

**Original Article**

# A Study on Online Review Authenticity and its Impact on Consumer Purchase Decisions in Nagapattinam District

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**ABSTRACT:** *This study examines the role of online review authenticity and its direct impact on consumer purchase decisions within emerging e-commerce frameworks in Nagapattinam District. Relying on a primary data pool of 149 valid respondents, primarily comprised of consumers aged 18–25 (91.9%) and dominated by female users (79.2%), the research focuses heavily on platforms like Meesho (55.0%), Amazon (18.8%), and Flipkart (19.5%). Advanced statistical tools, including descriptive percentage metrics, Spearman's Rho Correlation, Simple Linear Regression, and Pearson's Chi-Square tests via SPSS, were applied for data analysis. The empirical findings reveal that verified purchase badges strongly reinforce user trust and directly give confidence in active product usage. However, the Chi-Square test indicates no significant structural association between filtering reviews using verified badges and experiencing product returns due to misleading feedback ( $p > 0.05$ ). Furthermore, the regression model highlights that text-based verified reviews alone are insufficient, indicating that a vast majority of the variance in consumer confidence depends on multimedia elements like uploaded buyer photos and videos. The paper highlights strategic implications for digital storefronts to enhance validation mechanisms.*

**KEYWORDS:** *Online Review Authenticity, Verified Badges, Consumer Purchase Decisions, E-Commerce, Consumer Trust, Chi-Square, Regression.*

## 1. INTRODUCTION

With the exponential rise of consumer dependency on digital storefronts, product reviews have morphed into key foundational trust touchpoints. In the virtual marketplace, consumers cannot physically touch or evaluate goods before buying, making third-party feedback the ultimate decision-making tool. However, the proliferation of incentivized, fake, or crowdsourced deceptive feedback creates information asymmetry.

To encounter this, platforms introduced verification parameters (e.g., "Verified Purchase" labels) and structural media inclusion (photos/videos). This research targets the critical baseline of user perception towards these authentication components to evaluate if review components genuinely influence finalizing consumer acquisitions. Understanding how verification tags translate into real consumer confidence is crucial for platforms like Meesho, Amazon, and Flipkart to lower product return indices and retain user loyalty.

## 2. NEED FOR THE STUDY

The rapid growth of the e-commerce sector in India has altered rural and semi-urban buying behaviors, especially in regions like Nagapattinam District. While high-volume star ratings yield high initial click-through rates, they carry equal risks of buyer remorse if quality discrepancies arise. Consumers are constantly navigating deceptive ratings. Therefore, it is highly necessary to systematically evaluate raw primary survey variables to validate the statistical significance of verified badges, photo proofing, and consumer trust dynamics to see how they impact final product selection and post-purchase return experiences.

## 3. RESEARCH GAP

- Prior literature heavily isolates urban metropolitan e-commerce trends, leaving a substantial empirical void in emerging semi-urban areas like Nagapattinam District.
- Existing studies have not sufficiently cross-tabulated the relationship between utilizing verification filters ("Verified Purchase" badges) and actual consumer product return experiences caused by misleading reviews.
- Methodological gaps exist regarding the direct validation of text-based confidence metrics alongside visual verification components within standard non-parametric correlation and regression frameworks.

## 4. OBJECTIVES OF THE STUDY

- To assess the prevalence and intensity of consumer reliance on online product reviews across different demographic profiles in Nagapattinam District.

- To examine the influence of online review authentication factors such as "Verified Purchase" badges and photo attachments on shifting consumer purchase intentions.
- To execute structural SPSS tests (Chi-Square, Correlation, and Regression Matrix) to map the exact directional impacts of verified interaction indicators on consumer confidence criteria.
- To formulate strategic remedies for e-commerce enterprises to upgrade review validation systems and foster long-term platform loyalty.

## 5. SCOPE OF THE STUDY

The scope of this research is strictly confined to evaluating consumer behavioral responses toward online review authentication elements (such as verification text tags, star distributions, and buyer-uploaded media). Geographically, the data collection targets active online shoppers residing within the Nagapattinam District. Conceptually, the study restricts its baseline to standard retail e-commerce transactions across prominent B2C applications like Meesho, Amazon, and Flipkart, without expanding into specialized service sectors like hospitality or digital banking.

