchases. However, the impact of valence is nuanced; Park and Lee (2009) found that highly polarized reviews (extremely positive or negative) tend to be more influential than moderately rated ones. Furthermore, review volume, or the total number of reviews for a product, serves as a social proof mechanism. Consumers are more likely to trust and purchase products with a higher volume of reviews, even when the average rating is moderate (Duan, Gu, & Whinston, 2008).

The credibility of online reviews significantly affects their influence on purchasing decisions. Filieri (2015) proposed that reviews perceived as authentic, detailed, and written by knowledgeable consumers are more likely to be trusted. Similarly, the presence of verified purchase tags or detailed explanations enhances credibility (Maslowska, Malthouse, & Viswanathan, 2017). However, the rise of fake reviews has undermined consumer trust, prompting platforms to implement measures to ensure review authenticity (Luca & Zervas, 2020). The structure and algorithms of e-commerce platforms play a critical role in shaping the visibility and impact of reviews. For instance, reviews that appear prominently on product pages or are highlighted as "helpful" by other users tend to have a disproportionate influence on purchasing behavior (Chen, Dhanasobhon, & Smith, 2008). Platforms like Yelp and Amazon also use reputation systems to rank businesses and products, further amplifying the impact of certain reviews (Luca, 2016).

Despite the common perception of negative reviews as detrimental, research suggests that they can yield positive outcomes when interpreted as constructive. Chen and Lurie (2013) noted that negative reviews offering actionable advice or detailed explanations can enhance a brand's credibility and lead to trust-building with potential buyers. This finding underscores the complexity of the relationship between review sentiment and consumer response. Consumer characteristics and product categories also moderate the effectiveness of online reviews. High-involvement products, such as electronics or travel services, are more likely to be influenced by reviews than low-involvement products (Park, Lee, & Han, 2007). Additionally, consumers with higher expertise in a given category may rely less on reviews compared to novices (Mudambi & Schuff, 2010). Recent research has focused on the role of video reviews, social media influencers, and the integration of AI in review systems. Video reviews provide richer information and emotional cues, enhancing their persuasive power (Shi & Chen, 2021). Additionally, AI-powered recommendation systems increasingly influence how reviews are displayed, shaping consumer decision-making in subtle but profound ways (Li, Wang, & Liang, 2020).

3. OBJECTIVES:
- To identify how demographic factors mediate the impact of online reviews consumers purchasing decisions.
- To explore the impact of online customer reviews on consumers purchasing decisions.
- To determine the role of review ratings in shaping consumer purchasing decisions.

4. AIM OF THE STUDY:

To investigate the impact of online customer reviews and ratings on consumer purchasing decisions in the context of e-commerce. As digital marketplaces continue to dominate the retail sector, online reviews and ratings have emerged as critical sources of information that guide consumer behavior and influence trust in products and platforms. Explore the differential impact of online reviews across product categories, consumer demographics, and levels of involvement in the purchase process.

5. RESEARCH METHODOLOGY:

Primary and secondary data are the two types of data used in research studies. Secondary data helps identify variables. This study collected primary data from 130 participants using a structured questionnaire. Create a structured questionnaire that includes demographics like educational background, age group, and gender, all of which are measurable through percentage analysis. Each variable, such as 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).

5.1 Descriptive statistics of Demographic profile

The descriptive statistics of the demographic profile in terms of gender, age group, and education, along with the following information in brief, including frequency, percentage, mean, and standard deviation.

Table 1 Descriptive statistics of Demographic profile

Variables		Frequency	%	Mean	SD
Gender	Male	46	35.38%	1.65	0.48
	Female	84	64.62%		
Education	Bachelors	64	49.23%	2.62	0.71
	Masters	49	37.69%		
	PhD	16	12.31%		
Age Group	18–25 years	12	9.23%	3.24	1.16
	26–35 years	19	14.62%		
	36–45 years	45	34.62%		
	46–55 years	34	26.15%		
	56+ years	20	15.38%		

The descriptive statistics of the demographic profile in the study provide an overview of the respondents' gender, age group, and educational background. The sample consisted of 130 respondents, with females making up 64.62% (n=84) and males 35.38% (n=46). This indicates a higher representation of female participants in the study. Regarding education, the majority of respondents (49.23%) held a bachelor's, followed by those with a master's (37.69%). Only 12.31% of respondents held a Ph.D. degree, while 0.77% had only completed high school. This distribution highlights a well-educated sample, which could influence the interpretation of online reviews and ratings.

