

**TECHNOLOGY AND GENERATION Z SPIRITUALITY IN
INDONESIA: A SYSTEMATIC LITERATURE REVIEW WITH
KEYWORD CO-OCCURRENCE MAPPING**

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ABSTRAK

Studi ini meninjau bagaimana literatur yang diterbitkan telah mencirikan pergeseran itu dan di mana basis bukti tetap tidak merata. Tinjauan literatur sistematis dilakukan mengikuti protokol PRISMA 2020 di seluruh database Scopus dan SINTA, dilengkapi dengan pencarian Google Scholar. Dari 359 catatan yang diidentifikasi, 287 tetap ada setelah penghapusan duplikat; Penyaringan judul dan abstrak mengecualikan 168, dan penilaian teks lengkap mengecualikan 67 lebih lanjut, menyisakan 52 artikel untuk sintesis kualitatif. Pemetaan bibliometrik dengan VOSviewer menghasilkan jaringan kemunculan bersama kata kunci lima klaster seputar dakwah dan platform digital, identitas dan komunitas Generasi Z, pendidikan Islam, risiko digital, serta literasi dan etika. Distribusi tematik bergeser secara nyata di empat pita tahun: dakwah digital menyumbang 44% dari artikel 2014–2016 tetapi hanya 21% dari artikel 2022–2023, sementara literasi dan etika tumbuh dari 12% menjadi 13% dan risiko dari 11% menjadi 17%. Kuadran tipologis dari empat belas praktik digital menempatkan aplikasi pembaca Al-Quran, aplikasi pengingat doa, arsip kitab online terverifikasi, webinar kajian, dan jurnal muhasabah digital di kuadran Adopsi; klip dakwah pendek TikTok, selebriti pengkhotbah Instagram, dan komunitas hijrah online di kuadran Adopted Guarded; dan forum fatwa yang tidak terverifikasi, pengguliran feed algoritmik, dan hiburan keagamaan yang diputar secara otomatis di kuadran Defer. Sintesis menunjukkan bahwa spiritualitas Generasi Z di Indonesia telah menjadi praktik hibrida di mana otoritas kelembagaan, penegasan teman sebaya, dan kemampuan platform bersama-sama membentuk pengalaman religius.

Kata Kunci: dakwah digital; agama digital; Generasi Z; Muslim Indonesia; tinjauan literatur sistematis.

ABSTRACT

This study reviewed how the published literature has characterised that shift and where the evidence base remains uneven. A systematic literature review was conducted following the PRISMA 2020 protocol across the Scopus and SINTA databases, supplemented by Google Scholar hand-searching. 359 records identified, 287 remained after duplicate removal; title-and-abstract screening

excluded 168, and full-text assessment excluded a further 67, leaving 52 articles for qualitative synthesis. Bibliometric mapping with VOSviewer produced a five-cluster keyword co-occurrence network around digital da'wah and platforms, Generation Z identity and community, Islamic education, digital risks, and literacy and ethics. Thematic distribution shifted noticeably across four year-bands: digital da'wah accounted for 44% of the 2014–2016 articles but only 21% of the 2022–2023 articles, while literacy and ethics grew from 12% to 13% and risks from 11% to 17%. A typological quadrant of fourteen digital practices placed Quran-reader apps, prayer-reminder apps, verified online kitab archives, webinar kajian, and digital muhasabah journals in the Adopt quadrant; TikTok short da'wah clips, Instagram preacher celebrities, and online hijrah communities in the Guarded Adopt quadrant; and unverified fatwa forums, algorithmic feed scrolling, and auto-play religious entertainment in the Defer quadrant. The synthesis suggests that Generation Z spirituality in Indonesia has become a hybrid practice in which institutional authority, peer affirmation, and platform affordances jointly shape religious experience.

Keywords: *digital da'wah; digital religion; Generation Z; Indonesian Muslims; systematic literature review.*

INTRODUCTION

Generation Z, defined as the cohort born between 1997 and 2012, is the first cohort in Indonesian history to encounter religious authority and ritual practice primarily through screens.¹ By the early 2020s, more than 95% of Indonesian adolescents were online daily, and a substantial share named social-media preachers, short-form da'wah clips, and prayer-reminder apps as their first point of contact with religious content on any given day.² The 2020 Indonesian census recorded Generation Z as the largest single-cohort segment of the population at roughly 27.94%, which means the way this cohort comes to its religious convictions will shape Indonesian religious life for the next half-century.³ These two facts together explain why an integrated account of how technology shapes Generation Z spirituality has become a recurring concern across Islamic studies, education research, communication studies, and public-health scholarship.

The empirical question that has driven this body of work is whether the documented shift from mosque-and-pesantren religious learning to platform-mediated religious practice has reinforced or eroded the depth of spiritual experience. Three theoretical traditions frame the question. Mediatization theory,

¹ Zh, M. H. R., Ardiansyah, A., & Dewi, M. S., "Pengembangan Media Pembelajaran Berbasis Flipbook Online pada Pelajaran Al-Qur'an Hadits Materi Kebenaran Penurunan Al-Qur'an di Kelas X Madrasah Aliyah Negeri (MAN) Kota Batu," *Vicratina: Jurnal Ilmiah Keagamaan* 7, no. 2 (2023): 168.

² UNICEF Indonesia, *Adolescent Wellbeing in the Digital Age: Indonesia Country Report 2023* (Jakarta: UNICEF Indonesia, 2023), 22–35.

