Managing ICT Media to Enhance the Learning Quality of Pancasila Education

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Abstract. The integration of Information and Communication Technology (ICT) presents a significant opportunity to enhance the quality of Pancasila Education, yet its effective implementation is hindered by managerial challenges. This study addresses the gap between the potential of ICT and its practical application by analyzing how ICT media can be systematically managed to improve learning outcomes in elementary school Pancasila Education. This research employed a qualitative methodology with a comparative, multiple-case study design at two distinct elementary schools, SDN Sukamukti in Cianjur and SDN Salammulya in Purwakarta. Data were collected through in-depth interviews with principals and teachers, non-participant observation of classroom instruction, and analysis of institutional documents. Data were analyzed using the interactive model of Miles & Huberman. The findings reveal that a systematic management process, framed by the POAC (Planning, Organizing, Actuating, Controlling) cycle, is critical for success. The planning and organization phases were crucial for aligning ICT integration with curricular goals and available resources. The implementation phase demonstrated that ICT transformed Pancasila learning from passive memorization to active engagement through interactive media. The evaluation phase provided a mechanism for continuous improvement, addressing constraints such as teacher competency and resource limitations. The effective management of ICT media is a powerful determinant in improving the learning quality of Pancasila Education. This study concludes that a structured, cyclical management approach is essential for overcoming implementation barriers and harnessing the full pedagogical potential of technology.

Keywords: ICT Management, Learning Quality, Pancasila Education.

1   Introduction

The contemporary digital era has catalyzed a profound paradigm shift in nearly every facet of human life, with education standing at the forefront of this transformation. The rapid advancement of Information and Communication Technology (ICT) has irrevocably altered the landscape of teaching and learning, creating unprecedented opportunities for pedagogical innovation and enhanced student engagement [1]. The traditional model of instruction, often characterized by passive knowledge transmission, is increasingly being replaced by dynamic, interactive, and personalized learning experiences facilitated by digital tools [2]. This evolution is not merely an option but an imperative, as educational institutions are tasked with preparing students to thrive in a world where digital literacy and communication skills are paramount [3]. Within this context, the

strategic management of ICT media has emerged as a critical competency for schools seeking to improve the overall quality of learning [4].

This challenge is particularly salient in the context of Pancasila Education in Indonesia. As the foundational ideology of the nation, Pancasila is a cornerstone of the national curriculum, tasked with the essential mission of cultivating the character, values, and civic identity of the next generation [5]. Its five principles—Belief in One God, Just and Civilized Humanity, the Unity of Indonesia, Democracy Guided by the Inner Wisdom in the Unanimity Arising out of Deliberations Amongst Representatives, and Social Justice for All—are not meant to be abstract concepts for rote memorization. Rather, they are intended to be internalized as a living philosophy that guides students' attitudes and behaviors . However, the pedagogical reality of Pancasila Education often falls short of this ideal. Instruction frequently relies on monotonous, lecture-based methods that present the material as a collection of theoretical concepts detached from students' lived experiences. This can lead to a lack of student interest and motivation, hindering the deep understanding and internalization of Pancasila values [6].

The integration of ICT media offers a powerful antidote to this pedagogical stagnation. Digital tools such as interactive presentations, educational videos, animated simulations, and online quiz platforms can transform Pancasila learning from a passive to an active process [8]. Technology can make abstract concepts like tolerance and social justice tangible through engaging case studies and virtual field trips. It can foster collaborative learning through online discussion forums and group projects, and it can provide immediate, personalized feedback through gamified assessments [7], [8]. The potential of ICT to create a more dynamic, relevant, and effective learning environment for Pancasila Education is immense. However, realizing this potential is not simply a matter of acquiring hardware and software; it is a complex managerial challenge [9].

Field observations and preliminary research at several elementary schools, including the sites of this study, reveal a host of persistent obstacles to effective ICT integration. These include a lack of teacher competency and confidence in using digital tools, inadequate infrastructure such as limited internet access or a shortage of devices, a curriculum that is not designed for technological integration, and a lack of institutional support for innovation [10], [11]. Without a systematic approach to manage these challenges, investments in technology often fail to yield the desired improvements in learning quality. This necessitates a shift in focus from merely using technology to strategically managing it.

