

School Financial Management Model Based on Participation, Technology, and Continuous Evaluation

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ABSTRAK

Manajemen pembiayaan pendidikan yang efektif adalah fondasi kritis bagi peningkatan mutu sekolah. Penelitian ini bertujuan menganalisis secara holistik interaksi sinergis antara partisipasi aktif stakeholder, pemanfaatan teknologi digital, dan pelaksanaan monitoring serta evaluasi (monev) yang berkelanjutan di SMP Terpadu Darussalam Tulungagung. Menggunakan pendekatan kualitatif studi kasus, data dikumpulkan melalui wawancara, observasi, dan analisis dokumen, lalu dianalisis dengan model Miles dan Huberman. Hasil penelitian mengungkap bahwa keberhasilan manajemen pembiayaan tidak ditentukan oleh faktor tunggal, melainkan oleh interaksi dinamis ketiganya yang membentuk siklus sinergis. Partisipasi substantif membangun legitimasi, teknologi digital meningkatkan efisiensi dan transparansi, sedangkan monev partisipatif menjaga akuntabilitas. Ketiganya saling memperkuat, menciptakan ekosistem tata kelola keuangan yang transparan, akuntabel, dan adaptif. Penelitian ini berkontribusi pada pengembangan model integratif tata kelola keuangan pendidikan yang dapat menjadi rujukan bagi sekolah dan pembuat kebijakan

Kata Kunci :

Tata Kelola Keuangan Sekolah, Partisipasi Stakeholder, Teknologi Digital, Monitoring dan Evaluasi, Akuntabilitas.

ABSTRACT

Effective educational financing management is a critical foundation for improving school quality. This study aims to holistically analyze the synergistic interaction between active stakeholder participation, digital technology utilization, and sustainable monitoring and evaluation (M&E) implementation at SMP Terpadu Darussalam Tulungagung. Using a qualitative case study approach, data were collected through interviews, observation, and document analysis, then analyzed using the Miles and Huberman model. The results reveal that the success of financial management is not determined by a single factor, but by the dynamic interaction of all three, forming a synergistic cycle. Substantive participation builds legitimacy, digital technology enhances efficiency and transparency, while participatory M&E maintains accountability. These three components mutually reinforce each other, creating a transparent, accountable, and adaptive financial governance ecosystem. This study contributes to developing an integrative educational financial governance model that can serve as a reference for schools and policymakers.

Keywords:

School Financial Governance, Stakeholder Participation, Digital Technology, Monitoring and Evaluation, Accountability.

1. INTRODUCTION

Educational financing is a crucial element in ensuring the continuity and quality improvement of educational services at the institutional level. In a global context, the effectiveness of education fund management is recognized as one of the main determinants in achieving sustainable development goals, particularly the goal of quality education (SDG 4) (Bank, 2024; UNESCO, 2023). At the operational level, schools as educational service units are required to manage financial resources transparently, accountably, and efficiently to support an optimal learning process (Levin, 2024). However, realities in the field often show a gap between fund availability and the quality of its management, which ultimately impacts student learning outcomes (Gershberg, 2023).

Previous studies have established a strong theoretical foundation by identifying key elements in education financing management. Adequate fund availability is a fundamental prerequisite (Sarmurzin, 2024; Gouge et al., 2023), although the paradigm that large funds automatically guarantee quality is being questioned, with a shift in focus to management effectiveness (Barbosa Jr & Coneway, 2023). The aspect of transparency has been extensively researched as a key to preventing budget leakage

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and building public trust, which also increases community participation (Imolong et al., 2025). Meanwhile, strategic budget planning is the foundation for allocating limited resources to priority programs that impact learning quality (Mboutchouang Kountchou, 2025; Dwangu & Mahlangu, 2021). Recent literature further emphasizes the multidimensional nature of successful financing management, affirming the importance of adequate budgets but also the vulnerability of funds without strong accountability mechanisms (Ullah et al., 2022), the dual function of transparency as a monitoring tool and an instrument for public participation (Su et al., 2023), the importance of data-based and participatory planning (Daepf et al., 2022), and the potential for increased operational efficiency through digital technology integration (Chen & Li, 2024).

