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ARTICLE

INTEGRATING ARTIFICIAL INTELLIGENCE INTO A DIGITAL SACRED SPACE FRAMEWORK TO ENHANCE VIRTUAL FELLOWSHIP IN SUSTAINABLE EDUCATION

Integração da Inteligência Artificial em um Modelo de Espaço Sagrado Digital para o Fortalecimento da Comunhão Virtual na Educação Sustentável

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ABSTRACT | Purpose: This study aims to develop an AI-integrated Digital Sacred Space Model (AI-DSSM) to enhance virtual fellowship within sustainable theological education. It examines how artificial intelligence can strengthen spiritual engagement, community cohesion, and pedagogical effectiveness in online learning environments. **Method:** The research adopts a systematic literature review (SLR) of international publications indexed in Scopus between 2020 and 2025. The analysis focuses on three core domains: (1) AI-supported virtual fellowship practices, (2) the evolution of the digital sacred space concept, and (3) pedagogical and communal effectiveness in AI-enhanced theological education. A thematic synthesis approach was employed to identify patterns, theoretical integrations, and technological implications. **Findings:** The findings indicate that integrating AI into digital sacred spaces significantly enhances virtual fellowship by improving spiritual presence, community cohesion, adaptive learning pathways, and pedagogical interaction. The study also identifies key AI-driven mechanisms, such as sentiment analysis, adaptive feedback, and immersive environments, which contribute to sustained engagement and spiritual formation. Additionally, an implementable AI-augmented framework is proposed, incorporating digital environment design, intelligent interaction scaffolding, and spiritual assessment models. **Research Limitations/Implications:** The study is based on secondary data and conceptual synthesis, lacking empirical validation in real-world educational settings. Future research should include longitudinal and experimental studies to assess the impact of AI-integrated digital sacred spaces on spiritual formation and learning outcomes across diverse cultural and institutional contexts. **Originality/Value:** This study advances the literature by integrating artificial intelligence with the concept of digital sacred space, offering a novel theoretical framework and practical guidelines for enhancing virtual fellowship. It contributes to the development of sustainable, spiritually grounded, and technologically advanced theological education models.

Keywords | Artificial Intelligence; Digital Sacred Space; Virtual Fellowship; Sustainable Education; Theological Education; Spiritual Formation





RESUMO | Objetivo: Este estudo tem como objetivo desenvolver um Modelo de Espaço Sagrado Digital integrado à Inteligência Artificial (AI-DSSM) para fortalecer a comunhão virtual na educação teológica sustentável. Busca-se examinar de que forma a inteligência artificial pode aprimorar o engajamento espiritual, a coesão comunitária e a eficácia pedagógica em ambientes de aprendizagem online. **Metodologia:** A pesquisa adota uma revisão sistemática da literatura (RSL) de publicações internacionais indexadas na Scopus entre 2020 e 2025. A análise concentra-se em três domínios centrais: (1) práticas de comunhão virtual apoiadas por IA, (2) evolução do conceito de espaço sagrado digital e (3) eficácia pedagógica e comunitária na educação teológica online aprimorada por IA. Foi empregada uma abordagem de síntese temática para identificar padrões, integrações teóricas e implicações tecnológicas. **Resultados:** Os resultados indicam que a integração da IA em espaços sagrados digitais melhora significativamente a comunhão virtual, ampliando a presença espiritual, a coesão comunitária, as trajetórias de aprendizagem adaptativas e a interação pedagógica. O estudo também identifica mecanismos-chave baseados em IA, como análise de sentimentos, feedback adaptativo e ambientes imersivos, que contribuem para o engajamento sustentado e a formação espiritual. Além disso, é proposto um framework aplicável, incorporando design de ambientes digitais, mediação inteligente de interações e modelos de avaliação espiritual. **Limitações/Implicações:** O estudo baseia-se em dados secundários e em síntese conceitual, não incluindo validação empírica em contextos educacionais reais. Pesquisas futuras devem contemplar estudos longitudinais e experimentais para avaliar o impacto de espaços sagrados digitais integrados à IA na formação espiritual e nos resultados educacionais em diferentes contextos culturais e institucionais. **Originalidade/Valor:** Este estudo contribui para a literatura ao integrar a inteligência artificial ao conceito de espaço sagrado digital, oferecendo um novo framework teórico e diretrizes práticas para o fortalecimento da comunhão virtual. Contribui, ainda, para o desenvolvimento de modelos educacionais teológicos sustentáveis, espiritualmente fundamentados e tecnologicamente avançados.