This study addresses this managerial imperative by employing the classic management framework of George R. Terry: Planning, Organizing, Actuating, and Controlling (POAC) [12]. This framework provides a robust and logical lens through which to analyze the management of ICT media in the context of Pancasila Education. The POAC cycle offers a systematic approach: 1) Planning: Defining goals for ICT integration, selecting appropriate media, and allocating resources. 2) Organizing: Structuring the roles and responsibilities of teachers and students and preparing the technological infrastructure. 3) Actuating: Implementing the ICT-enhanced lessons and actively engaging students with the technology. 4) Controlling (Evaluation): Assessing the effectiveness of the ICT integration, gathering feedback, and making continuous improvements.

This research undertakes a qualitative, comparative case study at two elementary schools with different geographical and cultural characteristics, SDN Sukamukti in Cianjur and SDN Salammulya in Purwakarta. Both schools face common challenges in ICT integration but are actively attempting to implement a more structured management approach. By conducting an in-depth investigation into how they manage the ICT integration process through the POAC cycle, this study aims to provide a rich, narrative account of management in action. The central research question is: How is ICT media managed, through the POAC framework, to improve the learning quality of Pancasila Education in elementary schools? The findings are expected to offer a practical, evidence-based model for school leaders and educators on how to overcome common barriers and systematically harness the power of technology to make Pancasila Education a more engaging, effective, and character-building experience for elementary students. This aligns with the broader goal of a transformative education that prepares students for a globalized world [13], [14].

2   Method

This research employed a qualitative methodology with a descriptive, comparative case study design. This approach was chosen for its strength in providing a deep, holistic, and contextualized understanding of a complex phenomenon—the management of ICT media—within its authentic, real-world setting. The study aimed to describe and analyze the management processes at two distinct public elementary schools, SDN Sukamukti in Cianjur and SDN Salammulya in Purwakarta. These sites were purposively selected because they represented different socio-geographical contexts yet faced similar challenges and shared a common goal of improving Pancasila Education through technology.

Data were collected over a seven-month period using a triangulated approach to ensure the comprehensiveness and credibility of the findings. The primary methods included: (1) in-depth, semi-structured interviews with principals, teachers, and a sample of students to explore their perspectives and experiences with the planning, implementation, and evaluation of ICT-based learning; (2) direct, non-participant observation of Pancasila lessons to capture the authentic use of technology and the resulting classroom dynamics; and (3) document analysis of relevant materials, such as curriculum plans, lesson plans (RPP), and school infrastructure inventories.

Data analysis was conducted using the interactive model of Miles & Huberman [15], which involves concurrent cycles of data reduction, data display, and conclusion drawing/verification. The validity of the findings was strengthened through several techniques, including prolonging the observation period, conducting member checks with informants to confirm interpretations, and rigorous triangulation of data from the different sources and methods. The subjects for the study were chosen purposively to include individuals with direct knowledge and experience of the phenomenon, including school supervisors, committee members, principals, and teachers.

3 Result

3.1 Management of Planning for ICT Integration in Pancasila Education

The foundational stage of the management cycle, planning, was where the strategic intent for using ICT in Pancasila Education was established. While both schools engaged in planning, the depth, formality, and underlying philosophy of their approaches differed significantly, leading to different levels of preparedness and effectiveness.

At SDN Sukamukti, the planning process was characterized by a more formal, top-down, and systematic approach, driven by the principal's clear vision. The process began with a formal needs analysis. The principal, in collaboration with the school's curriculum team, reviewed the previous year's student performance data in Pancasila Education and conducted a simple survey among teachers to gauge their comfort levels and perceived needs regarding ICT. This diagnostic step, as mandated by national standards [20], allowed the leadership to identify two key challenges: low student engagement in the subject and a significant skill gap among teachers in using digital tools. Based on this analysis, the school developed a formal, written plan for ICT integration that was embedded within the school's annual work plan. The plan was highly specific, outlining clear objectives, such as "to increase student motivation by 20% through gamified learning," and "to train 80% of teachers in the use of interactive presentation software." The plan also included a detailed budget for acquiring new software and a schedule for teacher training workshops. This approach aligns with classic management principles that emphasize clear goal-setting and resource allocation as the bedrock of any successful initiative [7], [16]. The planning at SDN Sukamukti was proactive and strategic, viewing ICT integration as a long-term school improvement project.

