

Manifestations of Bayanihan in Social Media Posts During Natural Disasters: A Content Analysis of Filipino Digital Communal Practices

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ABSTRACT

This study employed qualitative content analysis to examine manifestations of bayanihan and social capital in Facebook posts during natural disasters. The study analyzed disaster-related posts from the 2025 and 2026 datasets to identify patterns of communal behavior in digital spaces. The analysis focused on five manifestations of bayanihan—resource sharing, volunteerism, mutual aid, collective action, and emotional support—and four dimensions of social capital—trust, reciprocity, social networks, and civic engagement. Findings reveal that bayanihan is strongly and consistently manifested in Facebook posts during disasters, with resource sharing and emotional support emerging as the most dominant forms across both datasets. Resource sharing was primarily expressed through the distribution of relief goods, financial assistance, food packs, shelter materials, and other essential resources by government agencies, humanitarian organizations, private groups, and individuals. Emotional support was equally pervasive, reflected in prayers, encouragement, and expressions of solidarity that reinforce collective resilience. Mutual aid and collective action were also prominent, demonstrating reciprocal assistance and coordinated multi-sectoral disaster responses. Volunteerism, though least frequent, remained a visible expression of civic duty and selfless service. In terms of social capital, social networks and civic engagement were the most dominant dimensions. Facebook functioned as a critical platform for connecting diverse actors, including communities, institutions, and organizations, thereby facilitating coordination and information exchange during crises. Civic engagement was evident in widespread participation in donation drives, relief operations, and volunteer activities. Trust was largely directed toward government agencies, humanitarian organizations, and response units, reflecting confidence in institutional capacity during emergencies. Reciprocity, though less frequently coded, was consistently expressed through gratitude and acknowledgment of assistance received, reinforcing norms of mutual obligation. Major themes of bayanihan in Facebook posts during natural disasters were revealed: community support through resource mobilization; solidarity and emotional resilience; collective responsibility and cooperation; and a culture of helping and reciprocity. The findings further showed that Social Capital Theory explains digital bayanihan through the presence of social networks, civic engagement, trust, and reciprocity, which facilitate coordination, participation, and mutual support during disasters.

Keywords: Bayanihan; social capital; Facebook posts; natural disasters; qualitative content analysis.

INTRODUCTION

The Philippines is highly vulnerable to natural disasters, including typhoons, floods, and earthquakes. In times of crisis, Filipinos have long demonstrated the cultural value of Bayanihan, a tradition of communal unity, mutual aid, and collective responsibility. In Filipino culture, Bayanihan — the spirit of civic unity and cooperation — is often shown when a community works together to lift and move a bahay kubo (traditional home). This value appears throughout history, for example, in collective responses to natural disasters (Bersamira & Macaraeg, 2022). However, Bayanihan has grown beyond its original form to include many forms of collective action, such as fundraising for medical costs, volunteering for community projects, and helping

during crises (Gonzales, 2020). During COVID-19, Filipinos showed bayanihan: communities, organizations, and businesses pooled resources; mutual aid groups delivered food and supplies; online fundraisers helped unemployed people; and healthcare workers volunteered their time and skills (del Castillo & Perdido, 2022; Bersamira & Macaraeg, 2022). Bayanihan lets Filipinos share their strengths, skills, and knowledge to help the community, especially in difficult times (Bersamira & Macaraeg, 2022). Borja and Manzano (2025) found that Bayanihan can encourage future generations to cooperate with others, fostering a united society where people help one another and contribute to the community for a better nation.

