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ORGANISATIONAL SENSEMAKING THROUGH SOCIAL MEDIA DURING CRISES: EVIDENCE FROM MALAYSIA'S NATIONAL DISASTER MANAGEMENT AGENCY (NADMA)

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ABSTRACT

Social media has become an important component of disaster communication, yet its role in supporting internal organisational sensemaking remains less understood. This study examines how social media supports organisational sensemaking during disaster response within Malaysia's National Disaster Management Agency (NADMA). A qualitative case study design was employed, involving face-to-face, semi-structured interviews with six senior NADMA personnel with more than fifteen years of experience in disaster management who were directly involved in managing disaster-related information and social media communication. Interview data were analysed thematically using ATLAS.ti 8 and interpreted through Weick's sensemaking processes of enactment, selection, and retention. The analysis identified 13 integrated themes across the three processes. During enactment, social media provided digital cues, public reactions, viral information, and emerging narratives that required verification and interpretation alongside formal agency reports and professional expertise. During selection, social media helped identify public concerns and misinformation requiring organisational attention and provided a channel for communicating validated responses. During retention, its role was less direct, as communication experiences contributed to organisational learning when incorporated into formal review, planning, institutional structures, and established practices. The study demonstrates the contextual relevance of Sensemaking Theory in explaining how social media interacts with formal organisational information and disaster-governance mechanisms. Practically, the findings highlight the importance of integrating social media monitoring, information verification, inter-agency coordination, and organisational learning to strengthen disaster communication and response.

Keywords: Social Media, Organisational Sensemaking, Crisis Communication, Disaster Management, Digital Governance.

INTRODUCTION

Social media has become an indispensable part of crisis communication and disaster management today. During emergencies, government agencies can use platforms like Facebook, X, and Instagram, as well as other digital communication channels, to share information quickly, monitor public response, address concerns, and engage in ongoing dialogue with affected communities. Social media creates a more dynamic information environment than traditional communication, where official information, public reaction, personal accounts, and changing stories exist side by side. This environment offers opportunities for disaster-management organisations to improve situational awareness and public engagement, but it also creates challenges around misinformation, information overload, and rapidly changing public narratives.

For organisations engaged in disaster management, these barriers go beyond communicating public messages. Before passing information on, organisational staff must assess the current situation, evaluate the quality of new data, reconcile accounts from different sources, and choose a course of action. Social media is embedded in a larger crisis information ecology in which organisations constantly monitor digital signals alongside official agency communications, specialised knowledge, and inter-agency data. Organisational sensemaking can help explain this interpretive process. Sensemaking is how organisational members make sense of ambiguous situations, construct plausible accounts, and coordinate actions in uncertain environments (Weick, 1995; Weick et al., 2005). A particularly relevant context for sensemaking is crisis and disaster situations, where information is often incomplete, situations change rapidly, and organisations must act before they are sure.

Within this framework, social media may influence sensemaking in various ways. In the early stages of a crisis, digital data can show emerging issues, public concerns, misinformation, and the seriousness attributed to an incident. Once information has been analysed and validated, social media can help to disseminate selected organisational responses to the public. Digital communication experiences can improve organisational learning if integrated into formal evaluations, strategic planning, and future disaster response protocols. In Malaysia, the National Disaster Management Agency (NADMA) plays a significant role in disaster preparedness, response, recovery and inter-agency coordination. NADMA operates within a cooperative disaster-management structure that requires decoding and synchronising information at district, state, and federal levels. In times of disasters, social media communication plays an important role in sharing disaster information and facilitating public enquiries (Ramli et al., 2021).

Although social media has become increasingly important for disaster communication, much of the existing literature has focused on outward-facing outcomes such as information dissemination, public engagement, risk communication, and trust. Little attention has been paid to how social media information fits into the internal organisational mechanisms disaster management professionals use to make sense of scenarios, choose responses, and retain organisational knowledge. This gap is especially relevant in public-sector disaster organisations operating in complex, multi-agency environments. Accordingly, this study examines organisational sensemaking through social media during disaster response within Malaysia's National Disaster Management Agency. Guided by Weick's Sensemaking Theory, the study focuses on the interrelated processes of enactment, selection, and retention and explores how social media interacts with formal organisational information, professional expertise, and inter-agency coordination throughout these processes.

PROBLEM STATEMENT

Social media has become an increasingly embedded part of disaster communication, but its rapid and decentralised information landscape poses significant challenges for disaster management agencies. In

times of crisis, information may be released before being verified, and the public's perception of the situation may be shaped by outdated material, misinformation, speculation, and conflicting reports. Disaster-response organisations therefore need to analyse and authenticate information before deciding on their course of action and communication strategy. Existing studies on social media and crisis communication primarily address information dissemination, message effectiveness, public engagement, emergency preparedness, and trust in government communication. These studies offer valuable insight into how the public seeks out and responds to crisis information. Nevertheless, they tell us relatively little about the internal organisational processes by which disaster-management officials review digital data, compare it with formal operational references, and translate that analysis into coordinated action.

This distinction matters because disaster response is more than distributing information to the public. Organisational participants must continually identify relevant cues, assess information credibility, engage with technical agencies, reconcile conflicting interpretations, decide on appropriate responses, and remember lessons for future operations. Social media may be involved in these activities, but it does not operate independently of established disaster-management structures. Instead, digital signals also interact with professional expertise, official documentation, organisational protocols, and inter-agency collaboration. The role of social media in this broader sensemaking context remains poorly understood, especially within governmental disaster management organisations. The Malaysian context provides a relevant backdrop for discussing this issue. NADMA coordinates disaster management among agencies and levels of administration, operating in a constantly changing digital communication environment. While previous studies examined how the public engages with NADMA's social media and seeks disaster-related information (Ramli et al., 2021), they did not sufficiently explore how agency staff interpret social media content and incorporate it into organisational understanding when responding to a disaster.

The research investigates social media usage for organisational sensemaking in NADMA. This research examines how organisational members develop situational understanding in enactment, translate validated perceptions into communication and operational actions in selection, and sustain organisational learning and institutional continuity in retention, drawing on Weick's Sensemaking Theory. The research conceptualises social media as part of a wider crisis information ecosystem that interacts with official agency data, professional knowledge, and organisational frameworks, rather than as an isolated public communication platform.

