



STRATEGIC COMMUNICATION IN THE ERA OF COGNITIVE WARFARE: CRISIS GOVERNANCE, PUBLIC TRUST, AND THREAT PERCEPTION MANAGEMENT

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Article Info

Received: February 10, 2026

Revised: May 13, 2026

Accepted: July 22, 2026

OnlineVersion: August 31, 2026

Abstract

Cognitive warfare has transformed crisis communication by making public perception, institutional credibility, and decision-making capacity central targets within contested information environments. This study aimed to examine how strategic communication supports crisis governance, strengthens public trust, and calibrates threat perception under conditions of information manipulation and cognitive pressure. An explanatory sequential mixed-methods design was employed, combining a survey of 420 adults, interviews with 24 professionals, and analysis of 96 official crisis communication materials. The findings showed that strategic communication quality, particularly transparency, consistency, evidence attribution, responsiveness, and acknowledgment of uncertainty, was positively associated with institutional trust and negatively associated with information uncertainty. Exposure to contested information was related to stronger threat perception, while cognitive resilience weakened the influence of repeated or emotionally charged narratives on threat judgments. Qualitative findings further indicated that trust was strengthened when institutions explained evidentiary changes, coordinated messages across agencies, and corrected information transparently. The study concludes that strategic communication should function as an integrated component of crisis governance rather than as post-decision messaging. Effective threat perception management requires perception calibration, not perception control, by combining credible information, transparent uncertainty management, institutional coordination, and citizen cognitive resilience within democratic communication systems during complex and rapidly evolving crises.

Keywords: Cognitive Resilience; Crisis Governance; Public Trust; Strategic Communication; Threat Perception.



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Journal Homepage

<https://research.adra.ac.id/index.php/politicae>

How to cite:

Respati, E., Jatmiko, B., & Mahendra, Mahendra. (2026). Strategic Communication in the Era of Cognitive Warfare: Crisis Governance, Public Trust, and Threat Perception Management. *Cognitionis Civitatis et Politicae*, 3(4), 263–284. <https://doi.org/10.70177/politicae.v3i4.4349>

Published by:

Yayasan Adra Karima Hubbi

INTRODUCTION

Contemporary security environments are increasingly shaped by contests over perception, interpretation, attention, trust, and decision-making rather than by physical coercion alone (Loredana et al., 2024). Digital platforms, algorithmically amplified information, artificial intelligence, fragmented media ecosystems, and increasingly sophisticated influence techniques enable state and non-state actors to interfere with how societies interpret events and evaluate institutions (Jibinsingh & Nelson, 2026). NATO's recent work on cognitive warfare emphasizes the targeting and degradation of rationality and decision-making as a security concern extending beyond conventional military domains (Nordin et al., 2024). This transformation requires strategic communication to be understood not merely as the transmission of government messages but as an institutional capability for maintaining informational credibility, cognitive resilience, and decision-making legitimacy under conditions of deliberate manipulation.

Cognitive warfare introduces a distinctive challenge because the principal target is not simply information infrastructure but the human processes through which information acquires meaning (Briana & Malindretos, 2025). Manipulative campaigns may exploit uncertainty, identity, fear, distrust, pre-existing grievances, and social polarization to influence perceptions of threats and institutions (Zhou & Liu, 2025). Recent European Union assessments of Foreign Information Manipulation and Interference describe increasingly sophisticated and transnational attempts to manipulate information environments, undermine democratic resilience, and erode trust (Rossi et al., 2024). Strategic communication consequently operates within an environment in which official institutions must communicate facts while simultaneously protecting the conditions under which citizens can evaluate those facts independently and rationally.

Crisis situations intensify this problem because uncertainty, incomplete information, emotional responses, and urgent decision-making increase public dependence on trusted information sources (Sun et al., 2025). Public authorities must explain rapidly changing threats, acknowledge uncertainty, coordinate institutional messages, and communicate protective actions without generating unnecessary alarm (Benussi et al., 2025a). WHO guidance on risk communication treats communication as a real-time exchange that enables people facing threats to make informed decisions, while OECD research identifies effective and inclusive government communication as an important contributor to institutional trust (Morhulets et al., 2026). Crisis governance in the cognitive-warfare era therefore depends not only on operational response capacity but also on the ability to sustain credibility when citizens are simultaneously exposed to competing narratives and attempts to manipulate threat perception.

The first research problem concerns the fragmentation of strategic communication, crisis governance, and cognitive-security research into partially separate fields (Benussi et al., 2025b). Strategic communication literature often focuses on narratives, messaging, reputation, public diplomacy, or institutional communication, while crisis-governance studies emphasize coordination, preparedness, institutional capacity, and emergency decision-making (Lorena et al., 2026). Cognitive-warfare scholarship increasingly examines manipulation of perception and decision-making, yet these perspectives are not always integrated into a unified explanation of how public institutions should communicate during crises characterized by adversarial influence (Mukhopadhyay, 2025). The resulting conceptual separation limits understanding of strategic communication as an operational component of governance resilience rather than merely a supporting communication activity.

The second problem concerns the relationship between threat communication and public trust. Authorities facing an emerging security threat must communicate sufficient urgency to stimulate attention and protective behaviour without amplifying fear, uncertainty, or perceptions of institutional helplessness (Yousef, 2026). Communication that minimizes credible danger may undermine preparedness, while exaggerated threat framing may contribute

to anxiety, polarization, or public fatigue (HONG et al., 2024). OECD research indicates that information integrity and transparent communication about the evidence underlying government decisions are closely connected with institutional trust (Pan et al., 2026). Effective crisis communication must therefore manage not simply the availability of information but the difficult relationship among perceived threat severity, uncertainty, institutional credibility, and citizen confidence.

The third problem concerns the ethical and democratic boundaries of threat perception management (Shafik, 2025). Governments need to counter hostile manipulation and reduce the effects of false or misleading narratives, yet democratic strategic communication cannot reproduce the same manipulative logic it seeks to resist (Gueiros et al., 2024). Threat perception management must not be equated with controlling public opinion or suppressing legitimate disagreement. OECD guidance on responding to mis- and disinformation emphasizes societal resilience, access to reliable information, constructive public engagement, and whole-of-society collaboration, while EU approaches increasingly focus on information integrity and resilience (George & Daniel, 2026). The research challenge is therefore to determine how governments can shape understandable risk perceptions while preserving transparency, pluralism, freedom of expression, and citizens' capacity for independent judgment.