Palavras-chave | Inteligência Artificial; Espaço Sagrado Digital; Comunhão Virtual; Educação Sustentável; Educação Teológica; Formação Espiritual

INTRODUCTION

In the digital era, contemporary theological and sustainable education have undergone profound transformations driven by rapid advancements in online learning technologies. One of the most notable developments is the emergence of *virtual fellowship*—a digital expression of spiritual community and shared learning that occurs through platforms such as Zoom, Microsoft Teams, and various Learning Management Systems (LMS) (Gupta, R., et.al, 2024). This phenomenon expanded significantly during the COVID-19 pandemic, when theological institutions were compelled to preserve community cohesion and spiritual formation in virtual environments (Cesteros & Sarasacabezuelo, 2016)

Empirical studies demonstrate that although digital worship greatly increased accessibility, engagement has decreased in the post-pandemic period. For example, surveys indicate that 62.7% of congregants prefer returning to face-to-face worship, suggesting that digital interaction, although meaningful, does not fully replace the embodied and affective dimensions of communal worship (Pew Research Center, 2022). Nevertheless, scholars consistently affirm that digital environments can serve as **sacred spaces**—contexts where believers participate in shared rituals, collective spirituality, and communal faith formation (Helland, 2018; Gerbaudo, 2020).

In theological education, virtual fellowship plays a critical role in fostering spiritual mentoring, community connectedness, and access to cross-contextual learning (Hutchings, 2020; Campbell & Osteen, 2022). The Digital Sacred Space Model emerged to address the need for pedagogical



frameworks that sustain authentic spiritual experiences in online settings. However, with recent advancements in **Artificial Intelligence (AI)**—including adaptive learning systems, sentiment analysis, intelligent tutoring, and predictive analytics—the potential to enhance virtual fellowship and spiritual formation has expanded considerably (Naidoo, 2008). AI can assist educators in detecting learner engagement, facilitating personalized guidance, strengthening communal interaction, and supporting sustainable, long-term learning environments.

Despite these developments, several empirical and conceptual gaps remain unaddressed, particularly concerning the integration of AI into virtual fellowship and the construction of digital sacred spaces within sustainable education (Abedi & Khan, 2021). The level of spirituality, religious commitment, and faith formation experienced within virtual fellowships has not been comprehensively measured. Existing research often focuses on congregational or worship-based online engagement. For example, Pakpahan, Situmorang, and Gunawan (2021) examined digital worship participation but did not assess the depth or quality of *fellowship* experienced in online theological learning communities.

Comparative studies reveal that while virtual gatherings ensure continuity, they do not yet reproduce the full depth of spiritual embodiment found in physical worship. Participants in online religious services consistently report lower transcendent experiences, weaker shared identity, and diminished perceived closeness to God compared to physical gatherings (Kiliñç İşleyen, E., & Kartal, A., 2025). Physiological indicators—such as heart rate synchronization and physical expressiveness—also tend to be reduced during virtual worship. Although digital as sacred platforms support creative expressions such as virtual choirs and online prayer communities, these do not fully replicate the intensity of embodied communal worship (Battista, 2024).

Furthermore, existing scales measuring religiosity and spirituality (Ian Hussey & Diane Hockridge., 2025) were designed for traditional, on-site contexts and lack sensitivity to the distinctive dynamics of virtual participation. This underscores the need for **new measurement instruments** capable of evaluating online religious experience, spiritual formation, and AI-mediated engagement.

While previous studies have explored the concept of digital sacred space within online worship, cyber-churches, and virtual religious rituals (Hussey, I., & Hockridge, D., 2025), the systematic development of a **Digital Framework** specifically tailored to theological education remains limited (Galang & Macaraan, 2021). In particular: a) The mechanisms for cultivating spiritual presence in virtual classrooms are underdefined (Hege, B. A. R., 2011). . b) The pedagogical integration of AI to enhance spiritual formation has not been conceptualized. c) The relationship between AI-driven learning analytics and communal spiritual health has not been investigated.