RESEARCH OBJECTIVE AND RESEARCH QUESTION

This study examines how social media supports organisational sensemaking processes of enactment, selection, and retention during disaster response within Malaysia's National Disaster Management Agency (NADMA). Accordingly, the study addresses the following research question:

RQ1: How does social media support organisational sensemaking processes of enactment, selection, and retention during disaster response within NADMA?

LITERATURE REVIEW

The increasing integration of social media into disaster management has expanded the information environment in which crisis communication and organisational decision-making occur. Contemporary disaster-management agencies operate within an environment where official information, public reactions, eyewitness accounts, misinformation, and rapidly evolving narratives may circulate simultaneously. Recent research therefore increasingly recognises social media not only as a dissemination channel but

also as a source of situational information that can influence crisis interpretation, coordination, and organisational learning (Mirbabaie et al., 2020; Eismann et al., 2021; Gopal et al., 2026).

This literature review examines the relationship between social media, crisis communication, and organisational sensemaking in disaster-management settings. It first reviews the contemporary role of social media in crisis communication, then examines organisational sensemaking as the study's theoretical foundation. It then synthesises recent evidence concerning how social media may contribute differently to enactment, selection, and retention, before situating these processes within NADMA and the Malaysian disaster-management context.

Social Media in Crisis Communication

The rapid development of social media technologies has significantly affected the crisis communication strategies of public and private organisations. Unlike traditional communication, social media platforms allow stakeholders to communicate and interact bidirectionally and disseminate information instantly during crises. Social media platforms (e.g., Facebook, X (formerly Twitter), Instagram, and Telegram) have become important digital communication channels that facilitate communication between government entities and citizens during crises (Muniz-Rodriguez et al., 2020). Organisations can use social media platforms to provide timely updates, assess public reactions, respond to issues and manage emergency communications more effectively than traditional media sources.

The increased use of social media technologies has led government agencies to become more involved in monitoring digital communication spaces during emergencies. Agencies are increasingly expected to do more than disseminate information; they must also address misinformation, understand public opinion, and build public trust through transparent communication strategies (Mirbabaie et al., 2020). Social media is quick and easy to access, making it a good way to share information quickly. But it also means misinformation, rumours and conflicting stories are more likely to spread. Disinformation in disasters can negatively affect public decision-making and can impede response efforts. So, disaster management organisations need to use social media technologies strategically to ensure information is accurate, reliable, and timely.

Recent studies highlight that social media platforms are more than communication tools; they are crucial parts of digital crisis communication frameworks that enable coordination, stakeholder involvement, and disaster management (Eismann et al., 2021). Social media technologies facilitate information exchange, collaborative issue resolution, and public engagement through ongoing interactions between organisations and stakeholders during crises. These developments exemplify the growing importance of digital communication technologies in shaping current approaches to disaster management. Social media has become a key component of contemporary disaster communication, enabling rapid, multidirectional information flow between government agencies, emergency services, affected communities, and the general public. A detailed study by Muniz-Rodriguez et al. (2020) found that social media enables the dissemination of emergency alerts and response information and helps organisations identify areas and communities in need of assistance. Similarly, Gopal et al. (2026) conducted a comprehensive analysis of 250 studies on social media's role in natural-hazard management and demonstrated the growing importance of social media data for extracting useful insights for natural-hazard preparedness, response, and recovery.

Organisational Sensemaking Theory

Organisational sensemaking is the process by which organisational members make sense of equivocal circumstances and generate plausible interpretations that enable coordinated action (Weick, 1995; Weick et al., 2005). Sensemaking is particularly pertinent in crises, when information is often incomplete, conditions change rapidly, and organisations must make decisions under uncertainty. This study focuses on three related sensemaking processes: enactment, selection, and retention. Enactment involves identifying and interpreting relevant environmental cues. Selection involves evaluating possible interpretations and determining possible actions. Retention preserves experiences, interpretations, and practices that can inform future organisational reactions (Weick, 1995; Weick et al., 2005).

Recent research suggests that sensemaking increasingly occurs in digitally mediated communication contexts. Mirbabaie et al. (2020) show that organisations need to analyse a large quantity of both formal and informal crisis-related information spread through social media. Similarly, Li et al. (2021) show that social media dialogue can support collective interpretation and coordinated responses in organisations during crises. Hence, sensemaking is not only an activity of the individual mind. Organisational significance emerges from engagement, dialogue, specialist knowledge, and the juxtaposition of different interpretations. This community aspect is particularly relevant to disaster management, which involves multiple organisations and administrative levels (Li et al., 2021).

Social Media as Part of Organisational Sensemaking

Social media can play several roles in enactment, selection, and retention. During enactment, digital platforms provide signals about what is happening, social issues, trending information, and false information. These signals can direct organisational attention to emerging issues but require validation through formal documentation, technical data, and expert opinion (Mirbabaie et al., 2020; Shahbazi & Bunker, 2024). Social media analysis can shape communication priorities and organisational responses during selection. Organisations can use formal social media platforms to disseminate verified information, but public responses and disinformation may highlight aspects that need clarification. Li et al. (2021) demonstrate how digital communication can help organisations detect key issues and coordinate responses during crises.

Social media's impact on retention is somewhat indirect. Organisational learning is when organisations reflect on past crises and learn lessons to apply to future approaches. Eismann et al. (2021) argue that social media capabilities can improve organisational learning by providing greater access to information and knowledge across organisational boundaries. But digital information boosts retention only if it is embedded in organisational assessment, strategic planning, everyday practices or shared institutional knowledge. Therefore, social media cannot be viewed as an independent sense-making tool. Rather, it is part of a broader crisis information landscape that relates to organisational competence, existing information frameworks, and inter-agency coordination in enactment, selection, and retention.

NADMA and the Malaysian Disaster Communication Context

Disaster management in Malaysia is based on a multi-agency system that requires coordination at district, state and federal levels and is overseen by the National Disaster Management Agency (NADMA). Social media has entered this communication landscape, enabling the dissemination of public information and access to disaster updates. Previous Malaysian studies have demonstrated the significance of NADMA's social media in the public domain. Ramli et al. (2021) found that the public sought disaster-related

information from NADMA's social media channels. This study found that NADMA provides information about disaster situations, response efforts, preparedness, and public aid via online platforms.

