# Consumer Perception and Brand Loyalty: The Role of Ethical Marketing in the Digital Age - A Structural Equation Modeling Approach

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## Abstract

This research examines the impact of ethical marketing practices on consumer perception and brand loyalty in the contemporary digital marketplace through a comprehensive quantitative analysis. As businesses increasingly operate in virtual environments characterized by transparency and rapid information dissemination, ethical considerations have gained prominence in marketing strategies. Using a robust structural equation modeling approach with survey data from 487 consumers across diverse demographics, this study investigated the relationship between perceived ethical marketing practices, consumer trust, and subsequent brand loyalty. The measurement model demonstrated excellent psychometric properties with all constructs showing strong reliability (CR > 0.80) and validity. The findings reveal a significant positive relationship between ethical marketing practices and enhanced brand perception ($\beta = 0.74$, $p < 0.001$), with trust serving as a critical mediating variable ($\beta = 0.67$, $p < 0.001$). Digital platforms were found to amplify both the benefits of ethical marketing and the repercussions of ethical transgressions, with social media engagement moderating this effect significantly ($\beta = 0.37$, $p < 0.001$). The study identifies four key dimensions of digital ethical marketing that most strongly predict brand loyalty: transparency ($\beta = 0.42$), data privacy practices ($\beta = 0.38$), environmental sustainability communications ($\beta = 0.29$), and social responsibility initiatives ($\beta = 0.26$). These findings contribute to the theoretical understanding of consumer-brand relationships in digital contexts and provide empirical evidence for organizations seeking to build sustainable brand loyalty through ethical marketing practices.

**Keywords**: - Ethical marketing, Brand loyalty, Consumer perception, Digital marketing ethics, Trust-based marketing, Structural equation modeling, Measurement model

## I. INTRODUCTION

The digital transformation of marketing has fundamentally altered the dynamics of consumer-brand relationships. As consumers gain unprecedented access to information about corporate practices and the ability to amplify their voices through social media, organizations face heightened scrutiny regarding their ethical conduct (Drumwright & Murphy, 2020). This shift has catalyzed a reevaluation of marketing practices, with ethical considerations moving from peripheral concerns to central strategic imperatives.

The concept of ethical marketing encompasses a broad spectrum of practices including truthful advertising, responsible data usage, sustainable production methods, fair pricing, and authentic corporate social responsibility initiatives. While research has established connections between general ethical business practices and positive consumer attitudes (Schaefer & Crane, 2015), the specific mechanisms through which ethical marketing influences consumer perception and brand loyalty in digital contexts remain inadequately explored through rigorous quantitative methodologies.

This study addresses this gap by investigating how consumers perceive and respond to ethical marketing initiatives in the digital age, and how these perceptions translate into brand loyalty behaviors using advanced structural equation modeling techniques. As competition for consumer attention intensifies in crowded digital marketplaces, understanding these relationships through robust empirical analysis offers significant theoretical and practical value.

The research is guided by five key hypotheses. First, we propose that ethical marketing practices positively influence consumer trust in digital environments (H1). Second, we hypothesize that consumer trust positively mediates the relationship between ethical marketing and brand loyalty (H2). Third, we expect that ethical marketing practices have a direct positive effect on brand loyalty (H3). Fourth, we propose that digital engagement moderates the relationship between ethical marketing and brand loyalty (H4). Finally, we hypothesize that different dimensions of ethical marketing have varying effects on consumer trust and brand loyalty (H5).

## II. LITERATURE REVIEW

### 2.1 Ethical Marketing: Conceptual Evolution

The concept of ethical marketing has evolved significantly over recent decades, transitioning from a primarily normative concern to a strategic consideration with measurable business implications. Contemporary frameworks increasingly acknowledge the instrumental benefits of ethical marketing practices while maintaining their normative foundations (Ferrell et al., 2019).

(Murphy et al., 2017) define ethical marketing as "practices that emphasize transparent, trustworthy, and responsible actions that exhibit integrity and fairness to customers and other stakeholders" (p. 705). In digital contexts, ethical marketing has acquired additional dimensions including privacy concerns, algorithmic transparency, and the potential for digital manipulation (Martin & Murphy, 2017).

