DOI: <https://doi.org/10.64672/IJIFR/26.05.13.10.009>

PUBLISHED ON: JUNE 13, 2026

DIGITAL SERVICE RECOVERY ON SOCIAL MEDIA AND BRAND LOYALTY: A QUANTITATIVE STUDY OF GEN Z STUDENTS IN CHANDIGARH

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Abstract: *The study extends digital service recovery research by empirically assessing the comparative effects of response timeliness, empathetic communication, transparency, and perceived fairness on Gen Z brand loyalty in the Indian social media context. It identifies empathetic communication as the strongest determinant of loyalty and provides evidence from an underexplored emerging-market setting. The analysis examines the impact of digital service recovery practices on social media on brand loyalty among Generation Z (Gen Z) students. Specifically, it investigates the influence of response timeliness, empathetic communication, transparency, and perceived fairness in shaping brand loyalty following service failures in digital environments. A quantitative cross-sectional research design was adopted. Primary data were collected through a structured questionnaire using a five-point Likert scale from 327 Gen Z students (aged 18–25 years) studying in universities and colleges across Chandigarh, India. The constructs were measured using validated scales adapted from prior studies. Data were analyzed using SPSS 27 through descriptive statistics, reliability analysis, Pearson correlation, and multiple regression analysis. The measurement model demonstrated strong reliability, with Cronbach's alpha values ranging from 0.876 to 0.928. Correlation analysis revealed significant positive associations between all service recovery dimensions and brand loyalty ($r = 0.701-0.782$, $p < 0.01$). Multiple regression analysis indicated that the model explained 69.1% of the variance in brand loyalty ($R^2 = 0.691$; Adjusted $R^2 = 0.687$; $F = 179.224$, $p < 0.001$). All four hypotheses were supported. Empathetic communication emerged as the strongest predictor of brand loyalty ($\beta = 0.294$, $p < 0.001$), followed by perceived fairness ($\beta = 0.278$, $p < 0.001$), response timeliness ($\beta = 0.209$, $p < 0.001$), and transparency ($\beta = 0.125$, $p = 0.011$). The findings suggest that emotionally intelligent and fair recovery efforts exert a greater influence on loyalty than operational factors alone. Findings suggest that organizations should prioritize empathetic and timely responses, maintain transparency, and ensure fairness when addressing customer complaints on social media. Effective digital service recovery can transform service failures into opportunities for strengthening customer trust, engagement, and long-term loyalty. The study extends service recovery theory to social media environments and provides empirical evidence from the Indian context. It identifies the relative importance of specific recovery dimensions in influencing Gen Z brand loyalty, offering a framework for developing effective digital customer relationship strategies.*

Index Terms: Digital Service Recovery; Social Media Marketing; Brand Loyalty; Generation Z (Gen Z); Customer Relationship Management (CRM); Electronic Word-of-Mouth (eWOM); Customer Engagement; Online Consumer Behavior; Service Failure Recovery; Customer Experience Management; Social Media Customer Service

Recommended Citation:

Kiranjeet, Kaur, K. :: "Digital Service Recovery on Social Media and Brand Loyalty: A Quantitative Study of Gen Z Students in Chandigarh", *International Journal of Informative & Futuristic Research (IJIFR)*, Vol. (13) (10), June 2026, pp. 1720-1727 <https://doi.org/10.64672/IJIFR/26.05.13.10.009>



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1. INTRODUCTION

The shift to digital platforms has irrevocably changed the services landscape, making social media an important channel for interactions between customers and brands. For Generation Z—the digital natives born in the mid-1990s and early 2010s—social media is not only a communication tool but acts as a primary arena for brand discovery, engagement, and post-purchase service (Seemiller & Grace, 2019; McKinsey & Company, 2025). This group exhibits unique consumer behaviors: they are highly connected to the internet, value authenticity and transparency, and efficiently use digital channels for pre-purchase research and post-purchase feedback (Accenture, 2017; Larano et al., 2023). As a result, when service failures occur, Gen Z turn to social media platforms to report complaints, seek solutions, and observe how companies respond to these kinds of public issues.