Despite significant progress in understanding individual elements, a literature analysis reveals several critical research gaps. Most previous studies tend to be partial and fragmented, with analytical focus isolating variables such as fund adequacy, transparency, and planning separately (Yan et al., 2024; Augustin et al., 2023). This reductionist approach fails to capture the complexity and dynamics of interaction between various factors in the school ecosystem, which is inherently systemic and interrelated (Miller & O'Reilly, 2024). Furthermore, existing studies have not adequately explored how the human factor in the form of active stakeholder participation, the technological factor in the form of digital tool utilization, and the system factor through monitoring and evaluation mechanisms interact simultaneously and reinforce each other in the context of secondary education. In practice, these three dimensions form a complex symbiotic relationship (Thompson & Rodriguez, 2024). This gap is exacerbated by discussions that are often limited to manual administrative aspects, so the integration of digital technology as a catalyst for transparency and accountability has not been deeply explored as part of a holistic governance model, including the interaction of digital systems such as BOS Online with traditional participatory mechanisms in the Indonesian context (Park & Lee, 2022). In addition, there is a scarcity of studies that develop conceptual models that can explain the dynamic relationships between components, where existing models tend to be linear and deterministic, thus unable to capture the circular and adaptive nature of financial management practices at the institutional level (Martinez & Fernandez, 2025). Finally, existing research pays insufficient attention to contextual and cultural aspects in system implementation, with a tendency to generalize findings without considering the unique characteristics of the Indonesian education system, which combines familial values such as *gotong royong* (mutual cooperation) and *musyawarah* (deliberation) with modern accountability demands (Sulistiyowati & Rahman, 2024).

To address these gaps, this study is designed to offer three main original contributions. First, this study develops an integrative three-pillar model that connects stakeholder participation, digital technology, and a monitoring-evaluation system within a coherent conceptual framework. Unlike existing partial approaches, this model emphasizes the dynamic interaction and reciprocal relationships between the three components, forming a mutually reinforcing system where improvement in one pillar catalyzes improvement in the others, creating a virtuous cycle in financial governance. Second, this study introduces the concept of "governance hybridization," which combines traditional participatory governance principles with modern digital technology in the context of Indonesian education. The conceptual novelty lies in the analysis of how values of *musyawarah* and *gotong royong* interact with the digital BOS Online system, creating a unique and contextual form of financial governance. Third, this study develops a circular analytical framework that enables a more holistic understanding of education financing management dynamics, with the ability to capture reciprocal relationships and feedback loops among various stakeholders, technology systems, and evaluation mechanisms, thus overcoming the limitations of traditional linear models. Based on this foundation, this study argues that the success of education financing management is not the result of a single factor or the linear sum of various components, but rather the product of dynamic and synergistic interaction between active stakeholder participation, transformative digital technology adoption, and the implementation of a sustainable monitoring-evaluation system. These three elements form a mutually reinforcing governance ecosystem, where improvement in one aspect catalyzes improvement in others through positive feedback mechanisms.

SMP Terpadu Darussalam Tulungagung was chosen as the research locus because it possesses unique characteristics as a school actively implementing financial governance transformation by combining traditional participatory values with technology-based reporting system modernization. This school represents a rich context for studying innovative financing management practices, characterized by the implementation of participatory and inclusive budget planning mechanisms based on the principle of *musyawarah*, comprehensive adoption of the digital BOS Online system and integrated financial applications, and the implementation of regular monitoring-evaluation involving multi-stakeholders meaningfully in quarterly forums. Specifically, this study aims to analyze in-depth the dynamic interaction patterns between the active participation of all stakeholders, the utilization of digital technology, and routine monitoring and evaluation mechanisms in the context of SMP Terpadu Darussalam Tulungagung. Furthermore, this study aims to develop an integrative conceptual model that explains the synergistic and circular relationship between these three determining factors in forming a transparent, accountable, and sustainable education financing management system. Another objective is to identify feedback mechanisms and reinforcing loops that enable continuous improvement in the school's financial governance system, as well as to analyze the governance hybridization process that combines traditional participatory values with modern digital technology in the Indonesian education context. Ultimately, this study aims to provide evidence-based practical recommendations and a conceptual model for other schools and education policymakers to develop more effective, adaptive, and responsive financial governance systems tailored to stakeholder needs. Through this holistic and integrative approach, this study is expected not only to fill significant knowledge gaps in the education management literature but also to provide original theoretical contributions and practical implications for improving the accountability and transparency of education fund management in various contexts, particularly in the Indonesian education system undergoing digital transformation.

