Center for Management Science Research
ISSN: 3006-5291 3006-5283 Volume 4, Issue 3, 2026

# DISTRIBUTED LEADERSHIP IN CRISIS COMMUNICATION: EXPLORING THE ROLE OF TRUST AND THE INFLUENCE OF ORGANIZATIONAL CULTURE

**Salaha Shaukat[*1], Dr. Nadia Noor[2], Amer Liaquat Chattha[3], Mehak Maqbool[4]**

[*1] *PhD Scholar, Department of Management Science, Lahore College for Women University, Lahore, Pakistan*
[2] *Assistant Professor, Department of Management Science, Lahore College for Women University, Lahore, Pakistan*
[3] *Director General Research and Reference, Punjab Assembly, Pakistan*
[4] *Visiting Lecturer, Department of Education, Government College University Lahore, Pakistan*

[*1]Salaha.shaukat@lcwu.edu.pk, [2]nadia.noor@lcwu.edu.pk, [3]amerchatha19@gmail.com, [4]mehak.maqbool@gcu.edu.pk

**DOI:** https://doi.org/10.5281/zenodo.24079690

**Keywords**
*Distributed Leadership (DL), Crisis Communication (CC), Trust in Leadership (TR), Organizational Culture (OC), Higher Education Institutions, Pakistan.*

**Article History**
*Received: 30 January 2026*
*Accepted: 15 March 2026*
*Published: 31 March 2026*

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**Salaha Shaukat**

**Abstract**

*The main objective of this research is to understand the impact of distributed leadership (DL) on crisis communication (CC) and the effectiveness of their relationship in Higher Education Institutions (HEIs) in Pakistan. It also explores how trust mediates the relationship between leadership (TL) and customer communication (CC), and how organizational culture (OC) moderates the relationship between distributed leadership (DL) and customer communication (CC). Data from 260 respondents, drawn from academic and administrative staff at public and private sector HEIs in Pakistan, were collected using a structured questionnaire. Responses were collected using a convenience sampling technique and analyzed empirically. Data were analyzed and arranged in SPSS and Smart PLS 4. Results show that distributed leadership has a positive and significant direct effect on crisis communication. Trust in leadership significantly mediates this relationship by increasing the acceptance and credibility of crisis-related messages. Organizational culture appears to strongly moderate this effect: distributed leadership is more effective in managing crisis communication when the organizational culture is open, collaborative, and supportive. This research provides a new partial framework for understanding the crisis communication process, involving the interaction among distributed leadership, trust in leadership, and organizational culture. To empirically validate this model in Pakistani Higher Education Institutions, it extends crisis leadership and communication research in a developing-country context, which the literature has not yet explored. The framework identifies the relational and contextual aspects of effective crisis communication and offers direction for HEIs to build stronger leadership and organizational culture, in general, and during a crisis.*

## 1. INTRODUCTION

Higher Education Institutions (HEIs) play a pivotal role in building a nation's socio-economic and intellectual infrastructure. They catalyze national development by creating knowledge, fostering innovation, and building the skilled human resources required for development. The effective functioning of these institutions depends heavily on the quality of their leadership, especially during periods of crisis and uncertainty. In higher education, there has been a recent rise in disruptions and crises, such as government

failures, student unrest, reputational disasters, financial restrictions, public health issues, and more, which are both more complex and more common internationally (Bundy et al.; Coombs, 2015). In these settings, accurate, timely, and credible communication by university leaders is central to maintaining institutional stability, stakeholder credibility, and public trust.

In developing countries such as Pakistan, universities, both public and private, are central to social mobility and institutional legitimacy, and come with a host of challenges, which have been well publicized. Because of these reputational fiascoes, both campuses had to close, administrative decisions stalled, and the public came under greater scrutiny. Often, when these incidents occur, communication is poor, decision-making is weak, and this affects continuity of learning, highlights serious leadership shortfalls, hinders institutional functioning, and damages public confidence.

Leadership is often dispersed, hierarchical, and bottom-up. Traditional leadership structures that rely on a chain of command from below up (bottom-up) have been found ineffective in many contexts for dealing with complexity and rapidly changing crises. This has necessitated a new-generation leadership paradigm that is agile, adaptive, and resilient. Distributed Leadership (DL) has recently shown promise as an alternative approach by distributing authority across organizational levels and harnessing expertise at multiple levels, thereby improving collective capacity, coordination, and responsiveness (Nwagbara et al., 2024). While some research has begun to recognize the benefits of DL in crisis management, much of it still focuses on communication strategies in centralized hierarchies. This focus has created a critical gap in understanding how crisis communication is ratified, coordinated, and sustained in decentralized leadership environments. Further, a distributed structure doesn't always ensure effective communication: structures succeed not only in their design but also depend on two key psychological and contextual factors that are poorly studied (Batool, 2024; Nwagbara et al., 2024). More specifically, the delegation in Distributed Leadership demands a high level of trust in the leader: messages sent on a decentralized approach will be viewed as credible and adopted by stakeholders when there is trust in the competence, integrity, and intentions of the multiple leader(s) who are engaged in crisis communication (Mayer et al., 2024; van der Hoek et al., 2024). Distributed leadership structures thus become translated into effective crisis communication outcomes through the lens of trust. At the same time, situational factors and the institution's organizational culture shape norms of transparency, collaboration, and sensemaking in crisis situations (Khan et al., 2025; López-Cabarcos et al., 2024). Thus, organizations with open, flexible cultures can amplify the effect of distributed leadership on crisis communication, while organizations with rigid, blame-oriented cultures can weaken it, reflecting the interaction between distributed leadership and organizational culture (Ye, 2025; Mchip, 2025).