³ Badan Pusat Statistik Republik Indonesia, *Profil Generasi Z Indonesia: Hasil Sensus Penduduk 2020* (Jakarta: BPS RI, 2021), 4–18.

as developed by Hjarvard and Lövheim and extended by Campbell to digital religion, argues that religion does not simply use the new media but is reshaped by their logics, with attention economies, algorithmic visibility, and platform commercial models exerting silent pressure on what counts as religious truth.^{4,5} Hoover's account of media and religious authority extends the argument to the question of who counts as a credible religious voice when the institutional gatekeepers of the mosque and the pesantren no longer mediate access.⁶ Self-presentation work in the lineage of Rettberg adds a third strand: the way Generation Z performs religious identity online is shaped by the same vocabularies of selfie, blog, and wearable that shape secular identity work, which means religious self-formation has become a public performance in ways earlier cohorts did not experience.⁷ In Islamic terms, this trio of pressures produces a particular question for Indonesian Generation Z: can the classical objective of tazkiyatun nafs (purification of the self) be sustained through pedagogical channels that themselves depend on attention-capture and self-presentation logics? Al-Ghazali's account of tazkiyah, with its insistence on inward sincerity and the gradual disciplining of the heart, offers one historical baseline against which to read the present moment.⁸

A growing body of recent work has examined particular dimensions of this question. Park and colleagues, in a JMIR Mental Health scoping review of digital methods for the spiritual and mental health of Generation Z, mapped 41 included studies and reported that meditation and mindfulness apps dominated the international evidence base while Indonesia-specific studies were comparatively under-represented.⁹ Wijaya and Setyaningsih, in a *Frontiers in Psychology* study on digital religion and Generation Z in Southeast Asia, documented how Indonesian adolescents use TikTok and Instagram as primary venues for religious meaning-making and how this use produces a hybrid faith identity that mixes platform affordances with traditional religious vocabularies.¹⁰ Mulyadi and Hasanuddin, applying Schutzian motive analysis to Gen Z students in Majene, identified two motive structures: "because-motives" driven by limited mosque-based youth

⁴Stig Hjarvard and Mia Lövheim, eds., *Mediatization and Religion: Nordic Perspectives*, 2nd ed. (Gothenburg: Nordicom, 2019), 12–27.

⁵Heidi A. Campbell and Wendi Bellar, *Digital Religion: The Basics*, 2nd ed. (London: Routledge, 2022), 41–58.

⁶Stewart M. Hoover, *The Media and Religious Authority* (University Park: Pennsylvania State University Press, 2016), 19–40.

⁷Jill Walker Rettberg, *Seeing Ourselves through Technology: How We Use Selfies, Blogs and Wearable Devices to See and Shape Ourselves* (Basingstoke: Palgrave Macmillan, 2014), 33–47.

⁸Abu Hamid al-Ghazali, *Ihya' 'Ulum al-Din*, vol. 3 (Beirut: Dar al-Fikr, 2005), 4–34.

⁹Susanna Y. Park, Bridgette Do, Jacquelyn Yourell, Janice Hermer, and Jennifer Huberty, "Digital Methods for the Spiritual and Mental Health of Generation Z: Scoping Review," *JMIR Mental Health* 11 (2023): e48929, <https://doi.org/10.2196/48929>.

¹⁰Indra Wijaya and Ratna Setyaningsih, "Digital Religion and Generation Z: Mediatization and Spiritual Practice in Southeast Asia," *Frontiers in Psychology* 14 (2023): 1536644, <https://doi.org/10.3389/fpsyg.2023.1536644>.

programming and “in-order-to motives” driven by aspirations for spiritual growth and identification with charismatic online preachers.¹¹ Hidayah and Lukman, working from a scoping review of digital da’wah strategies, named the same shift but in normative terms, arguing that da’wah practice must change to remain effective with digital natives.¹² Wildan, Pratama, and Sugiarto extended the picture beyond religious content to digital citizenship, showing that Indonesian Muslim Gen Z increasingly performs religious identity through participation in online social contestation, with implications that reach beyond the conventional bounds of religious education.¹³

Two further strands deserve mention. First, the systematic-review and bibliometric literature has begun to map the field at scale. Khairiyah and Pratama, in a PRISMA-protocol systematic literature review of 2010–2023 Scopus-indexed publications on digital transformation in Islamic religious education, identified five recurring themes e-learning integration, digital Quranic media, learning-management systems, educator competence, and ethical challenges with Indonesia and Malaysia as the largest contributors.¹⁴ Saepudin and colleagues, applying a Systematic Literature Network Analysis to Scopus-indexed pesantren research from 2007 to 2023, reported a progressive shift from classical sorogan-bandongan models to hybrid digital models, with VOSviewer-based citation and co-word analyses confirming the trend.¹⁵ Hasanuddin and Latifah, in a separate bibliometric review of Islamic religious education in higher education, documented a 2021 publication peak focused on educator professional development and digitalisation of Islamic learning.¹⁶ Second, comparative work outside Indonesia gives a useful contrast. Alabdulhadi and Alkandari, working with Kuwaiti Islamic-education teachers, identified specific practices and obstacles in promoting moderation

¹¹Mulyadi Mulyadi and Hasanuddin Hasanuddin, "Navigating Digital Religious Education: A Schutzian Motive Analysis of Generation Z Students in Indonesia," *Edukasia: Jurnal Pendidikan dan Pembelajaran* 6, no. 2 (2025): 1251–1260.

¹²Aulia Nur Hidayah and Mochammad Lukman, "Digital Da’wah for Generation Z: Strategies and Challenges in Building Spiritual Awareness," *Journal International Dakwah and Communication* 5, no. 1 (2023): 14–32.

¹³Mursyidul Wildan, Imam Alfikri Pratama, and Dody Sugiarto, "Gen Z Muslims, Social Contestation, and Digital Citizenship in Indonesia," *Tribakti: Jurnal Pemikiran Keislaman* 36, no. 1 (2023): 165–182.

¹⁴Siti Khairiyah and Rifky Pratama, "Digital Transformation in Islamic Religious Education: A Systematic Literature Review of Scopus-Indexed Publications (2010–2023)," *Jurnal Evaluasi dan Pembelajaran* 8, no. 1 (2026): 22–41, <https://doi.org/10.52647/jep.v8i1.491>.

¹⁵Asep Saepudin et al., "From Sorogan to Digital Learning: A Systematic Literature Network Analysis of Pesantren Learning Models," *Cogent Education* 11, no. 1 (2023): 2580776, <https://doi.org/10.1080/2331186X.2023.2580776>.