However, these studies primarily focus on information dissemination and public information-seeking. Less attention has been given to how NADMA personnel themselves interpret information circulating through social media, reconcile it with technical and inter-agency information, select appropriate organisational responses, and retain relevant experiences for future disaster management. The present study addresses this gap by examining social media from an internal organisational sensemaking perspective. It investigates how social media contributes to situational interpretation during enactment, communication and response decisions during selection, and organisational learning during retention.

METHODOLOGY

Research Design

This research employed a qualitative case study design to investigate the role of social media in facilitating organisational sensemaking in disaster response at the National Disaster Management Agency (NADMA), Malaysia. Given the complex and rapidly changing nature of disaster scenarios, the research used a qualitative methodology to understand how organisational participants perceive crisis information, evaluate possible reactions, and safeguard organisational knowledge. The case study methodology allowed analysis of these processes in their real organisational and operational environment. The research was conceptually grounded in Weick's Sensemaking Theory, particularly the interconnected processes of enactment, selection and retention. These procedures informed the interview protocol and later provided a framework for analysing and structuring the results.

2.1 Participants and Recruitment

The study used purposive sampling to select individuals with significant experience and active involvement in disaster management and crisis communication. The study included six high-ranking NADMA officials. The participants were senior managerial and decision-making personnel with more than fifteen years of experience in disaster management at the district, state and national levels.

All participants actively managed disaster-related information and social media interactions during disasters. Their duties included information verification, coordination with other agencies, documentation of operations, data management, and communications support. They knew how National Security Council Directive No. 20 (MKN Directive No. 20) was implemented, and they had experience coordinating disaster response across multiple agencies. To preserve anonymity, participants were given anonymous identifiers P1 to P6, which are used throughout the results presentation.

Data Collection

Data were collected through face-to-face, semi-structured in-depth interviews. This approach ensured consistency across interviews while allowing participants to elaborate on their experiences with disaster response, information management, coordination, and social media communication. Each interview lasted about 45 to 60 minutes and followed a protocol developed from Weick's Sensemaking Theory. Enactment-related questions explored initial crisis interpretation, information gathering, and situational assessment. Selection-related enquiries focused on information validation, decision-making procedures, communication methods, and response alignment. Retention-related enquiries focused on organisational learning, past disaster experiences, formal procedures, and future response strategies.

The interviews were conducted in Bahasa Melayu and audio-recorded with participants' consent, then transcribed verbatim. The researcher then translated relevant quotations into English, using Grammarly only as a language-support tool to refine grammar and readability while preserving the original meaning. Data were collected between March and June 2021.

Data Analysis

The interview data were analysed using thematic analysis with the assistance of ATLAS.ti 8. The analysis began with repeated readings of the interview transcripts to familiarise the researcher with the participants' accounts. The researcher then coded relevant segments of the transcripts according to recurring meanings, experiences, and organisational practices related to crisis interpretation, information management, decision-making, communication, coordination, and organisational learning. Related codes were compared and grouped into preliminary categories. We then reviewed these categories against both the interview data and the study's theoretical framework. Through this iterative process, 13 integrated themes emerged and were organised under Weick's three sensemaking processes: enactment, selection, and retention.

The enactment themes captured how participants identified, interpreted, screened, and verified emerging disaster information. The selection themes represented how verified interpretations were translated into communication and operational responses. The retention themes reflected how participants reviewed, institutionalised, and carried forward organisational experience and established practices to support future disaster response. The researcher conducted the initial coding and theme development using Braun and Clarke (2021). An academic expert then reviewed the codes and themes to assess their conceptual consistency and alignment with the interview data and theoretical framework. The researcher selected representative quotations from the transcripts to show the relationship between participants' accounts and the resulting themes.

Trustworthiness and Ethical Considerations

Several initiatives contributed to the reliability and transparency of the qualitative assessment. The investigator maintained a systematic link between the coded interview transcripts, theme development, and the final analysis. The analysis was checked against the transcripts to ensure alignment with participants' narratives and themes, and an academic expert peer-reviewed it to ensure consistency and reliability in the thematic framework. Representative participant quotes were also included in the Results section to provide a clear evidential base for each synthesised theme. Participant identifiers P1-P6 were used to protect confidentiality.

The relevant media and communication unit within NADMA approved the research. The participants were senior officials who manage disaster management information and social media engagement during a crisis. All subjects gave informed consent before participating in the study. The research was conducted confidentially and anonymously. Participation was voluntary, and we obtained informed consent before the interviews. Participants were informed about the study's purpose and the confidentiality of their responses. The report excluded identifying information, and participant identifiers P1–P6 were used throughout the Results section. The study obtained organisational permission from the relevant media and communication unit within NADMA.

RESULTS

The results suggest a dynamic process involving three interconnected phases: enactment, selection, and retention. The analysis identified 13 integrated themes that demonstrate how social media supports

organisational sensemaking within NADMA during disaster response. Figure 1 illustrates the relationship among these findings.

Social media did not operate as a stand-alone mechanism across all organisational activities. Instead, it functioned as part of a broader crisis information environment, providing digital cues, public reactions, emerging narratives, and communication channels that interacted with formal agency reports, professional expertise, and inter-agency coordination throughout the sensemaking process.

Enactment Process: Constructing Situational Understanding

The enactment process reflects how NADMA personnel construct an initial understanding of an unfolding disaster by identifying relevant cues, interpreting incoming information, and defining the situation that requires organisational attention. The findings indicate that social media forms part of a broader crisis information environment in which disaster-related information is continuously generated, circulated, questioned, and verified. Rather than responding directly to information appearing online, NADMA personnel interpreted social media information alongside reports from disaster committees, technical agencies, and other operational sources. Five integrated themes emerged in the enactment process: Disaster-Level Situational Assessment, Verification of Viral Disaster Information, Collaborative Information Screening Through Experience Sharing, Inter-Agency Evaluation of Disaster Reports, and Information Verification and External Interference Management.