Service recovery, the actions a service provider takes in response to a service failure, is greatly enhanced in the online public domain. A recovery effort conducted on social media is an effective action that is seen by a wider audience beyond the affected customer (Poturak & Turkyilmaz, 2018). This public exposure transforms service recovery from a personal transactional fix to a powerful brand communication signal. Therefore, an effective digital service recovery can not only resolve a personal complaint, but also enhance brand value and build loyalty among the audience. In contrast, poor or non-existent public reaction can amplify negative sentiment, damage reputation and lead to customer loss.

Despite the acceptance of the importance of social media for Gen Z, specific empirical studies examining how the dimensions of digital service redemption on these platforms impact brand loyalty among this generation in the Indian context have yet to be fully conducted. This study addresses this gap by focusing on Gen Z students in Chandigarh, a technology-savvy urban student group. Based on existing research on service delivery, digital consumer behavior, and the values of the Gen Z generation, this article proposes that specific attributes of digital service delivery, such as timely response, compassionate communication, transparency, and perceived fairness, are important factors that influence brand loyalty. The objectives of the research are: (1) to examine the relationship between the identified dimensions of digital service recovery and brand loyalty; (2) to determine which dimension exerts the strongest influence on brand loyalty among Gen Z generation; and 3) Provide actionable insights to managers formulating service recovery strategies on social media.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Generation Z as Digital-First Consumers

Generation Z is the first generation to be fully immersed in digital technology from childhood. Their consumer identities are shaped by constant connectivity; they spend more than 2.5 hours a day on social media on a global average (Data Reportel et al., 2025). Their decision-making ability is greatly influenced by Social proof and other digital touchpoints, influencer endorsements, and electronic word-of-mouth (eWOM) (Poturak & Turkyilmaz, 2018; Gulfraz et al., 2022). They demonstrate a pragmatic and value-based approach, as concerns about sustainability and ethical brand behavior increase (Palomo-Domínguez et al., 2023; Teocharis & Tsekouropoulos, 2025). Moreover, their shopping journeys are predominantly online, combining entertainment, social interaction, and commerce (Stamku et al., 2023; Liu et al., 2023). For this generation, a brand's social media presence is a direct reflection of its consumer-centricity and the general identity of the brand.

2.2 Digital Service Recovery on Social Media

Due to the open, immediate and interactive nature of social media, traditional service delivery methods are being challenged. Digital service recovery refers to the strategies and actions a company utilizes to resolve reported service issues or observed on social media platforms. Key points gleaned from the literature:

- **Response time:** The speed with which a brand recognizes and addresses a complaint. In an “always-on” digital world, delays are perceived as indifference (McKinsey & Company, 2025).

- **communicate empathically:** The tone, language, and emotional understanding expressed in a response. Gen Z values authenticity and human connection (Seemiller & Grace, 2019).
- **Transparency:** Transparency and clarity are provided regarding the cause of the failure, the steps taken to resolve it, and the steps taken to prevent it from happening again. This is consistent with Generation Z's need for honesty (Teocharis & Tsekouropoulos, 2025).
- **Perceived fairness:** Perceived justice of the decision by the customer. In this aspect, there are three main types of justice involved: distributive justice, process justice, and interactional justice. It is an important component of service restoration and very important for studying public relief.

2.3 Brand Loyalty in the Digital Age

It is worth noting that brand loyalty among Generation Z is not an innate trait, but rather is acquired as a result of positive experiences and shared values. Brand loyalty goes beyond mere purchase intention to include recommendation, support, and community engagement (Rana et al., 2024). Loyalty is tested in the event of service failures; it can be damaged or significantly strengthened based on the recovery experience. A recovery action undertaken openly and effectively can transform a dissatisfied customer into a loyal supporter and have a positive impact on colleagues who observe it.

2.4 Hypothesis Development

Based on the synthesized literature, the following hypotheses are proposed:

- **H1:** Response Timeliness in digital service recovery on social media has a positive and significant impact on Brand Loyalty among Gen Z.
- **H2:** Empathetic Communication in digital service recovery on social media has a positive and significant impact on Brand Loyalty among Gen Z.
- **H3:** Transparency in digital service recovery on social media has a positive and significant impact on Brand Loyalty among Gen Z.
- **H4:** Perceived Fairness in digital service recovery on social media has a positive and significant impact on Brand Loyalty among Gen Z.