To address these gaps, this study will investigate the direct relationship between Distributed Leadership (DL) and Crisis Communication (CC) in public- and private-sector HEIs in Pakistan. It then examines the moderating role of Organizational Culture (OC) on both the direct and mediated pathways, and the mediating role of Trust in Leadership (TL) on both the direct and mediated pathways. By analyzing these relationships, this study provides a more complete, context-specific understanding of crisis leadership and offers evidence for learning that institutional policymakers and leaders can use. It also guides leaders on methods to build resilient universities that can handle crises by drawing on the collective intelligence of all staff, along with trust and a positive culture.

## 2. Literature Review and Hypotheses Development

This study is grounded in Organizational Theory, which explains and examines how organizational structures, leadership, and cultures affect institutional performance and its effectiveness. In this context, two complementary theoretical approaches shed light on how crisis management dynamics unfold: the theory of problematic communication and the theory of power disputes. In this context, two related theoretical approaches

offer specific and complementary viewpoints on crisis management dynamics: the theory of problematic communication and the theory of power struggles. Distributed leadership theory and trust theory offer insights into leadership dynamics in crisis situations. Spillane. (2013) and Canterino et al. (2020) present distributed leadership theory, which argues that leadership should be divided into parts, not taken in a centralized way, as this type will drive leadership culture to foster collaboration and adaptability. Trust theory (based on cognition-based and affect-based trust) explains how leadership integrity supports effective organizational responses (McAllister, 1995; Hugelius, 2025). These perspectives validate the following study hypotheses: distributed leadership, trust in leadership, crisis communication, and organizational culture.

Distributed Leadership Theory (DL) reframes leadership as a collective, situationally constructed practice, calling into question the leadership role subsumed under the leader's singular authority. Distributed Leadership Theory (DL) offers an alternative way of thinking about leadership as a collective, situational process that challenges dominant leadership thinking based on the leader's singular authority. Leadership, as described by Spillane (2013), is spread across several positions and shaped by how people work together, how tasks are configured, and how the organization is configured; we need expert contribution and initiative wherever it exists. This reconceptualization is especially evident during crises, when uncertainty, shifting situations, and multiple concurrent demands often overwhelm central decision-making authorities. Through the lenses of distributed leadership extensions to circles of disruption and uncertainty, certain aspects of its ability to improve adaptive responsiveness and collaborative agility are highlighted that address these constraints (Canterino et al., 2020). The higher education environment has faced unpredictable challenges, making DL a guiding framework for analyzing how decentralized agency and shared sense-making can generate timely, context-sensitive responses and inform the present inquiry (Spillane, 2013; Weick, 1995; Canterino et al., 2020).

A distributed leadership system does not work simply for the sake of it, it relies on the quality of organizational relational linkages. Trust theory is essential in this context. According to McAllister (1995), trust consists of cognition-based trust, which depends on competence and reliability, and affect-based trust, which develops from emotional bonds and genuine care. In moments of crisis, distributed leaders use cognition-based trust to validate their communication actions, while affect-based trust fosters openness and helps minimize defensive responses to stressful communications. Leaders' integrity and kindness were emphasized as not just an ethical but practical criterion that is necessary for the building of coordinated understanding and that of collective action, but this is not the only criterion; a criterion of leaders' sincerity and originality is also significant, and it is one of those conditions, said Hugelius (2025). In this sense, a trust-based mentality serves as a social system for effective distributed leadership in high-pressure contexts. New studies have begun exploring the interconnections of these theoretical areas, such as Khan and Saeed (2025), who claim that, within the context of institutions in Pakistan, decentralized coordination of crises is effective when there is pre-existing relational trust, which suggests that trust is not a result of the role of the leader but rather a precondition for decentralized action. According to Almeida and Chen (2025), in the analysis of post-crisis organizational learning, they consider that the organizational culture is a 'meta-context' that facilitates or hinders the trust-leader relationship. Transparent, safe, and psychologically safe cultures are also fundamental elements of organizational culture that reinforce the relationship between distributed leadership and the development of strong communication networks that are fast, trust-based, and psychologically safe.

Trust Theory is therefore the relational mechanism that informs and directly supports this study; organizational culture is the direct contextual environment, with Distributed Leadership (DL) as the Structural Foundation. This framework is not an exclusively structural approach to alternative communication; however, this alternative is a social practice that strongly influences crisis communication and is shaped by

the culture in which it is accepted. The following section reviews the empirical literature on each construct and examines methodological issues and their relationships.