The age distribution showed that most respondents belonged to the 36–45 years age group (34.62%), followed by the 46–55 years age group (26.15%). Other age categories included 26–35 years (14.62%), 56+ years (15.38%), and 18–25 years (9.23%). This diverse age range ensures representation across different generational perspectives. The study used descriptive statistics like frequency, percentage, and standard deviation to summarize and analyze these profiles. The mean values and standard deviations for each variable give us more information about how different these demographic groups are. These demographic insights lay a foundation for understanding how personal characteristics may mediate the impact of online reviews and ratings on purchasing intentions.

6. RESULT AND DISCUSSION:

Data analysis encompasses the reliability of Cronbach's Alpha measurement items, the chi-squared test, and Kruskal-Wallis-Test 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	Trust	0.87
	Detailed reviews	
	Positive customer reviews	
	Negative reviews	
	Helpfulness	
Rating	Higher average star rating	0.88
	Distribution of ratings	
	Consistent ratings	
	Extremely high ratings	
	Lower ratings	
Purchasing Intentions	Reviews and ratings	0.81
	Strong positive reviews and ratings	
	Negative reviews	
	Save me time	

Cronbach's alpha test is to assess the reliability of the measurement items used. This statistical measure evaluates the internal consistency of a set of items, indicating how well they collectively measure a single construct. The study tested

three primary variables: online reviews, ratings, and purchasing intentions and values for these variables were 0.87, 0.88, and 0.81, respectively, all of which exceed the commonly accepted threshold of 0.7. The results show that the measurement scales are very consistent with each other, which means that the items within each construct accurately measure the concept.

For online reviews, items such as trust, detailed reviews, and positive and negative customer reviews showed high reliability, reflecting a cohesive representation of the construct. Similarly, for ratings, items like higher average star ratings, distribution of ratings, and consistent ratings demonstrated reliable measurement. Lastly, the purchasing intentions variable, with items such as the impact of reviews and ratings, strong positive feedback, and time-saving aspects, also showed reliable internal consistency. This strengthens the credibility of the subsequent statistical analyses and conclusions drawn from the study.

6.2 Hypothesis Testing
6.2.1 Hypothesis 1:
H01: There is no significant influence of online customer reviews on consumers' purchasing decisions
H1: There is a significant influence of online customer reviews on consumers' purchasing decisions.
Kruskal-Wallis-Test for hypothesis 1 influence of online customer reviews on consumers' purchasing decisions.

Kruskal-Wallis-Test			
	Chi^2	df	p
Values	45.9	8	<.001
Dunn-Bonferroni-Tests			
	Test Statistic	Std. Error	Std. Test Statistic	p	Adj. p
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Trust - Detailed reviews	74.48	38.66	1.93	0.054	1
Trust - Positive customer reviews	56.61	38.66	1.46	0.143	1
Trust - Negative reviews	84.55	38.66	2.19	0.029	1
Trust - Helpfulness	44.06	38.66	1.14	0.254	1
Trust - Reviews and ratings	-31.54	38.66	-0.82	0.415	1
Trust - Strong positive reviews and ratings	128.31	38.66	3.32	0.001	0.033
Trust - Negative reviews	152.9	38.66	3.95	<.001	0.003
Trust - Save me time	-31.54	38.66	-0.82	0.415	1
Detailed reviews - Positive customer reviews	-17.88	38.66	-0.46	0.644	1
Detailed reviews - Negative reviews	10.06	38.66	0.26	0.795	1
Detailed reviews - Helpfulness	-30.42	38.66	-0.79	0.431	1
Detailed reviews - Reviews and ratings	-106.02	38.66	-2.74	0.006	0.22
Detailed reviews - Strong positive reviews and ratings	53.82	38.66	1.39	0.164	1
Detailed reviews - Negative reviews	78.42	38.66	2.03	0.043	1
Detailed reviews - Save me time	-106.02	38.66	-2.74	0.006	0.22
Positive customer reviews - Negative reviews	27.94	38.66	0.72	0.47	1
Positive customer reviews - Helpfulness	-12.55	38.66	-0.32	0.746	1
Positive customer reviews - Reviews and ratings	-88.15	38.66	-2.28	0.023	0.814
Positive customer reviews - Strong positive reviews and ratings	71.7	38.66	1.85	0.064	1
Positive customer reviews - Negative reviews	96.29	38.66	2.49	0.013	0.459
Positive customer reviews - Save me time	-88.15	38.66	-2.28	0.023	0.814
Negative reviews - Helpfulness	-40.48	38.66	-1.05	0.295	1
Negative reviews - Reviews and ratings	-116.08	38.66	-3	0.003	0.096
Negative reviews - Strong positive reviews and ratings	43.76	38.66	1.13	0.258	1
Negative reviews - Negative reviews	68.35	38.66	1.77	0.077	1
Negative reviews - Save me time	-116.08	38.66	-3	0.003	0.096
Helpfulness - Reviews and ratings	-75.6	38.66	-1.96	0.051	1
Helpfulness - Strong positive reviews and ratings	84.25	38.66	2.18	0.029	1
Helpfulness - Negative reviews	108.84	38.66	2.82	0.005	0.176
Helpfulness - Save me time	-75.6	38.66	-1.96	0.051	1
Reviews and ratings - Strong positive reviews and ratings	159.85	38.66	4.13	<.001	0.001
Reviews and ratings - Negative reviews	184.44	38.66	4.77	<.001	<.001
Reviews and ratings - Save me time	0	38.66	0	1	1
Strong positive reviews and ratings - Negative reviews	24.59	38.66	0.64	0.525	1
Strong positive reviews and ratings - Save me time	-159.85	38.66	-4.13	<.001	0.001
Negative reviews - Save me time	-184.44	38.66	-4.77	<.001	<.001
Adj. p: Values adjusted with Bonferroni correction.					