The conceptual model guiding this study is presented in Figure 1.

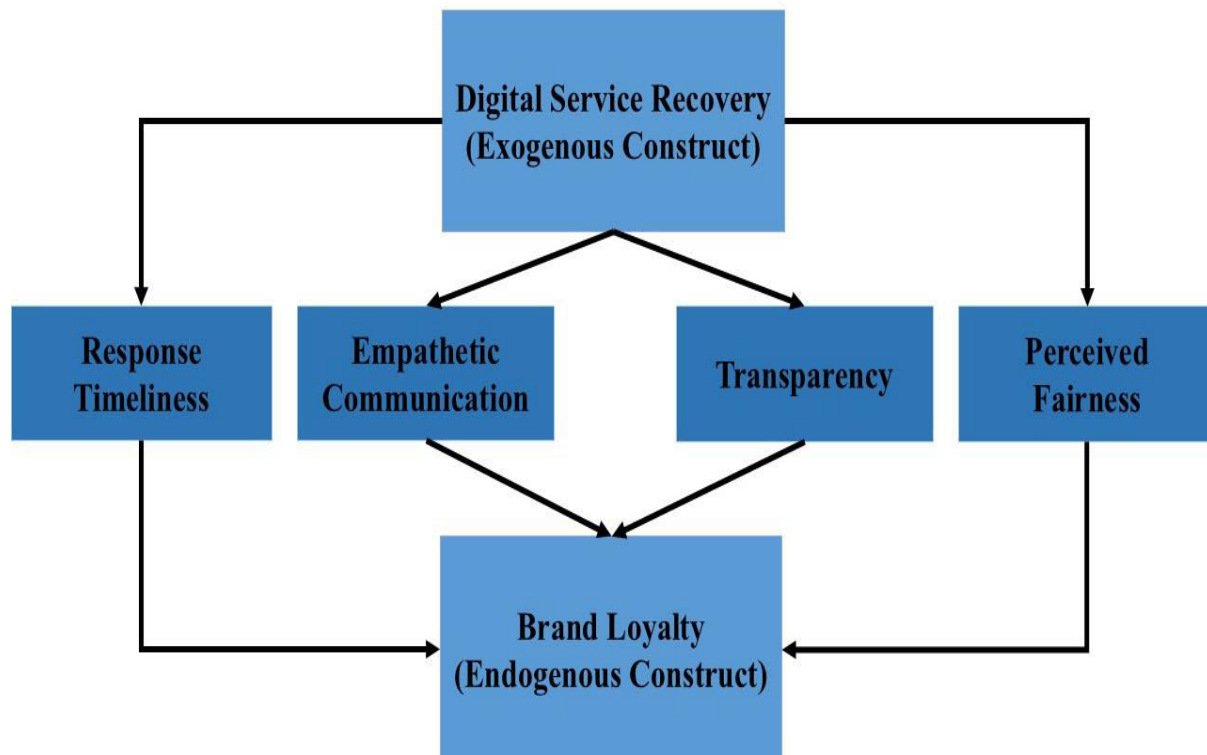


Figure 1: Conceptual Research Model

3. RESEARCH METHODOLOGY

3.1 Research Design and Data Collection

A quantitative, cross-sectional study design was used. The target group was Gen Z students (aged 18-25) studying in universities and colleges across Chandigarh, India. A structured, self-administered questionnaire was distributed online via social media and student forums. Convenience sampling technique was used, resulting in 327 usable responses. Following the rule of thumb that there should be at least 10 observations for each predictor variable, this sample size is considered sufficient for multivariate regression analysis (Hair et al., 2019).

3.2 Measures

3.2 Measurements

All constructs were measured using a five-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). These scales were adapted from proven research to be relevant to the social media and Gen Z generation context.

