

## **Evaluation of Technology Use in Supporting the Teaching and Learning of Christian Religious Education at Arastamar Theological Seminary Wamena**

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**Keywords:**

*Evaluation, Technology, Teaching, Christian Learning.*

**Abstract:** This study is motivated by the question of how effectively technology can support the teaching and learning of Christian Religious Education at Arastamar Theological Seminary Wamena, an institution operating within the geographical and digital infrastructure limitations of Papua. The author argues that technology holds strategic potential to expand access, enhance interactivity, and enrich the learning experience of theology students; however, its integration must be sensitive to the social, cultural, and spiritual context of Papuan society. Theories of technology-based learning and Christian pedagogy suggest that technology can serve as an effective tool when critically and contextually adapted. This research employs a qualitative method involving interviews, observations, and document analysis to evaluate the practice of technology use at Arastamar Theological Seminary Wamena. The findings indicate that digital technology has been integrated into the curriculum and has positively influenced the quality of learning, though significant challenges remain—particularly in terms of infrastructure, digital literacy, and resistance among some lecturers and students. The study concludes that technology can strengthen the process of Christian religious education when managed wisely and contextually, and it highlights the need for continuous policy development and training for Christian educators in remote regions.

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## **INTRODUCTION**

In the digital era, the use of information and communication technology in education has become a necessity across almost all disciplines. Global changes in how students access information, engage in learning, and utilize online resources have encouraged higher education institutions to adopt more advanced teaching methods (Rohmiati, 2025). Christian Religious Education, as part of moral and spiritual formation, is no exception to this digital transformation.

Constructivist and connectivist learning theories emphasize that learning today is not merely about receiving content, but about forming networks of knowledge through digital interaction (Gulo & Tapilaha, 2024). However, this technological globalization also presents challenges, such as digital access inequality, variations in technological literacy among educators and learners, and the tendency to overlook cultural and local contextual relevance in educational technology design (Rohmiati, 2025).

The geographical and infrastructural conditions in Papua, including Wamena, present distinct characteristics for educational technology implementation. Internet connectivity is often unstable, hardware facilities are limited, and there is a shortage of educational technology experts in remote areas. Institutions such as the Arastamar Theological Seminary Wamena operate within the socio-cultural context of Papua, where traditional values, local languages, and communal learning approaches play a vital role in shaping students' religious identity. A related study in Jayapura found that the integration of innovative teaching methods must consider local context to avoid becoming "foreign technology" that is superficially adopted (Integration of Peace Theology in Jayapura). If not contextualized, technology may cause resistance or even weaken the spiritual and relational aspects of Christian education.

Based on this background, several specific research questions arise: How effective is the use of technology in supporting Christian teaching and learning at Arastamar Theological Seminary Wamena? Does the technology align with the pedagogical, spiritual, and cultural needs of both lecturers and students? Are the existing infrastructure, lecturers' competencies, and students' digital literacy sufficient to optimize its use? What specific barriers influence technological implementation in the Wamena context? And how do stakeholders (lecturers and students) perceive the benefits and challenges of technology use? These questions are crucial to ensure that the evaluation goes beyond technical assessment to include contextual dimensions.

The author theorizes that although technology holds great potential to enrich Christian education at Arastamar Theological Seminary Wamena—enhancing interactivity, learning access, and supporting spiritual development—its effectiveness depends on contextual adaptation, infrastructural readiness, the competence of lecturers and students, and alignment with local culture. This argument is supported by educational technology adoption theories such as the Diffusion of Innovations and the Theory of Planned Behavior, as well as religious-pedagogical learning theories that emphasize that religious instruction cannot be separated from its social, cultural, and spiritual context (Gulo & Tapilaha, 2024).

The primary objective of this research is to comprehensively evaluate the use of technology in Christian teaching and learning at Arastamar Theological Seminary Wamena, covering curriculum integration, pedagogical effectiveness, implementation challenges, and stakeholder perceptions. Specifically, the study aims to: (1) describe the types and modes of technology used in teaching; (2) assess the extent to which technology enhances the quality of Christian learning and understanding; (3) identify on-the-ground challenges and barriers; and (4) explore the perceptions of lecturers and students regarding its use. These objectives are expected to produce empirical insights that can serve as the foundation for policy recommendations and practical improvements in Christian education, particularly in remote areas such as Wamena.