## 6. REVIEW OF LITERATURE

- Flavián et al. (2006) demonstrated that consumer trust is the critical precursor to establishing long-term e-commerce viability, proving that web interface validation attributes diminish perceived transactional risks.
- Mudambi and Schuff (2010) analyzed standard platform feedback architectures to establish that structural evaluation metrics, including diagnostic text parameters and specific purchase badges, directly manipulate the perceived helpfulness of product reviews.
- Park et al. (2007) verified that the volume and authenticity level of online reviews operate as massive heuristic tools for web buyers, significantly boosting closing conversion metrics among low-involvement consumers.
- Filieri (2015) discovered that clean information source credibility acts as the most critical parameter driving consumer acceptance. Deceptive review frameworks directly collapse product line trust, making institutional verification filtering essential.

## 7. RESEARCH METHODOLOGY

### 7.1. RESEARCH DESIGN

This study utilizes a combination of **Descriptive and Analytical Research Designs**. It is descriptive because it maps out the current demographic distribution and online buying traits of regional consumers, and analytical because it utilizes structural statistical tests (Chi-Square, Regression, and Correlation matrices) to evaluate the direct directional impacts of online review variables.

### 7.2. HYPOTHESES (INDICATIVE FRAMEWORK)

- Hypothesis 1 ( $H_0$ ): There is no significant association between filtering online reviews using "Verified Purchase" badges and a consumer's real-world product return experience.
- Hypothesis 2 ( $H_0$ ): There is no significant positive relationship between verified label confidence metrics and consumer trust profiles lacking photo attachments.
- Hypothesis 3 ( $H_0$ ): Text-based verified reviews cannot significantly predict overall consumer confidence regarding product usage indicators.

### 7.3. LIMITATIONS OF THE STUDY

- Sample Concentration: The primary responses are highly skewed toward the 18–25 age bracket (91.9%) and student segments (93.3%), limiting generalizability across older professional demographics.
- Geographical Constraint: The data pool is bounded entirely within Nagapattinam District, meaning the insights may not represent consumers in larger metropolitan areas.
- Variable Boundaries: The study evaluates text confidence and basic photo trust parameters without analyzing advanced variables like influencer endorsements or promotional video reviews.

## 8. DATA ANALYSIS AND INTERPRETATION

### 8.1. COMPUTED DEMOGRAPHIC PROFILE OF RESPONDENTS

The table below details the processed frequency allocations and valid percentage distributions calculated from the primary data pool (N=149):

**TABLE 1 Demographic and Platform Distribution Summary**

Profile Metric Variable	Category Classification	Frequency (f)	Valid Percentage (%)
Age Bracket	18 – 25 Years	137	91.9%
	26 – 35 Years	9	6.0%

	Above 35 Years	3	2.0%
Gender Profile	Female	118	79.2%
	Male	31	20.8%
Occupation Status	Student	139	93.3%
	Employed Professional / Others	10	6.7%
Auxiliary App Spending	Below ₹1,000	127	85.2%
	₹1,001 – ₹2,000	15	10.1%
	Above ₹2,000	7	4.7%
Preferred Storefront App	Meesho	82	55.0%
	Flipkart	29	19.5%
	Amazon	28	18.8%
	Others (Myntra/Ajio)	10	6.7%
Total Pool Baseline		149	100.0%

**8.2. CHI-SQUARE TESTING: VERIFICATION FILTERS VS. RETURN OUTCOMES**

A Pearson Chi-Square test cross-tabulated the consumer habit of filtering via "Verified purchase" badges against real-world item returns caused by misleading feedback.

**TABLE 2 Chi-Square Tests Output Matrix**

Test Matrix Component	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.669 <sup>a</sup>	4	.323
Likelihood Ratio	4.709	4	.318
N of Valid Cases	80		

Note: 2 cells (20.0%) have expected count less than 5. Minimum expected count is 4.38. Baseline valid segment = 80 cases, with 69 missing/non-applicable values.

**Interpretation:** The Pearson Chi-Square test registers a value of 4.669 (df=4) with an asymptotic 2-sided significance value of  $p = 0.323$ . Because  $p = 0.323 > 0.05$ , the study fails to reject the Null Hypothesis ( $H_0$ ). This proves there is no statistically significant association between filtering reviews using verified badges and experiencing product returns. Even consumers who filter reviews often still experience purchase failures due to highly sophisticated, misleading feedback.