As theological institutions increasingly adopt hybrid and fully online modes of learning, there is an urgent need for a model that integrates digital pedagogy, AI-supported interaction, and authentic spiritual practices within sustainable educational structures (Papakostas, 2025). The *Media Proximation* approach suggests that technology can mediate experiences of sacred proximity and community presence but clear implementation strategies for theological contexts are still lacking. No empirical research has yet measured the direct impact of digital sacred spaces on spiritual experience or formation outcomes (Mansour, 2022). While some studies have explored sensory



design elements—such as the role of light, sound, or architecture in virtual worship—comprehensive methodologies for evaluating the *spiritual effectiveness* of digital sacred spaces are still needed.

Finally, the *TRI-Space Model* of theological education provides an inclusive framework emphasizing environmental, epistemological, and identity transformation. However, it has not yet been adapted to explicitly incorporate mechanisms for creating digital sacred spaces. Theoretical integration of this model with digital sacred space design could foster a more holistic, spiritually formative approach to online theological education.

The integration of artificial intelligence (AI) in religious and theological education has begun to reshape how learning and spirituality intersect in digital environments. While AI tools enhance personalization, assessment, and administrative efficiency, their potential role in cultivating *digital sacred spaces* remains underexplored. The capacity of AI to facilitate spiritually enriching environments requires deeper investigation into how intelligent systems can nurture community, reflection, and divine awareness within virtual learning platforms (Fayyoubi, A., & Elia, G., 2015).

Digital storytelling, immersive media, and interactive pedagogy have long been recognized for their potential to enhance identity formation and spiritual engagement in theological education (Hussey, I., & Hockridge, D., 2025). Recent developments in Artificial Intelligence (AI)—such as generative storytelling tools, adaptive narrative pathways, and AI-supported reflective journaling—offer new opportunities to deepen these forms of engagement. However, the mechanisms for employing these tools to create genuinely sacred digital environments remain insufficiently articulated. Although immersive and participatory experiences show promise, practical and scalable strategies for implementing AI-enhanced digital sacred spaces in sustainable theological education are still in the early stages of development.

The concept of *sacred virtuality*—the theological assertion that divine presence remains active and effective within digital spaces—is emerging within contemporary discourse. Yet both its theological grounding and its pedagogical application within AI-mediated environments require further clarification. In particular, there is little theorization on how AI-driven personalization, environmental simulation, and community analytics might support the construction of digital sacred spaces for theological and sustainable education.

A third gap concerns the long-term impact of virtual fellowship on students' theological and spiritual formation. Existing studies primarily focus on temporary adaptations during the COVID-19 pandemic—such as changes in worship formats or transitions to online learning—rather than sustained outcomes related to spiritual maturity, identity formation, and ministry readiness. While spiritual formation is central to theological education, most research examines traditional in-person contexts and does not evaluate how AI-supported virtual fellowship influences formation processes over time.

Moreover, the increasing integration of Artificial Intelligence (AI) and Virtual Reality (VR) into online theological platforms has raised critical questions related to cognition, emotional engagement, ethical discernment, and spiritual growth. Emotionally responsive design—enabled through AI emotion recognition, adaptive content scaffolding, and personalized interaction mapping—has been shown to enhance learner engagement and satisfaction. However, its long-term influence on spiritual formation, theological identity, and ministry competency remains underexplored. Although



comparative studies show that residential and distance theological education can yield comparable formation outcomes (Hussey, I., & Hockridge, D., 2025), longitudinal evidence remains limited—especially in AI-mediated contexts. Similarly, research on virtual fellowship programs, including online ministry practicums and virtual interviews, demonstrates that digital platforms can expand access without compromising participation or academic performance .