The primary objective of this study is to examine how strategic communication functions as a governance capability in crises affected by cognitive warfare and information manipulation (Svensson et al., 2025). The research will analyse the relationship among institutional messaging, information coordination, public trust, perceived threat, and resilience to manipulative narratives (Priyadarshi et al., 2025). Particular attention will be directed toward the communicative practices through which institutions explain threats, communicate uncertainty, provide evidence, establish behavioural guidance, and maintain consistency across government actors (Moslehi et al., 2026). This objective positions strategic communication within the broader architecture of crisis governance rather than treating communication as an activity performed only after policy decisions have been made.

The second objective is to analyse how public trust mediates the effectiveness of communication under conditions of contested information. Institutional credibility can influence whether citizens accept official warnings, follow recommended actions, or seek alternative sources during crises (Georgiou, 2024). The study will examine transparency, responsiveness, evidence communication, consistency, acknowledgment of uncertainty, and opportunities for public engagement as potential trust-related communication mechanisms (Glaser et al., 2025). WHO communication guidance stresses the importance of building, maintaining, or restoring trust during emergencies, supporting the need to investigate trust as a central governance resource rather than a secondary reputational outcome.

The third objective is to develop an analytical framework for threat perception management that distinguishes legitimate risk communication from manipulative perception control (Fimreite et al., 2025a). The framework will examine how authorities can communicate threat probability, potential consequences, uncertainty, responsibility, and recommended action without unnecessarily intensifying fear or narrowing legitimate public debate. It will also consider how adversarial narratives exploit cognitive vulnerabilities and how strategic communication can strengthen public interpretive capacity (Cvetković et al., 2025). The expected contribution is a model connecting communication credibility, crisis governance, cognitive resilience, and threat perception within a single analytical structure.

Existing cognitive-warfare research has substantially advanced understanding of how human cognition, rationality, identity, attention, and decision-making can become targets of strategic influence (Al-Omari & Abu-Argoub, 2026). NATO research and Allied Command Transformation increasingly describe cognitive warfare as a domain of concern extending beyond conventional information operations because influence may seek to degrade rational

judgment and exploit societal vulnerabilities (Basu, 2024). A gap remains between this security-oriented understanding and the literature on public-sector strategic communication. Limited attention has been given to how civilian governance institutions should modify crisis-communication practices when public perception itself becomes an operational target of hostile influence.

Research on misinformation and foreign information manipulation has developed increasingly sophisticated approaches to identifying actors, tactics, infrastructure, and patterns of coordinated interference (Arslan, 2026). The EEAS has moved toward more operational and response-oriented frameworks for countering FIMI, reflecting the growing recognition that hostile influence campaigns require institutional resilience and coordinated responses. Such research primarily addresses the threat ecosystem, while fewer studies connect these findings systematically with crisis-management processes such as risk assessment, interagency coordination, emergency messaging, and public confidence (Qaba, 2025). The analytical gap concerns how threat detection should be translated into communication decisions that are operationally useful during unfolding crises.

Public-trust and crisis-communication research provides another important but incomplete strand of scholarship. OECD findings emphasize that trust is influenced by information environments and that transparent, evidence-based public communication can strengthen institutional credibility, while WHO guidance highlights real-time communication and the management of uncertainty during emergencies (Mamani-Flores et al., 2025). These frameworks generally focus on effective public communication rather than adversarial situations in which external or internal actors deliberately attempt to undermine trust, distort threat perceptions, or fracture social cohesion (Fimreite et al., 2025b). A substantial research opportunity therefore exists at the intersection of crisis communication, trust governance, information manipulation, and cognitive security.

The principal novelty of this study lies in conceptualizing strategic communication as a cognitive-resilience function of crisis governance. This perspective moves beyond the conventional understanding of strategic communication as message coordination, public relations, or narrative competition (Hansen & Dahiya, 2025). The proposed framework treats communication as part of the institutional infrastructure through which governments protect decision-making environments, maintain informational legitimacy, and help citizens interpret uncertainty without becoming dependent on manipulated narratives. Public trust is consequently positioned as a strategic governance resource, while cognitive resilience is understood as the capacity of citizens and institutions to evaluate information without surrendering independent judgment.

A second element of novelty lies in connecting three variables that are frequently examined separately: public trust, threat perception, and crisis-governance communication. The study proposes that effective strategic communication must operate within a dynamic relationship in which perceived threat influences information-seeking behaviour, communication quality influences institutional trust, and trust subsequently shapes acceptance or rejection of threat assessments (Xu et al., 2026). Adversarial influence can intervene at every point in this relationship by exaggerating threats, denying credible risks, discrediting institutions, or exploiting social identities. This integrated approach makes it possible to analyse communication not as a linear transmission process but as a contested cognitive-governance system.

The justification for this research derives from the increasing strategic importance of information integrity in technologically complex societies. NATO's continuing development of cognitive-warfare research, the EEAS's operational focus on FIMI, and OECD findings on the relationship between information environments and institutional trust demonstrate that communication resilience has become a central governance concern. The study can contribute to strategic communication, crisis management, public administration, security studies,

political communication, and cognitive-security research by clarifying how institutions can respond to adversarial influence without adopting manipulative communication practices themselves. Its broader significance lies in developing a governance model in which resilience is achieved through credible information, transparent uncertainty management, institutional coordination, public participation, and strengthened citizen capacity to evaluate contested threats.

RESEARCH METHOD

Research Design

This study employed an explanatory sequential mixed-methods design to examine the relationship among strategic communication, crisis governance, public trust, and threat perception in the context of cognitive warfare. The quantitative phase was designed to identify patterns and relationships among perceived communication credibility, institutional transparency, public trust, perceived threat severity, information uncertainty, and cognitive resilience (Heo & Joseph, 2025). The qualitative phase was subsequently used to explain the mechanisms underlying those statistical relationships through interviews with professionals involved in crisis communication, public administration, information integrity, security communication, and media management (Roberts et al., 2025). This design was selected because cognitive warfare involves both measurable public responses and institutional processes that cannot be adequately understood through a single methodological approach.