Despite the growing body of literature on bayanihan as a Filipino cultural value, several research gaps remain that warrant further scholarly attention. While Hernandez, Gozum, and Delgado (2024) offer a philosophical analysis of community pantries as a contemporary expression of bayanihan through a Camusian lens, their framework remains limited to a single philosophical tradition, leaving room for the application of other ethical or cross-cultural perspectives to deepen the understanding of Filipino solidarity. In a related vein, Miasco and Autida (2025) attempt to bridge Aristotle's virtue ethics with the concept of bayanihan, arguing that Aristotle's notion of friendship — rooted in virtuous relationships based on mutual respect, trust, and the common good — resonates with the cooperative and solidaristic ethos embedded in Filipino communal life. While this contribution is significant in expanding the philosophical frameworks applied to bayanihan beyond a single tradition, it also reveals a gap in empirical validation, as the proposed alignment between Aristotelian virtue ethics and bayanihan remains largely theoretical and has yet to be tested against lived community experiences or measured outcomes. Similarly, Borja and Manzano (2025) acknowledge that the spirit of bayanihan is gradually being forgotten, particularly among younger generations. Yet, their study focuses predominantly on teachers' instructional strategies rather than on how youth themselves internalize or resist these values across generational lines. At the intersection of culture and well-being, Bersamira and Macaraeg (2022) highlight that Filipino cultural values such as *hiya*, *pakikisama*, and *kapwa* significantly shape how Filipinos address personal struggles, including mental health concerns; however, the relationship between collectivist values like bayanihan and mental health-seeking behavior remains underexplored. Furthermore, while Adlit and Martinez (2023) document bayanihan as manifested by teachers and stakeholders during the pandemic, their qualitative, narrative-based approach underscores a broader methodological gap: quantitative and mixed-methods studies measuring the tangible impact of bayanihan-based practices on community outcomes are notably absent in the existing literature. Collectively, these gaps point to the need for more interdisciplinary, intersectional, and methodologically diverse research on bayanihan as a dynamic and evolving social practice.

THEORETICAL FRAMEWORK

This study is primarily anchored in Social Capital Theory. Social capital theory has developed through the contributions of several scholars who progressively refined its meaning from individual community ties to broader societal functions. Hanifan (1916) first introduced the concept, defining social capital as the collective assets embedded in social groups such as families and communities, where shared interests and relationships generate value beyond material resources. Jacobs (1961) expanded this view by emphasizing neighborhood-based networks formed through everyday interactions, arguing that trust and community resilience emerge organically from sustained social contact.

Bourdieu (1986) further advanced the theory by framing social capital as the actual and potential resources accessible through durable networks of mutual recognition, highlighting both its tangible and latent benefits. Coleman (1988) emphasized its structural nature, describing social capital as a product of social relations characterized by obligations, information channels, and norms that facilitate coordinated action.

Later, Woolcock and Narayan (2000) and Putnam (2000) shifted attention to its collective function, defining social capital as the networks, norms, and trust that enable cooperation and collective action. Collectively, these perspectives trace the evolution of social capital from interpersonal and community-based interactions to a broader societal resource that fosters cohesion, trust, and collective well-being.

Social Capital Theory provides a strong theoretical foundation for this study by explaining how networks, trust, shared norms, and reciprocal relationships function as collective resources during crises. The theory aligns with the Filipino concept of bayanihan, which emphasizes communal solidarity and mutual aid for the common good.

Scholars such as Hanifan (1916), Jacobs (1961), Bourdieu (1986), and Coleman (1988) highlight the value of social relationships, networks, trust, obligations, and information exchange, while Woolcock and Narayan (2000) and Putnam (2000) emphasize their role in enabling cooperation and collective action. In the context of natural disasters, social media platforms serve as digital spaces where these forms of social capital are activated through information sharing, resource mobilization, and expressions of support. Thus, Social Capital Theory provides a comprehensive framework for examining how bayanihan is manifested in social media posts and how digital interactions foster trust, reciprocity, and collective resilience among Filipinos during times of crisis.

Statement of the Problem

This study aims to analyze the manifestations of bayanihan in social media posts during natural disasters. Specifically, it seeks to answer the following questions:

1. How is bayanihan manifested in Facebook posts during natural disasters in terms of:
 - a. resource sharing;
 - b. volunteerism;
 - c. mutual aid;
 - d. collective action; and
 - e. emotional support?
2. What social capital dimensions are manifested in Facebook posts during disasters in the following areas:
 - a. trust (confidence in others' reliability)
 - b. reciprocity (mutual exchange of support)
 - c. social networks (connection patterns and ties)
 - d. civic engagement (community participation behaviors)
3. What themes emerge from the expressions of bayanihan in social media posts?
4. How does Social Capital theory explain the manifestations of bayanihan in digital spaces during natural disasters?