### 2.1 Relationship between Distributed Leadership and Crisis Communication

Distributed Leadership creates shared decision-making that helps organizations communicate effectively in times of crisis (Nwagbara et al., 2024). For Kim et al. (2024), leaders who embrace DL increase transparency and responsiveness within the organization, ensuring information is disseminated properly during a crisis. Anshori (2024) points out that the most important component of DL – leadership adaptability – is not a factor for lowering risk but also helps to build credibility during a crisis. Bhat and Saba (2025) further contend that rigid leadership structures may negatively affect communication during a crisis, but when organizations implement DL, their collective knowledge helps them respond more effectively. A DL-integrating institution will have fewer communication hiccups and be less vulnerable in crisis situations (Canterino et al., 2020). Kim, Meganck, and Basnyat (2024) also highlighted the critical role of internal CC and noted that leadership practices positively affect employees' perceptions of crisis response processes. Their research also found that common and overlapping leadership behaviors with DL strongly contribute to effective communication during crises.

Based on the literature above, the following hypothesis is formulated:

**H1: Distributed Leadership (DL) has a positive and significant effect on Crisis Communication (CC).**

### 2.2 Relationship Between Distributed Leadership and Trust in Leadership

Trust, as a trust-building mechanism within effective leadership, is crucial in high-uncertainty crisis situations, where legitimacy and operational continuity are at stake. In this process, Distributed Leadership (DL) strongly precedes trust because it is physically manifested in organizational activities as signals of inclusiveness, transparency, and shared responsibility (Prihatini et al., 2022). Leaders who involve the team in decision-making are viewed as more reliable and trustworthy, and they promote shared trust/respect that are vital for facing challenges (Hugelius, 2025). McAllister (1995) and Mao et al. (2024) identify two types of trust: cognition-based trust, grounded in leadership expertise, and Affect-based trust, based on emotional trust. Organizations that practice DL are more likely to cultivate both types of trust, ensuring employee engagement and cooperation during crises (Aslam et al., 2024). Without trust, DL can cause confusion and resistance, rather than functioning as effectively as it can when trust is present (Mao et al., 2024). However, in crisis situations, public sector staff depend on leadership trust to manage others' resources effectively (Buhagiar & Anand, 2021). Similarly, Ben Sedrine Doghri et al. (2020) argue that, in crises, trust underpins communication and team efforts. Empirical research has especially focused on Pakistani HEIs and found that trust in leaders serves as the critical mediating mechanism between distributed leadership and the clarity, consistency, and perceived credibility of internal crisis communication, as shown in recent research by Siddique & Chen (2025).

Based on the literature above, the following hypothesis is formulated:

**H2: Distributed Leadership (DL) has a positive and significant effect on Trust in Leadership (TR).**

### 2.3 Relationship Between Trust in Leadership and Crisis Communication

Trust in leadership is one element in stakeholders' perceptions of crisis communication. Leaders who have established trust in their organizations tend to navigate crises well because people follow their instructions. Leaders who do not build trust within their company/institution are not well positioned to manage a crisis, as people do not follow their leaders' instructions. Kim et al. (2024) found that trust in leadership significantly affects employees' perceptions of crisis communication quality. Leaders who set a tone of trust through their actions and communication can better manage stakeholder expectations during a crisis (Buhagiar & Anand, 2021). Transparent crisis communication contributes to organizational

resilience, as it is coordinated with crisis response actions that address organizational goals (Balcerzyk, 2021). Thus, crisis communication strategies should be based on trust, as this safeguards corporate reputation and minimizes crisis damage (Nuortimo, Harkonen, and Breznik, 2024). Maintaining credibility is another benefit of a trusting relationship, as is avoiding panic and misinformation in the event of a crisis.

Based on the literature above, the following hypothesis is formulated:

**H3: Trust in Leadership (TR) positively affects Crisis Communication (CC)**

### 2.4 Mediating Role of Trust in Leadership

The literature presented in previous sections has introduced and established the concept of Distributed Leadership (DL) and the role of Trust in leadership in how communication is perceived as effective. This literature review shows trust as the intervening variable linking DL and CC. Leaders who build trust can implement Distributed Leadership more effectively, disseminate crisis messages, and implement them properly without worry or confusion (Aslam et al., 2024). Explicit and tacit knowledge sharing among distributed units is crucial for coherent crisis communication, as Mao et al. (2024) emphasize, particularly the latter. Distributed decision-making can lead to conflicting strategies and organizational inefficiency if trust has not been established (Hugelius, 2025). As a result, trust becomes an important link between leadership structure and communication effectiveness during a crisis. Further research contextualizes this mediation by showing that this bridge is not always as strong as it is built, as it is shaped by broader organizational conditions. Lüdemann and Kleiser (2024) cite the effect of cultural factors on crisis leadership and employees' and stakeholders' reactions to crisis communication efforts as an example. This suggests an essential boundary condition: the relationship between DL and crisis communication via trust may depend on the available organizational culture.