Disaster-Level Situational Assessment

The results suggest that organisational sensemaking begins with assessing a disaster's magnitude and operational tier. NADMA staff examined the incoming data based on National Security Council Directive No. 20 (MKN Directive No. 20), which provides for disaster management functions at the district, state and federal levels. This categorisation helped staff determine an event's severity, geographical spread, and potential ramifications before deciding the appropriate level of organisational response. Participants described determining the disaster level not only as an administrative categorisation but also as an interpretative exercise that determined which Disaster Management Committee would be in charge and how information should be organised thereafter. Even when an incident was within the jurisdiction of the district or state, NADMA continued to monitor progress through the relevant disaster secretariat. Data validated through these frameworks could then be shared through formal channels such as social media, reducing the risk of conflicting or contradictory information reaching the public.

One participant explained:

“First, we have to find out if the disaster is at the district, state or federal level. This will let us know which committee needs to take the lead. Even if the situation remains at the district level, the NADMA secretariat will continue to monitor the situation.” (P1)

Thus, disaster-level assessment functioned as an enactment mechanism through which NADMA personnel transformed multiple incoming cues into an initial shared interpretation of the crisis. This interpretation established both the operational boundaries of the response and the basis for subsequent communication.

Verification of Viral Disaster Information

Social media played a prominent role as a source of disaster-related information requiring verification. Participants observed that social media information may be outdated, altered content, false narratives, or

previously published disaster data presented as current. Such resources can quickly attract public attention and shift perceptions of an ongoing disaster. Then NADMA staff monitored the spread and extent of interaction with disaster-related information. Participants described indicators such as sharing activity, comments, reactions, and broader public engagement as signals of the visibility and potential influence of disaster-related information. Participants regarded widely disseminated information as a salient contextual signal because its rapid spread might exacerbate public confusion or shape disaster perceptions, particularly if its veracity remained unverified. This made verification central to organisational interpretation, rather than a remedial communication task.

A participant described how viral disaster information was monitored and verified:

"When news goes viral, we see the number of people sharing it and how people are reacting to it. We cannot be sure right away that the information is correct, because old or wrong information can surface in a disaster." (P2)

Participants further indicated that monitoring viral information enabled NADMA to identify emerging issues and determine whether additional verification or communication intervention was required. From an enactment perspective, therefore, social media provided observable cues through which organisational actors assessed the evolving information environment, reduced ambiguity, and developed a more informed understanding of the crisis.

Collaborative Information Screening Through Experience Sharing

Results also show that enactment was a collective information evaluation process rather than an individual analysis process. Crisis scenarios generated data from different sources with varying levels of accuracy, completeness and relevance. Thus, NADMA staff relied upon their collective expertise and discussion to decide what information required further scrutiny or validation. For ambiguous information or information requiring expert interpretation, participants reported consulting peers, technical organisations, and domain experts. Personnel used experience from earlier disasters to spot discrepancies, assess information reliability, and judge the importance of new reports to the situation. Through dialogue and experience sharing, personnel compared interpretations before incorporating information into organisational decision-making or communication

The importance of collective experience in screening information was reflected in the following account:

"If we are not sure about the information, we will talk to our colleagues or pass it to the right technical agency. We can also see if the info makes sense by looking at what we know from past disasters." (P3)

This procedure reflects the communal nature of sensemaking in organisations. Personnel did not interpret crisis data in isolation; they created meaning through professional discourse and by juxtaposing perspectives. Collaborative screening, therefore, enabled NADMA staff to reduce ambiguity and build a more integrated understanding of the evolving disaster situation.

Inter-Agency Evaluation of Disaster Reports

The enactment process involved evaluating and reconciling information provided by technical agencies. Participants noted that different agencies produced disaster information based on their jurisdiction, expertise, and operational responsibilities. As a result, reports may differ in focus, scope, or analysis even when they describe the same disaster scenario. NADMA staff then analysed and compared data from the

relevant organisations to identify consistencies, inconsistencies, and information gaps. Working with technical agencies allowed staff to clarify unclear information and convert expert views into a coherent understanding of the disaster. Data from reliable agencies may still require extra scrutiny in changing circumstances or when fresh verification is needed.

One participant explained how information from different technical agencies was compared before organisational action was taken:

"We have to compare the reports before we decide, and see if the information is consistent, because different agencies might give us information from different points of view." (P4)

The inter-agency assessment also helped NADMA better understand the situation before making decisions on communication or operations. Here, enactment meant merging social and operational information ecosystems rather than relying on a single communication medium. Social media cues could signal emerging public concerns, while technical agency reports provided institutional evidence to confirm, refine, or challenge those initial interpretations.

Information Verification and External Interference Management

The subject of enactment is controlling external influences in information validation. Participants observed that disaster scenarios often attracted much public attention and that social media allowed individuals to quickly generate and disseminate disaster-related material. This kind of participation may make information more accessible, but it can also lead to speculation, incomplete data, misleading narratives, or content created without verified operational knowledge. Participants described people who go to disaster sites only to take photographs or videos to post on social media. Such efforts could interfere with response operations and generate information without operational context. The disaster-management agencies, including NADMA, wanted to control access to affected areas and coordinate volunteer and humanitarian activities to minimise disruption and maintain an orderly environment for data collection and verification.

A participant highlighted the challenges created by uncontrolled information and activities at disaster locations:

“People sometimes go to disaster areas just to take pictures or videos to post on social media. If the information is missing or wrong, it can lead to confusion; therefore, people should not be able to enter or do anything in the affected area.” (P5)

From a sensemaking perspective, these practices show that enactment means not only interpreting information but also controlling the context in which information is generated. NADMA staff were better able to distinguish reliable signals from potentially false information by minimising operational disruption and prioritising validated sources. Social media therefore informed enactment by providing crisis-related information and creating additional informational uncertainty that the organisation had to interpret and manage. Overall, social media supported the enactment process by providing digital cues, public reactions, viral information, and emerging narratives that required organisational interpretation and verification. These inputs complemented formal agency reports and professional expertise, helping NADMA build a shared understanding of evolving disaster situations.