METHODOLOGY

Research Design

This study employs a qualitative research design using content analysis. It systematically examines textual data from social media posts to identify patterns and themes related to bayanihan. The primary sources include public Facebook posts and comments related to selected natural disasters in the Philippines. This study uses purposive sampling, as posts and comments were selected based on the following criteria: (a) related to natural disasters in the Philippines, (b) publicly accessible, and (c) contain expressions of assistance, solidarity, or coordination.

Data were gathered by: (a) identifying major natural disaster events from 2025-2026, (b) searching Facebook using keywords such as #ReliefPH, #Bayanihan, or #BangonPilipinas, (c) collecting and archiving relevant posts, and (d) organizing data for coding and thematic analysis. Data were analyzed using qualitative content analysis, which included open coding, axial coding, and thematic analysis.

To ensure the trustworthiness and consistency of the content analysis, intercoder reliability was established through independent coding by at least two trained coders. For Research Questions 1 and 2, which focused on identifying manifestations of bayanihan (resource sharing, volunteerism, mutual aid, collective action, and emotional support) and dimensions of social capital (trust, reciprocity, social networks, and civic engagement), Cohen's Kappa (κ) was used to measure the level of agreement between coders beyond chance. Cohen's Kappa is appropriate for categorical data and is widely recognized as a robust measure of intercoder reliability in content analysis.

For Research Questions 3 and 4, which involved the identification of emerging themes and the interpretation of findings through the lens of Social Capital Theory, reliability was established through thematic coding agreement using a codebook-based intercoder reliability procedure. The coders independently analyzed the Facebook posts, compared their thematic classifications, and calculated percentage agreement to assess consistency in theme identification and theoretical interpretation.

Any discrepancies were resolved through discussion and consensus, ensuring that the themes and theoretical explanations accurately reflected the data. This combination of Cohen's Kappa for categorical coding and thematic coding agreement for qualitative interpretation strengthened the credibility, dependability, and rigor of the study's findings.

RESULTS AND DISCUSSION

Using qualitative content analysis, each Facebook post was coded according to the indicators derived from the research questions. The manifestations of Bayanihan are each grounded in established social science literature. Resource Sharing draws from Putnam (2000) and Aldrich (2012), who identify the reciprocal exchange of resources among community members as a central element of both social capital and disaster resilience. Volunteerism is similarly rooted in the work of Putnam (2000) and Coleman (1988), who establish that voluntary participation in community activities reflects civic engagement and the formation of social capital. Mutual Aid is supported by Aldrich (2012) and Klinenberg (2018), who describe reciprocal assistance among community members as a key component of social capital and effective disaster response. Collective Action is anchored in the work of Ostrom (1990) and Putnam (2000), who argue that communities mobilize together to solve shared problems and respond to crises through coordinated effort. Finally, Emotional Support is grounded in Lin (2001) and Aldrich (2012), who recognize that social support networks play a critical role in providing psychological and emotional assistance in the aftermath of disasters.

Moreover, the four dimensions of social capital each carry distinct theoretical foundations. Trust, as described by Putnam (2000), refers to generalized confidence among individuals and institutions that facilitates cooperation and coordinated action. Reciprocity, grounded in Coleman (1988) and Putnam (2000), captures the mutual obligations and expectations that assistance given will be returned in the future. Social Networks, as described by Lin (2001) and Coleman (1988), are the relationships and connections through which resources, information, and support flow among individuals and communities. Finally, Civic Engagement, as defined by Putnam (2000), encompasses participation in community, voluntary, and civic activities that strengthen collective capacity for collective response.