In contrast, the planning process at SDN Salammulya was more informal, emergent, and teacher-driven. Lacking the same level of institutional resources and formal leadership push, the initiative to use ICT was largely born out of the grassroots efforts of a few digitally savvy teachers. The planning was not documented in a formal school-wide plan but occurred in informal discussions within the teacher working group (KKG). Their planning was more tactical than strategic. For example, instead of a school-wide goal, a teacher might plan to use a YouTube video for their next lesson on tolerance or create a simple Google Form quiz. This planning was highly contextual and responsive to the immediate needs of the classroom, but it lacked a broader, cohesive vision. The primary consideration was the availability of existing, often free, resources and the individual teacher's personal skills. As one teacher at Salammulya noted, "We don't have a big plan. I see a good video online, and I think, 'I can use this for my lesson tomorrow.' We share ideas with each other, but it's not a formal program." This approach, while demonstrating teacher initiative, resulted in an ICT integration that was sporadic and inconsistent across the school. It was highly dependent on the motivation of individual teachers rather than being an institutionalized practice.

The difference between the two schools in this phase is significant. SDN Sukamukti's approach reflects a "management-led" model of innovation, where the institution provides the vision, structure, and resources. This created a more predictable and equitable implementation, but it also ran the risk of being perceived as a top-down

mandate if not managed carefully. SDN Salammulya's approach reflects a "teacher-led" model, which fostered a sense of ownership and creativity among the participating teachers but struggled to scale up or ensure consistency. Both approaches represent valid starting points, but the findings suggest that the more systematic and institutionally supported planning at SDN Sukamukti created a more robust foundation for sustainable and school-wide improvement in the quality of Pancasila learning [17].

3.2   Implementation of ICT-Enhanced Pancasila Learning

The implementation, or actuating, phase was where the plans were put into practice, and the impact of ICT on the actual learning process became visible. This stage revealed the dynamic interplay between the teacher's pedagogical skill, the chosen technology, and student engagement. The differences in implementation between the two schools were a direct reflection of their differing planning approaches.

At SDN Sukamukti, the implementation was structured and consistent, guided by the formal school-wide plan. The process was formally initiated with a socialization program, where the principal clearly communicated the goals and strategies for ICT integration to all teachers, students, and even parents through the school committee. A dedicated ICT coordinator was appointed to provide technical support and lead in-house training sessions for teachers. This created a supportive ecosystem that prepared all stakeholders for the change. The core of the implementation was the integration of a variety of digital tools into the daily Pancasila lessons. Teachers regularly used interactive presentations (created with Canva or PowerPoint) that incorporated images and short video clips to make the material more visually appealing. For example, to teach the concept of "Unity in Diversity," a teacher used a presentation featuring vibrant photos of different cultural traditions in Indonesia, accompanied by a short animated video.

A key strategy at SDN Sukamukti was the use of gamified learning and project-based assessments. Teachers frequently used platforms like Quizizz and Kahoot! to conduct formative assessments. These quiz games transformed review sessions from tedious drills into exciting competitions, significantly boosting student motivation. The school also implemented project-based learning where students were required to use technology. For instance, after learning about the five Pancasila principles, students in groups were tasked with creating a simple digital poster or a short vlog explaining how one principle is applied in their daily lives. This approach did more than just teach content; it developed students' creativity, collaboration, and digital literacy skills simultaneously. The implementation was not without challenges, such as occasional internet connectivity issues, but the presence of an ICT coordinator ensured that these technical problems were addressed promptly, minimizing disruption to the learning process. The overall implementation at SDN Sukamukti was characterized by its coherence, consistency, and focus on active, student-centered learning.