Based on the literature above, the following hypothesis is formulated:

**H4: Trust in Leadership mediates the relationship between Distributed Leadership and Crisis Communication.**

### 2.5 Moderating Role of Organizational Culture

Organizational Culture is a critical determinant in the success of leadership and communication efforts during emergencies. Strong Organizational Culture improves the implementation of distributed leadership because it coordinates leadership practice through institutional values and norms, promoting collaborative action under pressure (Yang & Mostafa, 2024). Based on experience, companies with established cultures are more likely to implement effective crisis communication strategies. (Firestone, 2020) For example, Sari et al. (2024) propose that Organizational Culture affects leadership behavior and decision-making by shaping how messages spread and how crises are handled across organizational levels. New research additionally reveals how culturally rooted assumptions and biases can facilitate or inhibit crisis leadership effectiveness. For instance, Lüdemann & Kleiser (2024) identified cultural beliefs as a key influence on crisis leadership effectiveness, further reinforcing the need for culturally responsive approaches to leadership in crisis situations. Nonetheless, organizations with adaptive cultures perform better during crises than those with rigid, hierarchical structures (Debono et al., 2024); Islam (2025) also emphasized the importance of leadership frameworks in measuring organizational resilience. Taken together, this research establishes organizational culture as a crucial moderating factor that affects the effectiveness of distributed leadership and the outcomes of crisis communication (Schein, 2010; Edmondson, 2019).

Based on the literature above, the following hypothesis is formulated:

**H5: Organizational Culture moderates the relationship between Distributed Leadership and Crisis Communication.**

### 2.6 Study's Conceptual Framework

From the literature above, the following conceptual framework has been developed:

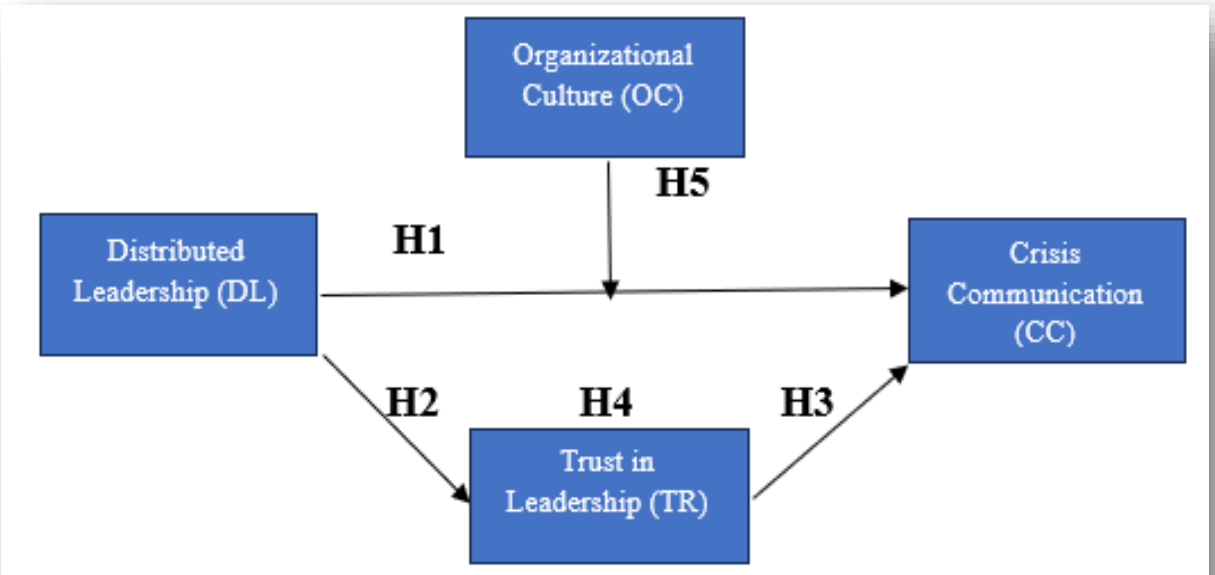



**Figure 1. Conceptual Framework**

## 3. Methodology

### 3.1 Research Design

The study uses a Quantitative research design to examine all variables. A survey using questionnaires and a cross-sectional design will be conducted to collect data from the four Public Sector Universities, faculty, and administrative staff.

### 2.7 Participant and Procedure

**2.7.1 Target Population.** The Target Population is academic and administrative staff of HEIs in Pakistan.

**2.7.2 Study Sample.** The sample was collected using a convenience sampling technique because this method suits an explanatory study aimed at testing theory or making predictions, as in PLS-SEM studies (Saunders et al., 2019; Hair et al., 2022). We received 260 valid responses, exceeding the recommended sample sizes for PLS-SEM analyses and supporting stable parameter estimates and bootstrapping results. Given past studies, the sample size exceeds the minimum of 200 observations recommended for complex models analyzing mediation and/or moderation effects (Hair et al., 2022; Hair et al., 2023).

**2.7.3 Procedure.** To conduct the study, formal permission was obtained from these HEIs. Anonymity and confidentiality were strictly maintained to ensure honest and unbiased responses. The questionnaire was administered in English, but incomplete responses were not analyzed due to data quality issues.