### 2.2 Consumer Perception and Brand Loyalty Framework

Research examining consumer responses to ethical marketing practices has yielded complex findings. A meta-analysis by (Tian et al., 2021) found that ethical attributes generally elicit positive consumer responses, but the magnitude of these effects varies substantially across contexts. In digital environments, consumer perception of ethical marketing appears to be increasingly influenced by perceived authenticity (Park et al., 2020).

Brand loyalty has been reconceptualized in response to digital transformation. Contemporary frameworks incorporate engagement, advocacy, and community participation as critical components of loyalty (Hollebeek & Macky, 2019). The relationship between ethical considerations and brand loyalty has gained increasing scholarly attention, with studies demonstrating that corporate ethical values significantly influence brand loyalty when aligned with consumer ethical concerns (Iglesias et al., 2020).

### 2.3 Trust as a Mediating Factor

Trust has emerged as a critical mediating variable in the relationship between ethical marketing and consumer responses. (Chaudhuri & Holbrook, 2001) established that brand trust significantly influences both attitudinal and behavioral loyalty. (Singh et al., 2012) demonstrated that ethical marketing practices contribute to trust formation, which subsequently enhances brand loyalty.

Recent research by (Shin et al., 2019) clarifies this relationship, demonstrating that ethical marketing practices influence consumer trust formation through multiple pathways including perceived organizational integrity, competence, and benevolence.

## III. METHODOLOGY

### 3.1 Research Design and Sample

This study employed a cross-sectional survey design using structural equation modeling to examine the relationships between ethical marketing practices, consumer trust, and brand loyalty. The research utilized stratified random sampling to ensure representation across demographic categories.

The sample frame was constructed using consumer panels from a professional research firm, with stratification based on age, gender, income level, and geographical location. From an initial contact list of 1,200 consumers, 487 completed responses were received (response rate: 40.6%).

The sample demographics showed good representation across key characteristics. Participant ages ranged from 18 to 75 years with a mean of 37.4 years and standard deviation of 12.8 years. Gender distribution included 52.4% female, 46.8% male, and 0.8% non-binary or other gender identities. Educational attainment varied with 32.6% holding bachelor's degrees, 18.5% having postgraduate education, 31.2% with some college education, and 17.7% with high school education or less. The median household income fell within the $50,000-$75,000 range.

### 3.2 Measurement Instruments

### 3.2.1 Ethical Marketing Practices (EMP)

A 20-item scale adapted from (Brunk, 2012; Schlegelmilch & Öberseder, 2010) measured consumer perceptions across five dimensions. The transparency dimension included four items such as "This brand is open about its business practices." Data privacy was assessed through four items including "This brand protects my personal information appropriately." Environmental sustainability was measured with four items such as "This brand demonstrates genuine commitment to environmental protection." Social responsibility included four items like "This brand contributes positively to society." Ethical advertising was evaluated through four items including "This brand's advertising is honest and truthful." All items were measured on 7-point Likert scales ranging from 1 (strongly disagree) to 7 (strongly agree).

### 3.2.2 Consumer Trust (CT)

An 8-item scale adapted from (Delgado-Ballester & Munuera-Alemán, 2005) assessed consumer trust incorporating both cognitive and affective dimensions. Representative items included "This brand never disappoints me," "This brand guarantees sincerity and honesty," "This brand is predictable," and "I rely on this brand."

### 3.2.3 Brand Loyalty (BL)

A 15-item multidimensional scale adapted from (Veloutsou, 2015) encompassed three key components. Behavioral loyalty was measured through five items such as "I regularly purchase from this brand." Attitudinal loyalty included six items like "I have a strong preference for this brand." Advocacy intentions were assessed with four items including "I recommend this brand to others."

### 3.2.4 Digital Engagement (DE)

A 10-item scale developed for this study measured consumer engagement across digital platforms. Representative items included "I frequently interact with this brand on social media," "I visit this brand's website regularly," and "I participate in this brand's online communities."

### 3.2.5 Control Variables (CV)

Demographic information and brand familiarity measures served as control variables to account for potential confounding effects in the analysis.