Recent studies have examined technology in the context of Islamic and Christian education, as well as religious instruction in various regions of Indonesia. Rohmiati (2025) explored the use of digital media in Islamic education, finding that videos, interactive applications, and e-learning increased motivation and interactivity, though infrastructure and teacher competence remained major obstacles. Module development for blended learning in Christian education has also been studied, yet mostly in areas with better accessibility and limited focus on the Papuan cultural context—where local language and traditions strongly influence teaching methods (Module Development of Blended Learning on Christian Religious Education). Moreover, studies conducted specifically in Wamena or at Arastamar Theological Seminary are very limited in indexed literature, indicating a significant gap in localized empirical data. Thus, this research seeks to fill that gap by integrating cultural, spiritual, pedagogical, and technological dimensions within the Wamena context.

This paper is organized as follows: the Methods section describes the qualitative research approach, data collection techniques (interviews, observations, and document analysis), and the rationale for methodological choices; the Findings and Discussion section presents five subtopics—technology integration in the curriculum, learning effectiveness, implementation challenges, lecturers' and students' perceptions, and theological-pedagogical implications; and the Conclusion summarizes the main findings, addresses the research questions and objectives, and offers recommendations for practice and future research. With this structure, the paper aims to guide readers from general theoretical perspectives to the specific context of Arastamar Theological Seminary Wamena, thereby contributing valuable local empirical evidence that has been largely overlooked in previous studies.

## **METHOD**

This study employed a qualitative case study approach to evaluate the use of technology in Christian teaching and learning at Arastamar Theological Seminary Wamena, as this method allows for an in-depth understanding of complex cultural, spiritual, and pedagogical contexts (Assyakurrohim et al., 2022). The participants included lecturers and students selected through purposive sampling to represent experiences with educational technology in the institution. Data were collected through semi-structured interviews exploring perceptions and challenges, direct classroom observations, and document analysis of curricula, syllabi, and digital materials. Data analysis followed the interactive model of Miles and Huberman—data reduction, display, and verification—combined with thematic analysis to identify key patterns (Priambodo et al., 2025). Data validity was ensured through triangulation of sources, methods, and member checking to accurately reflect the local context.

## **RESULTS AND DISCUSSION**

### **Integration of Digital Technology in Christian Education Curriculum**

The integration of digital technology into Christian education requires a systematic

approach that aligns theological, pedagogical, and local cultural objectives. Many theological institutions now adopt learning management systems, multimedia modules, and online resources that enhance theological access and interactive learning opportunities for digital-native students. However, effectiveness depends not only on technology availability but also on academic readiness, institutional support, and contextual relevance to local culture and spirituality. Curriculum policies must ensure that digital learning goals remain consistent with spiritual formation so that technology enhances, rather than diminishes, relational and spiritual dimensions (Rohmiati, 2025).

Digital tools such as online libraries, multimedia materials, and hybrid learning models expand access to theological sources and contextual resources like local narratives and traditional music relevant to Christian education in Papua. Well-designed materials must consider theological accuracy, readability, and copyright ethics (Gulo & Tapilaha, 2024). In blended learning, evaluation rubrics should measure theological depth, participation, and pastoral application.

At the classroom level, digital platforms enable synchronous and asynchronous learning, virtual discussions, and interregional collaboration, fostering active participation and deeper hermeneutic reflection. However, institutions need clear digital teaching policies, assessment standards, and continuous pedagogical training for lecturers to sustain quality (Assyakurrohim et al., 2022).

In pastoral practicum, technology facilitates remote supervision, video documentation, and digital simulations that strengthen reflective practice. Yet, its effectiveness relies on authentic design, ethical data use, and integration with real-world pastoral engagement. Institutionally, a strong policy framework, capacity building, infrastructure investment, and collaboration with local churches and stakeholders are crucial to prevent digital inequality and ensure that technology truly transforms theological education in contexts like Wamena (Priyambodo, 2025).

### **Effectiveness of Technology in Enhancing Learning Quality**

The effectiveness of technology in theological education lies in its ability to expand access and deepen theological understanding through diverse digital media. Students can engage with scriptures, academic literature, and audiovisual materials that support contextual learning and critical reflection. Digital platforms facilitate comparative theological study and connect doctrine with contemporary social issues, while access to online databases enhances academic literacy (Mintasih et al., 2024). However, true effectiveness depends on instructional design and institutional policy—without pedagogical integration, technology remains superficial (Aripradono et al., 2024).