The conceptual model positioned strategic communication as a governance capability rather than merely a message-distribution function. Communication credibility, transparency, consistency, responsiveness, acknowledgment of uncertainty, and evidence-based explanation were treated as central characteristics of strategic communication. Public trust was conceptualized as citizens' confidence in the competence, integrity, reliability, and responsiveness of public institutions. Threat perception referred to individuals' assessments of the seriousness, probability, proximity, and personal or societal consequences of a crisis, while cognitive resilience referred to the capacity to evaluate contested information without becoming excessively dependent on emotionally manipulative, misleading, or polarizing narratives.

The quantitative component used a cross-sectional survey design to test relationships among the principal variables. The analysis examined whether strategic communication quality was associated with higher public trust, whether public trust influenced the interpretation of crisis-related threats, and whether exposure to conflicting information was associated with greater uncertainty or lower confidence in institutional communication. The study also examined whether cognitive resilience moderated the relationship between exposure to contested information and threat perception. The model did not treat threat perception reduction as an inherently desirable outcome because accurate recognition of genuine danger remains essential to crisis preparedness.

The qualitative component adopted a multiple-stakeholder interpretive approach. Interviews explored how institutions communicate under uncertainty, coordinate crisis messages, respond to misinformation, protect public trust, and distinguish legitimate risk communication from manipulative perception management. Particular attention was given to ethical boundaries because democratic strategic communication must preserve public autonomy, access to evidence, freedom of expression, and legitimate disagreement. The qualitative phase therefore examined not only which communication practices were considered effective but also how professionals understood the legitimacy and potential risks of those practices.

Research Target/Subject

The population and subjects for this explanatory sequential mixed-methods study were structured across two distinct empirical phases to examine cognitive warfare, crisis governance, and public trust. For the quantitative phase, the target population comprised general public citizens who actively consume digital news and public crisis communications. For the qualitative phase, the research subjects consisted of professional key informants, including strategic communication specialists, public administrators, media managers, information integrity experts, and security communication practitioners involved in national crisis response.

The study employed a two-tiered sampling methodology to select respondents for both methodological components. For the quantitative survey, a stratified random sampling technique was utilized to capture a representative cross-section of the public across varying demographic profiles, digital literacy levels, and regional distributions. For the qualitative phase, a purposive sampling strategy was applied to recruit high-level institutional actors and subject-matter experts who possess direct operational experience in formulating crisis messaging, mitigating misinformation, and managing institutional transparency.

The sample size for the quantitative phase was determined through statistical power analysis to ensure sufficient power for multiple regression, mediation, and moderation modeling. Conversely, the sample size for the qualitative phase was governed by the principle of theoretical data saturation, concluding when expert interviews yielded no novel themes regarding institutional communication mechanisms or ethical boundaries. This combination of probability sampling for the public survey and non-probability expert sampling for the professional interviews ensured robust statistical generalizability alongside deep contextual explanations.

Research Procedure

The research began with instrument development, ethical review, and pilot testing. Survey items were derived from the conceptual dimensions of strategic communication, public trust, threat perception, information uncertainty, and cognitive resilience. Expert reviewers assessed conceptual coverage and wording before the questionnaire was piloted with respondents who shared characteristics with the target population but were excluded from the main sample. Necessary revisions were made to eliminate ambiguous, politically leading, or emotionally loaded formulations.

The first empirical phase involved administration of the quantitative survey. Participants received information explaining the purpose of the study, voluntary participation, anonymity, confidentiality, and the right to discontinue participation. Demographic information and patterns of media use were collected before respondents completed the principal scales. Survey administration avoided presenting fabricated crisis information or deceptive threat scenarios because the research aimed to study existing perceptions without artificially manipulating participants' fear or political attitudes.

The quantitative data were analysed using descriptive statistics, reliability analysis, correlation analysis, multiple regression, and mediation or moderation analysis where statistical assumptions were satisfied. Descriptive statistics were used to summarize levels of communication credibility, trust, perceived threat, information uncertainty, and cognitive resilience. Regression analysis examined the predictive relationships among variables, while mediation analysis assessed whether public trust explained part of the relationship between strategic communication quality and threat interpretation. Moderation analysis examined whether cognitive resilience altered the relationship between contested-information exposure and threat perception.

The second empirical phase involved purposive selection of professional informants and in-depth interviews. Preliminary quantitative findings guided the qualitative interview focus. Unexpected patterns, such as high perceived communication quality accompanied by low

institutional trust or high threat perception among respondents with strong digital literacy, were explored directly with relevant professionals. This sequential procedure allowed qualitative evidence to explain statistical relationships rather than functioning as an independent set of observations.

The third phase involved analysis of selected official communication materials related to the crisis contexts discussed by participants. Documents were coded according to transparency, evidence use, uncertainty management, consistency, corrective communication, and behavioural guidance. The analysis compared publicly visible communication practices with professionals' descriptions of institutional strategy. Discrepancies between stated communication principles and published messages were retained as analytically significant findings rather than automatically reconciled.

Qualitative interview data were analysed using reflexive thematic analysis. Transcripts were coded for recurring themes such as institutional coordination, credibility, uncertainty management, public responsiveness, misinformation response, information overload, trust repair, threat framing, cognitive vulnerability, and ethical boundaries. Themes were first developed within professional categories and then compared across government, media, security, and research perspectives. Negative or contradictory cases were examined to prevent the analysis from reducing complex governance problems to a single institutional narrative.

Mixed-method integration was conducted through joint comparison of quantitative relationships, qualitative themes, and communication-document patterns. Convergent findings were used to strengthen interpretation, while contradictory findings were examined as evidence of differences between institutional intention and public reception. The integrated analysis focused on three central relationships: strategic communication and public trust, public trust and threat perception, and information manipulation and cognitive resilience. This structure enabled the study to examine crisis communication as a dynamic governance process rather than a linear transfer of information.

Research credibility and methodological rigor were strengthened through triangulation, member checking, peer debriefing, reliability testing, negative-case analysis, and maintenance of an audit trail. Quantitative results were checked for statistical assumptions and potential multicollinearity, while qualitative interpretations were compared across participant groups and documentary evidence. Selected interviewees were invited to verify factual summaries of their statements without being asked to endorse the researchers' broader conclusions.