Selection Process

The selection process reflects how NADMA personnel evaluate interpretations developed during the enactment process and determine appropriate organisational responses. Selection therefore involved choosing plausible and operationally appropriate responses rather than waiting for complete certainty, particularly in rapidly evolving disaster situations. Four thematic areas emerged: Strategic Crisis Advice and Response Selection, Strategic Public Crisis Communication, Inter-Agency Task Coordination, and SMART Team Deployment and Emergency Coordination.

Strategic Crisis Advice and Response Selection

The results show that NADMA staff were involved in the selection process by converting validated situational data into tactical suggestions for decision-makers. Participants said response priorities were driven by disaster severity, the urgency of affected communities' needs, and the availability of operational resources. This evaluation of data from surveillance, validation, technical organisations and other information channels on the crisis led to recommendations to upper management. This helped staff to identify areas for immediate attention and to decide on the best approach to intervention or support.

Participants also described misinformation as an issue that could influence organisational response decisions. When inaccurate or misleading information circulated on social media and gained significant public attention, communication personnel could recommend corrective action or refer the matter to relevant authorities such as the Malaysian Communications and Multimedia Commission (MCMC).

The process of translating verified information into response recommendations was described by one participant:

“Once we verify the information, we advise management what they need to do and what needs to be done first. If false information is being spread, we may also suggest reporting it to the right authority, such as MCMC.” (P6)

The results suggest that selection was not just a matter of choosing an operational response. It required organisational actors to evaluate prevailing interpretations, assess their implications, and select the actions considered most appropriate for the unfolding crisis. Social media enabled this by surfacing emerging public issues and misinformation that may require organisational attention or communication.

Strategic Public Crisis Communication

The results also indicate that public communication was an important element in the selection process. Once NADMA verified information and developed organisational interpretations, staff had to select appropriate communication methods to disseminate accurate, consistent information to the public. Participants identified press conferences as a primary formal way to disseminate disaster updates and reduce uncertainty. The Corporate Communication Unit collaborated with disaster management officials to prepare these briefings and ensure public announcements were based on verified data.

Participants noted that public concerns and information shared on social media could shape the issues that need clarification in formal communication. In this instance, social media served not only as a distribution channel but also as an informational ecosystem where NADMA could track public issues, misinformation and changing communication needs.

One participant described how verified information and emerging public concerns were incorporated into official communication:

"We have to check out the information first before a press conference. We work with the right departments and organisations to ensure the public gets the right information and there are no misunderstandings." (P2)

For major events such as the COVID-19 pandemic, the responsibility for public briefings may shift to other government agencies, such as the National Security Council and the Ministry of Health Malaysia. NADMA, however, continued to monitor relevant information and to work with the technical agencies. The findings suggest that public communication was a tactical consideration in the selection process, as organisational stakeholders had to decide what information to communicate, in what medium and in partnership with which accountable entity.

Inter-Agency Task Coordination

The results indicate that the selection process also involved allocating responsibilities among the agencies involved. Effective disaster response depends on collaboration among a wide range of organisations with different jurisdictions, specialist knowledge, and operational capacities. Participants described task coordination as a key mechanism for translating organisational interpretation into coordinated action. After the situational assessment, agencies examined operational requirements, assigned responsibilities, and identified areas needing additional personnel, expertise, or resources. Participants said the distribution of duties followed the pre-set duties in MKN Directive No. 20. This helped prevent redundancy and clarify institutional functions.

The collaborative allocation of responsibilities across agencies was illustrated by the following account:

"Each agency has its own responsibilities as stipulated in MKN Directive No. 20. We coordinate what needs to be done and when we don't have enough resources or people, we ask the right agency for help." (P4)

Inter-agency coordination also enabled organisations to compare operational perspectives and develop a shared understanding of the response required. When agencies identified shortages or capability gaps, they could request assistance from those with relevant resources or expertise. From a sensemaking perspective, task coordination served as a selection mechanism because organisational actors did not merely interpret the disaster collectively; they selected and negotiated the actions most feasible within the existing governance structure. Information exchanged through formal coordination and digital communication channels supported this process by enabling agencies to maintain a common operational picture.

SMART Team Deployment and Emergency Coordination

The fourth thematic selection is on the mobilisation and coordination of the Special Malaysia Disaster Assistance and Rescue Team (SMART). Participants stated that the decision to deploy SMART involves assessing disaster intensity, operational requirements, available data, and response capabilities. Before deployment, they held meetings and briefings to review relevant information and ensure SMART personnel understood the operational environment, mission objectives, hazards, and relevant protocols. Participants said their prior operational experience also helped inform their decisions about the type and level of response required.

One participant explained how information and operational considerations informed SMART deployment decisions:

"We assess the situation and brief the team on the conditions of the disaster, operational requirements, risks and procedures before deploying SMART. How much help is needed, and what's going on in the field." (P1)

The results also show that emergency deployments may include national and global disaster events. Participants cited previous missions, such as disaster response in Palu, Indonesia, as examples of how specialised personnel and resources were deployed based on assessed operational needs. Although SMART deployment was primarily an operational decision, its relevance to the selection process lay in how verified information and collective interpretation were translated into a selected course of action.

Overall, the selection process illustrates how NADMA translated verified interpretations into coordinated communication and operational responses. Social media supported this process by revealing emerging public concerns and misinformation that required organisational attention, while also providing a channel to communicate validated responses to the public. Formal agency information, inter-agency consultation, and operational expertise remained essential in determining the feasibility and appropriateness of disaster-response actions.

Retention Process: Preserving Organisational Learning and Continuity

The retention process reflects how NADMA preserves lessons, operational experience, and organisational practices for use in future disaster situations. Unlike enactment and selection, where social media played a more visible role in providing cues and supporting communication decisions, its role in retention was less direct. The findings indicate that retention occurred primarily through formal organisational mechanisms that enabled personnel to review previous experiences, institutionalise effective practices, and maintain continuity across disaster responses. Communication experiences generated during disaster response, including those involving social media, could subsequently inform organisational reflection and future practice when incorporated into these structures. Four integrated themes were identified: Central Committee Review and Organisational Learning, Institutionalisation of the Disaster Management Secretariat, Operational Action Planning and Knowledge Retention, and Delegation of Authority and Institutional Continuity.