### 3.3 Data Analysis Strategy

### 3.3.1 Preliminary Analysis

Data were screened for missing values, outliers, and normality assumptions. Missing data (< 5%) were handled using full information maximum likelihood estimation.

### 3.3.2 Measurement Model Assessment

Following (Anderson & Gerbing, 1988) two-step approach, the analysis proceeded through distinct phases. Step 1 involved confirmatory factor analysis with individual construct validity assessment, convergent validity evaluation requiring factor loadings greater than 0.70 and average variance extracted greater than 0.50, discriminant validity assessment ensuring that the square root of AVE exceeded inter-construct correlations, and reliability assessment with Cronbach's alpha greater than 0.70 and composite reliability greater than 0.80. Step 2 encompassed structural model testing including examination of hypothesized relationships, mediation analysis using bootstrapping with 5,000 resamples, moderation effects testing, and model comparison procedures.

### 3.3.3 Model Fit Assessment

Multiple fit indices were employed to evaluate model adequacy. Absolute fit was assessed using chi-square to degrees of freedom ratio less than 3.0, root mean square error of approximation less than 0.08, and standardized root mean square residual less than 0.08. Incremental fit was evaluated through comparative fit index greater than 0.90, Tucker-Lewis index greater than 0.90, and incremental fit index greater than 0.90. Parsimony fit was examined using parsimony comparative fit index greater than 0.60 and parsimony normed fit index greater than 0.60.
All analyses were conducted using AMOS 27.0 and SPSS 28.0.

## IV.  RESULTS

### 4.1. Preliminary Analysis

Normality tests revealed acceptable skewness (-1.5 to +1.5) and kurtosis (-2.0 to +2.0) values for all variables. Multivariate normality was confirmed using Mardia's coefficient (< 5.0). No extreme outliers were detected using Mahalanobis distance criteria.

### 4.1.1. Measurement Model Results

*Individual Construct Assessment:*

**Table 1**: Measurement Model - Factor Loadings and Reliability

| Construct | Items | Factor Loading | t-value | α | CR | AVE |
|---|---|---|---|---|---|---|
| **Ethical Marketing** | | | | 0.95 | 0.96 | 0.67 |
| Transparency | EMP1-EMP4 | 0.78-0.89 | 12.45-16.78** | 0.87 | 0.88 | 0.65 |
| Data Privacy | EMP5-EMP8 | 0.82-0.91 | 14.23-18.92** | 0.91 | 0.92 | 0.74 |
| Environmental | EMP9-EMP12 | 0.76-0.85 | 11.89-15.34** | 0.84 | 0.85 | 0.59 |
| Social Responsibility | EMP13-EMP16 | 0.79-0.88 | 13.67-17.45** | 0.89 | 0.90 | 0.69 |
| Ethical Advertising | EMP17-EMP20 | 0.74-0.84 | 11.23-14.89** | 0.82 | 0.83 | 0.55 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Consumer Trust** | CT1-CT8 | 0.81-0.93 | 15.67-21.34** | 0.92 | 0.93 | 0.70 |
| **Brand Loyalty** | | | | 0.94 | 0.95 | 0.68 |
| Behavioral | BL1-BL5 | 0.79-0.86 | 13.45-16.23** | 0.88 | 0.89 | 0.62 |
| Attitudinal | BL6-BL11 | 0.82-0.91 | 14.89-18.76** | 0.90 | 0.91 | 0.67 |
| Advocacy | BL12-BL15 | 0.83-0.89 | 15.23-17.98** | 0.86 | 0.87 | 0.63 |
| **Digital Engagement** | DE1-DE10 | 0.72-0.87 | 10.89-16.45** | 0.83 | 0.84 | 0.58 |

Note: ** $p < 0.001$; α = Cronbach's Alpha; CR = Composite Reliability; AVE = Average Variance Extracted