The findings of the present study are consistent with research conducted on other social media platforms, demonstrating that digital expressions of communal support extend beyond Facebook. Studies on X (formerly Twitter) have shown that users frequently engage in resource sharing, information dissemination, collective action, and emotional support during disasters through hashtags, retweets, and real-time updates, enabling rapid coordination of relief efforts and public participation (Houston et al., 2015; Reuter & Kaufhold, 2018). Similarly, research on TikTok has found that short-form videos are increasingly used to raise awareness, mobilize donations, document volunteer activities, and provide messages of encouragement and solidarity during crises, highlighting the platform's capacity to foster civic engagement and community participation (Bhandari & Bimo, 2022). These platforms foster social networks, trust, and reciprocity by connecting individuals, organizations, and communities around shared disaster-response goals, thereby generating social capital that supports collective resilience (Ellison et al., 2007; Putnam, 2000).

Research Question 1: How is Bayanihan manifested in Facebook posts during natural disasters in terms of resource sharing, volunteerism, mutual aid, collective action, and emotional support?

Table 1a: Manifestations of Bayanihan in 2025 Facebook Posts during Natural Disasters in Terms of Resource Sharing, Volunteerism, Mutual Aid, Collective Action, and Emotional Support

Facebook Post	Bayanihan Code
BBM said tents used during COVID will be given to earthquake victims	RS
Pray for Philippines	ES
Cash assistance and rice aid continue to reach survivors	RS, MA
P34 Million Calamity Aid Given to San Remigio Residents	RS, MA
Government officials extending support to affected families	RS, CA
Pray for the Philippines; support affected families	ES, MA
Bagyong Opong: Let's come together as one community	CA, MA, ES
Philippine Air Force transported relief items	RS, CA, VOL
P10K each for quake victims; rehabilitation efforts continue	RS, CA
Nobody can save us except Jesus our savior	ES
Let's continue to pray for everyone affected	ES
We've extended our help to fire victims	MA, RS
Encourage helping victims of disasters nationwide	MA, CA
"Amid the ruins, we shared hope and worthiness..."	ES, MA
Hope for long-term solutions for rebuilding	CA
Medicines, food packs, shelter kits distributed with partners	RS, MA
Thank you Celeste and Jonathan for bringing hope	MA, ES
Heal our Land Oh Lord. Bangon Pilipinas	ES
Kahit ano pang unos ang dumating, tayo at tayo pa rin ang magtutulungan	MA, CA, ES
Pray for Cebu	ES
Lord tulungan mo kaming maging malakas	ES
Embassy of Canada distributed hygiene kits and food packs	RS, MA, CA
Heal our Land Oh Lord. Pray for our Land	ES
Nature's power reminds us to stay united	CA, ES
Our hearts go out to Cebu; pray and support those affected	ES, MA
Helping others	MA
Salute to teachers and parents calming students	VOL, ES
Sending strength and prayers to everyone affected	ES
Patuloy ang pagtutulungan para sa tulong at pagbangon	CA, MA
Angat Buhay delivered food packs, water, hygiene kits, shelter kits	RS, VOL, MA, CA
Rehabilitation efforts to help communities recover and rebuild	CA, RS

Among the five manifestations of bayanihan, Resource Sharing (RS) was the most frequently coded, appearing across posts that documented the distribution of financial assistance, relief goods, food packs, rice aid, hygiene kits, shelter repair materials, and medicines by a wide range of actors, including government agencies, military units, international organizations, and private citizens.

Emotional Support (ES) was the second most prominent manifestation, permeating a broad range of posts through prayers, messages of solidarity, religious appeals, and expressions of encouragement — reflecting the deeply spiritual and communal character of Filipino disaster response. Collective Action (CA) followed, appearing in posts that described coordinated, multi-agency efforts toward relief and rehabilitation, illustrating how bayanihan extends beyond individual acts of generosity into organized, systemic responses.