At SDN Salammulya, the implementation was more varied and experimental, reflecting its teacher-led, bottom-up approach. There was no formal socialization program; instead, the pioneering teachers shared their practices and successes informally with their colleagues. The implementation was heavily reliant on readily available, low-cost technologies. The most commonly used tool was video-based learning. Teachers

would curate educational videos from platforms like YouTube to supplement their lectures. For example, to explain the historical context of Pancasila, a teacher would play a short documentary video. This was a simple but effective way to make the material more engaging than a textbook reading.

Some teachers at Salammulya also experimented with simple digital creation tools. For instance, one teacher taught her students how to use a basic drawing application on a shared tablet to create pictures illustrating the concept of "social justice." While there was no school-wide mandate for project-based learning, these individual initiatives demonstrated the potential of technology to foster creativity. The implementation, however, was inconsistent. In one classroom, a Pancasila lesson might be a dynamic, video-enhanced discussion, while in the classroom next door, it could be a traditional lecture. This "pockets of innovation" model meant that the quality of the learning experience depended heavily on the individual teacher a student was assigned to. Furthermore, when technical issues arose, teachers were largely left to solve them on their own, which could be a significant source of frustration and a deterrent to further experimentation. While the implementation at SDN Salammulya showcased commendable teacher creativity and initiative, the lack of a managed, school-wide system limited its overall impact and sustainability.

3.3 Role of ICT Media in Enhancing Learning Quality

The core of this study lies in understanding how the managed use of ICT media directly contributed to improving the quality of Pancasila Education. The findings from both schools, despite their different management approaches, converge on several key benefits, demonstrating the transformative potential of technology when applied effectively to this crucial subject.

First and foremost, ICT media was instrumental in increasing student motivation and engagement. The traditional, text-heavy approach to Pancasila often fails to capture the interest of young, digitally-native learners. The introduction of multimedia elements—such as colorful presentations, animated videos, and interactive games—at both schools immediately transformed the classroom atmosphere. Students who were previously passive listeners became active participants. The use of gamified quizzes on platforms like Kahoot! at SDN Sukamukti was a particularly powerful example. The competitive, fast-paced nature of the game turned content review into an exciting event. A teacher noted, "Before, reviewing for a test was boring for them. Now, when I say we are going to play Kahoot!, they cheer. Their scores on the actual tests have improved because they are so much more engaged in the review process." This heightened engagement is a prerequisite for meaningful learning; when students are motivated, they are more likely to process information deeply and retain it longer [18].

Second, ICT media served to make abstract concepts concrete and relatable. The values of Pancasila, such as "just and civilized humanity" or "social justice," can be difficult for elementary students to grasp in the abstract. Technology provided a bridge between these abstract principles and the students' lived realities. At SDN Salammulya, a teacher used a short documentary video showing children from different parts of Indonesia playing together to illustrate the concept of "Unity in Diversity." After

watching the video, students had a vibrant and emotional discussion about friendship and tolerance. The video provided a shared, concrete experience that made the abstract concept of unity tangible and meaningful. This aligns with educational theories that emphasize the importance of using multiple representations to facilitate understanding [19]. Digital media allowed teachers to bring the world into the classroom, connecting the principles of Pancasila to real-life examples and diverse cultural contexts.

Third, the managed use of ICT fostered the development of higher-order thinking and 21st-century skills. The project-based learning activities at SDN Sukamukti were particularly effective in this regard. In creating a digital poster or a vlog about a Pancasila principle, students had to do more than just recall information. They had to analyze the principle, synthesize its meaning, evaluate how it applies to their lives, and then creatively communicate their understanding using digital tools. This process inherently cultivates critical thinking, creativity, collaboration (when done in groups), and digital literacy—all essential skills for the modern era [20]. As the principal of Sukamukti stated, "Our goal is not just for them to know Pancasila, but to be able to think like a Pancasila citizen. The technology projects push them to think more deeply and express their ideas in new ways." The use of technology, when managed effectively, thus elevates Pancasila Education from a simple civics lesson to a rich, interdisciplinary experience that builds both character and future-ready competencies [21].

4   Discussion

The findings of this comparative case study offer a rich, process-oriented perspective on the integration of ICT in education, yielding significant implications for both management theory and pedagogical practice. The experiences of SDN Sukamukti and SDN Salammulya provide a compelling narrative that moves the discourse beyond a simple "technology versus no technology" debate to a more nuanced understanding of how technology must be managed to be effective. The study's primary contribution is its clear demonstration that a systematic management framework, such as the POAC cycle, is the critical variable that determines the success and sustainability of ICT integration.