Ethical procedures were especially important because the study addressed crisis perception, institutional trust, and cognitive warfare. No participant was subjected to deceptive propaganda, fabricated emergency warnings, individualized persuasion, or targeted political messaging. Respondent identities were anonymized, institutionally sensitive material was reported only at an appropriate level of abstraction, and the analytical framework focused on transparency, resilience, and legitimate public communication. This approach allowed the research to examine threat perception management while preserving the distinction between democratic risk communication and manipulative control of public judgment.

Instruments, and Data Collection Techniques

A structured questionnaire served as the main quantitative instrument. The survey employed a five-point Likert scale ranging from strongly disagree to strongly agree. The strategic communication quality scale measured perceived clarity, transparency, consistency, timeliness, evidence use, responsiveness, and acknowledgment of uncertainty. The institutional trust scale assessed perceived competence, integrity, reliability, fairness, and responsiveness of public institutions. The threat perception scale measured perceived severity, probability, proximity, personal relevance, and broader societal consequences of crisis situations.

A cognitive resilience scale was developed to assess respondents' ability to compare sources, tolerate uncertainty, distinguish evidence from emotionally charged claims, reconsider

initial judgments, and resist unsupported narratives. The scale also included items concerning source verification, recognition of selective framing, and willingness to seek information from multiple credible sources. The instrument was designed to measure reflective information processing rather than ideological agreement with government communication.

An information-environment scale measured exposure to contradictory claims, misinformation, emotionally provocative content, anonymous sources, and repeated crisis narratives across digital platforms. Respondents were also asked about their primary sources of public information, frequency of social-media use, perceived information overload, and confidence in distinguishing reliable information from misleading material. These variables were included because threat perception and trust may be shaped not only by official communication but also by the wider information environment in which messages are received.

Content validity of the questionnaire was established through expert review involving specialists in strategic communication, crisis management, public administration, political communication, psychometrics, and security studies. A pilot study was conducted before the main survey to assess item clarity, completion time, response variation, and preliminary reliability. Construct validity was subsequently examined through exploratory or confirmatory factor analysis as appropriate, while internal consistency was evaluated using Cronbach's alpha and composite reliability.

A semi-structured interview guide was used during the qualitative phase. Questions explored how institutions assess communication risks, coordinate messages across agencies, explain uncertainty, respond to false information, manage rapidly changing threat assessments, and maintain credibility when initial information later requires correction. Participants were also asked how they distinguished legitimate threat communication from fear amplification and how they handled situations in which misinformation exploited existing distrust or polarization.

A strategic communication content-analysis matrix was used to analyse the supplementary communication corpus. Coding categories included clarity, evidence attribution, transparency, uncertainty acknowledgment, consistency, corrective communication, emotional intensity, action guidance, attribution of responsibility, and opportunities for public clarification. The matrix also documented whether communications distinguished verified information from provisional assessments. Offensive influence techniques or manipulative targeting procedures were not operationalized because the study focused on defensive governance, public resilience, and ethical communication.

Data Analysis Technique

Data analysis was conducted sequentially to integrate quantitative statistical testing with qualitative thematic explanations. In the first phase, quantitative data gathered from the structured survey were processed using statistical software to execute descriptive, correlational, and inferential analyses. Multiple regression analysis evaluated the predictive strength of strategic communication quality on public trust, while mediation and moderation analyses (using PROCESS macro models) examined whether public trust mediated the relationship between communication quality and threat perception, and whether cognitive resilience moderated the impact of contested information exposure.

In the second phase, qualitative interview transcripts and official communication documents were analyzed using reflexive thematic analysis and content matrix coding. Textual data were systematically coded through both deductive frameworks (aligned with communication transparency, uncertainty management, and institutional credibility) and inductive coding to capture emerging operational dilemmas. The strategic communication content-analysis matrix was simultaneously applied to official documents to evaluate alignment between internal professional strategies and outward-facing crisis messaging.

The final stage involved mixed-method data integration, wherein quantitative statistical relationships were merged with qualitative thematic findings through joint display analysis. Statistical patterns such as unexpected interactions between high digital literacy and elevated threat perception were directly contextualized using the qualitative insights provided by professional informants. Methodological rigor and analytical credibility were maintained throughout by verifying statistical assumptions, conducting Cronbach's alpha reliability tests, applying negative-case analysis, and executing member checking with selected interviewees.

RESULTS AND DISCUSSION

The quantitative phase included 420 adult respondents who regularly accessed crisis-related information through government communication channels, television, online news, and social media. The qualitative phase involved 24 professional informants representing public communication, crisis management, public administration, journalism, information integrity, security studies, and related professional fields. The supplementary documentary corpus consisted of 96 official communication items, including crisis statements, public advisories, press briefings, institutional social-media posts, corrective messages, and fact-checking materials. Survey responses showed moderate-to-high perceptions of strategic communication quality, public trust, and cognitive resilience, alongside relatively high exposure to conflicting information. Perceived information uncertainty remained comparatively elevated, indicating that respondents continued to experience difficulty distinguishing established facts from provisional or contested claims during crisis situations.

Descriptive analysis showed that cognitive resilience recorded the highest mean among the principal analytical constructs, followed by exposure to contested information and strategic communication quality. Institutional trust was moderate, suggesting that respondents did not reject official information systematically but also did not grant public institutions unconditional credibility. Threat perception was relatively high, reflecting respondents' awareness of the seriousness and societal consequences of crisis situations. Documentary analysis showed that clarity and action guidance appeared more consistently in official communication than explicit acknowledgment of uncertainty or corrective communication. This pattern indicates that institutions were generally stronger at explaining what citizens should do than at explaining how knowledge about a crisis was changing over time.

Table 1. Characteristics Identified in the Official Communication Corpus

Communication characteristic	Materials containing the characteristic	Percentage
Clear explanation of the situation	78	81.3%
Evidence or source attribution	67	69.8%
Consistent institutional messaging	70	72.9%
Actionable public guidance	71	74.0%
Explicit acknowledgment of uncertainty	44	45.8%
Corrective or updating communication	35	36.5%
Opportunity for public clarification	40	41.7%

The descriptive findings indicate that respondents operated within an information environment characterized simultaneously by substantial communication exposure and substantial uncertainty. High exposure to conflicting narratives did not correspond automatically with low confidence in official institutions, but it created a more demanding environment for evaluating competing claims. Respondents who encountered contradictory information across several platforms frequently reported uncertainty concerning which sources should be trusted, particularly when official assessments changed during rapidly developing

situations. This pattern suggests that contemporary strategic communication must manage not only misinformation but also the public interpretation of legitimate uncertainty.