Mutual Aid (MA) was similarly evident, frequently co-occurring with both RS and CA, and was characterized by posts that emphasized reciprocal helping behavior — individuals, organizations, and communities extending and acknowledging assistance to one another. Volunteerism (VOL), though the least frequent of the five manifestations, was nonetheless present in posts recognizing the contributions of teachers, humanitarian workers,

military responders, and organized volunteer groups such as Angat Buhay, affirming that selfless service remains a vital, if less visible, expression of bayanihan during crises.

The analysis of Facebook posts across both datasets reveals that bayanihan during natural disasters is manifested through five interconnected expressions, with Resource Sharing (RS) and Emotional Support (ES) emerging as the most dominant. Resource Sharing appeared extensively across both tables, documented through the distribution of financial assistance, relief goods, food packs, rice aid, hygiene kits, shelter repair kits, medicines, and remittance fee waivers by a diverse range of actors — including government agencies such as the Philippine Air Force and local government units, humanitarian organizations such as Caritas Philippines and the Philippine Red Cross, international partners such as the Embassy of Canada, and private individuals. Emotional Support was equally pervasive, manifesting through prayers, messages of solidarity, religious appeals, and expressions of sympathy and encouragement.

Posts such as "Pray for Philippines," "Bangon Pilipinas," "Sending strength and prayers to everyone affected," and "Lord tulungan mo kaming maging malakas" reflected the deeply spiritual and communal character of Filipino disaster response, reinforcing collective morale and national unity. Mutual Aid (MA) was the third most prominent manifestation, frequently co-occurring with RS, and was characterized by reciprocal helping behavior — individuals and organizations both extending and acknowledging assistance, as seen in donation appeals, expressions of gratitude, and community-driven relief efforts.

Collective Action (CA) followed, appearing in posts describing multi-agency and community-coordinated responses such as the joint deployment of PNP, AFP, and local communities, rehabilitation initiatives, and calls to unite, as seen in "Patuloy ang pagtutulungan para sa tulong at pagbangon" and "Let's come together as one community." Volunteerism (VOL), while the least frequent manifestation, was nonetheless present in posts recognizing disaster response units, humanitarian workers, barangay officials, teachers, and organized volunteer groups, affirming that selfless service remains an integral, if less visible, dimension of bayanihan.

Table 1b: Manifestations of Bayanihan in 2026 Facebook Posts during Natural Disasters in Terms of Resource Sharing, Volunteerism, Mutual Aid, Collective Action, and Emotional Support

Facebook Post	Bayanihan Manifestation
"Nakaka awa ang kalagayan... sana madagdagan pa ang mga nagpapadala ng tulong."	RS, ES
"Nature's power reminds us to stay united."	CA, ES
"Maraming salamat Boss Toyo sa pag abot mo ng tulong..."	MA, RS
"Sending strength and prayers to everyone affected."	ES
"Pray for Philippines."	ES
"PNP, AFP, SB members and local communities have come together..."	CA, MA, VOL
"My heart goes out to everyone affected..."	ES
Thanking Shaina, volunteers, barangay officials; accepting donations	RS, VOL, MA, CA, ES
"Praying for everyone affected..."	ES
"Please donate and share..."	RS, MA
Bayan Remit free remittance fees	RS, MA
"May God watch over those affected..."	ES
Shelter repair kits distributed after typhoons	RS, MA
"Your donations can help provide emergency relief..."	RS, MA
"Urgent Appeal for Mindanao Earthquake Response"	RS, MA
10ID deploys disaster response units	VOL, CA
Caritas Philippines responding to communities	RS, MA, CA
Philippine Red Cross donation appeal	RS, MA, CA
Calamity assistance distributed to residents	RS
"Filipino spirit of Bayanihan shines brightest..."	CA, MA, ES

