



Digital School Safety Governance and School Climate: A Single Case Study in an Indonesian Public Elementary School

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Abstract: Elementary schools face critical challenges in maintaining a positive learning climate amidst persistent bullying issues. Although digital governance has emerged as a global strategy, its implementation often suffers from fragmented administrative approaches. This qualitative case study aimed to investigate the implementation of Digital School Safety Governance and how it was perceived to support a safe, child-friendly school climate in an elementary school context. Data were systematically gathered through in-depth interviews, participant observations, and document analysis involving the school principals, teachers, IT administrators, students, and parents. The findings reveal that the operational value of digital safety systems, such as web reporting portals and localized CCTV monitoring, transcends mere technological sophistication. Instead, system integration is rooted in the organic alignment of these tools with a caring institutional culture. Digital data are utilized primarily for evidence-based mediation and pedagogical care rather than punitive surveillance, which is associated with enhanced psychological comfort among students. The study concludes that digital school safety governance relies on human-centric policy integration and distributed leadership. It is highly recommended that educational administrators shift from reactive discipline to proactive, data-informed management by establishing dialogical Standard Operating Procedures. These insights provide a foundational framework for future research on technology-integrated educational management.

Keywords: Digital Governance; School Climate; Safety Management; Data-Driven Decision Making; Elementary Education.

Introduction

Elementary schools play a fundamental role in shaping children's character, making the creation of a positive and safe classroom climate an urgent priority in educational management (Ramadan, 2025). Psychological and physical safety are crucial for the smooth development and learning effectiveness of early age students. However, field realities show that elementary education institutions still face serious challenges in the form of high rates of violence and bullying that have not been systematically addressed (Puspitasari & Muhimmah, 2025). Recent studies indicate that bullying has become increasingly complex amid digital transformation, requiring school-wide prevention involving teachers, students, families, and technology-based monitoring (Kustiyaningsih et al., 2025; Tanjung et al., 2026). This phenomenon shows that conventional prevention programs are often not sufficiently responsive to

stem the escalation of the problem. Evaluations of various school safety programs emphasize the need for social norm changes that actively involve the entire school community in preventive action (Kristiyanti et al., 2024). Such collaborative protection also requires structured procedures, leadership, professional coordination, and continuous evaluation (Alfandari & Taylor, 2022). Therefore, a managerial framework is needed that is not only reactive when incidents occur but also possesses a structured preventive framework to guarantee students' learning comfort and safety.

In response to these managerial challenges, global trends indicate a strategic shift towards utilizing information technology in the education sector. International literature reviews emphasize that digital governance has become one of the main conceptual pillars of modern school management reform (Mifsud & Wilkins, 2025). Digital educational governance increasingly relies on digital systems, data infrastructures, and technological instruments to support monitoring, accountability, coordination, and decision-making (Syafriadi & Nirsal, 2025; Williamson, 2016). This era of digital transformation serves as a strategic instrument that can optimize managerial efficiency while promoting inclusion and equal access for all students (Patrizi et al., 2024; Triwiyanto et al., 2024). Furthermore, the elementary education ecosystem, including educators and families, has shown high expectations and a highly positive predisposition toward the adoption of digital resources (Area-Moreira et al., 2023). This readiness momentum becomes essential capital for educational institutions to start designing accountability systems that are transparent and integrated in facing the various dynamics of the learning environment.

Although information technology is beginning to be adopted, its implementation in the field still leaves a significant research gap. Previous studies have found that school management information systems often operate in silos, where their development is hampered by rigid interfaces and weak structural collaboration (Rohmadiyah et al., 2024; Toprak and Yakar, 2023). This lack of integration directly impacts reporting mechanisms; disjointed systems and unclear mechanisms make students reluctant to report, causing the handling of bullying cases to resemble an iceberg phenomenon (Husna et al., 2024; Ramdani & Hindiarti, 2024). This challenge is particularly important because elementary students may have intensive digital exposure while still demonstrating limited understanding of cybersecurity, personal data protection, cyberbullying, and digital reporting mechanisms (Mukhlisah & Rukli, 2025). School administrators ultimately lose their empirical footing because the existing systems have not been able to generate dynamic visualizations of safety indicators (Badru et al., 2023). Moreover, digital school governance must balance protection with children's rights to participate, receive information, and express themselves, rather than functioning solely as a surveillance mechanism (Green et al., 2020). This gap is what causes managerial decision-making to rely on intuitive assumptions rather than referring to the validity of educational statistical data regarding the safety of the learning environment.