**2.7.4 Data Collection Tool**. The data were collected using a structured questionnaire with scales. Responses were measured on a 5-point Likert scale, with 1 = strongly disagree and 5 = strongly agree. Other demographic information included gender, job level, experience, organization, etc. The questionnaire was in English and took 10-15 minutes to complete. Data were coded and entered in SPSS and tested for reliability and validity using Smart PLS. Reliability was evaluated using Cronbach's alpha, and composite reliability was evaluated using a reflective measurement model; validity was assessed using convergent and discriminant validity. Items with loads less than 0.65 were not considered for final analysis.

**2.7.5** The measurement scales used in this study were adopted from the following:

**3.2.5.1 Distributed Leadership:** The scale of Canterino et al. (2020) is used.

**3.2.5.2 Trust in Leadership:** It is measured using McAllister's (1995) cognition- and affect-based trust scale.

**3.2.5.3 Organizational Culture**: It is assessed using Cameron and Quinn's (1999) scale.

**3.2.5.4 Crisis Communication:** Is measured using the scale adapted from Adamu and Mohamad's (2019) internal crisis communication scale.

**2.7.6 Data Analysis**

Data will be analyzed using Structural Equation Modeling (SEM) to test the hypothesized relationship. The analysis includes:

- **Descriptive Statistics**: Mean, Standard Deviation, and frequency Distributions
- **Reliability and Validity**: Cronbach's alpha, composite reliability and average variance extracted.
- **Hypothesis Testing**: Path analysis to assess direct, indirect, and moderating and mediating effects.

**2.8 Research Ethics Statement**

This study was carried out as part of the PhD program and conducted in accordance with ethical research guidelines to protect the rights, dignity, and confidentiality of all participants. Before data collection, all participants were briefed on the purpose, scope, and voluntary nature of the study. We administered all questionnaires after obtaining oral informed consent. Participants were assured that their answers would remain strictly confidential/anonymous and used only for academic purposes. No personal identifiers were collected, and all data were kept secure. Ethical approval was not required because the research posed no risk to participants and did not involve vulnerable populations. Therefore, the study applied the research values of integrity, respect, and responsibility.

## 4. Results

### 4.1 Descriptive Statistics

Table 1 shows descriptive statistics for the model's latent variables. The constructs were all standardized for analysis. The means are around 0, and the variances are around 1.

**Table 1: Descriptive Statistics of Latent Variables**

| Construct | Mean | Median | Min | Max | Std. Dev. | N |
|---|---|---|---|---|---|---|
| **CC** | ≈ 0.00 | -0.197 | -2.816 | 1.876 | 1.000 | 260 |
| **DL** | ≈ 0.00 | -0.146 | -2.876 | 1.940 | 1.000 | 260 |
| **OC** | ≈ 0.00 | -0.106 | -2.862 | 1.822 | 1.000 | 260 |
| **TR** | ≈ 0.00 | -0.112 | -2.370 | 1.888 | 1.000 | 260 |
| **OC × DL** | ≈ 0.00 | — | — | — | ≈ 1.000 | 260 |

**Note**: N=260. Data are standardized.

### 4.2 Correlations

The interrelationships between the latent constructs are shown in Table 2. Correlations are all positive and significant. There is the strongest association between Organizational Culture (OC) and Crisis Communication (CC) (r=0.791) with very good positive correlation. This means that the higher the level of organizational culture, the more positive the crisis communication will be. There is moderate correlation of the interaction term (OC x DL) with certain constructs.

**Table 2: Latent Variable Correlations**

| | CC | DL | OC | TR | OC × DL |
|---|---|---|---|---|---|
| **CC** | 1.000 | | | | |
| **DL** | 0.660 | 1.000 | | | |
| **OC** | 0.791 | 0.654 | 1.000 | | |
| **TR** | 0.726 | 0.584 | 0.747 | 1.000 | |
| **OC × DL** | 0.487 | 0.471 | 0.419 | 0.403 | 1.000 |

**Note:** All correlations are significant at $p < 0.01$. The strongest correlation is between OC and CC (r=0.791).

### 4.3 Reliability and Validity

#### 4.3.1 Outer loadings

The factor loadings are above 0.65, with the highest above 0.7, indicating satisfactory indicator reliability (Hair et al., 2019). Items with loadings slightly below 0.70 were retained because of their perceived theoretical importance and contribution to content validity.

**Table 3: Outer Loadings**

| Construct | Indicators | Loading Range |
|---|---|---|
| **Crises Communication** (CC) | CC2 – CC10 | 0.658 – 0.757 |
| **Distributed Leadership** (DL) | DL1 – DL7 | 0.669 – 0.748 |
| **Organizational Culture** (OC) | OC1 – OC24 | 0.645 – 0.804 |
| **Trust in Leadership** (TL) | ATR2– CTR5 | 0.650 – 0.795 |

Mean outer loadings on the reflective constructs ranged from 0.645 to 0.804, as shown in Table 3, which is within satisfactory indicator reliability. Hair et al. (2019) indicate that 0.70 is the conventional rule of thumb in the field. Although most values were above this threshold, some (CC9, DL1, OC17, ATR3) were slightly less but still maintained theoretical coverage and content validation of each construct in accordance with the guidelines applicable to PLS-SEM according to the contemporary literature (Henseler et al., 2016).