The content analysis of the Facebook posts during natural disasters in 2026 revealed that bayanihan was prominently manifested through resource sharing, emotional support, mutual aid, collective action, and volunteerism during natural disasters. Resource sharing (RS) emerged as one of the most frequent manifestations, as evidenced by numerous posts encouraging donations, distributing relief goods, providing financial assistance, and offering material support to affected communities. Posts such as appeals for food, water, shelter materials, and remittance assistance demonstrated the willingness of individuals, organizations, and institutions to mobilize resources for disaster victims. Emotional support (ES) was likewise highly evident through messages of prayers, encouragement, sympathy, solidarity, and hope. Several posts expressed concern for affected families and offered moral support by encouraging resilience and unity during times of crisis. Mutual aid (MA) was reflected in expressions of gratitude toward donors and volunteers, as well as in calls for community members to help one another. Collective action (CA) was demonstrated through coordinated efforts involving government agencies, non-governmental organizations, local officials, military units, religious groups, and community members working together in disaster response and recovery. Volunteerism (VOL) was also present in posts recognizing the contributions of volunteers, disaster response teams, and first responders who devoted their time and efforts to assisting affected populations.

Research Question 2: What social capital dimensions are manifested in Facebook posts during disasters in the following areas: trust, reciprocity, social networks, and civic engagement?

Table 2a: Social Capital Dimensions in 2025 Facebook Posts during Disasters in Terms of Trust, Reciprocity, Social Networks, and Civic Engagement

Facebook Post	Social Capital Dimension
BBM said tents used during COVID will be given to earthquake victims	TR, CE
Pray for Philippines	SN
Cash assistance and rice aid continue to reach survivors	TR, CE
P34 Million Calamity Aid Given to San Remigio Residents	TR, CE
Government officials extending support to affected families	TR, SN
Pray for the Philippines; support affected families	CE, SN
Bagyong Opong: Let's come together as one community	SN, CE
Philippine Air Force transported relief items	TR, SN, CE
P10K each for quake victims; rehabilitation efforts continue	TR, CE
Nobody can save us except Jesus our savior	SN
Let's continue to pray for everyone affected	SN
We've extended our help to fire victims	REC, CE
Encourage helping victims of disasters nationwide	REC, CE
"Amid the ruins, we shared hope and worthiness..."	SN, REC
Hope for long-term solutions for rebuilding	CE
Medicines, food packs, shelter kits distributed with partners	REC, SN, TR
Thank you Celeste and Jonathan for bringing hope	REC
Heal our Land Oh Lord. Bangon Pilipinas	SN
Kahit ano pang unos ang dumating, tayo at tayo pa rin ang magtutulongan	REC, SN
Pray for Cebu	SN
Lord tulungan mo kaming maging malakas	SN
Embassy of Canada distributed hygiene kits and food packs	TR, SN, CE
Heal our Land Oh Lord. Pray for our Land	SN
Nature's power reminds us to stay united	SN
Our hearts go out to Cebu; pray and support those affected	SN, CE
Helping others	REC
Salute to teachers and parents calming students	TR, SN
Sending strength and prayers to everyone affected	SN
Patuloy ang pagtutulongan para sa tulong at pagbangon	SN, CE
Angat Buhay delivered food packs, water, hygiene kits, shelter kits	TR, SN, CE
Rehabilitation efforts to help communities recover and rebuild	CE, TR

Among the social capital dimensions, Social Networks (SN) emerged as the most prominent, appearing in the majority of the coded posts. This was reflected in the extensive connections illustrated across posts — from religious communities offering collective prayers, to government agencies, humanitarian organizations, military units, international partners, and ordinary citizens coordinating relief efforts. Civic Engagement (CE) was the second most prominent dimension, consistently appearing in posts that documented active public participation through donations, volunteerism, and community-driven relief initiatives, suggesting that social media effectively mobilizes individuals and organizations toward collective action. Trust (TR) appeared prominently in posts involving institutional actors such as government officials, the Philippine Air Force, and humanitarian organizations, reinforcing public confidence in the capacity of these entities to deliver aid and coordinate disaster response. Reciprocity (REC), while less frequent than the other dimensions, was nonetheless evident in posts expressing gratitude toward donors, volunteers, and partner organizations, reflecting the mutual exchange of assistance and appreciation that sustains community solidarity. Taken together, these dimensions suggest that the bayanihan spirit as expressed on Facebook is deeply embedded in a web of social relationships, civic responsibility, institutional trust, and mutual obligation.