2.1.1 Central Committee Review and Organisational Learning

The findings indicate that dialogues within the Central Disaster Management Committee were a vital mechanism for organisational retention. Participants described the committee as a venue for reviewing ongoing disaster operations, evaluating response effectiveness, identifying new challenges, and discussing areas for improvement. These conversations did not occur only after disasters but also during response efforts, allowing personnel to reflect on evolving conditions and adjust plans accordingly. Participants noted that the committee brought together views from different organisations and professional disciplines, enabling the collective interpretation of operational knowledge to inform future decision-making.

A participant described the role of committee discussion in retaining operational knowledge:

"At the central committee level, we discuss what is happening, what actions have been taken, and what needs to be improved. We do not wait until the disaster is over because the situation must be reviewed continuously." (P3)

From a sensemaking perspective, these dialogues enhanced retention by transforming operational experiences into collective organisational knowledge. Depending on the committee's evaluation, this reflective process may include information and communication issues that emerge in disaster response, such as public concerns, misinformation, and communication effectiveness. It involved collective reflection through which organisational members evaluated previous interpretations and responses and retained useful lessons for future disaster management.

Institutionalisation of the Disaster Management Secretariat

The results further indicate that disaster management secretariats at both state and district levels demonstrated an institutional approach to preservation. Participants expressed confidence in these frameworks, as they ensured consistent disaster management at the local level and enabled rapid communication across operational tiers. The continued use of the secretariat framework reflected the organisation's recognition that existing coordination systems were critical to disaster preparedness and response. Participants particularly highlighted the Malaysian Civil Defence Force's role in supporting disaster-management secretariat functions and maintaining operational coordination across administrative levels.

One participant described the importance of retaining these established coordination structures:

"The secretariat structure is maintained because it already works at the district and state levels. They know the local situation and can coordinate quickly before information is escalated to the national level." (P5)

Participants also noted that sustained interaction between NADMA and local secretariats made it possible to exchange experiences, identify operational deficiencies, and improve coordination methods over time. In terms of retention, formalising the secretariat helped preserve organisational knowledge in formal structures rather than in individuals. It also enabled smooth information sharing and collaboration between local and national disaster management agencies.

Operational Action Planning and Knowledge Retention

The results show that the operational action plan provided an additional tool for preserving and using organisational knowledge in future disaster scenarios. Participants described the plan as a reference framework developed through evaluation, consultation, and collective discussion with relevant stakeholders. The strategy facilitated disaster management, including preparedness, response, recovery and post-disaster evaluation. Rather than functioning as a rigid document, it provided a structured foundation that personnel could interpret and adapt according to the specific circumstances of each disaster.

A participant explained how previous experience was incorporated into operational planning:

"We use the operational plan as a reference, but every disaster is different. Previous experience helps us improve the plan and decide how it should be applied according to the current situation." (P1)

The participants stressed the importance of professional judgement and that disaster situations cannot be managed by following protocols alone. Information from previous operations helped refine interpretation and implementation in subsequent operations. This theme demonstrates retention as the formalisation of organisational knowledge. Operational expertise was not only held by individual personnel but was embedded in structured planning frameworks that allowed past experiences to guide future disaster management. Where communication-related lessons were incorporated into operational planning, the plan

also provided a mechanism to retain experiences involving social media, public information, and communication coordination for future application.

Delegation of Authority and Institutional Continuity

The findings suggest that delegation of authority was an important mechanism for ensuring institutional continuity in disaster response. Participants said that disaster management operations required a clear allocation of responsibilities and decision-making authority at different levels of organisation and administration. This delegation gave relevant officials and disaster management committees the authority to act within their respective areas without relying too heavily on central-level approval for every operational decision. Participants also noted that established authority helps maintain continuity in rapidly changing disaster situations. District- and state-level actors would carry out their assigned functions, while NADMA would supervise and coordinate at the national level. This arrangement allowed decision-making close to the operational environment while maintaining consistency with overall disaster-management protocols and institutional obligations. Participant said:

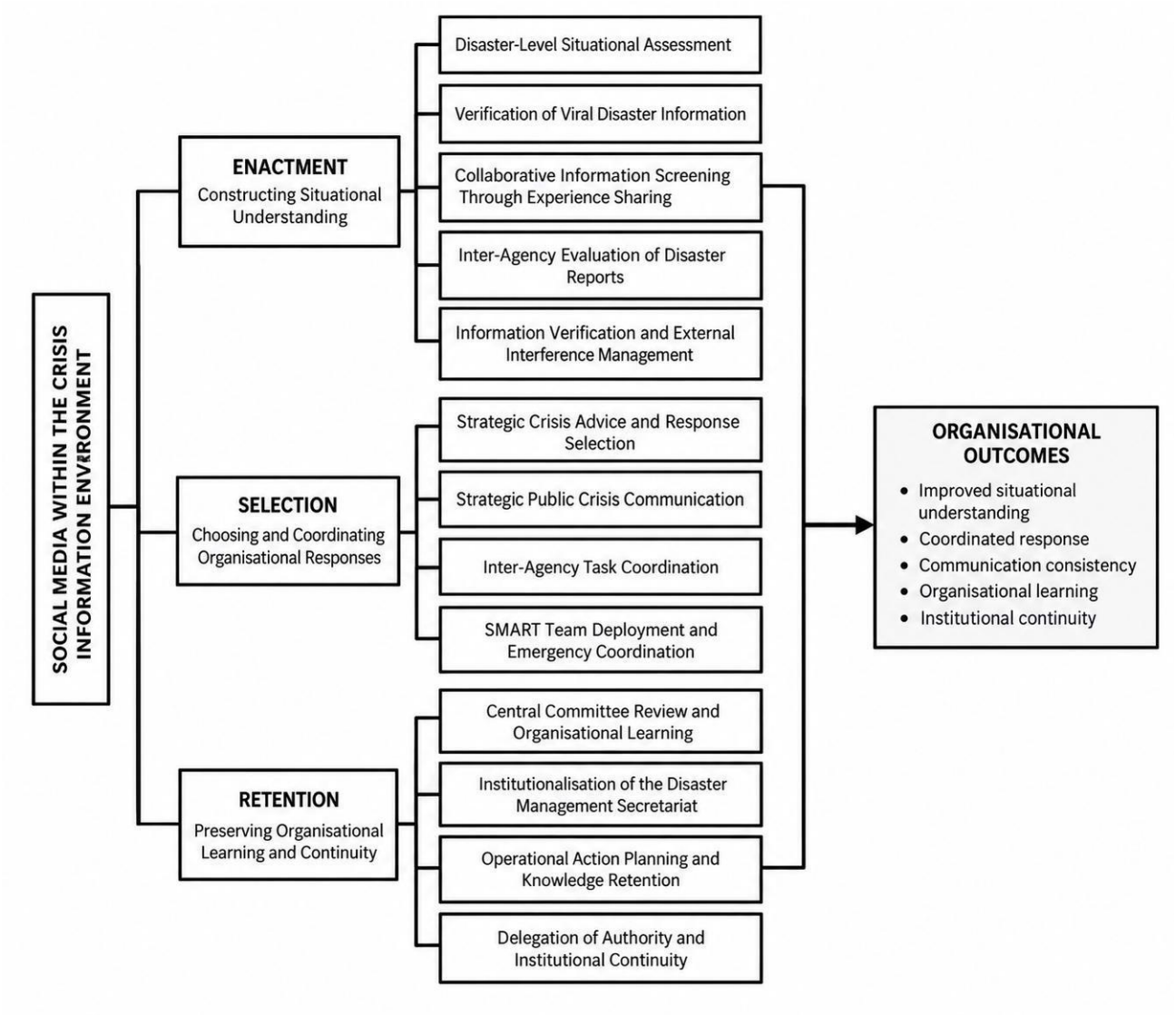
"Each level already has its own authority and responsibility. If the matter is within the district or state level, they can make the necessary decision there, while NADMA continues to monitor and coordinate according to the established structure." (P6)