To address these implementation gaps, this study anchors its theoretical foundation in Digital School Safety Governance as the overarching primary conceptual framework. Rather than conceptualizing digital instruments as disconnected administrative tools, this unified framework integrates three interconnected supporting dimensions: 1) data-informed decision-making, which establishes empirical grounds for managerial actions (Çalışır et al., 2026; Saura et al., 2023); 2) collaborative child protection, which fosters multi-stakeholder responsibility across the school community (Alfandari & Taylor, 2022; Kristiyanti et al., 2024); and 3) rights-based dialogical reporting mechanisms, which safeguard student agency, confidentiality, and psychological comfort (Green et al., 2020). The

framework posits that digital school safety governance functions dynamically through the strategic alignment of technological infrastructure, adaptive administrative leadership, and an internalized caring organizational culture (Nguyet et al., 2025; Primahendra et al., 2024). Viewed through this integrative analytical lens, web-based complaint portals and localized digital monitoring systems cease to function merely as passive administrative surveillance devices; instead, they serve as active, human-centered decision-support mechanisms that inform pedagogical care and restorative school climate management (Durnali, 2025; Putri et al., 2026).

Departing from these theoretical foundations, this study investigates the operational enactment of Digital School Safety Governance through a qualitative single case study design in an elementary school context. While prior research has broadly examined digital school tools or general anti-bullying protocols in isolation, this study reveals what previous literature has overlooked: how a web-based safety ecosystem operates in practice when it is integrated into a human-centric, dialogical, and evidence-led organizational culture. The novelty of this research lies in shifting the analytical focus from technical software design to the qualitative reality of how digital data inform managerial mediation, foster psychological safety, and shape the daily school climate. These empirical insights provide a strategic reference for educational leaders seeking to transition from reactive disciplinary measures to proactive, data-informed school climate governance models.

Method

This research employed a qualitative case study approach to gain an in-depth understanding of the implementation of Digital School Safety Governance in its natural context. A case study design was highly appropriate for investigating contemporary phenomena bound by space and time, which in this study was the governance of the safety ecosystem in elementary schools (Creswell & Poth, 2018; Yin, 2018). A qualitative approach in educational research allows researchers to deeply examine managerial dynamics, policies, and the underlying meanings of the actions of school actors (Riyanto, 2001). This study investigated SDN Sukapura 01 Jakarta Utara, a public elementary school in North Jakarta, Indonesia, from March to June 2026. This institution was selected as the research site because it actively utilized an integrated web-based complaint management system, accessible via its portal at <https://sdnsukapura01.sch.id/layanan-umpan-balik/pengaduan>. Featuring anonymous and identified reporting options, priority tagging, digital evidence upload, and real-time tracking, this platform provides a rich context for exploring how web-based digital governance shapes school safety and climate.

Data collection was conducted using a robust triangulation strategy, combining in-depth interviews, field observations, focus group discussions (FGDs), and document analysis to ensure the validity and credibility of the findings (Miles et al., 2020; Yin, 2018). To establish explicit research ethics regarding elementary students and sensitive digital reporting logs, formal ethical approval was secured from the Institutional Review Board (IRB) before fieldwork. Written informed consent was obtained from parents or legal guardians, along with child assent forms presented in age-appropriate language for Phase C students. For younger students in Fase B, empirical data were gathered strictly through non-intrusive behavioral observations and anonymized digital reporting logs to protect the students from psychological strain. All participants were anonymized using institutional codes, and uploaded digital evidence, such as incident files and log records, was stored on encrypted, password-protected cloud servers that were compliant with data privacy standards.