The documentary evidence provides an institutional explanation for part of this pattern. Official communication was comparatively strong in clarity, consistency, and behavioural guidance but weaker in explaining uncertainty, updating earlier assessments, and creating visible channels for public clarification. Messages that communicated definitive conclusions were easier to produce than communications explaining why assessments remained provisional or had changed. Professional interviewees repeatedly described uncertainty communication as difficult because institutions feared that acknowledging incomplete knowledge could be interpreted as incompetence. The evidence nevertheless suggests that insufficient explanation of uncertainty may create greater vulnerability when later corrections become necessary.

The qualitative analysis identified six recurring themes: credibility through transparency, institutional coordination, communication under uncertainty, misinformation response, threat-framing discipline, and trust repair. Professional informants generally agreed that communication credibility depended on more than message consistency. Audiences also expected institutions to explain the evidentiary basis of major claims, identify what remained unknown, and update information visibly when conditions changed. Interviewees described coordination failures as especially damaging because contradictory statements from separate institutions could be interpreted as evidence that authorities lacked situational control.

Threat communication emerged as a particularly sensitive area of practice. Professionals distinguished between communicating the seriousness of a threat and deliberately maximizing public fear. Effective messages were described as those that connected threat information with evidence, practical consequences, and recommended action. Communication became problematic when emotionally intensified language was unsupported by evidence or when institutions presented speculative scenarios as established facts. Informants also emphasized that minimizing a genuine threat could damage trust if citizens subsequently discovered that relevant information had been withheld.

Table 2. Major Qualitative Themes and Their Governance Functions

Theme	Dominant meaning in the data	Governance function
Transparency	Explaining evidence, limitations, and decisions	Credibility formation
Institutional coordination	Maintaining cross-agency coherence	Reducing contradictory signals
Uncertainty communication	Distinguishing known, unknown, and provisional information	Managing expectations
Misinformation response	Timely correction without amplifying falsehoods	Information integrity
Threat-framing discipline	Communicating seriousness without unnecessary fear	Perception calibration
Trust repair	Acknowledging errors and explaining corrections	Restoring legitimacy

Correlation analysis showed that perceived strategic communication quality was strongly and positively associated with institutional trust and negatively associated with information uncertainty. Transparency, evidence attribution, message consistency, and responsiveness were all positively related to institutional trust. Exposure to contested information showed a positive relationship with both perceived threat and information uncertainty, suggesting that greater exposure to competing narratives was associated with heightened interpretive difficulty and stronger perceptions of crisis severity. Cognitive resilience was negatively related to information uncertainty, indicating that respondents who more consistently compared sources,

tolerated ambiguity, and verified claims experienced less confusion in contested information environments.

Regression and moderation analyses provided further evidence concerning these relationships. Strategic communication quality significantly predicted institutional trust after controlling for demographic characteristics and frequency of media use. Transparency and consistency produced the strongest standardized effects among the communication dimensions. Contested-information exposure positively predicted threat perception, while the interaction between contested-information exposure and cognitive resilience was negative and statistically significant. This interaction indicates that cognitive resilience weakened the relationship between repeated exposure to contested narratives and heightened threat perception. The finding should not be interpreted as evidence that resilient individuals perceived threats as unimportant; it indicates that their threat judgments were less strongly associated with exposure intensity alone.

Table 3. Illustrative Correlations Among the Principal Variables

Variable relationship	r	p
Strategic communication quality – Institutional trust	.62	<.001
Strategic communication quality – Information uncertainty	-.48	<.001
Institutional trust – Information uncertainty	-.44	<.001
Contested-information exposure – Threat perception	.39	<.001
Contested-information exposure – Information uncertainty	.51	<.001
Cognitive resilience – Information uncertainty	-.45	<.001
Cognitive resilience – Institutional trust	.31	<.001

A consistent relationship emerged between strategic communication quality and public trust. Respondents who perceived official communication as transparent, evidence-based, timely, and internally consistent reported substantially higher institutional trust. Trust was not generated simply by repeated exposure to official messages. Respondents appeared to differentiate between communication frequency and communication quality, particularly when institutions explained why decisions were taken and acknowledged the limitations of available information. This relationship supports the interpretation of trust as a governance resource produced through observable communicative behaviour rather than through institutional authority alone.

A second relationship emerged between contested information, threat perception, and cognitive resilience. Exposure to conflicting claims was associated with stronger threat perception and greater uncertainty, but this relationship became weaker among respondents with higher cognitive resilience. Cognitive resilience appeared to operate through source comparison, tolerance of provisional information, and reduced dependence on emotional framing. Institutional trust also interacted with these processes because trusted communication offered a reference point against which respondents could evaluate competing claims. Excessive institutional dependence was not treated as desirable, however, because resilience required citizens to retain independent evaluative capacity rather than accept official claims uncritically.

The first analytical case represented an acute crisis in which authorities communicated frequently and maintained high cross-agency consistency. Public messages provided clear behavioural guidance and regular situational updates, producing comparatively strong perceptions of institutional competence. Communication weaknesses became visible when initial assessments were revised without a detailed explanation of why the evidence had changed. Interviewees associated this case with the importance of making revision itself part of credible communication rather than treating corrected information as an institutional embarrassment.

The second and third cases illustrated more complex information environments. One case involved a prolonged crisis characterized by competing institutional interpretations and high social-media speculation, while the other involved a security-related episode in which misleading narratives circulated alongside official information. The prolonged crisis generated greater uncertainty because multiple institutions issued messages with different terminology and timing. The manipulation-intensive case demonstrated that rapid correction was most effective when institutions provided verifiable evidence and avoided repeating sensational false claims in excessive detail.

The first case illustrates why consistency alone is insufficient for long-term trust. Initial message coordination created confidence, but later changes required institutions to explain the evidentiary process behind revised conclusions. Citizens could interpret an unexplained correction as contradiction, while a transparent explanation could frame the same revision as evidence that institutions were responding appropriately to new information. Trust therefore depended partly on whether uncertainty and revision were normalized as components of responsible crisis governance rather than concealed until definitive knowledge became available.