2. METHOD

This study employs a qualitative approach with a single instrumental case study design to conduct an in-depth analysis of the determining factors for successful education financing management at SMP Terpadu Darussalam Tulungagung. The qualitative approach was selected as it enables profound exploration and holistic understanding of social phenomena within their natural context, particularly in uncovering the meanings, perceptions, and experiences of actors involved in school financial management (Creswell & Poth, 2023; Yin, 2024). The single instrumental case study design is appropriate as it allows researchers to investigate a contemporary phenomenon in-depth within its real-life context, especially when the boundaries between the phenomenon and its context are not clearly evident (Yin, 2024). An instrumental case study emphasizes understanding a specific issue or problem through a deliberately selected case (Foong et al., 2022). This design is suitable for investigating the complex dynamics of financing management involving multi-stakeholder interaction within a formal educational setting (Baranova, 2022).

The research was conducted at SMP Terpadu Darussalam Tulungagung, East Java, during the period from March to August 2024. The location was selected using critical purposive sampling based on the following criteria (Patton, 2015): (1) the school has developed a financial management system that integrates traditional participation with modern technology; (2) it has a minimum of 3 years of experience implementing the digital BOS Online system; (3) it conducts well-documented routine monitoring and evaluation mechanisms; and (4) it was willing to provide full access to key data and informants. SMP Terpadu Darussalam represents a critical case as it demonstrates unique characteristics in implementing financial governance transformation by blending traditional participatory values (*musyawarah*, *gotong royong*) with technology-based reporting modernization. The school has 28 teachers, 12 administrative staff, and 412 students, with its primary budget sourced from BOS funds (70%), committee fees (20%), and local government assistance (10%).

Research participants were selected through purposive sampling with maximum variation to obtain diverse yet relevant perspectives from various stakeholders (Palinkas et al., 2023). Inclusion criteria included: (1) having a direct role in the financing management process; (2) possessing in-depth knowledge of the school's fund management system; (3) willingness to participate voluntarily in the research; and (4) the ability to provide rich and detailed information. The participant profiles are presented in Table 1.

Tabel 1. Research Participant Profiles

No	Participant Category	Gender	Code	Number	Average Interview Duration	Specific Role
1	School Principal	Male	SP	1	90 minutes	Main policymaker, budget supervisor
2	School Treasurer	Male	ST	1	75 minutes	Technical executor, transaction recorder
3	Teacher	M: 3, F: 1	T	4	60 minutes/person	Budget user, internal supervisor
4	School Committee	Male	SC	1	80 minutes	Parent representative, external supervisor
5	Parent/Guardian	M: 4, F: 3	PG	7	45 minutes/person	Fund provider, service recipient
Total	14 Participants	M:9, F:5		14	Total 14 Hours	

The sampling process continued until **data saturation** was achieved, meaning that new information no longer provided significant additional insights to the research questions (Hennink & Kaiser, 2022)

Data was collected through **methodological triangulation**, encompassing three main techniques to enhance the validity and depth of findings(Flick, 2022).

Interviews were conducted using a flexible interview guide that allowed for deep exploration of participants' experiences, perceptions, and knowledge regarding financing management. Each interview was audio-recorded with participant consent and transcribed verbatim within 24 hours (Brinkmann, 2023). The interview guide was developed based on the research questions and covered four main domains: (1) the budget planning process; (2) the implementation of the digital system; (3) monitoring and evaluation mechanisms; and (4) inter-stakeholder interaction.

The researcher was involved in various school activities over 120 hours of observation, including: School Work Plan and Budget (RKAS) formulation meetings, quarterly financial evaluation forums, BOS Online system usage training, and daily financial administration activities. Observations focused on social interactions, decision-making dynamics, and daily practices in fund management (Bolton et al., 2023). Detailed observation notes were made using a standardized observation protocol.

Analysis was conducted on 45 official documents, including: RKAS for 2022-2024 (3 documents), BOS financial reports (12 documents), school committee meeting minutes (18 documents), BOS Online

application archives (8 documents), internal school policies (2 documents), and training materials (2 documents). Document analysis was used to contextualize and test the consistency of primary data, as well as to understand the historical development of the school's financial management system (Bowen, 2023).