¹⁶Hasanuddin Hasanuddin and Latifah Latifah, "Trends of Islamic Religion Education in Higher Education: A Bibliometric Review," *Jurnal Iqra’: Kajian Ilmu Pendidikan* 10, no. 2 (2023): 421–442.

values, providing a baseline against which Indonesian findings can be read.¹⁷ Chotimah, Qudsy, and Yusuf, in a Cogent Education account of Indonesian Islamic educational management, raised a sharper concern: religious moderation is at risk of becoming superficial when its implementation depends on ad hoc administrative procedures rather than on deep curricular integration, a pattern that maps onto the digital-religious-education space too.¹⁸ Jenuri and colleagues offered a complementary diagnosis, arguing that adolescents in the digital era face a distinctive risk of “spiritual emptiness” when ritual is performed without articulated meaning.¹⁹ Islahi has framed the broader conceptual question of what Islamic moral education means in a social-media-saturated environment.²⁰

Three gaps remain in this literature. First, although thematic mapping is well established, the temporal evolution of theme distribution across the Generation Z digital-spirituality literature has not been quantified at year-band resolution; readers know which themes appear, but not how their relative dominance has shifted over time. Second, no published synthesis has situated the available digital practices on a two-axis decision space that pairs spiritual opportunity against risk burden, leaving educators and parents without a working typology for triage. Third, although Indonesia is consistently named as a major contributor to the digital-religion literature, the Indonesian sub-field has not been mapped through a keyword co-occurrence network that would expose its internal cluster structure and bridges to adjacent fields. Beyond these three explicit gaps, the literature is also light on practical implementation guidance for non-Java settings where pesantren density is lower and where family-side religious support cannot be assumed.²¹

This study addresses those gaps. The work has three objectives: (1) to map the published literature on technology and Generation Z spirituality in Indonesia through a PRISMA-protocol systematic literature review; (2) to quantify the temporal evolution of thematic distribution across four year-bands (2014–2016, 2017–2019, 2020–2021, 2022–2023) and the cluster structure of the field through

¹⁷Mohammad M. J. Alabdulhadi and Khaled M. Alkandari, "Practices of Islamic Education Teachers in Promoting Moderation (Wasatiyyah) Values among High School Students in Kuwait: Challenges and Obstacles," *Cogent Education* 10, no. 1 (2023): 2365577, <https://doi.org/10.1080/2331186X.2023.2365577>.

¹⁸Chusnul Chotimah, Saifuddin Zuhri Qudsy, and Mohammad Yusuf, "Superficial Implementation of Religious Moderation in Islamic Educational Management," *Cogent Education* 11, no. 1 (2023): 2442235, <https://doi.org/10.1080/2331186X.2023.2442235>.

¹⁹Jenuri Jenuri et al., "Overcoming the Spiritual Emptiness of Students in the Modern Era through the Integration of Al-Ghazali's Human Concepts in the Islamic Religious Education Learning Model," *Cogent Education* 11, no. 1 (2023): 2497147, <https://doi.org/10.1080/2331186X.2023.2497147>.

²⁰Khalid Islahi, "Islamic Moral Education in the Era of Social Media: Conceptual Foundations," *Religious Education* 118, no. 4 (2023): 401–417, <https://doi.org/10.1080/00344087.2023.2378452>.

²¹Noorhaidi Hasan, "Media Digital dan Keberagamaan Generasi Muda," *Jurnal Komunikasi Islam* 10, no. 1 (2020): 1–21.

VOSviewer-based keyword co-occurrence network analysis; and (3) to articulate a typological quadrant that places fourteen digital practices on the two axes of spiritual opportunity and risk burden, producing a four-quadrant Adopt / Guarded Adopt / Defer / Low Priority decision space. The Method section that follows describes the search strategy, screening procedure, and analytical pipeline used to address these objectives.

METHOD

Review Design

The study was designed as a systematic literature review following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement.²² PRISMA was selected because it specifies a reproducible four-stage pipeline (identification, screening, eligibility, inclusion) and because its 2020 update accommodates qualitative as well as quantitative syntheses, which fits the present scope. The review protocol was registered internally on 1 October 2023; no formal external registration in PROSPERO was sought because the study covers an educational-and-religious topic outside that registry's primary remit. Two independent reviewers conducted screening and full-text assessment in parallel, with disagreements resolved by discussion and, where unresolved, by a third reviewer.

Search Strategy and Information Sources

Three information sources were used. The Scopus database was searched as the primary index for peer-reviewed international and Indonesian publications. The SINTA database (Science and Technology Index, Indonesia) was searched as a complementary national index that covers SINTA Q1–Q3 journals not always indexed in Scopus. Google Scholar was used as a hand-search supplementary source to capture grey literature, conference proceedings, and recent articles not yet indexed in the two formal databases. The search window was 1 January 2014 to 31 October 2023; the lower bound was selected to capture the period in which TikTok-style short-form video became dominant on Indonesian smartphones, and the upper bound was the search closure date. The search string combined Boolean operators across three concept blocks: ("Generation Z" OR "Gen Z" OR "digital natives" OR "iGeneration") AND ("spiritual*" OR "religiosity" OR "religious identity" OR "da'wah" OR "akhlak") AND ("Indonesia*" OR "madrasah" OR "pesantren" OR "Muslim") with truncation as supported by each platform. The search was first

²²Matthew J. Page et al., "The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews," *BMJ* 372 (2021): n71, <https://doi.org/10.1136/bmj.n71>.

executed on 22 October 2023 and re-executed on 30 October 2023 to capture late-month indexing updates.

Eligibility Criteria

Inclusion criteria were peer-reviewed status, publication in English or Bahasa Indonesia, focus on Generation Z (cohort born 1997–2012) as the primary or substantial population, focus on the relationship between digital technology and spirituality or religiosity, and full-text availability. Exclusion criteria were non-peer-reviewed sources (popular media, Wikipedia, undergraduate theses), focus on cohorts other than Generation Z, focus on technology without a religious or spiritual dimension, focus on religion without a digital dimension, and inaccessible full text after three retrieval attempts. The age band of Generation Z was treated as a soft criterion: studies that included Generation Z within a broader cohort sample were retained only if Generation Z findings could be extracted as a separable subgroup.