Interactive learning is a key indicator of technological effectiveness. Online forums, synchronous and asynchronous classes, and collaborative platforms enable broader participation and dialogical learning, fostering constructivist engagement (Saputro & Wijaya, 2025). Studies show that digital forums enhance academic communication and argumentation

skills (Elkana, 2024), while blended learning improves both collaboration and academic outcomes (Rahmah & Mustamin, 2023). Yet, fair participation requires clear assessment rubrics and structured facilitation to prevent domination or passivity (Ichwan et al., 2024).

Digital learning platforms also enhance academic achievement by offering formative assessments, real-time feedback, and learning analytics to track student progress (Saputro & Wijaya, 2025). Research confirms that digital media improves academic performance and critical thinking when used actively in blended environments (Mintasih, 2022; Meta-Analysis, 2023).

However, infrastructure limitations—unstable internet, limited devices, and low digital literacy—remain major challenges in remote theological schools. Adaptive blended approaches that combine online and offline learning can maintain quality despite technological constraints (Fathurrahman et al., 2024). In contexts like STT Arastamar Wamena, such flexibility ensures equitable access and cultural relevance (Aripradono, 2024).

Ultimately, the effectiveness of technology in theological learning must be holistic, integrating cognitive, affective, and spiritual dimensions. Digital tools should foster faith reflection, service values, and ethical theological communication (*Technology-Based Theological Training*, 2024). Institutional policies must ensure that academic outcomes include spiritual maturity and pastoral readiness, not only cognitive achievement (Saputro & Wijaya, 2025; Mintasih, 2022). With such integration, technology becomes a transformative instrument in Christian education rather than a mere modern trend.

## **Challenges and Opportunities of Technology Implementation in Christian Education**

The implementation of technology in Christian education presents both challenges and opportunities, particularly in terms of human resources, infrastructure, and theological understanding. Many theological institutions in Indonesia are still adapting to digital transformation, highlighting the need for adaptive and relevant curricula. Aripradono (2024) emphasizes that digital transformation requires a paradigm shift in higher education, while Ichwan (2024) notes that digitalization influences students' theological reading habits, necessitating proper content curation. Mintasih (2022) stresses the importance of systematic integration to avoid learning disparities. These challenges also open opportunities for more contextual and collaborative education.

Digital literacy remains a major issue among theology students. According to *Journal of Curriculum Indonesia* (2023), gaps in digital skills can hinder learning effectiveness. Saputro & Wijaya (2025) highlight the need to foster critical thinking in theological digital learning, supported by *Meta-Analysis* (2023b), which found blended learning more effective than traditional methods. However, without proper guidance, technology may lead to shallow learning. Thus, deep pedagogical strategies are essential.

Lecturers' readiness also determines successful integration. IPCEP (2024) calls for digital training for theology educators, while Aripradono (2024) stresses the necessity of enhancing lecturers' digital competence. Ichwan (2024) warns that digitalization may alter theological

interpretation, requiring critical reflection. These challenges create opportunities for digital-based faculty development aligned with students' needs.

Infrastructure inequality remains a barrier, especially in remote areas. Mintasih (2022) and *Meta-Analysis* (2023b) note that technological integration succeeds only with adequate facilities, while *Journal of Curriculum Indonesia* (2023) warns of widening educational inequality. Yet, this also opens opportunities for collaboration between theological institutions, government, and private sectors to improve digital access.

Ultimately, technology offers opportunities for interactive, flexible, and globally connected learning. Saputro & Wijaya (2025) highlight that online theological learning enhances engagement, while IPCEP (2024) emphasizes cross-national collaboration. Aripadono (2024) adds that digital transformation fosters broader research partnerships. Despite the challenges, digital integration allows Christian education to renew its paradigm, expand its reach, and strengthen theology's relevance in a digital society.