- **Response Timeliness (RT):** 4-item scale (e.g., "Brands on social media should respond to my grievance in a few hours").
- **Empathic Communication (EC):** 4-item scale (eg, "I appreciate a brand's social media response if it shows that they understand my frustration").
- **Transparency (TR):** 4-item scale (e.g., "I value it when a brand publicly explains what went wrong on their social media").
- **Perceived Justice (PF):** Five items measuring procedural justice, interaction justice, and distributive justice.
- **Brand Loyalty (BL):** A five-item measure including repurchase intention, brand advocacy, and self-defence against negative information (e.g., "I would be more likely to recommend a brand after a positive experience with its customer service on social media").

3.3 Data Analysis Plan

The data were analyzed using SPSS version 27. The data analysis process was carried out as follows: (1) using descriptive statistics to describe the sample; (2) calculating the reliability coefficient (internal consistency coefficient, i.e., Cronbach's alpha); (3) correlation analysis (correlation coefficient, i.e., Pearson's correlation coefficient) to assess the relationship between the variables; and (4) multiple linear regression analysis as a means of testing the hypothesis put forward above.

4. RESULTS

4.1 Descriptive Statistics and Reliability

The sample comprised 47.7% males and 52.3% females. All participants were active users of platforms such as Instagram, Twitter (formerly known as X), and Facebook for engaging with brands. As shown in Table 1, all measures demonstrated high internal consistency, with Cronbach's alpha values exceeding the recommended minimum of 0.7 (Hair et al., 2019).

Table 1: Reliability Analysis and Descriptive Statistics of Constructs

Construct	Number of Items	Cronbach's Alpha	Mean	Standard Deviation
Response Timeliness (RT)	4	0.891	4.32	0.68
Empathetic Communication (EC)	4	0.912	4.41	0.72
Transparency (TR)	4	0.876	4.25	0.75
Perceived Fairness (PF)	5	0.928	4.18	0.79
Brand Loyalty (BL)	5	0.921	4.12	0.81

Source: Calculated by the author through primary data

4.2 Correlation Analysis

The Pearson correlation coefficients (as seen in Table 2) indicate that the independent variables such as reaction time, effective communication, reaction time, and interpersonal competence have high positive correlations with the dependent variable brand loyalty. All the coefficients have statistical significance, with values below the threshold value of $p < 0.01$. The most significant two-way correlation coefficient between these two variables is the empathy communication – brand loyalty ($r = 0.782$).

Table 2: Inter-Construct Correlations (Pearson's r)

Construct	1	2	3	4	5
1. RT	1				
2. EC	.654**	1			
3. TR	.612**	.721**	1		
4. PF	.598**	.689**	.745**	1	
5. BL	.723**	.782**	.701**	.765**	1
**Note: ** $p < 0.01$ (2-tailed).					

Source: Calculated by the author through primary data

4.3 Multiple Regression Analysis

Multivariate regression analysis was done with brand loyalty as the dependent variable. The conditions of linearity, independence of error, homogeneity, and absence of multivariate homogeneity were satisfied (VIF values < 5). Model summary is depicted in Table 3, while the coefficient analysis is illustrated in Table 4.

Table 3: Model Summary for Regression Analysis

R	R ²	Adjusted R ²	Std. Error of the Estimate	F-statistic	Sig.
0.831	0.691	0.687	0.452	179.224	.000

Source: Calculated by the author through primary data

Regression analysis for the model accounted for 69.1% of the variance in brand loyalty ($R^2 = 0.691$), which was found to be statistically significant ($F = 179.224$, $p < .001$).

Table 4: Regression Coefficients

Predictor	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t-value	Sig. (p)	VIF	Hypothesis
(Constant)	0.312	0.187	-	1.668	.096	-	-
Response Timeliness (RT)	0.248	0.059	0.209	4.203	.000	2.112	H1 Supported
Empathetic Communication (EC)	0.331	0.055	0.294	6.018	.000	2.845	H2 Supported
Transparency (TR)	0.135	0.053	0.125	2.547	.011	2.674	H3 Supported
Perceived Fairness (PF)	0.286	0.051	0.278	5.608	.000	2.981	H4 Supported

Source: Calculated by the author through primary data

Statistically significant p-values ($p < 0.05$) support all four hypotheses (H1, H2, H3, and H4). The strength of each predictor can be determined by examining the standardized beta (β) coefficients:

Empathetic communication was found to be the strongest predictor of brand loyalty ($\beta = 0.294$).