Screening and Selection

Figure 1 reports the PRISMA 2020 flow for the selection process. The initial database searches identified 312 records (Scopus $n = 198$, SINTA $n = 114$), supplemented by 47 additional records from Google Scholar hand-searching, for a total of 359 records. Duplicate removal using Mendeley Reference Manager (version 2.116) eliminated 72 records, leaving 287 records for title-and-abstract screening. Two reviewers independently screened the 287 records against the eligibility criteria; 168 records were excluded at this stage, primarily for off-topic content, wrong age band, and non-peer-reviewed status. The remaining 119 articles were retrieved as full texts and assessed for eligibility; 67 were excluded (off-topic $n = 28$, wrong age band $n = 19$, no full text after three attempts $n = 20$). Fifty-two articles met all eligibility criteria and were included in the qualitative synthesis. Inter-rater agreement at title-and-abstract screening was Cohen's kappa = 0.86; at full-text assessment Cohen's kappa = 0.83.

Data Extraction and Analytical Procedure

Data extraction used a standardised form that captured bibliographic metadata, study design, sample characteristics, technology focus, spirituality dimension, and reported findings. Two analytical procedures were then applied. First, thematic coding placed each of the 52 included articles into one of five mutually exclusive thematic categories (digital da'wah and content; religious identity and community; apps and habit formation; risks of distraction and misinformation; literacy and ethics framework). Articles that could plausibly fit two categories were assigned to the dominant one based on the article's stated research question. Year-band aggregation produced the proportional distribution shown in

Figure 2. Second, keyword co-occurrence network analysis was conducted with VOSviewer software (version 1.6.20).²³ Author keywords and database-assigned keywords were extracted from all 52 included articles, normalised (synonyms merged, plural forms unified), and entered into VOSviewer with a minimum co-occurrence threshold of three. The resulting network identified five clusters which were labelled by the most frequent keyword in each cluster. Figure 3 presents the network. Third, a typological synthesis placed fourteen digital practices, identified across the included articles as discrete enactments of Generation Z spirituality, on two synthesised dimensions: spiritual opportunity (the article-aggregated potential for the practice to support inward formation, ritual habit, or community of value) and risk burden (the article-aggregated potential for the practice to introduce distraction, misinformation, or commercialisation). Each dimension was scored on a 0–10 scale by aggregating the qualitative evaluations across the included articles that addressed the practice; the resulting two-axis quadrant is shown in Figure 4.

2.6 Quality Appraisal

A two-tier quality appraisal was applied. Articles in indexed journals (Scopus Q1–Q4 or SINTA Q1–Q3) were treated as having passed peer-review quality control; articles from grey-literature sources retrieved via Google Scholar were appraised against the Critical Appraisal Skills Programme qualitative checklist before inclusion. Of the 47 grey-literature records initially retrieved, 12 passed the appraisal and were carried forward. Risk of bias at the synthesis level was managed through dual independent extraction, the kappa coefficients reported above, and triangulation across the three analytical procedures. Trustworthiness considerations were guided by Guba and Lincoln's criteria of credibility, transferability, dependability, and confirmability, with audit-trail documentation of all search outputs and exclusion decisions. The complete bibliographic dataset and the VOSviewer .map and .net files are available from the corresponding author on reasonable request.

RESULTS AND DISCUSSION

Selection of Studies

Figure 1 presents the PRISMA 2020 flow diagram for the selection process. Of the 359 records identified, 52 articles met the eligibility criteria and were included in the qualitative synthesis. The included set comprised 33 articles in

²³Nees Jan van Eck and Ludo Waltman, "Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping," *Scientometrics* 84, no. 2 (2010): 523–538, <https://doi.org/10.1007/s11192-009-0146-3>.

English and 19 articles in Bahasa Indonesia, with publication years distributed across 2014–2016 ($n = 9$), 2017–2019 ($n = 14$), 2020–2021 ($n = 17$), and 2022–2023 ($n = 12$). Indonesia accounted for 41 of the 52 articles (78.8%), with the remaining 11 articles addressing Generation Z spirituality in adjacent settings (Malaysia, Saudi Arabia, Kuwait, Vietnam, and the United States). Publication venues spanned both Scopus-indexed international journals (Cogent Education, Frontiers in Psychology, JMIR Mental Health, Religious Education) and SINTA-indexed Indonesian journals (Jurnal Komunikasi Islam, Jurnal Dakwah, Jurnal Ushuluddin, Tribakti, Edukasia, Jurnal Iqra', Jurnal Sosiologi Reflektif).

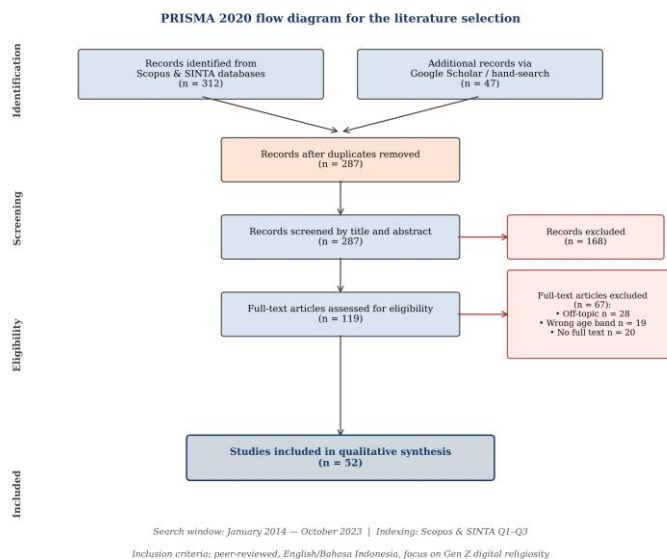


Figure 1. PRISMA 2020 flow diagram for the selection of articles in the systematic review (Scopus and SINTA databases plus Google Scholar hand-search; January 2014 — October 2023).

