The mediating role of customer satisfaction in the influence of brand image on brand loyalty in e-commerce: a study of consumers in Chennai

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Abstract—In the rapidly evolving domain of e-commerce, the significance of brand loyalty is recognized as a crucial element for maintaining a competitive edge. The influence of Brand Image and Customer Satisfaction on Brand Loyalty among e-commerce consumers in Chennai is examined in this study. A sample comprising 103 participants was utilized, and a structured questionnaire was employed to collect primary data regarding perceptions of brand image, levels of satisfaction, and intentions related to loyalty. Structural Equation Modeling (SEM) was applied through SPSS AMOS to validate the interrelationships among these latent variables. The hypotheses tested include the positive effects of Brand Image on Customer Satisfaction, the impact of Customer Satisfaction on Brand Loyalty, and the direct influence of Brand Image on Brand Loyalty. The findings of this research are anticipated to provide empirical evidence concerning the role of customer perceptions in promoting loyalty within the e-commerce setting. These insights are expected to guide marketers and e-commerce businesses in Chennai in the development of effective branding and customer satisfaction strategies aimed at enhancing long-term customer loyalty.

Index Terms—Brand Image, Customer Satisfaction, Brand Loyalty, Mediation, E-Commerce, Consumer Behavior, Chennai, SEM, Composite Reliability, Model Fit

I.   Introduction

In the current digital landscape, the shopping practices of consumers have been transformed by e-commerce, which offers convenience, variety, and accessibility. As the number of online shopping platforms has increased, consumer expectations have also escalated, necessitating that e-commerce businesses concentrate not only on attracting customers but also on retaining them through the cultivation of strong brand loyalty. Brand loyalty is recognized as a vital asset for online retailers, as it ensures repeat purchases, minimizes marketing expenses, and strengthens competitive advantages. Brand image and customer satisfaction are identified as critical determinants that significantly influence brand loyalty in the realm of e-commerce. Brand image is defined as the perceptions and associations that consumers hold regarding a brand, which subsequently shape their attitudes and purchasing behaviors. Customer satisfaction is characterized by the extent to which consumer expectations are met or surpassed through product quality, service, and the overall shopping experience. However, in the highly competitive e-commerce market, particularly in metropolitan regions such as Chennai, an understanding of how brand image and customer satisfaction impact brand loyalty is deemed essential for marketers aiming to devise effective strategies. This study is intended to empirically investigate these relationships among online consumers based in Chennai, utilizing Structural Equation Modeling (SEM) with data sourced from 103 participants. The results of this research will yield valuable insights for e-commerce businesses, enabling them to enhance customer retention and cultivate sustainable brand equity through improved satisfaction and brand perception.

II.   Literature Review

Brand image is defined as the collection of associations and perceptions that are held by consumers regarding a brand, which are influenced by their experiences, beliefs, and expectations (Keller, 2013). In the context of e-commerce, brand image is recognized as a vital differentiator, since consumers are unable to physically assess the product and thus depend on intangible indicators such as reputation, credibility, and consistency (Chinomona, 2016). Brand loyalty is characterized as the commitment exhibited by consumers to consistently repurchase a favored brand in the future, irrespective of situational factors or the actions of competitors (Chaudhuri & Holbrook, 2001). In the e-commerce sector, loyalty is perceived as particularly tenuous due to the availability of numerous alternatives, the ease of comparison, and heightened price sensitivity (Reichheld & Schefter, 2000). Customer satisfaction is described as the assessment made by a consumer regarding whether a product or service meets or surpasses their expectations (Oliver, 1999).

III.   Research Gap

Although several studies have been conducted to examine the relationships among brand image, customer satisfaction, and brand loyalty, it has been observed that most prior research has been concentrated on traditional retail environments or global e-commerce giants. Limited literature has been identified that specifically explores the following areas:

● The interactions of these variables within the Indian e-commerce context, particularly in Tier-1 metropolitan markets such as Chennai.

● The combined direct and indirect (mediating) effects among the three constructs, utilizing advanced modeling techniques such as Structural Equation Modeling (SEM).

● Consumer behavior within localized Indian e-commerce contexts, where purchasing decisions are influenced by regional culture, digital literacy, and platform trust.