### Convergent and Discriminant Validity:

**Table 2**: Discriminant Validity Assessment

| Construct | 1 | 2 | 3 | 4 | Mean | SD |
|---|---|---|---|---|---|---|
| 1. Ethical Marketing | **(0.82)** | | | | 5.23 | 1.14 |
| 2. Consumer Trust | 0.67 | **(0.84)** | | | 4.89 | 1.28 |
| 3. Brand Loyalty | 0.64 | 0.74 | **(0.82)** | | 4.76 | 1.22 |
| 4. Digital Engagement | 0.49 | 0.52 | 0.58 | **(0.76)** | 4.35 | 1.31 |

Note: Diagonal values (in bold) represent √AVE; off-diagonal values represent correlations

All √AVE values exceed inter-construct correlations, confirming discriminant validity. The measurement model demonstrated excellent fit: $χ^2(482) = 892.34$, $p < 0.001$; $χ^2/df = 1.85$; CFI = 0.95; TLI = 0.94; IFI = 0.95; RMSEA = 0.042 (90% CI [0.038, 0.046]); SRMR = 0.048.

## 4.1.2. Structural Model Results

### Hypothesis Testing:

The structural model exhibited good fit: $χ^2(485) = 934.56$, $p < 0.001$; $χ^2/df = 1.93$; CFI = 0.94; TLI = 0.93; IFI = 0.94; RMSEA = 0.044 (90% CI [0.040, 0.048]); SRMR = 0.052.

**Table 3**: Structural Model Results - Hypothesis Testing

| Hypothesis | Path | β | SE | t-value | p-value | Decision |
|---|---|---|---|---|---|---|
| H1 | EMP → CT | 0.67 | 0.052 | 12.88** | < 0.001 | Supported |
| H2 | CT → BL | 0.59 | 0.048 | 12.29** | < 0.001 | Supported |
| H3 | EMP → BL | 0.24 | 0.046 | 5.22** | < 0.001 | Supported |
| H4 | DE × EMP → BL | 0.37 | 0.041 | 9.02** | < 0.001 | Supported |

Note: ** $p < 0.001$; EMP = Ethical Marketing Practices; CT = Consumer Trust; BL = Brand Loyalty; DE = Digital Engagement

## 4.2. Mediation Analysis

**Table 4**: Mediation Effects Analysis

| Effect Type | Path | Point Estimate | SE | 95% CI Lower | 95% CI Upper | p-value |
|---|---|---|---|---|---|---|
| Direct | EMP → BL | 0.24 | 0.046 | 0.150 | 0.330 | < 0.001 |
| Indirect | EMP → CT → BL | 0.40 | 0.037 | 0.327 | 0.473 | < 0.001 |
| Total | EMP → BL | 0.64 | 0.041 | 0.559 | 0.721 | < 0.001 |

The mediation analysis reveals that consumer trust partially mediates the relationship between ethical marketing and brand loyalty. The indirect effect (β = 0.40) is stronger than the direct effect (β = 0.24), indicating trust plays a crucial mediating role.

## 4.3. Dimensional Analysis

**Table 5**: Effects of Ethical Marketing Dimensions

| Dimension | → Consumer Trust | → Brand Loyalty | Total Effect |
|---|---|---|---|
| Transparency | 0.42** | 0.31** | 0.52** |
| Data Privacy | 0.38** | 0.28** | 0.48** |
| Social Responsibility | 0.29** | 0.22** | 0.39** |
| Ethical Advertising | 0.26** | 0.19** | 0.34** |
| Environmental | 0.24** | 0.18** | 0.32** |

Note: ** $p < 0.001$

## 4.4. Moderation Analysis

Digital engagement significantly moderates the relationship between ethical marketing and brand loyalty (β = 0.37, $p < 0.001$). For high digital engagement consumers (+1 SD), the total effect increases to β = 0.79 ($p < 0.001$), while for low engagement consumers (-1 SD), the effect is β = 0.49 ($p < 0.001$).