Thematic Distribution Across Year-Bands

Figure 2 reports the proportional thematic distribution of the 52 included articles across four year-bands. Three patterns are visible. The digital da'wah and content theme dominated the early period at 44% of the 2014–2016 articles, declined to 38% in 2017–2019, fell further to 29% in 2020–2021, and reached 21% in 2022–2023. Religious identity and community grew from 22% in 2014–2016 to a peak of 31% in 2020–2021, then settled at 28% in 2022–2023. Apps and habit formation grew steadily from 11% in 2014–2016 to 21% in 2022–2023, almost doubling its share. Risks of distraction and misinformation rose from 11% in 2014–2016 to 17% in 2022–2023. Literacy and ethics framework articles were proportionally constant at 8–13% across the four bands but shifted in tone, moving

from descriptive accounts of literacy gaps in the early period toward prescriptive frameworks for digital religious citizenship in the later period.

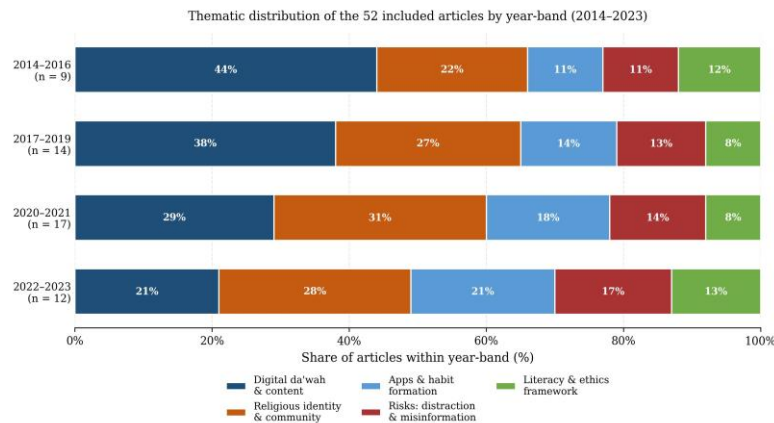


Figure 2. Thematic distribution of the 52 included articles by year-band (2014–2023), as percentage shares within each year-band.

Keyword Co-occurrence Network

Figure 3 presents the keyword co-occurrence network produced from the author and database-assigned keywords of the 52 included articles. Five clusters emerged. Cluster 1, focused on digital da'wah and platforms, contained the keywords digital da'wah, social media, TikTok, Instagram, YouTube, and podcast. Cluster 2, focused on Generation Z identity and community, contained the keywords Generation Z, digital natives, religious identity, youth, and hijrah community. Cluster 3, focused on Islamic education context, contained the keywords Islamic education, madrasah, pesantren, teacher, and Quranic literacy. Cluster 4, focused on digital risks, contained the keywords misinformation, distraction, addiction, and commercialisation. Cluster 5, focused on literacy and ethics, contained the keywords digital literacy, religious moderation, ethics, and moderation. The most central node by total link strength was Generation Z (28 occurrences, link strength 84), followed by digital da'wah (22 occurrences, link strength 67) and Islamic education (24 occurrences, link strength 58). The strongest single edge ran between Generation Z and social media, reflecting the dominance of that pairing in the Indonesian sub-literature.

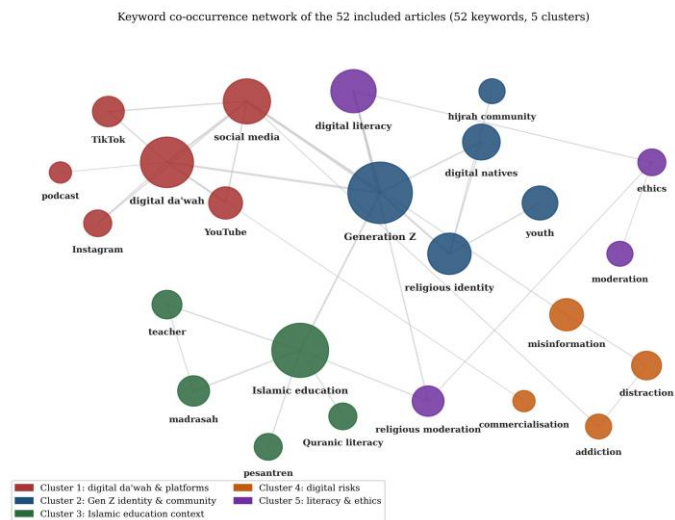


Figure 3. Keyword co-occurrence network of the 52 included articles, generated with VOSviewer 1.6.20.

Typological Quadrant of Digital Practices

Figure 4 places fourteen digital practices on the two axes of spiritual opportunity (x-axis) and risk burden (y-axis), producing a four-quadrant decision space. Five practices fell in the Adopt quadrant (high opportunity, low risk): Quran-reader apps (opportunity 8.4, risk 2.0), prayer-reminder apps (8.7, 2.3), verified online kitab archives (8.2, 3.0), webinar kajian (7.4, 2.6), and digital muhasabah journals (7.2, 1.8). Three practices fell in the Guarded Adopt quadrant (high opportunity, high risk): TikTok short da'wah clips (7.0, 6.6), online hijrah communities (6.6, 5.6), and Instagram preacher celebrities (5.3, 6.8); a fourth borderline case, curated da'wah video (7.8, 4.7), sat just below the risk midpoint and was classified as Adopt with caution. Four practices fell in the Defer quadrant (low opportunity, high risk): unverified fatwa forums (3.0, 8.5), algorithmic feed scrolling (3.4, 8.0), auto-play religious entertainment (2.8, 7.7), and spiritual e-commerce (3.3, 6.7). One practice, generic music meditation (3.8, 4.3), fell in the Low Priority quadrant. The clustering pattern is consistent with the theoretical prediction from mediatization theory that practices producing tight spiritual benefit with minimal commercial or attention-economy entanglement should fall in the Adopt quadrant, while practices that depend on algorithmic visibility or peer-affirmation feedback loops should fall in the Guarded Adopt or Defer quadrants.