#### 4.3.2 Internal Consistency and Convergent Validity

**Table 4: Internal Consistency and Convergent Validity**

| Construct | Cronbach's Alpha | Composite Reliability (CR) | AVE |
|---|---|---|---|
| **CC** | 0.888 | 0.910 | 0.545 |
| **DL** | 0.849 | 0.887 | 0.568 |
| **OC** | 0.872 | 0.895 | 0.521 |
| **TR** | 0.885 | 0.914 | 0.603 |
| **OC × DL** | 1.000 | 1.000 | 1.000 |

The internal consistency of all constructs is very good, with Cronbach's Alpha and composite reliability figures above the recommended 0.7 threshold (Hair et al., 2019), as shown in Table 4. Specifically, Cronbach's alpha ranges from 0.849 (DL) to 0.888 (CC), and CR ranges from 0.887 (DL) to 0.914 (TR), indicating high reliability. Furthermore, the reliability of the interaction term (OC x DL) is as expected for a quality product indicator: perfect (CR = 1.000). Together, the results provide strong evidence that the measurement scales are internally consistent and reliably tap into the constructs they represent. When the Average Variance Extracted (AVE) scores exceed the 0.50 threshold (Fornell & Larcker, 1981), they are considered to have

converged. In detail, these values indicate that these constructs explain, on average, over 50% of the variance in their indicators, which is considered sufficient for their convergent validity.

### 4.3.3 Discriminant Validity

To assess discriminant validity, we used the Fornell-Larcker criterion. The Average Variance Extracted (AVE) is shown on the bold diagonal and is larger than the inter-construct correlations (within the bold letters on the diagonal). This suggests the indicators for each construct relate more to their own construct than to other constructs in the model; thus, discriminant validity is satisfactory.

**Table 5. Discriminant Validity (Fornell-Larcker Criterion)**

| | CC | DL | OC | TR | OC × DL |
|---|---|---|---|---|---|
| CC | **0.738** | | | | |
| DL | 0.655 | **0.754** | | | |
| OC | 0.791 | 0.650 | **0.722** | | |
| TR | 0.732 | 0.594 | 0.752 | **0.777** | |
| OC × DL | 0.493 | 0.450 | 0.438 | 0.421 | **1.000** |

### 4.4 Structural modal and Path Coefficient

Smart PLS 4 software was used to test the hypothesized relationships using a bootstrapping procedure to evaluate the statistical significance of the hypothesized relationships in the structural model, as illustrated in Figure 2. We used a 95% confidence interval (CI) at α=0.05 and determined significance using bootstrapped p-values. We analyzed the standardized path coefficient (β), p-value, and coefficient of determination (R2) to assess the model's strength and explanatory power. The results show that the Direct Effect of Distributed Leadership (DL) on Crisis Communication (CC) is statistically significant and positive (p=0.001, β=0.165). This finding indicates that distributed leadership practices directly affect crisis communication, with a relatively small effect size.