Observations focused on daily interactions between school administrators and the digital safety system, conducted twice weekly over three months (24 sessions, 60

min each), to monitor crisis management workflows and safety routines. Document studies critically analyzed 12 months of web complaint logs, safety Standard Operating Procedures (SOPs), and disciplinary archives. To determine key informants, this study applied a purposive sampling technique (Yin, 2018) to ensure that data were drawn from parties with direct authority, technical involvement and empirical experience. The study engaged a primary sample of N = 12 interview and FGD participants across administrative, teaching, parent, and Fase C student groups, supplemented by observational and web log data for Fase B participants. The informant structure is shown in Table 1.

Table 1. Research Participants and Data Focus

Code	Participant	Specific Role/Function	Data Focus & Operational Details	Data Collection Technique
PRN-01	School Principal	Top Management/ Policy Maker	Governance policy foundations, data-driven decisions, target climate	In-depth Interview & Document Study
VPA-01	Vice Principal of Student Affairs	System Implementation Coordinator	Operational workflows, web complaint handling, daily monitoring	In-depth Interview & Observation
ITA-01	IT Administrator / School Operator	System Operator / Web Manager	Technical constraints, web portal maintenance, complaint log oversight	Interview & Document Study
TCH-01	Teacher	Counseling Teacher	Classroom dynamics, responses to reported incidents, student behavioral impact	In-depth Interview
TCH-02	Teacher	Homeroom Teacher	Classroom dynamics, responses to reported incidents, student behavioral impact	In-depth Interview
TCH-03	Teacher	Homeroom Teacher	Classroom dynamics, responses to reported incidents, student behavioral impact	In-depth Interview
STDC-01 through STDC-04	Students (Fase C)	Upper Grade Student Representatives (Grades 5–6)	Safety perceptions, usability of the anonymous web reporting portal	Interview / Focus Group Discussion (FGD)
STD-B	Student (Fase B)	Middle Grade Students (Grades 3–4)	Peer interaction dynamics, behavioral patterns, representation in digital logs	Field Observation & Web Log Analysis
PRT-01	School Committee / Parent Representative	External Stakeholder	Transparency, accountability, trust in the school digital reporting mechanism	In-depth Interview
PRT-02	School Committee / Parent Representative	External Stakeholder	Transparency, accountability, trust in the school digital reporting mechanism	In-depth Interview

Source: Researcher's elaboration (2026)

Qualitative data analysis was conducted thematically, following the framework of data condensation, data display, and conclusion drawing (Miles et al., 2020). All raw data, including interview and FGD transcripts, field observation notes, and text entries from web complaint portals, were processed systematically. The analysis began with open coding to identify the basic units of meaning within the gathered information. These initial codes were subsequently grouped into conceptual categories and synthesized into overarching themes addressing the research focus. The researchers were directly involved throughout these stages to ensure that the data interpretation remained rooted in the proper context.

To ensure trustworthiness, this study strictly adhered to the criteria for credibility, dependability, and confirmability (Lincoln & Guba, 1985). Credibility was established through source and technique triangulation by cross-verifying interview findings, observation notes, and web complaint log entries, combined with member checking alongside informants to confirm the accuracy of the findings. Meanwhile,

dependability and confirmability were maintained by establishing a comprehensive audit trail documenting all analytical materials, ranging from raw transcripts and codebooks to analytical notes. Subjective researcher bias was further controlled through reflective journal writing and regular peer debriefing sessions with the research team members.

Results

1. Institutional Management of Digital Safety Ecosystems in Elementary Education

This section presents the primary findings derived from participant observations, in-depth interviews, and institutional document analysis at SDN Sukapura 01 Jakarta Utara. Qualitative evidence indicates that the digital safety ecosystem is managed by integrating formal school policies, web-based reporting tools, and daily administrative routines into a continuous protective framework. Field observations revealed that monitoring activities were systematically structured through the official school web portal. In staffroom settings, educators and technical staff were observed to collaboratively verify incident reports submitted through the portal without requiring immediate top-down intervention from the principal, suggesting an internalized and self-regulated safety system.