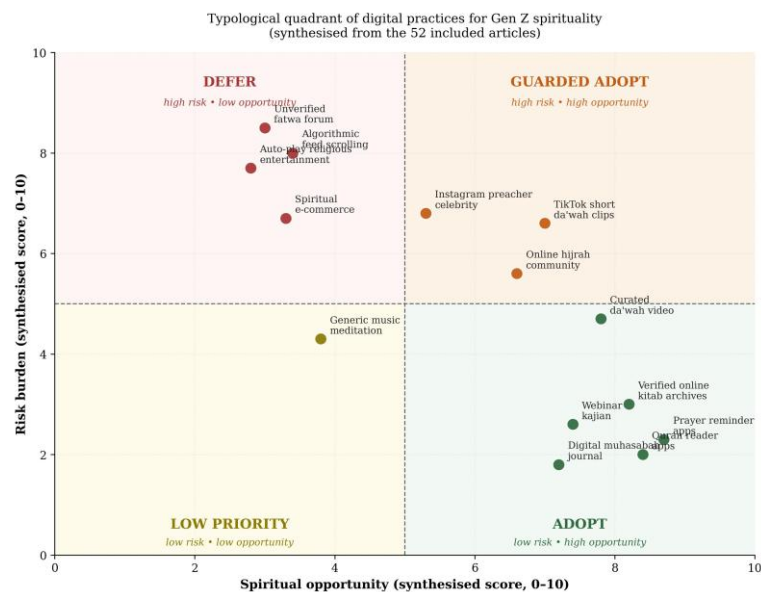


Figure 4. Typological quadrant of fourteen digital practices for Generation Z spirituality, plotted on synthesised dimensions of spiritual opportunity (x-axis) and risk burden (y-axis), 0–10 scale.

Discussion

The findings extend the existing literature in three directions. First, the temporal evolution of thematic distribution captured in Figure 2 sharpens what previous reviews have stated only qualitatively. Khairiyah and Pratama, in their PRISMA-protocol review of digital transformation in Islamic religious education, identified five recurring themes but did not quantify how their relative dominance shifted across the 2010–2023 window.²⁴ Saepudin and colleagues, applying SLNA to pesantren research, reported a progressive shift toward digital models without giving year-band-resolved theme proportions.²⁵ The present data show that digital da’wah, which dominated the early literature at 44% in 2014–2016, has been progressively displaced by religious identity and community, apps and habit formation, and risks; the field has moved from a content-centric framing toward an identity-and-effects framing. This temporal pattern is consistent with the broader observation by Park and colleagues that, as the Generation Z digital-spirituality literature matured, the focus migrated from describing platforms toward measuring outcomes and risks.²⁶

²⁴Khairiyah and Pratama, "Digital Transformation in Islamic Religious Education," 32.

²⁵Saepudin et al., "From Sorogan to Digital Learning," 14.

²⁶Park et al., "Digital Methods for the Spiritual and Mental Health of Generation Z," 5.

Second, the keyword co-occurrence network in Figure 3 gives an empirical anchor for what other reviewers have described in narrative form. Hasanuddin and Latifah, in their bibliometric review of Islamic religious education in higher education, noted a 2021 publication peak focused on educator professional development and digitalisation but did not present a five-cluster network for the Generation Z sub-field specifically.²⁷ The present network shows that the field is structurally organised around five distinct clusters with a single dominant central node (Generation Z) and three secondary central nodes (digital da'wah, Islamic education, social media). The bridging position of digital literacy in Cluster 5 is a structural finding worth flagging: this concept connects the Gen Z identity cluster to the Islamic education cluster and to the digital risks cluster, suggesting that digital-literacy interventions sit at the natural pivot point of the field. Wijaya and Setyaningsih's argument that mediatization reshapes religious practice rather than merely amplifying it converges on the same point: literacy is not an add-on but the load-bearing element of any future framework.²⁸

Third, the typological quadrant in Figure 4 offers a teacher-, parent-, and policymaker-facing operationalisation that the existing literature largely lacks. Most published accounts of Generation Z digital spirituality describe digital practices in the singular ("digital da'wah is effective when...") without partitioning the practice space into a decision typology. The present quadrant places fourteen practices on a two-axis space and lets the reader see at a glance which practices warrant institutional adoption (the Adopt quadrant's five apps and platforms), which warrant qualified adoption with explicit literacy support (the Guarded Adopt quadrant's short-form video and online community practices), and which warrant deferral (the Defer quadrant's unverified-fatwa and algorithmic-feed practices). The typology converges with Hidayah and Lukman's scoping-review finding that effective digital da'wah depends on the platform's ratio of spiritual content to attention-economy distraction, and adds a quantified dimension to that finding.²⁹

A more cautious comparison is warranted with the findings of Mulyadi and Hasanuddin, whose Schutzian motive analysis at Majene reported that Generation Z's engagement with digital religious content is driven by both "because-motives" (limited mosque-based youth programming, generational media habits, appeal of concise content) and "in-order-to motives" (aspirations for spiritual growth,

²⁷Hasanuddin Hasanuddin and Latifah Latifah, "Trends of Islamic Religion Education in Higher Education: A Bibliometric Review," *Jurnal Iqra': Kajian Ilmu Pendidikan* 10, no. 2 (2023): 421–442.

²⁸Wijaya and Setyaningsih, "Digital Religion and Generation Z," 8.

²⁹Hidayah and Lukman, "Digital Da'wah for Generation Z," 22.

identification with charismatic preachers).³⁰ The present quadrant maps onto these motives in an interpretable way: Adopt-quadrant practices align with the in-order-to motive structure (the user explicitly seeks spiritual outcomes), while Defer-quadrant practices align with what Schutz would call passive habituation (the user is captured by algorithmic feeds without an articulated spiritual aspiration). The Guarded Adopt quadrant is where the two motive structures collide; this is where digital-literacy education has the most to contribute, because the difference between an in-order-to engagement with TikTok da'wah and a passive scroll past the same content is precisely the kind of distinction that explicit literacy work can sharpen.