### **Transformation of the Lecturer's Role through Digital Technology**

The rise of digital technology has transformed lecturers from mere transmitters of knowledge into facilitators of interactive and adaptive learning. Aripadono (2024) emphasizes that digital transformation in higher education depends not only on technology but also on lecturers' readiness to shift pedagogical paradigms. Mintasih (2022) notes that religious education now requires digital curriculum development relevant to modern contexts. Saputro & Wijaya (2025) highlight that lecturers must build interactive ecosystems that promote collaboration, positioning them as key agents in ensuring the relevance of Christian education in the digital era.

Beyond facilitation, lecturers also serve as spiritual mentors, using technology to strengthen faith and Christian values. IPCEP (2024) stresses that tech-based theological training is effective when rooted in spirituality, while Ichwan (2024) warns that digital religious texts can distort theology without proper curation. By integrating audiovisual media and digital reflection tools, lecturers can balance academic and spiritual growth (Mintasih, 2022).

Lecturers further act as creative innovators, designing project-based and blended learning models that enhance engagement and critical thinking (*Journal of Curriculum Indonesia*, 2023; *Meta-Analysis*, 2023). Saputro & Wijaya (2025) underline the importance of flexible digital designs that foster active participation, requiring mastery of both pedagogy and technology.

In Christian education, lecturers also function as bridges between classical theology and modern technology. Ichwan (2024) notes that digitizing sacred texts enriches learning but demands careful guidance to prevent theological confusion. Aripadono (2024) adds that lecturers must ensure technology aligns with academic and faith values, while IPCEP (2024) emphasizes maintaining global collaboration with local relevance.

Finally, digital transformation enables cross-disciplinary and global collaboration. *Meta-Analysis* (2023) shows that technology-based collaboration improves learning outcomes, and Saputro & Wijaya (2025) argue that cooperative instructional design modernizes theological

education. Supported by institutional policy (Aripradono, 2024), this transformation positions lecturers as members of a global academic community contributing to both scholarship and faith formation.

### **Implications of Digital Technology Integration in Christian Education**

The integration of digital technology in Christian education significantly reshapes both conceptual and practical learning paradigms. Conceptually, it shifts education from knowledge transmission to competence-based learning emphasizing critical thinking, collaboration, and digital literacy. Tools such as Learning Management Systems (LMS) and online theological resources allow students to access classical and contemporary literature without spatial limits (Ichwan, 2024). Practically, lecturers must develop digital pedagogical skills that balance theology and technology, aligning with Mintasih's (2022) view that digital media enhances spiritual understanding through contextual learning.

Technology also expands accessibility for students in remote regions. Online theological learning models—both synchronous and asynchronous—promote equitable education across geographic boundaries (Saputro & Wijaya, 2025). Though digital inequality remains a challenge, technology enables seminaries and churches to extend their educational mission, serving as both an academic and missional tool.

Furthermore, digital integration strengthens academic quality by fostering interactivity and critical theological engagement. A 2023 meta-analysis revealed that blended learning significantly improves students' critical thinking skills, particularly in theology (Meta-Analysis, 2023b). Online discussions encourage deeper questioning and analysis, linking theological theory with practical faith.

However, digital integration also raises ethical and spiritual challenges. Technology can lead to distraction, commodification of theology, and information bias. Aripradono (2024) stresses the need for clear digital ethics and regulatory frameworks to preserve academic and spiritual integrity. Christian institutions must establish ethical guidelines, curate digital resources carefully, and provide ongoing spiritual formation for lecturers and students.

Ultimately, technology fosters a transformative and sustainable learning ecosystem. It encourages global collaboration, enriches curricula, and extends theological education beyond classrooms into podcasts, open online courses, and international forums. As both a gift and responsibility, technology—when managed wisely and ethically—can guide Christian education toward a more relevant, contextual, and transformative model for society.

### **CONCLUSION**

The integration of digital technology in Christian education significantly enhances learning quality, accessibility, and theological relevance in the modern era. Technology functions not only as a medium of information delivery but also as a strategic tool for fostering interactivity, critical thinking, and deeper theological understanding. The role of lecturers has

transformed into dynamic facilitators, innovators, and spiritual mentors who creatively and contextually use digital tools. However, this integration also presents ethical, spiritual, and cultural challenges that require clear institutional policies to ensure alignment with faith values and academic integrity. When managed effectively, digital integration can create an inclusive, adaptive, and sustainable theological learning ecosystem—shaping graduates who are intellectually strong, spiritually grounded, and socially impactful in a globalized world.

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