From a leadership perspective, this institutional approach prioritizes verified empirical data over subjective assumptions in addressing school safety concerns. As articulated by the school principal:

"The web portal gives us verified empirical data rather than assumptions. When a complaint comes through, school leadership can evaluate the exact timeline and context before deciding on restorative measures rather than relying on hasty administrative discipline." (PRN-01, In-depth Interview, May 2026).

This governance vision directly informs operational practices in school administration and technical support. Field observations indicate that reviewing the admin dashboard within two hours of arrival has become a core morning routine for the Vice Principal of Student Affairs (VPA-01) to triage incoming web entries and coordinate swift follow-up with the counseling teachers. Simultaneously, the IT Administrator (ITA-01) underscored that operational continuity relies on strict data security protocols, ensuring that uploaded incident evidence and personal details are encrypted and accessible only to the designated safety personnel.

This structured internal management extends to influence the perceptions of external stakeholders. Parent committee representatives noted that transparent web-tracking mechanisms significantly enhance parental trust in school child protection measures, as expressed by PRT-01:

"Knowing that the school operates an official web complaint portal with real-time tracking gives parents genuine confidence regarding institutional transparency and child protection." (PRT-01, In-depth Interview, May 2026).

Document analysis of safety guidelines, Standard Operating Procedures (SOPs), and 12-month web complaint logs further demonstrated an alignment between behavioral expectations, organizational values, and digital monitoring procedures. These institutional records indicate that managerial activities are organized around a data-informed framework, where digital entries serve as active indicators for monitoring the school climate rather than passive administrative logs. Overall, the findings in this section illustrate that the institutional capacity to utilize digital safety governance represents a managed model that aligns with administrative policy, technical infrastructure, and stakeholder trust.

2. Mechanisms Sustaining Organizational Adaptability Across Safety Domains

The systematic alignment and long-term sustainability of organizational adaptability across safety domains are maintained through structured mechanisms, ranging from the internalization of a child-friendly culture to flexible digital peer-supervision processes. Field data indicate that protective values are rarely transmitted solely through explicit, top-down instructions. Instead, they appear to be embedded in routine digital interactions and daily institutional expectations of student well-being. Field observations show that values such as vigilance and collaborative problem-solving are expressed through daily activities, including cross-functional discussions between counseling teachers and IT staff when examining web entries.

To illustrate how digital evidence directly informs school leadership decisions within this adaptive framework, a concrete incident from web portal logs was analyzed. An anonymous report was submitted through the school portal regarding a verbal and physical bullying incident near the sports field during a recess. The report contained an attached image file as digital evidence and was automatically assigned a medium priority tag. Within two hours of submission, administrative and technical personnel accessed the admin dashboard, verified the timestamped entry, and cross-referenced the report with localized CCTV records to confirm the timeline and individuals involved. Rather than issuing immediate punitive sanctions, verified digital evidence was presented during a closed case review session with the counseling staff. Based on the confirmed visual sequence and reporting logs, the school leadership made a data-informed decision to initiate a restorative mediation session involving the students' parents, while simultaneously adjusting teacher supervision schedules to increase monitoring in the sports field area.

The technical integrity and operational reliability of this data-driven decision-making process rely on maintaining strict protocols regarding system security and data handling, as highlighted by the technical personnel.

"Managing the portal requires balancing accessibility and data security. We ensure that uploaded proof, such as image files or detailed text descriptions, is strictly encrypted and accessible only to designated safety personnel." (ITA-01, In-depth Interview, May 2026).

In addition to technical safeguards, the availability of verified digital evidence serves as a critical mechanism for mediating interaction with external stakeholders. School committee representatives emphasized that objectifying incident reports through uploaded evidence helps prevent emotional conflict and grounds institutional responses in factual records.

"The inclusion of digital evidence upload reduces misunderstandings between parents and teachers. When an incident is logged, discussions are grounded in verified records rather than rumors or unexamined claims." (PRT-02, In-depth Interview, May 2026).

This evidence-based approach also shapes internal counseling practices. The counseling staff (TCH-01) noted that monitoring verified web logs enables educators to detect recurring minor behavioral patterns early, allowing for supportive intervention before conflicts escalate. A similar preventative mechanism was observed among younger learners in Fase B (Grades 3 to 4), who were examined through non-intrusive behavioral observations and anonymized log data. As documented in Field Observation and Web Log Entry 038, a minor playground dispute between two Grade 4 students over play equipment was redirected by their homeroom teacher, with a corresponding low-priority web log entry confirming that the interaction was resolved

through immediate classroom mediation without requiring a formal disciplinary escalation.