First, this research provides strong empirical validation for the application of classic management principles to the challenge of educational technology integration. The stark contrast between the two schools illustrates this point powerfully. SDN Sukamukti, which followed a more formal and complete management cycle, achieved a more consistent, sustainable, and impactful integration of ICT. Their data-driven Planning, clear Organization of roles, structured Implementation, and reflective Evaluation created a virtuous cycle of continuous improvement. This aligns with a vast body of management literature which posits that systematic processes are essential for achieving complex organizational goals [7], [16]. SDN Salammulya, while demonstrating commendable teacher initiative, was hampered by its lack of a cohesive management system. Its "pockets of innovation" were vulnerable to teacher turnover and failed to create a school-wide standard of quality. This finding challenges the often-held belief that simply providing technology or relying on the enthusiasm of a few teachers is sufficient. It powerfully argues that for technology to be a transformative force, it must be

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treated as a core strategic initiative that is managed with the same rigor as any other aspect of school operations. This has significant implications for school leadership, suggesting that principals in the digital age must also be effective technology managers [22].

Second, the study highlights the pivotal role of teacher competency and professional development as a managed process. A recurring theme was that technology is merely a tool; its effectiveness is entirely dependent on the skill of the teacher wielding it. The study revealed significant teacher-related constraints, including limited digital literacy and a lack of pedagogical knowledge on how to effectively integrate technology into lessons. SDN Sukamukti's relative success was largely due to its management of this human resource factor. The principal didn't just provide technology; they provided training, support (through the ICT coordinator), and a collaborative environment where teachers could learn from one another. This aligns with research that emphasizes the need for ongoing, job-embedded professional development for successful technology integration [23]. The study suggests that the "O" (Organizing) and "A" (Actuating) in the POAC cycle must include a strong focus on organizing and developing human capital. Simply placing a smartboard in a classroom without training the teacher on how to use it for interactive pedagogy is a recipe for failure. Effective ICT management is, at its core, effective human resource management [24].

Third, this research offers a compelling case for how managed ICT integration can revitalize and deepen the teaching of subjects often perceived as abstract, like Pancasila Education. The findings demonstrate that technology is not just a tool for engagement but a powerful cognitive tool that can facilitate deeper understanding. By using multimedia to make abstract values concrete and by using project-based learning to demand higher-order thinking, the teachers were able to move students beyond rote memorization toward a more meaningful internalization of Pancasila principles. This supports constructivist learning theories, which argue that students learn best when they are actively constructing their own knowledge rather than passively receiving it [25], [26]. The implication is that ICT, when properly managed and integrated, can be a key strategy for achieving the national goal of character education. It provides a practical pathway for making values-based education more relevant and impactful for a generation of digital natives. The process can be seen as an education for liberation, freeing students from passive learning and empowering them to be active creators of meaning [27].

5 Conclusion

This study concludes that the systematic management of Information and Communication Technology (ICT) media is a critical factor in enhancing the quality of Pancasila Education in elementary schools. The findings demonstrate that a structured approach, guided by the principles of the POAC management cycle, is essential for translating the potential of technology into tangible improvements in student engagement, understanding, and achievement. The comparative analysis reveals that a formal management process—involving data-driven planning, clear organization, consistent

implementation, and reflective evaluation—leads to a more sustainable and impactful integration of ICT than an informal, ad-hoc approach.

The research confirms that while technology offers powerful tools to make Pancasila learning more dynamic and relevant, its effectiveness is ultimately determined by the management of human and infrastructural resources. The key implication for educational practice is the urgent need for school leaders to adopt a strategic, managerial mindset toward technology. This involves not only providing resources but also investing in continuous teacher training and fostering a school-wide culture that supports pedagogical innovation. For policymakers, this study underscores the importance of supporting schools in developing their managerial capacity for ICT integration. Future research should explore longitudinal models to measure the long-term impact of managed ICT integration on the internalization of Pancasila values and civic behavior.

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