A chi-squared value of 45.9 with 8 degrees of freedom and a p-value < 0.001 show that review-related factors have different effects on buying decisions. Post hoc analysis with Dunn-Bonferroni tests further revealed that certain factors

significantly influenced purchasing behavior. For example, "trust in strong positive reviews and ratings" (adjusted p = 0.033) and "trust in negative reviews" (adjusted p = 0.003) were shown to have substantial effects. Other factors, such as "trust in detailed reviews" and "trust in helpfulness," did not reach significance after adjustment, suggesting a more nuanced influence of specific review aspects. Overall, the data strongly support the conclusion that online customer review significantly influence consumer purchasing decisions, affirming the alternative hypothesis (H1).

6.2.2 Hypothesis 2:

H02: The role of review ratings does not significantly influence consumer purchasing behavior.
H2: The role of review ratings does significantly influence consumer purchasing behavior.
Kruskal-Wallis-Test for hypothesis 2 review ratings influence consumer purchasing behavior.

Kruskal-Wallis-Test			
	Chi^2	df	p
Values	54.5	8	<.001
Dunn-Bonferroni-Tests			
	Test Statistic	Std. Error	Std. Test Statistic	p	Adj. p
Higher average star rating - Distribution of ratings	5.33	39.05	0.14	0.891	1
Higher average star rating - Consistent ratings	-56.74	39.05	-1.45	0.146	1
Higher average star rating - Extremely high ratings	17.36	39.05	0.44	0.657	1
Higher average star rating - Lower ratings	42.64	39.05	1.09	0.275	1
Higher average star rating - Reviews and ratings	-139.63	39.05	-3.58	<.001	0.013
Higher average star rating - Strong positive reviews and ratings	17.36	39.05	0.44	0.657	1
Higher average star rating - Negative reviews	42.64	39.05	1.09	0.275	1
Higher average star rating - Save me time	-139.63	39.05	-3.58	<.001	0.013
Distribution of ratings - Consistent ratings	-62.07	39.05	-1.59	0.112	1
Distribution of ratings - Extremely high ratings	12.03	39.05	0.31	0.758	1
Distribution of ratings - Lower ratings	37.32	39.05	0.96	0.339	1
Distribution of ratings - Reviews and ratings	-144.96	39.05	-3.71	<.001	0.007
Distribution of ratings - Strong positive reviews and ratings	12.03	39.05	0.31	0.758	1
Distribution of ratings - Negative reviews	37.32	39.05	0.96	0.339	1
Distribution of ratings - Save me time	-144.96	39.05	-3.71	<.001	0.007
Consistent ratings - Extremely high ratings	74.1	39.05	1.9	0.058	1
Consistent ratings - Lower ratings	99.38	39.05	2.55	0.011	0.393
Consistent ratings - Reviews and ratings	-82.89	39.05	-2.12	0.034	1
Consistent ratings - Strong positive reviews and ratings	74.1	39.05	1.9	0.058	1
Consistent ratings - Negative reviews	99.38	39.05	2.55	0.011	0.393
Consistent ratings - Save me time	-82.89	39.05	-2.12	0.034	1
Extremely high ratings - Lower ratings	25.28	39.05	0.65	0.517	1
Extremely high ratings - Reviews and ratings	-156.99	39.05	-4.02	<.001	0.002
Extremely high ratings - Strong positive reviews and ratings	0	39.05	0	1	1
Extremely high ratings - Negative reviews	25.28	39.05	0.65	0.517	1
Extremely high ratings - Save me time	-156.99	39.05	-4.02	<.001	0.002
Lower ratings - Reviews and ratings	-182.27	39.05	-4.67	<.001	<.001
Lower ratings - Strong positive reviews and ratings	-25.28	39.05	-0.65	0.517	1
Lower ratings - Negative reviews	0	39.05	0	1	1
Lower ratings - Save me time	-182.27	39.05	-4.67	<.001	<.001
Reviews and ratings - Strong positive reviews and ratings	156.99	39.05	4.02	<.001	0.002
Reviews and ratings - Negative reviews	182.27	39.05	4.67	<.001	<.001
Reviews and ratings - Save me time	0	39.05	0	1	1
Strong positive reviews and ratings - Negative reviews	25.28	39.05	0.65	0.517	1
Strong positive reviews and ratings - Save me time	-156.99	39.05	-4.02	<.001	0.002
Negative reviews - Save me time	-182.27	39.05	-4.67	<.001	<.001
Adj. p: Values adjusted with Bonferroni correction.					