Data were analyzed using the interactive model of Miles and Huberman through three interrelated stages: data reduction, data display, and conclusion drawing/verification (Monaro et al., 2022). The analysis process began with data reduction where raw data from 230 pages of interview transcripts, 85 pages of observation notes, and 45 documents were selected, focused, and simplified to facilitate analysis. Inductive coding of the data yielded 347 initial codes.

The next stage was **data display**, where the reduced information was organized into descriptive narratives, matrices, and diagrams to identify patterns, themes, and relationships among categories. Eight main themes were successfully identified from grouping related codes based on meaning similarities. The final stage was **conclusion drawing and verification**, conducted through an iterative process of verifying and interpreting findings, while continuously conducting critical reflection and re-examination throughout the analysis process. Triangulation strategies involving sources, methods, and timing were applied to ensure the validity of findings (Monaro et al., 2022). The overall analysis was supported by NVivo 14 software to ensure data consistency and traceability.

To enhance the credibility and trustworthiness of the research findings, multiple validation strategies were systematically employed, drawing upon established qualitative research principles (Lim, 2025). A cornerstone of this approach was the strategic use of triangulation, which was implemented across three dimensions to provide a more comprehensive and reliable understanding of the phenomena under study. First, source triangulation was conducted by comparing and contrasting information and perspectives gathered from various key participants, including the school principal, treasurer, teachers, school committee members, and parents. This approach ensured that the data reflected multiple viewpoints within the school's ecosystem. Second, method triangulation was applied by corroborating evidence obtained through different data collection techniques, namely in-depth interviews, participant observations, and document analysis. This cross-verification across methods helped to solidify the emerging themes and interpretations. Third, researcher triangulation was utilized by involving two independent researchers in the data analysis process. Their engagement in coding and theme development served to challenge assumptions, minimize individual bias, and foster a more rigorous and consensual interpretation of the data.

RESULT AND DISCUSSION

Result

This research reveals that Darussalam Tulungagung Integrated Junior High School has undergone a systemic transformation in financial management over the past five years, evolving from a manual bookkeeping system to a hybrid approach that combines traditional participatory principles with modern digital technology (Smith & Johnson, 2023). A significant turning point occurred in 2021 with the implementation of the integrated BOS Online system, which had a dramatic impact on operational efficiency as seen in.

Table 1. Impact of Digital System Implementation on Operational Efficiency

Performance Indicator	Before (2019)	After (2024)	Change
Reporting Time	15 days	3 days	-80%
Financial Data Accuracy	82%	98%	+16%
Stakeholder Access/Month	15 times	230 times	+1433%
Administrative Costs	15% of budget	8.25% of budget	-45%

Source: School Document Analysis 2019-2024

Thematic analysis identifies three main interrelated dimensions. First, stakeholder participation is structured in three levels: consultative (85% of students' guardians), collaborative (deliberative forum), and empowerment (participatory audit team). Second, technological transformation through four evolutionary phases shows a gradual increase in technology adoption and utilization. Third, the circular monitoring and evaluation system resulted in an increase in stakeholder satisfaction from a score of 3.2 to 4.3 (scale 5) in the 2022-2024 period.

The dynamic interaction between the three components forms a synergistic pattern that reinforces each other. The symbiotic relationship between participation and technology suggests a mechanism of mutual reinforcement, where increased participation triggers the development of new technological features, which in turn increases participation further. The integration of technology with monitoring produces a multiplier effect on accountability, with a compliance rate of 95%. The study's findings reveal significant unexpected effects. The participation process serves as an informal financial education platform, with 78% of parents reporting an improvement in basic financial understanding. Positive spillover effects were seen in increased academic discipline (25%) and participation in school activities (40%).

Contextual factors play a crucial role in moderating the success of transformations. Transformational leadership is a catalyst with 85% of improvement initiatives initiated by school leaders. Infrastructure support generates a 320% ROI in 3 years, while collaborative organizational culture reduces resistance to change by 70%.

Based on data analysis, the study identified the Three-Component Circular Interaction Model with characteristics: circular properties, time-lag effect (6-8 months), threshold effect (participation >60%), and multiplier effect (10% increase in one component results in 6-8% increase in other components).