IV.   Scope of this Study

1. The focus of the study is directed towards e-commerce consumers in Chennai, thereby limiting its geographical scope to a singular metropolitan city.
2. Three major constructs are examined: Brand Image, Customer Satisfaction, and Brand Loyalty within the context of online shopping.
3. Structural Equation Modeling (SEM) is employed to validate the measurement model and to test causal relationships.
4. Participants are constituted by consumers aged 18 and above who have engaged in purchases from e-commerce platforms such as Amazon, Flipkart, Myntra, and others.
5. The findings are anticipated to be applicable primarily to online retailing environments, particularly those that target urban Indian consumers.

V.   Research Objectives

1. The effect of Brand Image on Customer Satisfaction among e-commerce consumers in Chennai is to be examined.

2. The impact of Customer Satisfaction on Brand Loyalty in the e-commerce sector in Chennai is to be investigated.

3. The direct influence of Brand Image on Brand Loyalty in the context of online shopping in Chennai is to be analyzed.

4. The structural relationships among Brand Image, Customer Satisfaction, and Brand Loyalty are to be validated using Structural Equation Modeling (SEM).

VI. Research Hypotheses

- **H1:** Brand Image positively influences Customer Satisfaction in e-commerce.

- **H2:** Customer Satisfaction positively affects Brand Loyalty in e-commerce.

- **H3:** Brand Image has a direct positive effect on Brand Loyalty in e-commerce.

VII. Research Methodology

A quantitative, cross-sectional survey design was employed in this study to analyze the relationships among Brand Image, Customer Satisfaction, and Brand Loyalty among 103 e-commerce consumers in Chennai. Data were collected through a structured Likert-scale questionnaire and were subsequently analyzed utilizing reliability testing, confirmatory factor analysis (CFA), and structural equation modeling (SEM) within the AMOS software. Convenience sampling was adopted, and strong internal consistency was demonstrated across all constructs. The results of the SEM confirmed an excellent model fit and validated all hypothesized relationships, including mediation effects. Ethical considerations, such as voluntary participation and anonymity, were rigorously upheld throughout the research process.

Reliability Statistics : (Table 1)

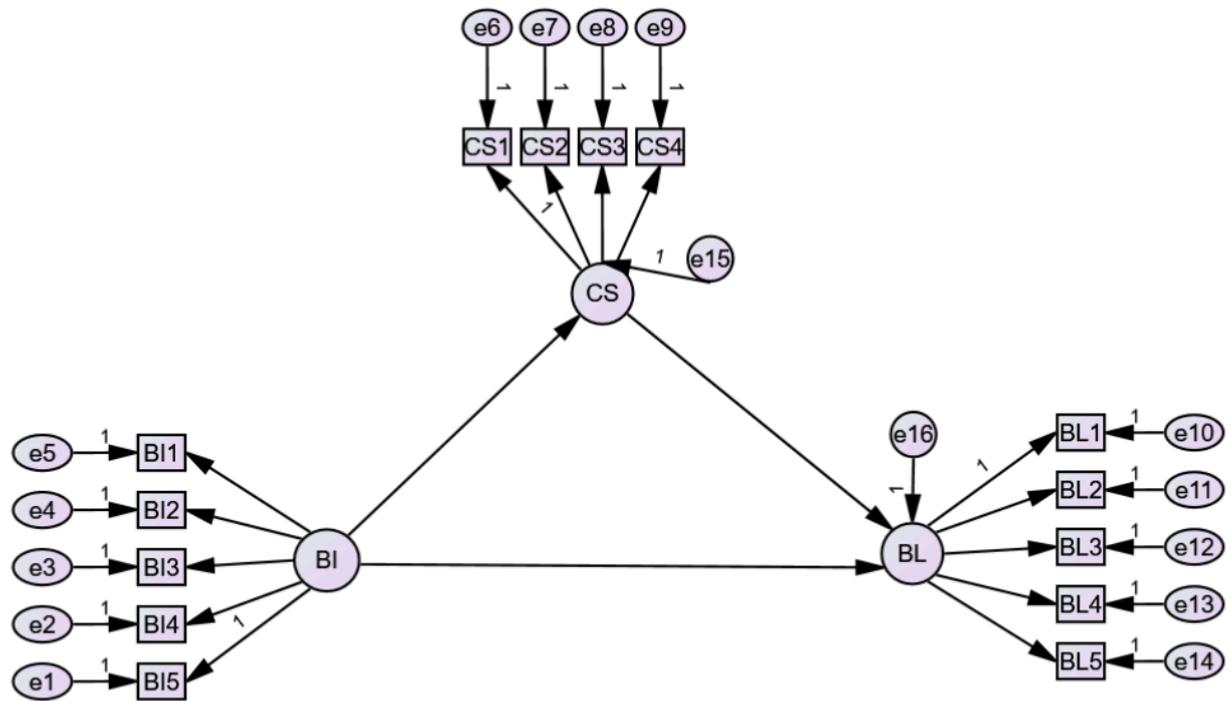| Construct	Cronbach's Alpha	Composite Reliablity	AVE
Brand Image	0.89	0.93	0.72
Customer Satisfaction	0.83	0.91	0.71
Brand Loyalty	0.89	0.89	0.63