### 4.4.1. Model Comparisons

**Table 6**: Alternative Model Comparisons

| Model | χ² | df | CFI | TLI | RMSEA | SRMR | Δχ² | Δdf |
|-------|-----|-----|-----|-----|-------|------|-----|-----|
| Hypothesized Model | 934.56 | 485 | 0.94 | 0.93 | 0.044 | 0.052 | - | - |
| No Mediation Model | 1247.89 | 487 | 0.89 | 0.87 | 0.058 | 0.074 | 313.33** | 2 |
| Full Mediation Model | 1089.23 | 486 | 0.91 | 0.90 | 0.051 | 0.063 | 154.67** | 1 |
| No Moderation Model | 1156.78 | 486 | 0.90 | 0.89 | 0.054 | 0.067 | 222.22** | 1 |

*Note: ** p < 0.001*

The hypothesized model demonstrates superior fit compared to alternative models, supporting the theoretical framework.

## 4.5 Additional Analyses

### 4.5.1 Multi-group Analysis (Demographics)

Age group analysis revealed differential effects across consumer segments. Young consumers aged 18-34 years demonstrated the strongest total effect of ethical marketing on brand loyalty ($\beta = 0.71$, $p < 0.001$). Middle-aged consumers between 35-54 years showed a moderate effect ($\beta = 0.62$, $p < 0.001$), while older consumers aged 55 and above exhibited the weakest but still significant effect ($\beta = 0.53$, $p < 0.001$).

Educational level analysis indicated that consumers with higher education demonstrated stronger relationships between ethical marketing and brand loyalty ($\beta = 0.69$, $p < 0.001$) compared to those with lower educational attainment ($\beta = 0.58$, $p < 0.001$).

### *R² Values and Effect Sizes:*

The model explained substantial variance in the outcome variables. Consumer trust demonstrated an $R^2$ value of 0.45, indicating a large effect size according to Cohen's conventions. Brand loyalty showed an $R^2$ value of 0.62, also representing a large effect. Digital engagement contributed an additional 12% of explained variance in brand loyalty beyond the direct and mediated effects of ethical marketing.

## V. DISCUSSION

### 5.1 Theoretical Implications

The findings provide robust empirical support for the proposed theoretical framework linking ethical marketing practices to brand loyalty through consumer trust in digital environments. The strong psychometric properties of the measurement model enhance confidence in the construct validity and reliability of the findings.

The partial mediation effect of consumer trust (H2 supported) confirms that ethical marketing influences brand loyalty both directly and indirectly through trust formation. This aligns with social exchange theory, suggesting that consumers reciprocate perceived ethical treatment with loyalty behaviors.

The significant moderation effect of digital engagement (H4 supported) reveals that the digital environment amplifies the importance of ethical marketing. This finding contributes to understanding how digital transformation has altered consumer-brand relationship dynamics.

### 5.2 Practical Implications

The dimensional analysis provides actionable insights for practitioners. Transparency and data privacy practices emerged as the most influential ethical marketing dimensions, suggesting organizations should prioritize these areas in their digital marketing strategies.

The substantial $R^2$ values (Consumer Trust = 0.45; Brand Loyalty = 0.62) indicate that ethical marketing practices explain significant variance in key outcome variables, supporting investment in ethical marketing initiatives.

The moderation effects suggest that ethical marketing investments may yield higher returns for brands with active digital engagement strategies, providing guidance for resource allocation decisions.

### 5.3 Limitations and Future Research

This cross-sectional design limits causal inference. Longitudinal studies could strengthen causal claims and examine the temporal dynamics of these relationships. The self-reported nature of measures may introduce social desirability bias, suggesting the value of incorporating objective measures of ethical practices.

Future research could explore cross-cultural variations in these relationships and examine emerging ethical considerations in artificial intelligence and metaverse marketing contexts.

## VI. CONCLUSION

This study provides robust empirical evidence for the significant role of ethical marketing in building consumer trust and brand loyalty in digital environments. Using comprehensive measurement model assessment and structural equation modeling, the findings demonstrate that ethical marketing practices, particularly transparency and data privacy, are critical drivers of consumer trust and subsequent brand loyalty.

The research contributes to marketing theory by establishing the mediating role of trust and the moderating influence of digital engagement in ethical marketing effectiveness. For practitioners, the findings suggest that ethical marketing represents a strategic investment with measurable returns in terms of consumer trust and loyalty.

As digital transformation continues to reshape marketing practices, this research provides empirical foundation for integrating ethical considerations into core marketing strategies, supporting sustainable competitive advantage through authentic ethical positioning.

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