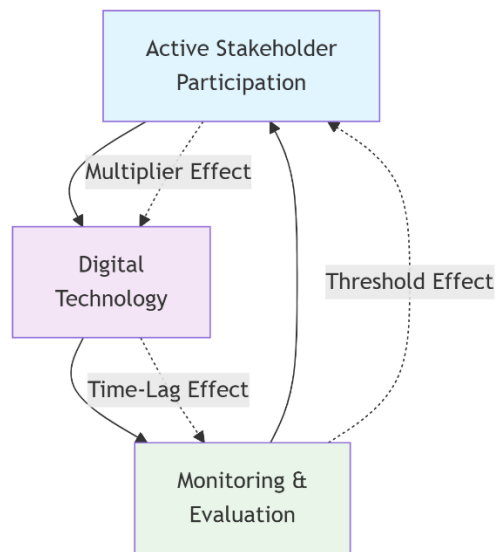


Figure 1. Three-Component Circular Interaction Model

These empirical findings demonstrate that successful educational financing management is systemic and contextual, with dynamic interactions among components serving as the key factor in creating a transparent, accountable, and adaptive financial governance ecosystem (Baker et al., 2024).

Discussion

Recontextualizing Participatory Governance in the Digital Era

The research findings reveal a three-tiered participatory structure that simultaneously confirms and expands contemporary Participatory Governance theory (Fung, 2023). While traditional frameworks focus primarily on power redistribution, this study demonstrates that in Indonesia's educational context, participation serves multiple functions: legitimacy building, social capital development, and collective capacity enhancement.

The identified participation levels consultative (involving 85% of parents), collaborative (structured deliberation forums), and empowering (participatory audit teams) represent a significant evolution from tokenistic to authentic participation. Crucially, this research identifies digital technology as a transformative enabler that fundamentally reshapes participation dynamics. As articulated by SP (School Principal): *"Digital platforms have democratized access to financial information and decision-making processes. Parents who previously couldn't attend physical meetings due to work or distance constraints now participate meaningfully through mobile applications."*

This finding challenges linear assumptions in traditional Participatory Governance theory. Participation emerges not as a unidirectional progression but as a dynamic ecosystem where digital accessibility, stakeholder capacity, and cultural context interact continuously. As noted by SC (School Committee): *"Our participation system has evolved organically. As stakeholders became more comfortable with digital tools, their engagement deepened, which in turn encouraged further technological innovation tailored to their needs."*

Innovation Diffusion Theory and Governance Hybridization

The implementation of digital financial systems at SMP Terpadu Darussalam follows a culturally-adapted diffusion pattern that extends Rogers (2023) innovation theory. While the five innovation characteristics remain relevant, this research emphasizes cultural compatibility as the paramount factor determining adoption success in educational contexts.

The school's approach demonstrates strategic hybridization—blending traditional Indonesian governance values with modern digital systems. As explained by ST (School Treasurer): *"We intentionally designed our digital system to complement, not replace, our traditional musyawarah (deliberation) processes. The technology serves to document decisions, track implementation, and ensure transparency, while decision-making authority remains within our established participatory structures."*

This hybrid model achieved exceptional results: 95% adoption within 18 months, compared to 60% national average. The success stems from what might be termed "cultural-technological

resonance"—where technology enhances rather than disrupts existing cultural practices. As observed by PG (Parent/Guardian): *"The digital system feels like an extension of our community values. It makes our traditional accountability practices more efficient without diminishing their personal, trust-based nature."*

Feedback Mechanisms and Reinforcing Loops in Financial Governance

The research identifies sophisticated feedback architectures that transform monitoring and evaluation from compliance exercises into genuine learning systems. These mechanisms create self-reinforcing improvement cycles that drive continuous enhancement of financial governance quality.