Table 2b: Social Capital Dimensions in 2026 Facebook Posts during Disasters in Terms of Trust, Reciprocity, Social Networks, and Civic Engagement

Facebook Post	Social Capital Dimensions
"Nakaka awa ang kalagayan... sana madagdagan pa ang mga nagpapadala ng tulong."	CE
"Nature's power reminds us to stay united."	SN
"Maraming salamat Boss Toyo sa pag abot mo ng tulong..."	REC, TR
"Sending strength and prayers to everyone affected."	SN
"Pray for Philippines."	SN
"PNP, AFP, SB members and local communities have come together..."	SN, TR, CE
"My heart goes out to everyone affected..."	SN
Thanking Shaina, volunteers, barangay officials; accepting donations	REC, SN, CE, TR
"Praying for everyone affected..."	SN
"Please donate and share..."	CE, REC
Bayan Remit free remittance fees	CE, TR
"May God watch over those affected..."	SN
Shelter repair kits distributed after typhoons	CE, TR
"Your donations can help provide emergency relief..."	CE
"Urgent Appeal for Mindanao Earthquake Response"	CE
10ID deploys disaster response units	TR, SN, CE
Caritas Philippines responding to communities	TR, CE, SN
Philippine Red Cross donation appeal	TR, CE
Calamity assistance distributed to residents	TR, CE
"Filipino spirit of Bayanihan shines brightest..."	SN, CE

In terms of social capital dimensions, the findings showed that civic engagement and social networks were the most evident in the Facebook posts. Civic engagement (CE) was demonstrated through active participation in donation drives, fundraising campaigns, volunteer activities, relief operations, and information dissemination efforts. The posts encouraged individuals to contribute resources, share information, and participate in collective recovery initiatives. Social networks (SN) were evident through the connections established among families, communities, local governments, non-government organizations, churches, and other stakeholders. Facebook served as a platform that facilitated communication, coordination, and interaction among these actors. Trust (TR) was manifested through the confidence placed in institutions such as government agencies, humanitarian organizations, local leaders, and disaster response units. This was particularly evident in posts highlighting the efforts of the military, local government units, charitable organizations, and community leaders in delivering assistance. Reciprocity (REC) was reflected in expressions of appreciation and acknowledgment toward donors,

volunteers, and organizations, indicating a culture of mutual support and shared responsibility during times of crisis.

The analysis of Facebook posts across both datasets reveals that all four dimensions of social capital were present in disaster-related content, with Social Networks (SN) and Civic Engagement (CE) emerging as the most dominant. Social Networks appeared most frequently across both tables, manifesting through the wide range of connections illustrated in the posts — from religious communities offering collective prayers, to coordinated linkages among government agencies, military units, humanitarian organizations, international partners, barangay officials, volunteers, and ordinary citizens. Posts such as "Nature's power reminds us to stay united," "Kahit ano pang unos ang dumating, tayo at tayo pa rin ang magtutulungan," and the joint mobilization of PNP, AFP, and local communities exemplify how disaster response on social media operates through and reinforces existing social ties. Civic Engagement was the second most prominent dimension, consistently appearing in posts that documented active public participation through donations, relief distribution, volunteer mobilization, and community appeals. Posts from organizations such as Caritas Philippines, the Philippine Red Cross, and Angat Buhay, alongside calls to "please donate and share" and urgent appeals for earthquake and typhoon response, reflect how Facebook functions as a platform for galvanizing civic participation during crises. Trust (TR) was the third most evident dimension, appearing predominantly in posts involving institutional actors — government officials, the Philippine Air Force, the 10th Infantry Division, and humanitarian organizations — whose relief operations and aid distribution reinforced public confidence in these entities' capacity to respond effectively. Reciprocity (REC), while the least frequent of the four dimensions, was nonetheless meaningfully present in posts expressing gratitude toward donors, volunteers, and community helpers, as seen in messages such as "Maraming salamat Boss Toyo sa pag abot mo ng tulong" and acknowledgments of individuals like Shaina, Celeste, and Jonathan. These expressions of mutual appreciation reflect the norm of reciprocal exchange that underlies bayanihan and sustains community solidarity beyond the immediate crisis.