The second strongest predictor was perceived fairness ($\beta = 0.278$).

The third strongest predictor was response time ($\beta = 0.209$).

When other variables were included, transparency ($\beta = 0.125$) showed the smallest unique contribution, although it remained statistically significant.

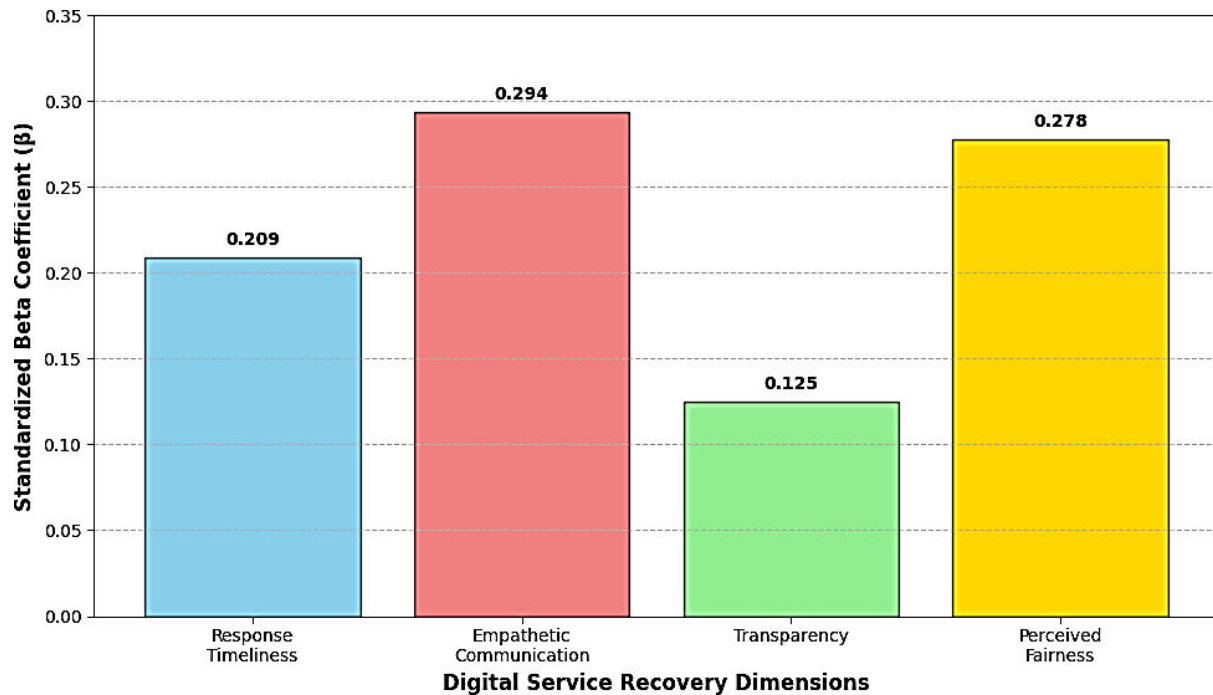


Figure 2: The relative influence of the predictors

5. DISCUSSION & IMPLICATIONS OF THE STUDY

The results of this study confirm the significant role of digital service recovery on social media in building brand loyalty among Gen Z students in Chandigarh. The strong explanatory power of this model ($R^2 = 0.691$) emphasizes that how a brand handles service failures in the open digital realm is a key determinant for building long-term consumer relationships with this generation.

Support for the first hypothesis (H1) confirms that response time is not a fixed indicator. For a generation accustomed to instant gratification and immediate interaction, response delays are perceived as insignificant, potentially increasing dissatisfaction. The large beta coefficient underscores that speed is a key indicator of a brand's responsiveness and respect for customer time.

Empathetic communication (H2) is one of the best indicators and underscores a key principle for Generation Z: their desire for direct communication, even through digital channels. Therefore, it becomes essential to provide emotionally sensitive, honest, and transparent responses that avoid formal corporate language. These research findings confirm what Simler and Grace (2019) stated: that Generation Z seeks genuine relationships. Empathy creates a unique communication experience with the consumer, which can be transformed into an emotional connection with the brand.