A fourth gap concerns the moderating factors influencing the effectiveness of virtual fellowship in theological education. While previous research highlights challenges such as digital literacy, cultural diversity, platform variation, and learner autonomy, few studies systematically analyze how these elements moderate fellowship outcomes (Moore et al., 2021). A strong sense of virtual community is known to support persistence, emotional well-being, and spiritual engagement (Meijer et al., 2023). Effective commitment and perceived social support mediate learner satisfaction (Arbaugh, 2014), suggesting that these psychosocial factors may also moderate virtual theological community (Zhao & Shi, 2022). Systemic models of virtual learning identify learner confidence, satisfaction, and perceived competence as key predictors of online program success (Marciniak, R. (2023)). Additionally, integrated technological ecosystems—supported by AI analytics, responsive design, and structured digital governance—play a crucial role in sustaining engagement and motivation in online learning environments (Laurillard, 2012).

A fifth and critical gap is the absence of a valid and reliable instrument to measure virtual fellowship in theological education. Existing Virtual Learning Environment (VLE) frameworks assess cognitive, social, and teaching presence, yet do not capture the spiritual, communal, and faith-oriented dimensions unique to theological settings. Virtual Communities of Practice (VCoP) frameworks evaluate collaboration and knowledge sharing but require theological adaptation to assess spiritual formation. This gap highlights the need for an AI-supported engagement analytics framework that integrates pedagogical, technological, and spiritual indicators—including multimodal metrics for behavioral engagement, affective involvement, and digital interaction patterns (Kimmons & Veletsianos, 2018).

To address these theoretical and empirical gaps, this study proposes the **AI-integrated Digital Sacred Space Model (AI-DSSM)** to strengthen virtual fellowship in sustainable theological education. The AI-DSSM aims to: 1) Evaluate the effectiveness of AI-enhanced digital spaces as sacred environments capable of fostering community cohesion, spiritual depth, and theological formation. 2) Identify essential characteristics, axiological values, and syntactic dimensions that enhance spiritual engagement, interaction quality, and the long-term sustainability (Lee, J., Song, H.-D., & Hong, A. J., 2019).

The proposed model integrates insights from digital theology, AI-enhanced learning analytics, and online community theory in order to reconfigure digital learning environments as intentional sacred spaces that foster spiritual formation and communal engagement.

Specifically, the AI-DSSM aims to:

1. **Evaluate the effectiveness of AI-enhanced digital environments as sacred spaces** capable of fostering community cohesion, spiritual depth, and theological formation.



2. **Identify the essential characteristics, axiological values, and syntactic dimensions** that enhance spiritual engagement, interaction quality, and the long-term sustainability of virtual fellowship within theological education (Lee, Song, & Hong, 2019).

By integrating artificial intelligence with the theoretical framework of digital sacred space, this study advances current scholarship in digital theology and theological education. The AI-DSSM provides both a **conceptual model and a potential measurement framework** for understanding and strengthening virtual fellowship in AI-mediated learning environments. Ultimately, this research contributes to the development of sustainable theological education that remains spiritually authentic while adapting to the evolving realities of digital learning.

LITERATURE REVIEW

1. Virtual Fellowship in Theological and Sustainable Education

The emergence of virtual fellowship in theological education has become a central topic in recent research, particularly following the rapid expansion of online learning during and after the COVID-19 pandemic. Studies show that virtual fellowship supports continuity in spiritual learning through platforms such as Zoom, Microsoft Teams, and institutional LMS systems. These environments allow students to participate in prayer sessions, reflective discussions, and collaborative ministry projects despite geographical distances. Pew Research Center (2022) reports that online participation increased accessibility but did not fully replicate embodied worship; however, it did strengthen cross-contextual interaction among learners. Gunawardena et al. (2009) argue that online communities can generate deep relational bonds when supported with intentional pedagogical structures. Meanwhile, Campbell and Osteen (2022) highlight that online religious engagement fosters shared identity formation, though often at a different intensity compared to physical gatherings. Theological institutions increasingly recognize that virtual fellowship is not merely a substitution for traditional learning but a complementary pathway enabling flexible, inclusive, and sustainable educational environments that support long-term formation (Dein, F. Dein, S., 2023).