Figure 1. SEM Path Diagram

Regression Summary Table : (Table 2)

Path	Standardized β	Unstandardized Estimate	S.E.	C.R.	p-value	Result
Brand Image → Customer Satisfaction (H1)	0.596	0.499	0.100	4.969	(<0.001)	Supported
Customer Satisfaction → Brand Loyalty (H2)	0.486	0.754	0.185	4.076	(<0.001)	Supported
Brand Image → Brand Loyalty (H3)	0.422	0.548	0.141	3.899	(<0.001)	Supported

Mediation Summary Table :(Table 3)

Mediation Path	Indirect Effect	Bootstrapped 90% CI	p-value	Mediation Type
Brand Image → Customer Satisfaction → Brand Loyalty	0.290 (standardized)	Lower: 0.233 — Upper: 0.505	0.010	Partial Mediation

Interpretation

Customer Satisfaction significantly **partially mediates** the relationship between Brand Image and Brand Loyalty, as both direct and indirect paths are significant.

VIII. Results & Findings

The results obtained from the Structural Equation Modeling (SEM) indicated that Customer Satisfaction is significantly enhanced by Brand Image ($\beta = 0.596$, $p < 0.001$) and that Brand Loyalty is directly increased by Brand Image ($\beta = 0.422$, $p < 0.001$). Additionally, it was found that Brand Loyalty is significantly influenced by Customer Satisfaction ($\beta = 0.486$, $p < 0.001$). The relationship between Brand Image and Brand Loyalty was partially mediated by Customer Satisfaction, as confirmed by bootstrapping analysis. An excellent structural model was confirmed by all model fit indices (CFI = 1.000, RMSEA = 0.000). Overall, it was strongly supported that all three hypotheses proposed in the study were validated.

IX. Limitations

- The study is limited to Chennai, which may not accurately represent consumer behavior across different regions of India.

- The sample size of 103 respondents restricts the generalizability of the findings compared to larger, more diverse samples.

- The use of a cross-sectional, self-reported survey introduces potential bias and does not allow observation of long-term behavioural changes.

- The study examines only three variables and does not account for other important factors or differences across individual e-commerce platforms.

X. Conclusion

It is concluded by this study that Brand Image is recognized as a crucial factor in shaping both Customer Satisfaction and Brand Loyalty among e-commerce consumers in Chennai. It has been established that a strong brand image not only enhances satisfaction but also directly fortifies loyalty. Furthermore, it is indicated that Customer Satisfaction contributes significantly to loyalty, thereby confirming its central role in online consumer behavior. The partial mediation effect is noted, suggesting that loyalty is constructed through both emotional perception (brand image) and experiential confirmation (satisfaction). The robustness of the relationships among the three constructs is affirmed by the validated SEM model. These findings underscore the importance of consistent branding and service delivery for e-commerce platforms. Overall, it is reinforced by the study that the establishment of a positive brand image and the assurance of customer satisfaction are essential strategies for cultivating long-term loyalty.

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