The perception of fairness (H4) proved to be the second most important determinant, highlighting its central position in the theory of justice applied to the field of service recovery. Fairness for Gen Z is a multidimensional construct; it includes having an acceptable concept (distributable), an easily understandable process (procedural) and correct behaviour (reciprocal). With social media being a public platform, the importance of perceived fairness increases significantly.

Although openness or transparency (H3) was significant, its relatively low beta coefficient indicates that its effect is partially mediated by other factors such as perceived fairness and empathy. However, its importance should not be underestimated. Explaining the reason for failure demonstrates accountability; a trait highly valued by Gen Z consumers, who are pragmatic and skeptical (Theosaris & Segouropoulos, 2025). Transparency helps rebuild trust on a rational level, complementing the emotional reassurance that empathy provides.

5.1 Theoretical Implications

The current study makes a significant contribution to the existing literature related to service marketing and digital consumer behavior as it not only confirms but also measures the impact of specific digital

service delivery factors on brand loyalty in the Gen Z market segment, which has been relatively neglected in India.

This study applies the concept of traditional service delivery to the more open platform of social media. The finding that empathetic communication has the strongest pull factor adds depth to the existing framework.

5.2 Managerial Implications

The above findings offer solid strategies for brands looking to market to Generation Z:

1. *Build empathy in communication:* Make sure your social media staff is capable of doing more than just apologizing. Instead, teach them to show empathy by addressing customers' emotions.
2. *Invest in speed and availability:* Assign dedicated staff or use technology (such as chatbots for first-level screening) to ensure complaints are resolved in hours, not days. Make response times known to the public.
3. *Establish fair compensation mechanisms:* Ensure that compensation offers are proportionate and that the process for obtaining them is simple. Publicly demonstrate a consistent and fair approach towards all users.
4. *Be transparent from the start:* When setbacks occur, use social media to provide clear and honest explanations about their causes and the corrective actions taken. This transforms the recovery moment into a demonstration of sincerity and builds trust.
5. *View every public recovery as a marketing opportunity:* Recognize that the audience following the recovery discussion isn't limited to the complainant. A well-organized public recovery is powerful and authentic content that can enhance brand image and attract new customers.

6. LIMITATIONS AND FUTURE WORK

This research has some limitations. The use of a convenience sample from a single city in India (Chandigarh) may limit its generalizability to other regions or cultural contexts. The cross-sectional design captures perceptions only at a single point in time. Self-reported information on behavioural intentions (beliefs) may differ from actual behaviour.

Future research could do the following: (1) use elliptical designs to monitor the long-term loyalty effects of specific recovery interactions; (2) examine the moderating role of site type (eg, Instagram vs. X) or industry (eg, e-commerce vs. hospitality); (3) examining the role of observing (non-complaining) customer reactions to public service recovery; and (4) Repeat the study in other cultural settings to improve external validity. Despite these limitations, this study provides strong empirical evidence and a clear framework for managers to use social media service renewal as a strategic tool to build lasting loyalty with Generation Z.

7. CONCLUSION

This study provides significant empirical evidence that digital service recovery on social media plays a decisive role in strengthening brand loyalty among Generation Z consumers. The findings confirm that response timeliness, empathetic communication, transparency, and perceived fairness significantly influence brand loyalty, with empathetic communication emerging as the strongest predictor. The results highlight that emotionally intelligent and fair recovery efforts are more influential in fostering trust and loyalty than operational responsiveness alone. The study extends service recovery literature by contextualizing traditional recovery mechanisms within social media environments and offering evidence from the Indian Gen Z segment. With a strong explanatory model ($R^2 = 0.691$), the research emphasizes that effective digital complaint management can transform service failures into opportunities for enhancing customer trust, advocacy, and long-term brand relationships. From a managerial standpoint, organizations must prioritize empathetic, transparent, timely, and fair responses on social

media to strengthen consumer engagement and sustain competitive advantage in the evolving digital marketplace.

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