Overall, these empirical case study findings suggest that the sustained transmission of digital safety policies depends on seamless integration of institutional guidelines, verified digital records, and collaborative mediation practices. This multi-layered approach appears to ensure that digital reporting compliance is not experienced as an administrative burden but as an integrated organizational routine that aligns institutional safety goals with daily behaviors.

3. Internalisation and Manifestation of Digital Governance in Everyday Practices

Digital policy integration in the observed elementary school appears to manifest as a socially enacted competency, reflected through an array of everyday practices, including cross-functional collaboration, dialogical engagement, and non-repressive conflict resolution based on digital evidence. Field observations indicate that professional interactions are frequent within the digital safety ecosystem, particularly during incident verification and parental communication, where data interdependence is a daily reality. In one observed case, a disagreement between a parent and a teacher regarding a reported bullying incident was resolved through a deliberative process guided by senior teachers using localized CCTV footage and digital portal logs, illustrating a reliance on evidence-led mediation rather than immediate top-down authority.

Qualitative data suggest that this digital competency is dynamic, with staff room observations revealing that confidence and proficiency in navigating the digital governance platform vary across educator experience levels. While junior teachers demonstrated high initial technical engagement in operating reporting mandates, senior teachers showed more gradual adaptation through institutionalized immersion. To bridge these varying proficiencies, homeroom teachers actively adapt their roles to match the developmental stages of their students. For upper grades, a homeroom teacher noted actively encouraging Grade 5 students to utilize the anonymous web feature to build trust in the classroom (TCH-02). Conversely, for younger learners who are still developing digital literacy, middle-grade homeroom teachers act as facilitators, observing peer interactions in class and translating verbal concerns into anonymized system logs when necessary (TCH-03). Beyond formal meetings, this operational alignment was supported through collaborative monitoring arrangements that mixed educators with complementary technological and pedagogical strengths to support each other.

The emphasis on deliberation, psychological comfort, and organic growth is strongly reflected in the feedback gathered from student end-users during Focus Group Discussions (FGDs). Upper-grade student representatives (Fase C) expressed that anonymous reporting mitigates concerns regarding peer retaliation, as noted by one participant:

"Having the anonymous reporting option makes me feel brave enough to speak up when I witness peer teasing, because I do not have to worry about social retaliation." (STDC-01, FGD Session, May 2026).

This sense of psychological safety was further reinforced by students' observations of tangible administrative responses. Participants noted that navigating the portal by selecting complaint categories and priority levels was straightforward (STDC-02) and that seeing teachers adjust playground supervision schedules immediately after a report was submitted confirmed that their entries were actively reviewed (STDC-03). Furthermore, students highlighted that the resolution process prioritizes restorative dialogue over punitive measures:

"It gives us peace of mind knowing that reported issues are handled through private discussion and mutual understanding first, rather than immediate punishment." (STDC-04, FGD Session, May 2026).

These findings collectively suggest that digital governance integration at the observed elementary institution is an ongoing organizational achievement produced through a synthesis of digital infrastructure and a supportive school culture that prioritizes dialogue over repression. Overall, the findings illustrate that adaptability in digital school safety is best understood as an outcome of integrative educational management rather than a purely administrative IT product. The digital ecosystem provides a structural foundation, institutional mechanisms support consistency, and everyday social practices serve as a space for internalizing safety expectations. These empirical insights indicate that Digital School Safety Governance functions as an organizationally produced outcome, emerging from the dynamic interaction between digital governance structures, institutional caring culture, and the sustained social experience of maintaining a positive school climate.

The summary of findings in Table 2 asserts that the success of digital safety systems in elementary schools lies not in the sophistication of the application but rather in how the infrastructure is internalized into a child-friendly and data-driven reporting culture.