Despite its benefits, virtual fellowship presents challenges in maintaining spiritual depth, embodied engagement, and relational authenticity. Studies demonstrate differing levels of emotional resonance among participants, with some reporting reduced transcendent experience and weaker communal attachment in online settings (Gerbaudo, 2020; Pew Research Center, 2022). Physiological research shows lower synchrony of affective and physical responses during online worship compared to in-person gatherings (Vail, 2022), raising questions regarding digital embodiment in theological education. Nevertheless, scholars such as Helland (2018) argue that digital platforms can function as “religious social spaces” where believers negotiate meaning, identity, and ritual participation. Ridley College (2023) also reports that formation-driven digital design can promote high levels of engagement when structured intentionally. These findings suggest that virtual fellowship can support sustained theological formation when integrated into a well-designed learning ecosystem. However, there remains a significant need to evaluate long-term spiritual formation outcomes in



these environments, as most studies focus on the temporary adaptations during the pandemic rather than stable, post-pandemic models of virtual community building.

2. Digital Sacred Space and the Theology of Sacred Virtuality

The concept of the Digital Sacred Space (DSS) has gained increasing attention in studies of online worship, cyber-churches, and virtual religious communities. Helland (2018) introduced the idea of “religious online environments” where digital interactions mediate transcendence, ritual participation, and communal belonging. Campbell (2021) further argues that these spaces enable new forms of “networked spirituality,” where sacred experience emerges through technologically mediated presence. Research on digital liturgy reveals that virtual rituals—such as online Eucharist, digital prayer rooms, and synchronous worship spaces—can evoke spiritual meaning when supported with intentional design and community participation (Gunawan, 2022). Although these studies affirm the theological legitimacy of sacred virtuality, they highlight the need for clearer theological grounding, particularly regarding embodiment, sacramentality, and presence in digital settings. Scholars increasingly recognize that digital sacred spaces must be conceptualized not only as technological environments but also as spiritual ecologies shaped by communal values, ritual patterns, and theological imagination.

While existing scholarship identifies the theological possibilities of sacred virtuality, practical models for implementing digital sacred spaces in educational settings remain underdeveloped. Studies of immersive media and interactive pedagogy demonstrate that digital storytelling, VR simulations, and multimedia liturgies can enhance spiritual reflection and identity formation (Kimmons & Veletsianos, 2018). However, few frameworks clarify how these elements can be systematically integrated into digital sacred spaces for theological learning. Research on hybrid liturgical spaces (Gerbaudo, 2020) suggests that spiritual presence can be mediated through multimodal engagement, yet these findings have not been extended to structured educational contexts. Furthermore, comparisons between traditional and online theological formation show that both formats can support spiritual growth, but they require deliberate formation-driven design (Hutchings, 2020). Despite emerging interest in sacred digital environments, current literature lacks a comprehensive model explaining how spiritual presence, communal cohesion, and theological formation can be fostered within digital sacred spaces designed for sustainable education—revealing a clear conceptual gap that this study seeks to address.

3. Artificial Intelligence in Digital Learning and Spiritual Formation

Rapid advancements in Artificial Intelligence (AI) have transformed digital learning environments, offering new opportunities for adaptive instruction, intelligent tutoring, learning analytics, and predictive engagement modeling. Sun & Chen (2016) highlight that efficacy in online learning is strongly influenced by learner satisfaction, confidence, and technological usability—factors that AI-enhanced systems can improve through personalization and automated feedback. In theological contexts, AI has begun to shape new approaches to ministry simulation, sentiment analysis for



pastoral care, and reflective journaling assisted by generative models (Vail, 2022). Emotionally responsive design—made possible by AI-driven sentiment recognition and adaptive interaction pathways—has been shown to improve motivation and engagement (Kimmons & Veletsianos, 2018). However, most studies focus on cognitive engagement rather than spiritual formation, leaving critical questions about how AI might enhance spiritual depth, faith-based identity development, or communal cohesion. This gap underscores the need to investigate how AI can contribute meaningfully to virtual fellowship and digital sacred spaces within sustainable theological education.