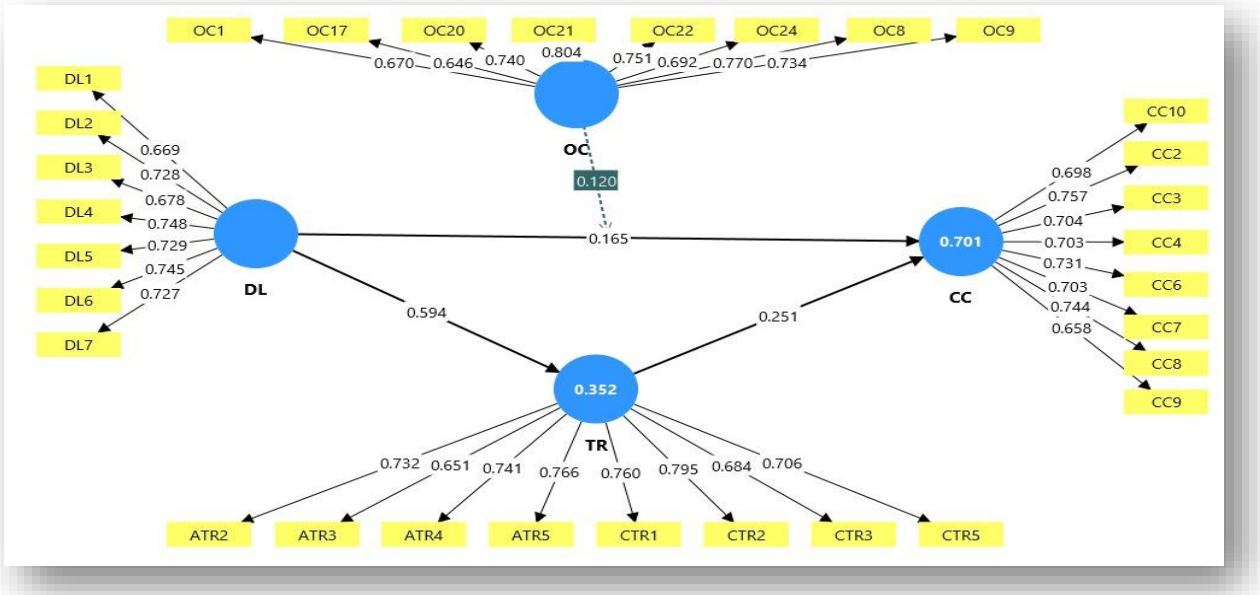



**Figure 2. Structural Model and Path Coefficients**

**Table 6: Path Coefficients and Hypothesis Testing**

| Hypothesis | Path | B | t-value | p-value | Supported | Remarks |
|---|---|---|---|---|---|---|
| **H1** | DL → CC | 0.165 | 3.214 | 0.001 | Yes | Small positive effect of DL on CC |
| **H2** | DL → TR | 0.594 | 11.576 | 0.000 | Yes | Strong effect; DL increases Trust |
| **H3** | TR → CC | 0.251 | 4.896 | 0.000 | Yes | Trust enhances CC |
| **H4** | DL → TR→CC | 0.149 | 4.102 | 0.000 | Yes | Indirect effect; TR partially mediates DL→CC |
| **H5** | OC × DL → CC | 0.120 | 2.341 | 0.010 | Yes | Moderation: DL strengthens OC → CC |

A strong and highly significant effect was also observed on TR (β=0.594, p=0.000), showing that distributed leadership practices involving shared responsibility and participation significantly improve trust among participants. Likewise, the extent of people's trust has a positive and significant (β=0.251, p=0.000) relationship with crisis communication, suggesting the importance of trust in facilitating crisis communication. The results of this study show that the two significant paths obtained distributed leadership –> trust and trust –> crisis communication, suggesting that trust acts as a mediator. Furthermore, the interaction between organizational culture and distributed leadership (OC x DL) positively moderates crisis communication effectiveness (β=0.120, p=0.010), suggesting that when these two variables interact, supportive cultural values improve the effectiveness of distributed leadership in crisis communication. Overall, distributed leadership. The amount of trust placed in leaders, in organizational culture, and in how organizational culture and leaders interact is an important and powerful means to account for the effectiveness of crisis communication.

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### 4.4.1 Evaluation of collinearity

**Table 7. Collinearity Analysis**

| Endogenous Construct | Predictor Construct | VIF Value | Assessment |
|---|---|---|---|
| Trust (TR) | Distributed Leadership (DL) | 1.78 | No collinearity |
| Crisis Communication (CC) | Distributed Leadership (DL) | 2.12 | No collinearity |
| Crisis Communication (CC) | Trust in Leadership (TR) | 1.95 | No collinearity |
| Crisis Communication (CC) | Organizational Culture × DL | 2.34 | No collinearity |

**Note:** There are no concerns about multicollinearity as all the VIF values are below conservative value of 3.0.

### 4.4.2 R square and F square effect size

The model explains 70.4% and 35.3% of the variance in Crisis Communication (CC) and Trust in Leadership (TR), respectively, with good and moderate explanatory power. The effect size estimates ($f^2$) for each predictor construct are highlighted in Table 8 which shows the relative contribution to the explained variance.

**Table 8: $R^2$ and $f^2$ Effect Sizes**

| Endogenous Construct | $R^2$ | $f^2$ (DL) | $f^2$ (OC) | $f^2$ (TR) | $f^2$ (OC × DL) |
|---|---|---|---|---|---|
| Crisis Communication (CC) | 0.704 | 0.032 | 0.243 | 0.072 | 0.018 |
| Trust (TR) | 0.353 | 0.545 | — | — | — |

**Note:** Cohen (1988) suggests that an $f^2$ of 0.02, 0.15 and 0.35 represent small, medium and large effect sizes, respectively. As seen in Table 8, Distributed leadership effect has a high level in the field of trust, and in the field of crisis communication, the medium level of effect of organizational culture is observed. Based on the t-value, trust has a small but positive effect; and the interaction term (OC x DL) shows a positive effect that is small to moderate and supports the moderating effect of organizational culture.

**4.4.3 Evaluation of predictive relevance Q square**

The overall goodness of fit of the blindfold procedure was $Q^2$ = 0.503 for Crisis Communication and $Q^2$ = 0.217 for Trust in Leadership. These results align with Hair et al. (2019) regarding the predictive relevance of both constructs in the original field.