Table 2. Summary of Findings on Digital School Safety Governance

Main Theme	Managerial Focus	Summary of Empirical Findings	Qualitative Evidence
Institutional Management of Digital Safety Ecosystems	Policy & Cultural Integration	Digital reporting governance is managed through the integration of formal safety policies and daily administrative routines via a web portal, supported by collaborative autonomy between educators, technical staff, and school leadership.	Staffroom observations; In-depth Interviews (PRN-01, VPA-01, ITA-01, PRT-01); document study (Safety SOPs and Web Complaint Logs).
Mechanisms Sustaining Organizational Adaptability	Evidence-Based Decision Making & Peer-Mediation	Safety values are maintained through routine digital interactions and verified data workflows. Incidents reported via the web portal are cross-referenced with digital evidence (CCTV and timestamped logs) to inform restorative decision-making, rather than immediate punitive action.	Web portal log analysis and CCTV verification; case review observations; In-depth Interviews (ITA-01, TCH-01, PRT-02); Field Note (STD-B).
Internalisation and Manifestation of Digital Governance	Social Competency & Restorative Practice	Technological adaptation capacity develops gradually across the educator experience levels. The resolution of reported concerns emphasizes dialogical engagement, whereas anonymous web reporting fosters psychological safety and reporting confidence among students.	Observations of teacher-parent mediation; In-depth Interviews (TCH-02, TCH-03); Student Focus Group Discussions (STDC-01 through STDC-04).

Source: Primary data analysis (2026)

Discussion

The empirical findings of this case study illuminate that the efficacy of Digital School Safety Governance in elementary education transcends mere technological adoption; it is fundamentally an issue of cultural and structural integration. Contrary to the assumption that digital safety systems operate as rigid administrative IT tools, this study reveals that they are seamlessly integrated into the daily routines of a child-friendly school climate. This extends the argument that a positive and secure

classroom climate is an urgent necessity that profoundly influences early childhood development (Ramadan 2025). Rather than merely confirming the existing literature, this finding contextualizes how school safety amid digital transformation requires integrating institutional practices, stakeholder involvement, and technology-based monitoring rather than isolated interventions (Kustiyaningsih et al., 2025). By embedding technological mechanisms within everyday relationships and continuous evaluation (Alfandari & Taylor, 2022), schools can transform formal digital mandates into shared social practices. This contextualizes school-family-community collaboration, proving that digital communication strengthens institutional trust and creates a protective, culturally internalized learning environment (Bryan et al., 2026).

This organic integration challenges the conventional top-down compliance models often found in traditional school administration. Previous literature on global digital governance emphasizes its role as a macro-level conceptual framework for modern school reforms (Mifsud & Wilkins, 2025). Digital educational governance can be understood as a sociotechnical process in which digital infrastructures, data systems, monitoring mechanisms, and institutional actors collectively shape educational decision making (Williamson, 2016). However, our findings demonstrate how this macro-framework is operationalized at the micro-level through collaborative autonomy between educators and IT staff. Instead of waiting for direct hierarchical instructions from the principal, teachers engage in peer verification of reporting logs and CCTV footage. This fluid interaction extends the previous literature by demonstrating that superior accountability management systems can drive digital transformation effectively when they are not perceived as isolated burdens, thereby ensuring equal educational access and safety (Triwiyanto et al., 2024).

The sustainability of this digital safety ecosystem is heavily reliant on distributed leadership and peer mediation, which are the primary mechanisms for organizational adaptability. When discrepancies arise in behavioral incident reports, educators prioritize dialogue over repressive disciplinary actions. This finding extends and enriches the concept of educational ambidexterity and adaptive leadership (Azzukhrufi et al., 2026; Primahendra et al., 2024), illustrating that transformative leadership is not solely the domain of the principal but a shared institutional competency of the leadership team. While previous studies have noted that the optimization of management information systems depends heavily on structural collaboration (Rohmadiyah et al., 2024), this study challenges pure structural determinism by specifying that such collaboration must be grounded in an internalized culture of care rather than mere administrative compliance.