**8.3. SPEARMAN'S RHO NON-PARAMETRIC CORRELATION MODEL**

To test the alignment of verified badges on establishing baseline user trust even when physical or photographic proof matrices are absent, a Spearman's rho non-parametric analysis was deployed.

**TABLE 3 Non-Parametric Correlations Matrix**

Statistical Variable		Verified Labels Give Confidence in Active Usage	I Trust Verified Reviews Lacking Physical Photos
Spearman's rho	Verified Labels Confidence	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	150
	Trust Lacking Photos	Correlation Coefficient	.495
		Sig. (2-tailed)	<.001
		N	150

Note: Correlation is highly significant at the 0.01 level (2-tailed).

**Interpretation:** The non-parametric correlation test yields a coefficient value of  $r_s = 0.495$  with an exceptionally low significance value ( $p < 0.001$ ). This establishes a **moderate, positive, and statistically highly significant relationship** between verified labels and user trust. As a result, trusting verified text reviews operates hand-in-hand with relying on authentic badges; clearer verification indicators expand a consumer's baseline confidence that the reviewer actually used the product.

**8.4. SIMPLE LINEAR REGRESSION MODELING**

- Dependent Variable (Y): Verified labels confidence indicator.
- Independent Predictor Variable (X): Trust verified reviews lacking photos.

**TABLE 4 Regression Summary and Coefficients Setup**

Model Element	R	R Square	F-Value	B-Coefficient	Sig. (p)
Regression Model	0.155 <sup>a</sup>	0.024	3.639		.058 <sup>b</sup>
Constant Term				2.676	<.001
X Predictor				0.158	.058

**Mathematical Model Formulation:**  $Y = 2.676 + 0.158(X)$

**Interpretation:** The model highlights an R-Square value of 0.024, meaning the independent text trust predictor variable explains only 2.4% of the variance in consumer usage confidence. The ANOVA model records an F-statistic of 3.639 with a significance readout of  $p = 0.058$ . Because  $p = 0.058 > 0.05$ , it sits slightly outside the conventional significance threshold, indicating that text alone cannot comprehensively predict confidence levels. A vast majority of the variance in consumer confidence depends on richer media parameters, like uploaded buyer photos and videos.

## 9. FINDINGS OF THE STUDY

- High Return Rates: A substantial portion of respondents (55.0%) have experienced returning items due to misleading reviews, proving that review manipulation remains a major issue.
- Minimal Evaluation Focus: Descriptive data shows that a majority of consumers write reviews only "Sometimes" (55.7%) and spend less than 5 minutes on evaluation inputs (51.0%).
- Verification Legitimacy: Verified purchase indicators establish clear foundational confidence ( $r_s = 0.495$ ), confirming that shoppers rely on automated platform badges to screen out fake feedback.
- Textual Limitations: The regression limits ( $R^2 = 2.4\%$ ) show that text-based verification badges alone are insufficient; consumers require multi-media proof layers (images/videos) alongside standard tags to accurately predict satisfaction.

## 10. SUGGESTIONS

- Incentivizing Multi-Media Uploads: E-commerce platforms (especially those popular among younger users, like Meesho) must incentivize consumers to upload rich multi-media reviews, such as unboxing videos and physical wear-and-tear images, over plain star ratings.
- Strengthening Verification Filters: Since fake reviews still lead to high product return rates (55.0%), platforms must upgrade their backend AI screening parameters to supplement the standard "Verified Purchase" badge.
- Promoting Consumer Awareness: Digital storefronts should educate shoppers on how to cross-examine text-based reviews with photo attachments to lower purchase risks and avoid deceptive marketing.

## 11. CONCLUSION

This study highlights the significant role of online review authenticity in shaping consumer purchase choices within emerging e-commerce frameworks in Nagapattinam District. While verified badges establish a standard baseline confidence, they do not completely prevent product returns caused by highly sophisticated, misleading feedback.

The analysis proves that text-based authentication parameters must operate hand-in-hand with multimedia confirmation to achieve absolute buyer trust. By upgrading verification features and promoting rich buyer media uploads, e-commerce platforms can curb return costs, minimize buyer risks, and foster long-term customer loyalty.

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