Research Question 3: What themes emerge from the expressions of bayanihan in social media posts?

Based on the findings, four major themes emerged from the expressions of bayanihan in Facebook posts during natural disasters:

1. Community support through resource mobilization

Posts frequently highlighted the sharing of relief goods, including food, medicines, and shelter materials, as well as financial assistance, demonstrating the collective effort to meet the immediate needs of disaster victims.

2. Solidarity and Emotional Resilience

Many posts expressed prayers, encouragement, sympathy, and hope, reflecting the importance of emotional and spiritual support in helping communities cope with disasters.

3. Collective Responsibility and Cooperation

Posts emphasized unity, teamwork, and coordinated actions among government agencies, organizations, volunteers, and local communities in responding to crises.

4. Culture of Helping and Reciprocity

Expressions of gratitude, mutual assistance, and volunteer service revealed a shared commitment to helping one another and sustaining community recovery.

Research Question 4: How does Social Capital theory explain the manifestations of bayanihan in digital spaces during natural disasters?

Social Capital Theory explains that bayanihan in digital spaces is strengthened through social networks, civic engagement, trust, and reciprocity. Facebook serves as a platform where people connect, share information, coordinate relief efforts, and encourage participation in disaster response. Social networks enable

communication among communities and organizations, civic engagement motivates donations and volunteerism, trust encourages confidence in institutions and relief providers, and reciprocity promotes mutual support and gratitude. Together, these dimensions of social capital help sustain the bayanihan spirit and strengthen community resilience during natural disasters.

Implications

The findings carry several implications for communication, disaster management, and community development. The dominance of Social Networks and Civic Engagement suggests that Facebook functions as an active space for community mobilization, implying that disaster response agencies and local government units should strategically leverage social media to strengthen coordination and encourage public participation in relief efforts. The prominence of Resource Sharing and Emotional Support further implies that Filipinos use social media to address both material needs and collective morale, underscoring the importance of recognizing emotional and spiritual expressions, such as prayers and messages of solidarity, as legitimate components of disaster response. The consistent association of Trust with institutional actors underscores the responsibility of government and humanitarian organizations to maintain transparent, credible social media communication, as their online visibility directly shapes public confidence during emergencies.

Although less frequent, Reciprocity implies that publicly acknowledging volunteers, donors, and community helpers reinforces the social bonds that sustain bayanihan and encourages continued participation in relief efforts. Broadly, the findings suggest that the bayanihan spirit remains a resilient, culturally embedded value that has adapted to digital expression, and that culturally grounded frameworks may be more effective in mobilizing community response than externally imposed models. Policymakers, educators, and community organizers may therefore benefit from integrating bayanihan into disaster preparedness curricula and social media communication strategies to foster a more cohesive and culturally resonant approach to disaster response and recovery.

Recommendations

The following practical recommendations are put forth:

1. Crisis communicators and community leaders may incorporate emotional and spiritual expressions into their disaster communication strategies. Messages that resonate with Filipino values, such as collective prayer, solidarity, and resilience, may help sustain community morale and psychological well-being during and after crises.
2. Humanitarian organizations and government agencies may publicly acknowledge volunteers, donors, and partner organizations on social media. Such recognition encourages continued community participation in relief and recovery efforts.
3. Media practitioners, communication educators, and academic institutions may integrate the bayanihan framework into disaster communication curricula and training programs, equipping future communicators and disaster managers with culturally grounded approaches to community-centered disaster response.
4. Policymakers and disaster risk reduction authorities may institutionalize social media monitoring and analysis as part of national and local disaster preparedness plans. Systematic tracking of bayanihan manifestations and social capital dimensions can provide real-time insights into community needs, emerging response networks, and gaps in relief coordination, ultimately strengthening disaster management systems in the Philippines.

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