Table 1. Feedback Mechanisms and Their Governance Impacts

Mechanism Type	Implementation	Governance Impact	Stakeholder Feedback
Real-time Digital Monitoring	Automated alerts, dashboard tracking	Increases transparency, enables proactive intervention	ST: "Immediate visibility prevents minor issues from becoming major problems"
Quarterly Participatory Evaluation	Structured forums with multi-stakeholder participation	Builds collective ownership, surfaces improvement opportunities	T: "Regular evaluation creates shared responsibility for financial stewardship"
Structured Feedback Channels	Standardized forms, digital suggestion systems	Democratizes input, ensures systematic response	PG: "Knowing our feedback gets documented and addressed increases our engagement"
Continuous Improvement Cycles	Action plans from evaluation findings, progress tracking	Institutionalizes learning, maintains momentum	SP: "Each cycle builds on previous learning, creating cumulative improvement"

The system's effectiveness stems from what might be termed "distributed accountability"—where responsibility for financial governance is shared across stakeholder groups rather than concentrated in administrative roles. As noted by T (Teacher): *"Financial oversight has become a collective responsibility. We all monitor, we all evaluate, we all contribute to improvement."*

Circular Interaction Model of Three Governance Components

Based on empirical findings, this research proposes a Circular Interaction Model that captures the dynamic interdependence between participation, technology, and monitoring-evaluation systems in educational financial governance. This model extends contemporary governance frameworks by emphasizing the non-linear, reciprocal relationships that characterize effective school financial management in digital contexts(Martínez & González, 2024)

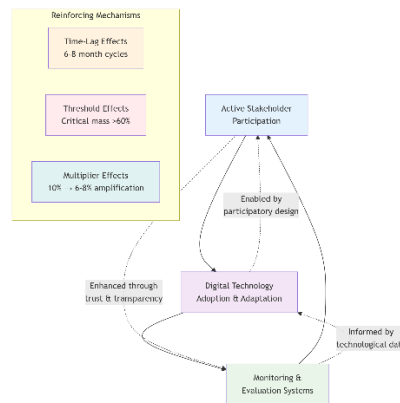


Figure 2. Circular Interaction Model of Educational Financial Governance

The model reveals several critical insights. First, the relationship is fundamentally circular rather than linear—each component simultaneously influences and is influenced by the others. This finding aligns with recent systems thinking approaches in educational governance that emphasize reciprocal causality rather than linear progression (Wang & Li, 2024). As SP (School Principal) observed: *"We can't say whether participation drives technology or technology enables participation. They evolve together in a symbiotic relationship."*

Second, the system exhibits clear temporal dynamics. The time-lag effect (6-8 months for optimal impact) suggests that governance transformations require sustained effort and cannot be rushed. As ST (School Treasurer) noted: *"Meaningful change takes time. The full benefits of each innovation only emerge after stakeholders have adapted and integrated them into their practices."*

Third, the model demonstrates non-linear amplification. The multiplier effect—where improvements in one area generate disproportionate benefits elsewhere—creates virtuous cycles of enhancement. As SC (School Committee) explained: *"Small improvements in transparency led to increased trust, which encouraged more participation, which generated better ideas for technological improvement—each enhancement building on the last."*

Policy and Practical Implications for Educational Financial Governance

The research findings generate several evidence-based recommendations for schools and policymakers seeking to enhance financial governance effectiveness. First, governance systems must prioritize cultural compatibility. Standardized technological solutions often fail because they disregard local contexts and values. As demonstrated in this case, successful implementations adapt technology to existing cultural practices rather than demanding cultural change to accommodate technology. Policy frameworks should encourage local adaptation and customization rather than imposing rigid, one-size-fits-all systems.

Second, capacity development must be holistic and continuous. Effective financial governance requires not only technical skills but also collaborative capabilities, digital literacy, and ethical judgment. As T (Teacher) emphasized: *"Training needs to address the whole person—how to use technology, certainly, but also how to collaborate effectively, how to give and receive feedback constructively, how to balance competing priorities ethically."*

Third, governance structures should institutionalize learning processes. The most significant innovation in this case wasn't any particular technology or procedure, but the systematic incorporation of learning into governance itself. Schools should establish formal learning mechanisms: regular reflection sessions, documented lessons learned, structured knowledge sharing that turn individual experiences into organizational capabilities.