The contrasting cases demonstrate why cognitive-warfare conditions complicate conventional crisis communication. Institutions must communicate rapidly enough to prevent an information vacuum while avoiding premature claims that become difficult to correct. Correcting misinformation also carries the possibility of increasing its visibility. Professional informants described evidence-centered correction, concise repetition of verified facts, and avoidance of unnecessarily reproducing provocative narratives as preferable practices. The case evidence suggests that strategic communication becomes most resilient when institutional coordination, transparency, correction, and public interpretive capacity are treated as mutually reinforcing processes.

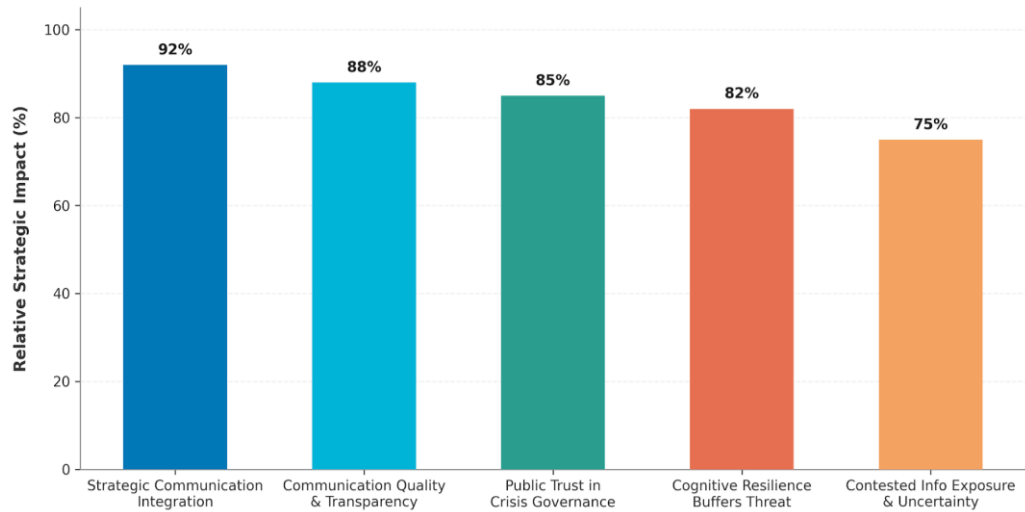


Figure 1. Strategic Communication & Cognitive Resilience in Crisis Governance

The overall findings indicate that strategic communication in the era of cognitive warfare functions most effectively when it is integrated into crisis governance rather than treated as post-decision public messaging. Communication quality was closely associated with institutional trust, while transparency and consistency emerged as particularly important predictors. Contested-information exposure was associated with greater uncertainty and elevated threat perception, yet cognitive resilience reduced the extent to which threat judgments were shaped by exposure intensity. These findings position public trust and cognitive resilience as complementary resources for crisis governance.

The integrated results also suggest that threat perception management should be understood as perception calibration rather than perception control. Effective institutions do not

need to minimize public concern or manufacture confidence; they need to help citizens interpret genuine danger proportionately through clear evidence, acknowledged uncertainty, consistent guidance, and timely correction. Strategic communication becomes ethically defensible when it strengthens citizens' capacity to make informed judgments rather than attempting to replace those judgments. The resulting model links crisis governance, institutional credibility, information integrity, and cognitive resilience as interdependent components of democratic response to cognitively contested information environments.

The findings indicate that strategic communication functions as an integral component of crisis governance when societies operate within cognitively contested information environments. Perceived communication quality was positively associated with institutional trust, while transparency, consistency, evidence attribution, and responsiveness emerged as particularly important communication dimensions. Respondents appeared to evaluate official communication not only according to how frequently institutions communicated but also according to whether messages explained the basis of decisions and provided understandable guidance. Strategic communication therefore becomes valuable when it supports citizens' interpretation of uncertainty rather than merely increasing institutional visibility.

Public trust emerged as a central mechanism connecting communication quality with citizens' interpretation of crisis situations. Respondents expressing greater confidence in institutional competence, integrity, and reliability reported lower information uncertainty and demonstrated greater confidence when evaluating competing crisis narratives. The results do not suggest that high trust requires unconditional acceptance of official communication. Trust appeared more sustainable when citizens could evaluate the evidence behind institutional claims, understand why decisions were made, and observe that authorities were willing to correct previous information when new evidence became available.

The findings also demonstrate that exposure to contested information was associated with higher information uncertainty and stronger threat perception. Repeated encounters with contradictory claims, emotionally intensified narratives, and competing interpretations appeared to complicate citizens' capacity to determine which information deserved confidence. Cognitive resilience moderated this relationship, suggesting that individuals who compared sources, tolerated uncertainty, and distinguished evidence from emotional framing were less likely to calibrate threat assessments solely according to information exposure. Cognitive resilience therefore operated as an interpretive capacity rather than as resistance to recognizing genuine threats.

The case evidence reinforces the distinction between effective threat perception management and manipulative perception control. Crisis communication was most credible when institutions explained verified facts, acknowledged incomplete knowledge, provided actionable guidance, and corrected earlier assessments transparently. Communication became more vulnerable when uncertainty was hidden, institutional terminology was inconsistent, or corrections appeared without explanation. The results consequently support a model of threat perception management based on calibration, in which citizens are assisted in evaluating genuine risks proportionately rather than encouraged to feel either greater fear or greater reassurance than the available evidence warrants.

The findings are consistent with NATO's current conceptualization of cognitive warfare as an attempt to exploit cognition in ways that affect perception, sensemaking, situational awareness, behaviour, and decision-making. NATO's Science and Technology Organization emphasizes that cognitive warfare extends beyond the transmission of false information because the ultimate concern is the effect of influence on human judgment and decisions. The present study supports this perspective but moves the analysis toward civilian crisis governance by showing that communication credibility and cognitive resilience can function as defensive resources within contested information environments.

The relationship identified between transparent communication and institutional trust corresponds with OECD evidence on public communication and trust in public institutions. OECD research emphasizes that communication can strengthen trust by demonstrating openness, integrity, fairness, responsiveness, and clarity concerning government action. The present findings extend this argument by showing that transparency may become even more important when information is deliberately contested. Communication credibility under cognitive pressure appears to depend not only on delivering accurate information but also on making institutional reasoning sufficiently visible for citizens to assess how conclusions were reached.