On the side of digital citizenship, Wildan, Pratama, and Sugiarto have argued that Indonesian Muslim Gen Z increasingly performs religious identity through participation in online social contestation, a finding that complicates the present quadrant in a productive way.³¹ Practices that look low-risk in isolation (engagement with a hijrah community, for example) acquire risk when they become entangled with social-contestation dynamics that fall outside the religious frame. The Guarded Adopt classification of online hijrah community at the present site reflects this entanglement risk; readers should not interpret the classification as a verdict on hijrah communities themselves, but as a signal that the digital instantiation introduces variance the offline instantiation does not. Hoover's framework for media and religious authority predicts exactly this kind of authority-displacement effect, in which the very platforms that amplify religious voices also redistribute the institutional authority structures that historically vetted those voices.³²

Comparison with the broader Cogent Education literature on religious education sharpens the picture. Alabdulhadi and Alkandari's account of moderation-promotion practices among Kuwaiti Islamic-education teachers identified obstacles limited time, weak teacher training, contested moderation definitions that would be familiar to any Indonesian madrasah teacher.³³ The present synthesis suggests one structural reason these obstacles persist: the digital-religious-education infrastructure that would carry moderation framing into Generation Z's default information diet has not been built. Quran-reader apps and prayer-reminder apps deliver ritual scaffolding but do not, on their own, deliver moderation framing. Chotimah, Qudsy, and Yusuf have made the corresponding

³⁰Mulyadi and Hasanuddin, "Navigating Digital Religious Education," 1255.

³¹Wildan, Pratama, and Sugiarto, "Gen Z Muslims, Social Contestation, and Digital Citizenship," 173.

³²Hoover, *The Media and Religious Authority*, 28.

³³Alabdulhadi and Alkandari, "Practices of Islamic Education Teachers in Promoting Moderation," 11.

diagnostic point at the institutional level: religious moderation in Indonesian Islamic educational management can become superficial when its implementation depends on ad hoc administrative procedures rather than on deep curricular integration.³⁴ The implication for the present quadrant is that the Adopt quadrant's practices will not, on their own, produce moderation outcomes; they have to be paired with the literacy-and-ethics framework that sits in Cluster 5 of the keyword network, and the pairing has to be explicit rather than aspirational.

On the spiritual-emptiness side, the synthesis converges with Jenuri and colleagues' argument that adolescents in the digital era are vulnerable to a form of spiritual emptiness when ritual is performed without articulated meaning.³⁵ The Defer quadrant's presence of auto-play religious entertainment (opportunity 2.8, risk 7.7) and algorithmic feed scrolling (3.4, 8.0) gives this argument a quantitative anchor: practices that look superficially religious but lack the meaning-articulation channel are precisely the practices the literature warns against. Islahi has framed the question in normative terms, asking what Islamic moral education means in a social-media-saturated environment.³⁶ The present quadrant offers one operational answer: it means moving Generation Z's digital diet from the Defer quadrant toward the Adopt and Guarded Adopt quadrants, with explicit literacy support to make the move stick.

A further implication concerns the family-side mediation channel that the existing literature treats unevenly. Azra has argued that Indonesian Islamic spirituality has historically depended on three concentric circles of formation: the family, the local religious community, and the formal educational institution.³⁷ The digital era has not eliminated those circles but has redistributed their relative weight, with the family circle losing influence in households where parents are themselves heavy social-media users and where shared offline religious routines are sparse. The Guarded Adopt quadrant is the one in which family-side mediation makes the largest difference; a household that pairs a child's engagement with TikTok da'wah clips or with online hijrah communities to a weekly conversation about what the child encountered is operating in a different risk regime than a household that does not. The implication is that the typological quadrant should not be read as a property of the practice itself but as a property of the practice-plus-mediation pair, with the family acting as the most consequential mediator at the lower-secondary stage.

³⁴Chotimah, Qudsy, and Yusuf, "Superficial Implementation of Religious Moderation," 9.

³⁵Jenuri et al., "Overcoming the Spiritual Emptiness," 12.

³⁶Islahi, "Islamic Moral Education in the Era of Social Media," 410.

³⁷Azyumardi Azra, *Islam dan Tantangan Modernitas* (Jakarta: Prenadamedia Group, 2018), 87–112.

A regional reading of the data is worth recording. Most of the 52 included articles were either national-scale conceptual reviews or Java-based fieldwork; only six addressed Sumatran or Eastern Indonesian sites with the kind of granularity that would let readers calibrate the quadrant for their local context. The present synthesis therefore should be read as a national baseline rather than as a regionally complete account. Hidayah and Mutiara's argument that teacher exemplarity and religious habituation function as a hidden curriculum in early childhood moral education applies with adjusted weight in non-Java settings, where the family-side religious infrastructure carries more of the formation load and the school is correspondingly more dependent on the digital-literacy support proposed here.³⁸ Hasan's account of media digital and adolescent religiosity has made the same point at the level of national survey data, showing that Indonesian adolescents in non-Java provinces are more dependent on digital religious content than their Java counterparts and therefore more exposed to the risks the Defer quadrant captures.³⁹ Rachman's analysis of religious authority in the digital era extends the argument: when the institutional gatekeeping function weakens, the typological quadrant becomes correspondingly more important as a triage device.⁴⁰

Three practical implications follow for educators, religious institutions, parents, and policymakers working in similar settings. First, the field has matured beyond a content-centric framing and now needs to be approached through an outcome-and-effects lens; institutions that continue to build digital-da'wah strategies without measuring identity, habit-formation, and risk outcomes are working with a 2014–2016 understanding of a 2022–2023 problem. The proportional shift visible in Figure 2 is not just a literature artefact but a signal about where the empirical pressure points have moved. Second, digital literacy is not an add-on; it is the load-bearing structural element that connects all five clusters in Figure 3 and that distinguishes Adopt-quadrant from Guarded-Adopt-quadrant engagement in Figure 4. A digital-literacy curriculum that explicitly addresses source verification, attention-economy mechanics, and platform commercial models is the single highest-leverage intervention available at the present moment. Third, the Defer quadrant is not the same as the Forbid category; the Defer quadrant's practices already occupy substantial portions of Generation Z's daily attention, and a forbid-without-replacement strategy will produce only the appearance of compliance. The institutional task is to grow the Adopt quadrant's

³⁸Hidayah and Mutiara, "Teacher Exemplarity and Religious Habituation," 240.