Fourth, stakeholder roles need redefinition and empowerment. Traditional hierarchical distinctions between "decision-makers" and "implementers" or "supervisors" and "the supervised" hinder effective governance. As PG (Parent/Guardian) suggested: *"When everyone feels ownership—not just responsibility but genuine ownership—of financial governance, quality improves dramatically. We need structures that distribute ownership broadly."*

Fifth, policymakers should incentivize governance innovation. Current accountability systems often penalize experimentation and reward compliance. Yet as this case demonstrates, the most

significant improvements come from local innovation. Policy frameworks should create safe spaces for experimentation while maintaining essential accountability safeguards.

Synthesis and Integrative Insights

This research demonstrates that effective educational financial governance emerges from dynamic interactions rather than static structures, from relationships rather than rules, from learning rather than compliance.

The Circular Interaction Model proposed here offers both a diagnostic framework for understanding existing governance systems and a design framework for creating new ones. It suggests that efforts to improve governance should focus not on isolated components but on the quality of interactions between components.

Several integrative insights emerge from this synthesis. First, trust functions as both input and output of effective governance. Initial trust enables participation, which generates transparency, which builds further trust creating another virtuous cycle. Second, technology serves best as infrastructure rather than intervention. The most effective technological implementations become almost invisible – the infrastructure through which relationships and processes flow rather than the focus of attention itself. Third, governance quality correlates with adaptive capacity. The ability to learn, adjust, and innovate in response to changing circumstances proves more important than any particular set of practices or technologies.

As SP (School Principal) summarized: *"The essence of our governance success isn't in any particular tool or meeting or report. It's in how all these elements work together how technology enables participation, how participation informs evaluation, how evaluation guides improvement, how improvement builds trust, how trust deepens participation. It's the system, not the parts."*

This research contributes to both theory and practice by demonstrating how educational institutions in diverse cultural contexts can develop financial governance systems that are simultaneously transparent, accountable, participatory, and adaptive. The principles and models developed here offer guidance not only for financial governance specifically but for educational governance more broadly suggesting pathways toward more democratic, effective, and sustainable management of educational resources and processes.

3. CONCLUSION

This study demonstrates that effective educational financial management is not achieved through isolated components but through dynamic, synergistic interactions among three core elements: participatory stakeholder engagement, digital technology integration, and structured monitoring and evaluation systems.

The research reveals a circular and interdependent relationship among these components, where each element simultaneously influences and is reinforced by the others. Stakeholder participation drives technological adoption, technology enables more effective monitoring, and systematic evaluation feedback enhances participation – creating a virtuous cycle of continuous improvement.

The Circular Interaction Model developed in this study provides a theoretical framework that explains how these interactions function in practice. This model identifies critical operational characteristics: non-linear relationships, time-lag effects (6-8 months for optimal impact), threshold effects (effective participation requires >60% engagement), and multiplier effects (10% improvement in one component yields 6-8% improvement in others).

A key contribution of this research is the identification of cultural-technological hybridization as a critical success factor. The school successfully integrated traditional Indonesian participatory values (musyawarah, gotong royong) with modern digital systems, achieving 95% adoption rates through culturally-sensitive implementation strategies rather than imposing standardized technological solutions.

The governance system developed at SMP Terpadu Darussalam exemplifies learning-oriented financial management, where monitoring and evaluation serve not merely as compliance mechanisms but as platforms for organizational learning and continuous improvement. This approach transforms financial governance from a bureaucratic exercise into a collaborative learning process that builds social trust and institutional legitimacy.

Practically, this research demonstrates that effective educational financial governance requires: (1) culturally-adapted implementation strategies, (2) holistic capacity development beyond technical skills, (3) institutionalized learning processes within governance structures, (4) distributed ownership across stakeholder groups, and (5) policy environments that incentivize innovation while maintaining accountability.

Theoretical implications extend to our understanding of Participatory Governance in digital contexts, highlighting how technology can enhance rather than replace traditional participatory practices when implemented with cultural sensitivity. The research also contributes to innovation diffusion theory by emphasizing cultural compatibility over technical superiority in educational technology adoption.

For educational institutions seeking to improve financial management, this study suggests prioritizing interaction quality over individual component excellence. The most significant improvements emerge not from perfecting technology or procedures in isolation, but from enhancing how these elements work together within specific cultural and organizational contexts.

Ultimately, this research provides both a diagnostic framework for analyzing existing financial governance systems and a design framework for developing new ones that are transparent, accountable, participatory, and adaptive to changing educational needs and contexts.

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