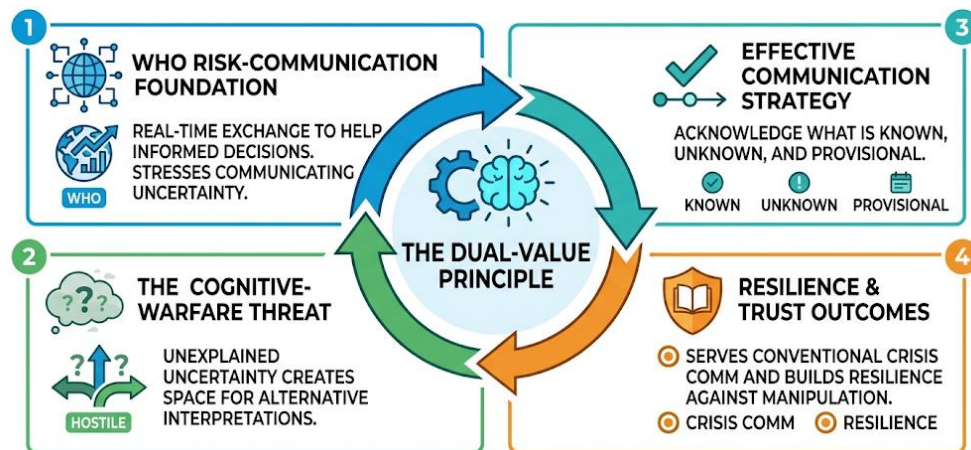


Figure 2. Analysis of Communicating Uncertainty in Crises

The findings concerning uncertainty are compatible with established risk-communication principles. WHO guidance characterizes risk communication as a real-time exchange intended to help people make informed decisions under threatening conditions and explicitly stresses the importance of communicating uncertainty during emergencies. The present analysis adds a cognitive-warfare dimension by demonstrating that unexplained uncertainty may create space for competing actors to supply alternative interpretations. Acknowledging what is known, unknown, and provisional can therefore serve both conventional crisis communication and broader resilience against manipulative narratives.

The results concerning contested information also parallel recent European analysis of Foreign Information Manipulation and Interference. The EEAS reports that FIMI operations have become increasingly sophisticated, transnational, and operationally complex, leading European institutions toward more coordinated and response-oriented approaches. The present study differs by concentrating less on identifying hostile actors and infrastructures and more on public reception. Its contribution lies in examining how communication quality, institutional trust, cognitive resilience, and perceived threat interact after manipulative or conflicting narratives enter the information environment.

The findings signify that strategic communication has become part of the governance infrastructure through which societies maintain decision-making capacity during crises. Communication cannot be separated neatly from crisis operations because citizens' interpretation of events influences compliance, preparedness, cooperation, and confidence in institutional decisions. A technically effective policy response may become less effective when the public does not understand why it is necessary or receives contradictory explanations from different authorities. Strategic communication should therefore be treated as a component of crisis capability rather than as an activity added after substantive decisions have been completed.

The relationship between communication quality and trust signifies that institutional authority alone is insufficient in fragmented information environments. Citizens increasingly encounter official claims alongside journalistic interpretation, expert commentary, social-media

content, and potentially manipulative narratives. Institutional credibility must consequently be demonstrated through communication practices that allow citizens to observe competence, transparency, responsiveness, and willingness to revise claims. Trust becomes less a passive resource inherited by public institutions and more a continuously negotiated relationship shaped by communicative behaviour during uncertainty.

The moderating role of cognitive resilience signifies that information security cannot be achieved entirely through removing false content or correcting individual misleading claims. Citizens need the capacity to compare evidence, tolerate provisional knowledge, recognize emotional manipulation, and avoid treating repetition as proof. This interpretation shifts resilience from the protection of information channels toward the protection of interpretive competence. Cognitive resilience does not require citizens to become indifferent to threats; it enables them to remain appropriately concerned without allowing intensity, repetition, or emotional framing to determine their judgments automatically.

The distinction between calibration and control signifies an important ethical boundary for democratic strategic communication. Institutions have legitimate reasons to help citizens understand the severity, probability, and consequences of threats, yet the same communication capabilities could become problematic if used to manufacture fear, suppress disagreement, or engineer political obedience. OECD work on information integrity similarly frames resilience in relation to democratic principles, including access to reliable information and freedom of expression. Strategic communication becomes defensible when it strengthens informed judgment rather than attempting to substitute institutional preferences for citizens' judgment.

The first governance implication is that strategic communication should be incorporated into crisis planning from the beginning of decision-making processes. Communication teams require access to evolving situational assessments so that public explanations reflect the actual evidentiary status of institutional knowledge. Delayed involvement encourages communication that merely translates completed decisions rather than helping decision-makers anticipate misunderstanding, uncertainty, and potential manipulation. Crisis governance should therefore connect operational planning, risk assessment, communication, and information-integrity functions within an integrated institutional architecture.

The second implication concerns transparency as a practical trust strategy. Transparency does not require governments to disclose operationally sensitive information or communicate every internal disagreement. It requires institutions to distinguish established facts from provisional assessments, explain the evidence supporting important public claims, identify significant uncertainties, and clarify why guidance changes. OECD evidence associates clear government explanations and values such as openness and responsiveness with stronger institutional trust, while WHO guidance similarly emphasizes trust-building communication under uncertainty.

The third implication concerns misinformation response. Institutions should avoid interpreting effective counter-disinformation as an obligation to rebut every false claim individually. Excessive repetition of provocative narratives can unintentionally increase their visibility, while slow responses may allow misleading interpretations to dominate the informational space. OECD guidance emphasizes institutional cooperation and resilient information ecosystems, while the EEAS increasingly uses coordinated frameworks to address manipulation patterns rather than focusing exclusively on isolated content. Crisis communication should consequently combine timely factual correction with proactive provision of reliable explanatory information.

The fourth implication concerns citizen capability. Communication policy should not aim solely to persuade audiences to accept official assessments; it should strengthen the public's ability to evaluate claims independently. Source transparency, accessible evidence, uncertainty explanations, media literacy, and visible correction procedures can reduce dependence on both institutional assertion and manipulative alternatives. Information integrity becomes stronger

when citizens possess multiple reliable pathways to verification. This principle aligns with OECD approaches that connect responses to disinformation with resilient, pluralistic information ecosystems rather than centralized control of information.