## 5. Discussion

This study explored how leadership structures affect communicative efficacy during an institutional crisis. The theorized relationship is supported by the confirmed P1 relationship between Distributed Leadership (DL) and effective Crisis Communication (CC), with β=0.165, p=0.001, providing basic support for the theorized relationship. Although small, the effect is statistically significant, strongly emphasizing the insight that organizations should move from a "one person, one voice" to a "many voices" communication capacity. This is particularly relevant in Pakistan's HEIs, where crises may arise quickly across several areas, making it more nuanced and agile to respond to them through DL. Decentralizing authority and expertise within academic and administrative units will enable institutions to streamline information collection, tailor messages to local contexts, and instantly recruit a wider pool of communicators who can reach a broader audience of various stakeholder groups, including academics, students, external regulators, and the media (Nwagbara et al., 2024). This "agile" structure seems to help reduce the paralysis commonly found in "hierarchies that are not hierarchical" during complex shocks or disruptions. DL, including its psychological aspects, had the greatest impact on Trust in Leadership (β=0.594, p=0.000), one of the most significant results of this research. During a crisis, people hear so much information, and they accept messages based on "credibility" rather than formal authority. When DL is implemented through competency, transparency, and inclusive decision-making, it builds relational and competence-based trust (Mayer et al., 2024). This trust plays an important role in effective communication, as shown by the direct effect model (Trust in Leadership to CC, β=0.251, p=0.000) and the indirect effect model (Trust in Leadership indirect to CC, β=0.149, p=0.000). In practice, it is clearer for people to listen to what trusted departmental/faculty leaders have to say when you are in the midst of a crisis, as opposed to communications from far away central administration, which can heighten uncertainty, reduce skepticism, and improve coordinated approaches (van der Hoek et al., 2024). The interaction between OC and DL moderates the effect of OC on CC (β=0.120, p=0.010), indicating a significant interaction between the two. This suggests that distributed leadership is very effective in the context of open cultures, cultures of collaboration and psychological safety (Khan et al., 2025).

These spaces enable distributed leaders to communicate and innovate with each other without fear of retaliation, allowing them to understand the situation and communicate collectively. By contrast, cultures that rely on rigid, blame-based premises can stifle communication out of fear, yielding messages that lack unity or falling into what is labeled 'institutional greenhushing', akin to its conventional counterpart (Ye, 2025). A positive, open, well-developed culture is strongly related to CC (r=0.791) despite the lack of a formal DL framework, suggesting it is a force multiplier that can either facilitate or necessitate the advantages of DL. These results suggest that effective crisis communication in complex institutions is not established by a single authoritative person but through an environment of interaction. Trust gives credibility to decentralized messengers, and organizational culture gives transparency and collaboration. The research also explains the importance of trust as a critical mediating factor

and culture as a critical contextual condition, framing DL as relational and context-dependent rather than purely structural.

Collectively, the results highlight that the distributed leadership role is necessary but not sufficient for effective crisis communication. Communicative flexibility is a dynamic result of the distributed structure, relational trust, and culture. This highlights the need for higher education institutions to build not only intervention structures, but also trust and a sense of community among members, so the network of distributed leaders can operate not strictly under the so-called law of the free market, but logically in crisis situations.

**6. Implications of the Study**

This research provides insights and a critical examination of leadership in higher education in Pakistan. It points out that in these complex institutional crises, the situation is too difficult to handle alone. A distributed leadership structure provides a way to better manage responses, for example, by giving greater flexibility to keep decision-making with those most immediately affected; enabling credible communication to a range of stakeholders; and improving accountability at the grassroots level. Particularly important about this process is trust; knowing and being trusted by the leader holds the key to accepting and implementing the message. These outcomes are also driven by organizational culture, which can be more open and collaborative. Perhaps most importantly, psychologically safe environments free leaders to communicate, coordinate, and innovate without fear. The findings resonate with other studies in higher education systems in Pakistan, where crises can take many forms, including student protests, security threats, and administrative decisions. To prevent these crises from going out of hand, a balance of distributed leadership, trust, and a positive culture is required to maintain coherent and effective crisis communication.

**Conclusion**

This study aims to guide leaders in building resilient HEIs that can cope with crises through collective intelligence, trustworthy communication, and a supportive cultural foundation. Further, as noted in this study, a one-size-fits-all approach to handling a crisis with one leader and one message is not effective. Instead, resilience springs from the interplay of distributed leadership, trust, and the organization's culture. Supported by trust (credible, accepted communication) and a culture of openness, collaboration, and psychological safety, a distributed leadership model offers two elements: structural reach and agility. This approach can be implemented through an 'ecosystem' model, which enables coordination and risk mitigation by responding more effectively and quickly to crises in Pakistan, which tend to escalate quickly. It also shows how communicative resilience can be achieved when institutions deliberately embed leadership structures within an active, conscious strategy to foster institutional cultures and relationships seen as enablers.

**Limitations and Future Research Directions**

This study has limitations because it did not include other constructs relevant to the topic, such as psychological safety and other key aspects of organizational behavior, as well as the role of social media in shaping crisis narratives, which may be necessary for a more complete understanding of crisis communication dynamics. The study also used a cross-sectional design, which limited causal inferences, and self-reported data could introduce bias; future studies could reduce this by using multi-method tools such as interviews, case studies, or analyses of real crisis communications. Most importantly, the research is relevant to Pakistani HEIs; future studies could apply the same model to other sectors of society to validate the findings. Longitudinal studies can also provide stronger evidence of causality by revealing changes over time in leadership, organizational culture, and trust as crises progress through the various stages. Qualitative research could also assess distributed leaders' experiences of internal tensions between independence and alignment and offer a deeper understanding of how trust and culture shaped crisis communication.

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