Furthermore, the utilization of digital infrastructure for evidence-based conflict resolution represents a significant shift towards data-driven school governance. The study found that disputes, particularly those involving external stakeholders such as parents, are mediated using concrete digital evidence, such as CCTV footage and system logs, rather than subjective assumptions. This empirical reality confirms that web-based management architectures are crucial for generating dynamic indicators that guide strategic decision-making (Badru et al., 2023). By utilizing these tools tactically, schools prevent the handling of bullying cases from becoming an obscure iceberg phenomenon (Ramdani & Hindiarti, 2024), effectively establishing a digital policy network that alters how the institution responds to safety threats (Saura et al., 2023). This represents a shift from reactive case handling to more systematic and measurable safety governance.

Interestingly, the findings revealed that technological capacity and the internalization of digital mandates do not occur uniformly but develop gradually through sustained social experience. Junior teachers often demonstrate higher technical proficiency in operating the reporting portal, whereas senior educators provide the necessary pedagogical and diplomatic guidance to interpret the data. This

contextualizes the interface and verification hurdles that frequently hamper the use of school management systems (Toprak & Yakar, 2023). It also extends the current understanding of how the digital readiness of school managers is deeply influenced by their collective awareness and belief in the utility of technology for data-driven decisions (Nguyet et al., 2025). This finding further contextualizes digital competence, showing that it cannot be separated from continuous guidance and institutional learning, particularly because high levels of digital exposure do not automatically guarantee adequate awareness of cybersecurity, privacy, cyberbullying, or safe reporting practices (Mukhlisah & Rukli, 2025). By intentionally mixing these proficiencies, institutions foster deep adaptation and capacity building.

From the perspective of primary end-users, the success of a digital governance system is measured by students' psychological comfort and agency. The deliberate design of a child-friendly reporting culture ensures that students feel genuinely protected rather than merely surveilled (Rahmi et al., 2026), directly contextualizing the need for health-based school reporting systems that balance accountability and user safety (Putri et al., 2026; Rawis & Sumilat, 2025). Involving students actively and ensuring that the system is dialogical rather than punitive extends evaluations of violence prevention programs (Kristiyanti et al., 2024; Suprpto et al., 2026) by balancing protection with children's rights to participation and expression (Green et al., 2020). Anonymous web reporting transforms students from passive objects of surveillance into active contributors to school safety. Ultimately, technology does not function as a substitute for human interaction but as an enabling mechanism in which students psychological comfort serves as both a primary outcome and a quality indicator of digital safety governance.

Theoretically, these insights require a reconceptualization of school safety management. Digital School Safety Governance should not be viewed merely as an IT deployment project but as an organizationally produced outcome emerging from the dynamic interaction between digital infrastructure and a caring institutional culture. This multilayered approach transforms the traditional school management information system into a robust decision support system integrated with health and safety (Çalışır et al., 2026; Rawis & Sumilat, 2025). This interpretation is also supported by evidence that technology-based interventions, including digital applications, AI-supported tools, serious games, and online platforms, can contribute to bullying and cyberbullying prevention when embedded in meaningful preventive and educational practices (Serritella et al., 2025). This proves that technological interventions in elementary education are most effective when they serve as strategic tools that promote inclusive and effective student integration (Patrizi et al., 2024), rather than functioning as sterile, isolated surveillance mechanisms. Developing these arguments explicitly, the principal theoretical contribution of this study is summarized in the conceptual model of Digital School Safety Governance (*Figure 1*). This model illustrates that effective safety governance emerges from the dynamic synergy of three core dimensions:

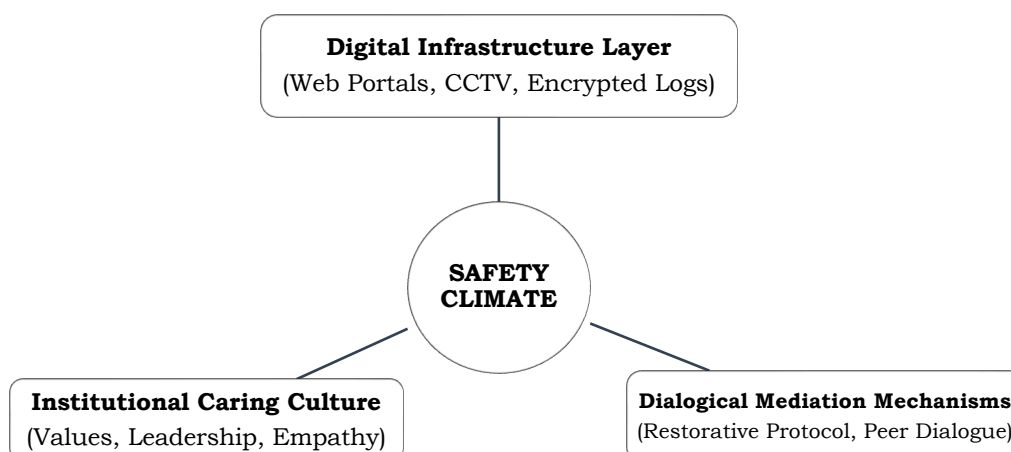


Figure 1. The Triadic Model of Digital School Safety Governance in Elementary Education

In conclusion, the effective implementation of digital safety ecosystems requires educational managers to prioritize human-centered policy integration. The transition from reactive, conventional bullying prevention (Puspitasari & Muhimmah, 2025) to proactive digital governance relies heavily on the systemic capacity to transform technological tools into social practices. Taken together, these findings indicate that effective Digital School Safety Governance emerges from the convergence of digital infrastructure, collaborative leadership, child protection, stakeholder participation, cybersecurity awareness, technology-based prevention, and responsive reporting mechanisms (Alfandari & Taylor, 2022; Bryan et al., 2026; Green et al., 2020; Serritella et al., 2025). For educational administrators and policymakers, this study provides a clear mandate: developing a reporting portal or installing CCTV cameras is only the initial step. True managerial accomplishment lies in cultivating a deliberative, data-driven environment where every digital input is meticulously handled with pedagogical care, ensuring a resilient and safe learning climate for early childhood development.

Conclusion

This study demonstrates that the successful enactment of Digital School Safety Governance in elementary education is fundamentally an organizational and cultural achievement rather than a purely technological one. The empirical findings reveal that digital infrastructures, such as web-based reporting portals and localized CCTV monitoring, become operationally effective only when seamlessly integrated into a child-friendly institutional climate and utilized for data-informed pedagogical care, rather than punitive surveillance. Theoretically, these insights contribute to the Triadic Model of Digital School Safety Governance, illustrating that effective school safety emerges from the dynamic synergy between digital infrastructure, an institutional caring culture, and dialogical mediation mechanisms. This framework extends sociotechnical governance theories in primary education by demonstrating how macro-level digital mandates are operationalized at the micro level through distributed leadership. Educational policymakers and school administrators should shift their focus from merely procuring IT systems to developing human-centric management policies. Schools are encouraged to establish dialogical Standard Operating Procedures that prioritize evidence-led mediation utilizing system logs and

CCTV footage over immediate administrative reprimands, while cultivating intergenerational teacher collaboration to bridge technological adaptation gaps across educator experience levels.

Despite providing deep contextual insights into digital governance practices, this study is inherently limited by its qualitative single-case study design, which focused on a specific public elementary school, constraining the direct statistical generalizability of the findings to broader institutional settings. To address these boundaries, future research should expand on these empirical perspectives by employing quantitative or mixed-methods approaches across a broader demographic of elementary schools in various countries. Longitudinal studies examining the long-term correlation between the intensity of digital governance implementation and measurable reductions in school bullying are highly valuable. Such statistical evaluations will further validate the effectiveness of integrating data-driven technology into educational management on the national scale.

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Author Contributions

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Jaya Roza Azzukhrufi: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Visualization, Writing-Original Draft, and Project Administration.

Syunu Trihantoyo: Validation, Review & Editing, Supervision.

Andi Kristanto: Validation, Review & Editing, Supervision.

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Conflict of Interest

The authors declare no conflicts of interest.

Data Availability

The qualitative data supporting the findings of this study are not publicly available because of ethical, privacy, and confidentiality restrictions regarding the protection of elementary school students and research participants. Anonymized data excerpts may be made available from the corresponding author upon reasonable requests.

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