The Hypothesis 2, a chi-squared value of 54.5 with 8 degrees of freedom and a p-value < 0.001 shows that rating-related factors have different effects on buying behavior. Post hoc Dunn-Bonferroni tests showed that there were significant differences between pairs, especially between "higher average star ratings" and "reviews and ratings" (adjusted p = 0.013) and "distribution of ratings" and "reviews and ratings" (adjusted p = 0.007). These results emphasize the critical role of higher average star ratings and rating distributions in consumer decision-making. However, not all comparisons, such as "higher average star ratings" versus "consistent ratings," were significant, indicating variability in the impact of

specific rating attributes. Overall, the data strongly support the conclusion that review ratings significantly influence consumer purchasing decisions, affirming the alternative hypothesis (H2).

7. MANAGERIAL IMPLICATIONS :

The managerial implications of the study emphasize the strategic importance of online reviews and ratings for businesses aiming to influence consumer purchasing behavior. The findings indicate that specific attributes, such as strong positive reviews, higher average star ratings, and trustworthiness in customer feedback, significantly impact purchasing decisions. Managers can leverage these insights by actively encouraging satisfied customers to leave positive reviews and maintaining high average ratings to build consumer trust. The research highlights the value of review transparency and consistency in ratings, suggesting that businesses should ensure authentic and balanced feedback. We can achieve this by steering clear of incentivized or biased reviews that could undermine our credibility. Managers should also focus on improving the helpfulness and quality of reviews by encouraging detailed feedback that addresses common consumer concerns. Overall, the study provides actionable guidance for businesses to optimize their online presence, enhance consumer trust, and ultimately drive higher conversion rates in competitive online marketplaces.

8. CONCLUSION:

The conclusion of the study emphasizes the significant impact of online customer reviews and ratings on consumers' purchasing decisions. The statistical tests, like the Kruskal-Wallis and Dunn-Bonferroni tests, showed that certain parts of reviews, like strong positive feedback, negative reviews, and average star ratings, have a big impact on how much people trust and plan to buy. The results highlight that consumers rely heavily on both the sentiment and the consistency of reviews and ratings when making purchasing decisions. This underscores the growing importance of online feedback in influencing consumer behavior in the digital marketplace. The study also demonstrates the nuanced nature of consumer responses to reviews, as not all factors, such as detailed reviews or helpfulness, had equally significant effects. This indicates that businesses need to prioritize certain elements of their review management strategies, such as addressing negative feedback and maintaining high average ratings, to maximize their influence on potential buyers. By focusing on the aspects of reviews and ratings that matter most to consumers, businesses can enhance customer trust and loyalty, ultimately leading to increased sales and market competitiveness. The conclusion reiterates the pivotal role of effective review management in today's e-commerce-driven environment.

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