Although AI-supported platforms have been studied extensively in general education, their application to theological learning and spiritual formation remains limited. Research indicates that AI can enhance community analytics, monitor learner well-being, and support sustainable educational structures through automated insights (Laurillard, 2012; Moore et al., 2021). Pew Research Center (2022) found that virtual formats supported accessibility without reducing engagement in ministry-related tasks, suggesting AI-enhanced platforms could sustain theological learning more effectively. Yet, empirical evidence on AI's influence on long-term spiritual formation, theological identity, or ministerial readiness is lacking. Existing instruments such as Community of Inquiry (Garrison et al., 2000) and Communities of Practice (Wenger et al., 2002) measure cognitive and social presence, but they do not assess spiritual engagement—nor do they incorporate AI-driven indicators such as affective analytics or multimodal engagement metrics. Therefore, researchers emphasize the need for new frameworks that integrate pedagogical, technological, and spiritual variables into AI-mediated learning environments. This study responds to these gaps by proposing an AI-integrated Digital Sacred Space Model that enhances virtual fellowship, theological formation, and sustainable educational practice

METHODS

This study employed a systematic literature review (SLR) to develop an AI-integrated Digital Sacred Space Framework aimed at enhancing virtual fellowship in sustainable theological education. The SLR approach was adopted to map, evaluate, and synthesize peer-reviewed research published between 2020 and 2025, focusing on three core domains: (1) the dynamics of virtual fellowship as an emerging digital form of spiritual community; (2) the conceptual and theological underpinnings of digital sacred space, particularly its capacity to mediate spiritual presence and formation; and (3) the integration of artificial intelligence, immersive media, and learning analytics as moderating factors influencing the effectiveness, sustainability, and depth of digital spiritual engagement.

Literature sources were collected from Scopus-indexed international journals using structured keyword combinations such as “digital sacred space,” “virtual fellowship,” “AI in theological education,” “immersive pedagogy,” “online spiritual community,” and “VR religious learning.” Inclusion criteria emphasized empirical and conceptual studies related to digital theology, AI-enhanced pedagogy, virtual community formation, and spiritual interaction in online learning. Publications outside English, non-peer reviewed studies, and articles unrelated to digital pedagogical or theological contexts were excluded.



The data analysis employed thematic synthesis to identify patterns across theoretical models, technological applications, and empirical findings. Special attention was given to AI-supported mechanisms—such as adaptive learning systems, emotion-responsive environments, sentiment analysis, VR-mediated embodiment, and spiritual presence algorithms—to evaluate how intelligent technologies can strengthen sacredness, community cohesion, and formation-oriented interactions.

The synthesis resulted in the formulation of an AI-integrated conceptual framework outlining the axiological values, structural dimensions, and measurement indicators for sustainable digital sacred spaces. These indicators include spiritual resonance, communal attachment, behavioral engagement, and AI-mediated pedagogical effectiveness, providing a scalable foundation for enhancing virtual fellowship in theological and spiritual education.

RESULTS

Empirical Findings on AI-Integrated Digital Sacred Space

The results of the systematic literature review reveal that the integration of Artificial Intelligence into digital sacred space environments significantly enhances the quality of virtual fellowship in sustainable theological education. Several studies demonstrate that AI-supported features—such as adaptive feedback systems, affective computing, sentiment analysis, and intelligent conversational agents—substantially increase students' sense of presence and spiritual engagement (Abigail Maguire & Isaac McNish., 2025). Virtual Reality (VR) and immersive media also contribute to a heightened perception of sacredness by providing embodied, multisensory environments that simulate communal worship or contemplative spiritual spaces. These findings highlight the emergence of "AI-mediated sacred presence," a condition in which participants perceive divine nearness and interpersonal connection within digital platforms. The analysis further shows that digital sacred spaces designed with intentional liturgical structure, theological symbolism, and community-centered interaction models foster stronger cohesion and spiritual resonance. Pedagogically, AI-enhanced environments support sustained participation through automated motivation cues, personalized formation pathways, and analytics-driven teaching interventions. Overall, the findings affirm that AI integration strengthens the structural, relational, and experiential dimensions of digital fellowship, creating online environments capable of supporting long-term spiritual formation, emotional depth, and resilient theological learning communities.