From a retention perspective, delegation of authority reflected the institutionalisation of established roles, responsibilities, and decision-making arrangements developed through organisational experience. By embedding authority within defined organisational levels, disaster response did not depend solely on individual personnel or centralised decision-making. Instead, established responsibilities could carry forward across disaster situations, supporting institutional continuity while reducing ambiguity about who was authorised to act.

Overall, the retention process demonstrates how NADMA preserved organisational learning through formal review mechanisms, institutional structures, operational planning, and continuity of authority. Compared with enactment and selection, social media's role in retention was less direct. Its contribution depended on whether organisations incorporated communication experiences, public responses, misinformation issues, and digital communication practices encountered during disaster response into organisational reflection, planning, and future procedures. Retention therefore occurred primarily through organisational mechanisms that transformed previous experience into reusable knowledge and established practices for future disaster situations.

Figure 1

Organisational sensemaking through social media during disaster response in NADMA (Data source).



DISCUSSION

Enactment Process

The findings indicate that enactment within NADMA involves continuously constructing situational understanding by interpreting, verifying, and comparing information from multiple sources. Rather than responding directly to information as it emerges, NADMA personnel assess disaster levels, monitor circulating information, consult technical agencies, and draw on collective professional experience before developing a shared interpretation of the situation. This supports Weick's view of enactment as an active process through which organisational actors construct meaning from ambiguous and evolving environments rather than merely reacting to external events (Weick, 1995; Weick et al., 2005).

One key feature of the results is the recognition of social media as part of the crisis information environment in which actions take place. Social media provides digital signals to organisational

participants such as viral content, public responses, changing narratives and disinformation (Mirbabaie et al., 2020). These signals do not replace formal institutional data, but interact with technical documentation, expert judgement and inter-agency discussion. The findings suggest that organisational sensemaking in disaster is increasingly happening in formal and digital information contexts.

A particularly exemplary case of this connection is Verification of Viral Disaster Information. The significance of social media, public interaction and the rapid spread of information indicated that some issues required more attention from the organisation. Still, increased visibility did not mean increased credibility. NADMA staff further verified the information before including it in the organisational analysis or public dissemination. This highlights the importance of validation in digitally mediated crisis situations, where the fast pace of information sharing increases uncertainty but also improves situational understanding. The results also suggest that the enactment process was inherently collective. Cooperative information assessment and cross-agency evaluation would enable the staff to compare interpretations, challenge inadequate data and combine expert knowledge from different organisations. This aligns with Weick et al.'s (2005) statement that sensemaking is fundamentally social, with organisational meaning generated from interaction rather than individual cognition.

Importantly, the results do not imply that social media was the sole catalyst of all enactment activities. Disaster categorisation, technical agency appraisal and jurisdictional evaluation were based on established disaster management frameworks. Social media was an alternative information environment that produced signals needing organisational analysis. This difference matters because it shows that digital communication is an additive element to existing institutional frameworks for disaster sensemaking, not a substitute. Practically, the results imply that disaster-management organisations should combine social-media monitoring with official information-validation processes. Social media means not only the volume or velocity of available information but also how well the organisation can interpret digital signals alongside verified institutional information; accuracy reduces ambiguity and improves coordinated disaster response activities.

Selection Process

The selection findings show how organisational interpretations developed during enactment are translated into plausible communication and operational responses. In rapidly changing disaster conditions, organisational actors rarely possess complete information. Selection therefore involved evaluating verified information, operational priorities, available resources, inter-agency responsibilities, and communication needs before determining an appropriate course of action. This finding is consistent with Weick's (1995) proposition that sensemaking is driven by plausibility rather than absolute accuracy. Within NADMA, decisions on crisis advice, public communication, task allocation, and emergency deployment were based on interpretations considered sufficiently credible and operationally appropriate to guide action under uncertainty.

Social media played a particularly visible role in Strategic Crisis Advice and Response Selection and Strategic Public Crisis Communication. Information circulating online could reveal emerging public concerns, misinformation, and communication gaps requiring organisational attention. Once verified, it could influence decisions about corrective communication, public clarification, or referral to relevant authorities. In this respect, social media operated as both an informational input and a communication environment through which selected organisational responses could subsequently be disseminated (Li et al., 2021).

The findings on public communication are particularly significant because they show that communication was not simply an outcome of organisational decision-making. Decisions about what information to communicate, when to release it, through which channels, and which agency was responsible formed part of the selection process itself. Press conferences and coordinated official messaging therefore represented mechanisms through which organisational interpretations were translated into public meaning.