The strong association between strategic communication quality and trust can be explained by the informational demands created by crisis conditions. Citizens confronting uncertain threats frequently lack direct access to the technical evidence used by institutions and must therefore evaluate both information and the reliability of the communicator providing it. Transparency, consistency, and evidence attribution reduce the gap between institutional knowledge and public understanding. Communication practices become signals through which audiences infer whether authorities are competent, honest, and responsive enough to deserve confidence.

The relationship between contested-information exposure and heightened threat perception can be explained by the cognitive burden generated by repeated contradictory narratives. Competing messages require individuals to decide which claims are credible while simultaneously interpreting the threat itself. Emotional or repetitive content may increase the salience of particular dangers even when informational quality remains weak. NATO's cognitive-warfare research highlights precisely this concern with interventions that influence perception, sensemaking, and decision-making rather than merely transmitting factual propositions.

The protective role of cognitive resilience can be explained by reflective information processing. Individuals who compare sources, distinguish evidence from interpretation, and tolerate temporary uncertainty possess more opportunities to interrupt immediate emotional responses to threatening narratives. Such individuals do not necessarily trust institutions more automatically; their judgments are less dependent on a single communication cue. Cognitive resilience can therefore coexist with constructive skepticism because its central feature is the capacity to evaluate claims rather than the tendency to accept or reject particular information sources.

The difficulties surrounding uncertainty communication can be explained by institutional incentives to project competence and control. Crisis authorities may fear that acknowledging uncertainty will appear weak, particularly when adversarial actors are attempting to undermine confidence. WHO guidance takes the opposite position by treating communication of uncertainty as important to maintaining or restoring trust during emergencies. The present findings help explain why: later revisions can be interpreted more credibly when the public already understands that earlier assessments were provisional rather than presented as unquestionable certainty.

Future institutional practice should develop communication protocols that explicitly classify information according to evidentiary status. Public messages could distinguish verified findings, highly probable assessments, unresolved questions, and operational hypotheses in language understandable to non-specialist audiences. Updating procedures should explain what changed, which new evidence became available, and whether earlier protective guidance remains valid. Such practices would help make correction and revision visible signs of institutional learning rather than apparent evidence of contradiction.

Future research should test the proposed relationships longitudinally and experimentally under ethically controlled conditions. Longitudinal studies could determine whether transparent uncertainty communication produces more durable trust than artificially confident messaging as crises evolve. Experimental studies could compare alternative ways of communicating evidence, uncertainty, corrective information, and threat severity without exposing participants to deceptive political persuasion. Cross-national research would also clarify how media systems, political institutions, previous crisis experience, and baseline institutional trust influence these relationships.

Future crisis-governance models should integrate strategic communication with information-integrity monitoring, public engagement, and institutional coordination. Current EEAS approaches increasingly emphasize operational and coordinated responses to FIMI, while OECD frameworks stress whole-of-society information resilience and cooperation. Such developments suggest that communication units cannot address cognitively contested environments independently. Government agencies, researchers, journalists, civil society organizations, fact-checkers, and technology platforms occupy different but potentially complementary positions within the broader information ecosystem.

Future scholarship should ultimately move beyond asking which message is most persuasive and examine which communication architecture best preserves democratic decision-making under cognitive pressure. Research should investigate how artificial intelligence, synthetic media, automated influence, personalized information environments, and rapidly evolving manipulation infrastructures alter relationships among trust, threat perception, and cognitive resilience. NATO and EEAS assessments indicate that cognitive and information threats are increasingly treated as complex strategic challenges rather than isolated misinformation incidents. The next research agenda should therefore determine how institutions can communicate rapidly and persuasively enough to support crisis response while remaining transparent, contestable, evidence-based, and respectful of citizens' independent judgment.

CONCLUSION

The most important finding of this study is that strategic communication in the era of cognitive warfare functions not merely as a mechanism for disseminating information but as a central component of crisis governance and cognitive resilience. Communication quality, particularly transparency, consistency, evidence attribution, responsiveness, and acknowledgment of uncertainty, was closely associated with higher institutional trust and lower information uncertainty. Exposure to contested information was associated with stronger threat perception and interpretive uncertainty, while cognitive resilience reduced the extent to which threat judgments were shaped by repeated or emotionally charged narratives. The distinctive finding lies in conceptualizing threat perception management as perception calibration rather than perception control, meaning that effective communication should help citizens assess genuine threats proportionately without manufacturing fear, suppressing uncertainty, or replacing independent public judgment.

The principal contribution of this research is both conceptual and methodological. Conceptually, the study integrates strategic communication, public trust, threat perception, crisis governance, information integrity, and cognitive resilience within a unified framework that treats communication as part of the institutional infrastructure of democratic crisis response. Public trust is positioned as a strategic governance resource, while cognitive resilience is understood as the capacity to evaluate contested information through source comparison, evidentiary reasoning, and tolerance of uncertainty. Methodologically, the explanatory sequential mixed-methods design combines citizen survey data, professional interviews, and analysis of official communication materials, allowing statistical relationships to be interpreted alongside institutional practices and communication content. This integrated approach provides a stronger analytical basis for distinguishing legitimate risk communication from manipulative influence and for examining how institutional intent interacts with public reception under conditions of cognitive contestation.

The limitations of this study include its cross-sectional quantitative design, reliance on self-reported perceptions, restricted contextual coverage, and limited capacity to establish causal relationships among communication quality, institutional trust, cognitive resilience, and threat perception. The selected communication corpus and professional informants may also

represent only part of the wider information ecosystem, while rapidly evolving technologies may alter the nature of cognitive threats faster than conventional research designs can capture. Future research should employ longitudinal, experimental, comparative, and cross-national approaches to examine how trust and threat perception change throughout different crisis stages. Further studies should investigate synthetic media, generative artificial intelligence, automated influence systems, personalized information environments, institutional coordination, trust-repair strategies, and ethical uncertainty communication. Such research is necessary to develop crisis communication architectures that remain rapid and persuasive while preserving transparency, evidence-based reasoning, democratic accountability, and citizens' independent capacity to interpret contested threats.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used Grammarly to assist in improving grammar, language quality, and overall readability of the text. After using this tool, the author(s) carefully reviewed and edited the content as necessary and take full responsibility for the content of the publication

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

DECLARATION OF COMPETING 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.

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