Implications and Comparative Analysis

The comparative analysis reveals significant differences between traditional digital learning spaces, AI-integrated sacred environments, and fully immersive VR-based theological platforms. Conventional online learning systems often rely on unidirectional interaction, resulting in limited spiritual depth and reduced communal engagement. In contrast, AI-empowered digital sacred spaces provide dynamic, responsive environments capable of sustaining higher levels of spiritual presence, emotional resonance, and interpersonal connection. When compared with VR-mediated



religious experiences, AI-driven platforms demonstrate greater adaptability, scalability, and sustainability—particularly because AI systems continuously adjust content, detect emotional states, and personalize spiritual formation trajectories. The implication is that AI does not replace embodied theological learning religion but enhances it by supporting hybrid spiritual pedagogies that combine cognitive instruction, reflective engagement, and community-building mechanisms (Hess, M. E., 2011). The findings also indicate that AI-based analytics allow educators to monitor spiritual growth indicators, such as relational bonding, reflective depth, and engagement consistency, which are not easily measurable in traditional settings. These comparative results underscore the strategic role of AI in shaping future-ready theological institutions, enabling them to remain transformative, accessible, and spiritually grounded within digital ecosystems. The integration of AI thus represents not merely a technological upgrade but a paradigm shift in understanding sacredness, community, and formation in digital education.

Directions for Future Research and Model Development

The review identifies several critical areas for future research to strengthen the development of AI-integrated digital sacred spaces. First, empirical studies are needed to measure long-term spiritual formation outcomes, including transformation of identity, ethical decision-making, and vocational readiness—dimensions that current research only partially explores. Second, future work should develop validated measurement instruments capable of capturing spiritual resonance, sacred presence, and community cohesion in digital environments, given the absence of holistic models that integrate behavioral, affective, and theological indicators. Third, longitudinal studies are necessary to evaluate how AI-mediated fellowship shapes sustainability in theological education, particularly regarding cultural inclusivity, digital literacy disparities, and interdenominational adaptability. Research is also encouraged to investigate the theological ethics of AI, especially concerning algorithmic influence on spiritual guidance, pastoral authority, and authenticity in digital worship practices. Moreover, interdisciplinary collaboration between theologians, data scientists, and educational technologists is needed to refine AI algorithms that support emotion recognition, adaptive formation pathways, and spiritually sensitive content generation. Finally, future model development should aim for regenerative and ecologically sustainable platforms—aligning AI-driven sacred spaces with global sustainable education principles, ensuring that digital spiritual communities remain ethical, transformative, and resilient for the next generation of theological learners.

DISCUSSION

The findings of this systematic literature review demonstrate that virtual fellowship has evolved into a substantive mode of spiritual and pedagogical engagement within theological education. The rise of digital platforms during and after the pandemic accelerated the normalization of online communal practices, reshaping how faith communities gather, learn, and interact. The literature consistently affirms that virtual fellowship can sustain authentic spiritual connection when designed with intentionality, pastoral sensitivity, and theological faith grounding (Farid, 2025). Yet,



the discussion must also acknowledge persistent challenges: digital fatigue, diminished embodied presence, inconsistent technological access, and varied levels of digital literacy. These factors complicate the formation of deep communal bonds. Thus, the results suggest that virtual fellowship is neither inherently deficient nor automatically effective; rather, its success depends on structured facilitation, well-designed liturgical frameworks, and supportive digital infrastructures.

The concept of digital sacred space emerges in the literature as both an opportunity and a theological tension. Studies from 2020–2025 increasingly view digital sacred spaces not merely as functional meeting points but as environments capable of evoking reverence, reflection, and spiritual intimacy through intentional aesthetic and symbolic design. Compared to earlier scholarship that questioned the legitimacy of online worship, contemporary research recognizes the potential of digital sacred spaces to mediate spiritual experiences. However, theological concerns remain regarding the authenticity of non-physical sacred encounters and the risk of reducing sacredness to psychological impressions rather than divine encounter. The discussion therefore highlights the necessity of bridging traditional liturgical principles with emerging digital architectures so that sacredness is not diminished but re-contextualized.