The results also highlight the collective nature of selection. Inter-agency task coordination required organisational actors to negotiate responsibilities, assess resource availability, and align operational responses with established institutional roles. Similarly, SMART deployment reflected the transformation of verified information and collective interpretation into an operational course of action. Although these activities were not necessarily social-media-driven, they demonstrate how sensemaking extends from interpretation into coordinated organisational action.

This distinction helps clarify the role of social media in the study. Social media did not determine every operational response. Instead, it contributed selectively by making public concerns, misinformation, and emerging communication needs more visible, while formal institutional information and professional expertise remained central to operational selection.

Practically, these findings suggest that effective disaster response requires integration between communication personnel, technical agencies, and operational decision-makers. Social media monitoring should therefore not operate separately from organisational decision-making but should be incorporated into broader mechanisms of information verification, inter-agency coordination, and crisis communication.

Retention Process

The findings indicate that retention within NADMA primarily occurs through formal organisational mechanisms that preserve experience, institutionalise effective practices, and support continuity across disaster situations. Central committee discussions established secretariat structures, operational action planning, and delegated authority, enabling organisational learning to be retained beyond individual disaster events. This finding aligns with Weick's (1995) conceptualisation of retention as preserving interpretations and experiences that organisations consider useful for future action. Within NADMA, retention was evident when operational experience was reviewed collectively, incorporated into established structures, or embedded in procedures and decision-making arrangements for reuse in subsequent disasters (Eismann et al., 2021).

The Central Committee Review and Organisational Learning theme demonstrates that organisational learning occurred through continuous reflection rather than only through post-disaster evaluation. By discussing ongoing operations, emerging challenges, and response effectiveness, organisational actors retained useful interpretations while modifying practices they considered less effective. Institutionalisation was also visible in the continued use of disaster-management secretariats at district and state levels. These structures preserved coordination capacity and organisational knowledge by embedding responsibilities within established institutional arrangements rather than relying solely on individual officers. Similarly, operational action plans served as mechanisms to codify and adapt previous experience to future disaster conditions

The finding concerning delegation of authority further extends this understanding of retention. Institutional continuity depended not only on documents or organisational memory but also on clearly established responsibilities and decision-making authority across administrative levels. When authority is embedded within organisational structures, previous experience can continue to guide action even as personnel, situations, and operational demands change. Compared with enactment and selection, social media's role

in retention was less direct. The findings do not indicate that social media itself constituted organisational memory. Rather, experiences from digital communication, public responses, misinformation management, and crisis communication could contribute to retention when incorporated into organisational reflection, planning, and future procedures. Social media therefore influenced retention indirectly through the organisational mechanisms that transformed communication experience into reusable knowledge.

This more limited interpretation is theoretically important because it avoids treating social media as the sole driver of organisational sensemaking. Instead, the findings show that digital communication interacts with established organisational structures differently across the three sensemaking processes: it provides cues during enactment, supports communication and response selection during selection, and contributes indirectly to organisational learning when formal mechanisms retain communication experiences.

Taken together, the findings show that social media's role varies across the three sensemaking processes. During enactment, social media primarily provides digital cues that require interpretation and verification. During selection, it helps identify communication needs and disseminate validated organisational responses. During retention, its role becomes more indirect, as communication experiences are preserved only when incorporated into organisational reflection, planning, and established practices. This suggests that social media should not be conceptualised as a stand-alone sensemaking mechanism but as part of a broader organisational information environment that interacts with formal governance structures, professional expertise, and inter-agency coordination throughout disaster response.

CONCLUSION

This study investigated the role of social media in organisational sensemaking during disaster response within the National Disaster Management Agency (NADMA) of Malaysia. Based on Weick's Sensemaking Theory, the findings point to different roles for social media in the enactment, selection, and retention processes. Social media provided digital cues, public reactions, viral information and emerging narratives that required organisational interpretation and verification during enactment. These digital inputs were considered alongside formal agency reports, technical expertise, professional experience, and inter-agency information, not in isolation. This helped NADMA staff develop a more integrated understanding of disaster situations as they evolve.

The selection process included translating verified interpretations into operational and communication responses. Social media facilitated this process, increasing the visibility of public concerns, misinformation, and communication needs. It also provided a platform to communicate validated organisational responses. However, formal governance structures, institutional responsibilities, professional expertise, and resource availability remained important factors in operational decisions, including inter-agency task coordination and emergency deployment. This implies that social media enhances organisational decision-making but does not replace the existing disaster-management mechanisms.

The retention process yielded different patterns. Organisational learning was largely sustained through central committee review, institutionalised secretariat structures, operational action planning and delegated authority, with a less direct role for social media. When incorporated into these formal mechanisms, social media communication experiences could contribute to organisational learning. As such, the study conceptualises social media as nested in a broader crisis information environment that interacts with formal organisational structures throughout the disaster response process rather than as a stand-alone sensemaking mechanism or organisational memory.

Theoretically, the study expands the setting of Sensemaking Theory by showing how digitally created information interacts with established organisational processes of interpretation, response selection, and learning in a public-sector disaster-management context. From an operational perspective, the findings suggest that disaster-management agencies should combine social media monitoring with structured verification processes, improve coordination between communication and operational units, and systematically incorporate communication experiences into post-response review and future planning. This incorporation can potentially improve the accuracy of crisis communication, reduce uncertainty, strengthen coordination and enable organisational readiness.

This investigation has many constraints. Therefore, the findings are not representative of the experiences of all disaster-management personnel and other emergency agencies, as they are based on one organisational case and six senior NADMA personnel. The research also focuses on organisational views rather than directly studying social media or public reactions. Future research could broaden the analysis to include personnel at different organisational levels, incorporate interview data alongside social media content, digital communication records, or comparative case studies, and extend it to other disaster-management agencies. Such research would provide a more holistic understanding of how digital communication contributes to organisational sensemaking across institutional contexts and disaster settings.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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AUTHOR CONTRIBUTIONS

All authors contributed to the study conception and design. Material preparation, data collection, and analysis were performed by all authors.

CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

Informed consent was obtained from all individual participants included in the study.

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