These findings also invite broader implications for the future of theological education. Hybrid models—integrating physical community with digital sacred spaces—appear to offer the most promising framework for sustaining long-term spiritual formation. The literature indicates that AI-enhanced tools, such as adaptive learning systems, sentiment analysis for pastoral care, and AI-generated immersive sacred environments, are beginning to shape digital spirituality in new ways. While these innovations support personalization and accessibility, they also raise ethical and ecclesiological questions about agency, mediation, and the nature of spiritual authority in AI-mediated contexts. For future research, scholars recommend longitudinal studies on spiritual development within digital sacred environments, cross-cultural evaluations of virtual fellowship dynamics, and normative theological assessments of AI's role in shaping sacred experiences. Collectively, the discussion points toward the need for a sustainable, contextually grounded Digital Sacred Space Model that harmonizes technological innovation with the spiritual and communal essence of theological education.

CONCLUSION

This study concludes that the **Digital Sacred Space Model** offers a comprehensive and effective framework for enhancing virtual fellowship within the context of sustainable and contemporary theological education. By integrating digital liturgical design, spiritually informed pedagogy, artificial intelligence-supported interaction, and intentional community-building practices, the model demonstrates how online environments can cultivate spiritual attachment, communal cohesion, and authentic experiences of sacred presence. These findings affirm that well-structured digital sacred spaces can enable learners to encounter faith meaningfully while participating in collaborative theological reflection and transformative spiritual formation.

The study further highlights that incorporating a **reflective and evaluative learning cycle** strengthens the sustainability of spiritual formation in digital environments. Through iterative



reflection, institutions can continuously refine pedagogical strategies, technological tools, and communal practices. This dynamic process allows digital engagement to remain aligned with theological integrity, ethical values, and the holistic formation of learners, positioning the Digital Sacred Space Model as an adaptable and forward-looking framework for theological education in the digital era.

The key contributions of this research include:

1. Developing a conceptual model that frames **Digital Sacred Space** as a viable and theologically grounded medium for spiritual formation and pedagogical interaction;
2. Establishing measurable indicators for evaluating the quality, authenticity, and effectiveness of **virtual fellowship** within theological education contexts;
3. Strengthening digital pedagogical strategies that integrate spirituality, community, and holistic formation beyond the mere transmission of information; and
4. Providing a theological and practical foundation for designing **inclusive, sustainable, and faith-oriented digital learning environments**.

Despite these contributions, several **limitations** should be acknowledged. First, this study relies on a **systematic literature review**, which synthesizes existing scholarship but does not involve direct empirical observation or experimental validation. As a result, the findings are primarily conceptual and interpretative, and the proposed framework requires further empirical testing. Second, the **conceptual nature of the Digital Sacred Space Model** may not fully capture the diversity of theological traditions, ecclesial practices, and cultural contexts in which digital fellowship occurs. Different theological communities may interpret sacred presence, spiritual formation, and digital worship in varied ways, which may influence how the model is applied in practice. Third, the integration of **artificial intelligence within theological education** presents several practical and ethical challenges, including technological accessibility, digital literacy among educators and learners, data privacy concerns, and the theological implications of AI-mediated spiritual interaction. These issues may affect the feasibility and acceptance of AI-supported models within certain theological institutions.

In light of these limitations, several directions for **future research** are recommended. Empirical studies are needed to **test and validate the AI-integrated Digital Sacred Space Model (AI-DSSM)** within real theological education settings, examining how the model influences spiritual engagement, community formation, and learning outcomes. Longitudinal research could further explore how participation in digital sacred spaces contributes to **spiritual maturity and faith development over time**. Additionally, **cross-cultural studies** may reveal how contextual differences shape the experience and effectiveness of virtual fellowship across diverse theological communities.

Future research may also investigate emerging developments in artificial intelligence within theological education, including **adaptive spiritual learning systems, AI-supported community facilitation, and immersive digital worship environments**. These technological innovations open new possibilities for enhancing spiritual engagement, but they also require careful theological reflection and ethical evaluation.



Ultimately, this study affirms that digital environments, when intentionally designed and theologically grounded, can function as genuine spaces of sacred encounter. By embracing **virtual fellowship** as a legitimate locus of spiritual experience, theological institutions can cultivate vibrant, inclusive, and sustainable communities of faith that support transformative formation in the digital age.

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