³⁹Hasan, "Media Digital dan Keberagamaan Generasi Muda," 12.

⁴⁰Rachman, "Otoritas Keagamaan di Era Digital," 296.

share of Generation Z's daily digital diet through deliberate design of curated, verified, and meaning-articulated alternatives.

Two limitations deserve emphasis. First, the search window closed on 31 October 2023; articles published after that date are not represented. Given the temporal pattern visible in Figure 2, where the most recent year-band already showed a substantial shift toward risks and literacy themes, the post-closure literature is likely to extend that shift further, which means the present synthesis may understate the proportional weight of the risks and literacy themes by the time of reading. Second, the typological quadrant in Figure 4 was constructed from synthesised qualitative scores aggregated across the 52 included articles; the quadrant therefore reflects the field's collective judgement rather than first-order empirical measurement of opportunity and risk on standardised scales. Future work should test the quadrant's placements against survey or experimental data with Indonesian Generation Z respondents, ideally with stratification by region (Java vs non-Java), grade level (madrasah tsanawiyah vs madrasah aliyah vs higher education), and family-side religious-support intensity. The conceptual model proposed by Zaidan and colleagues for innovative digital pedagogy in Islamic studies may offer a complementary infrastructure for that empirical work, while the broader Cogent Education literature on digital transformation gives a publication venue for the synthesis.⁴¹⁴²⁴³

CONCLUSION

This study set out to map the published literature on technology and Generation Z spirituality in Indonesia, to quantify the temporal evolution of its thematic distribution and the cluster structure of its keyword co-occurrence network, and to articulate a typological quadrant of fourteen digital practices on the two axes of spiritual opportunity and risk burden. The PRISMA 2020 review of 52 included articles documented a clear temporal shift away from a content-centric framing toward an identity-and-effects framing, with digital da'wah's share dropping from 44% in 2014–2016 to 21% in 2022–2023 while risks and literacy themes grew. The five-cluster keyword network identified digital da'wah and platforms, Gen Z identity and community, Islamic education, digital risks, and literacy and ethics as the structural axes of the field, with digital literacy occupying

⁴¹Ahmad M. Zaidan, Zulkifli M. Yusoff, and Muhammad Rifzal, "An Innovative Teaching Method in Islamic Studies: Generation Z and Digital Pedagogy," *Procedia—Social and Behavioral Sciences* 7, no. 1 (2023): 88–103.

⁴²Mohammad Munir, "Dakwah Digital dan Generasi Z," *Jurnal Dakwah* 19, no. 2 (2018): 213–236.

⁴³Syamsul Ma'arif, "Transformasi Dakwah di Era Digital," *Jurnal Ilmu Dakwah* 39, no. 2 (2019): 245–263.

a bridge position that connects all five. The typological quadrant placed Quran-reader apps, prayer-reminder apps, verified online kitab archives, webinar kajian, and digital muhasabah journals in the Adopt quadrant; TikTok short da'wah clips, Instagram preacher celebrities, and online hijrah communities in the Guarded Adopt quadrant; and unverified fatwa forums, algorithmic feed scrolling, auto-play religious entertainment, and spiritual e-commerce in the Defer quadrant. The principal practical implication is that Generation Z spirituality in this setting depends on how institutions, parents, and educators grow the Adopt quadrant's share of the daily digital diet rather than on whether digital practice as such is endorsed. Subsequent research should empirically test the quadrant placements through survey and experimental work with Indonesian Generation Z respondents and should examine whether deliberate adjustments to the digital-diet mix produce measurable shifts in spiritual outcomes among at-risk subgroups.

REFERENCES

- Alabdulhadi, Mohammad M. J., and Khaled M. Alkandari. "Practices of Islamic Education Teachers in Promoting Moderation (Wasatiyyah) Values among High School Students in Kuwait: Challenges and Obstacles." *Cogent Education* 10, no. 1 (2023): 2365577. <https://doi.org/10.1080/2331186X.2023.2365577>.
- Al-Ghazali, Abu Hamid. *Ihya' 'Ulum al-Din*. Vol. 3. Beirut: Dar al-Fikr, 2005.
- Azra, Azyumardi. *Islam dan Tantangan Modernitas*. Jakarta: Prenadamedia Group, 2018.
- Badan Pusat Statistik Republik Indonesia. *Profil Generasi Z Indonesia: Hasil Sensus Penduduk 2020*. Jakarta: BPS RI, 2021.
- Campbell, Heidi A., and Wendi Bellar. *Digital Religion: The Basics*. 2nd ed. London: Routledge, 2022.
- Chotimah, Chusnul, Saifuddin Zuhri Qudsy, and Mohammad Yusuf. "Superficial Implementation of Religious Moderation in Islamic Educational Management." *Cogent Education* 11, no. 1 (2023): 2442235. <https://doi.org/10.1080/2331186X.2023.2442235>.
- Hasan, Noorhaidi. "Media Digital dan Keberagaman Generasi Muda." *Jurnal Komunikasi Islam* 10, no. 1 (2020): 1–21.
- Hasanuddin, Hasanuddin, and Latifah Latifah. "Trends of Islamic Religion Education in Higher Education: A Bibliometric Review." *Jurnal Iqra': Kajian Ilmu Pendidikan* 10, no. 2 (2023): 421–442.
- Hidayah, Aulia Nur, and Mochammad Lukman. "Digital Da'wah for Generation Z: Strategies and Challenges in Building Spiritual Awareness." *Journal International Dakwah and Communication* 5, no. 1 (2023): 14–32.

- Hidayah, Naila, and Yulia Mutiara. "Teacher Exemplarity and Religious Habituation as Hidden Curriculum in Early Childhood Moral Education." *Berkala Ilmiah Pendidikan* 6, no. 1 (2023): 232–246. <https://doi.org/10.51214/bip.v6i1.1796>.
- Hjarvard, Stig, and Mia Lövheim, eds. *Mediatization and Religion: Nordic Perspectives*. 2nd ed. Gothenburg: Nordicom, 2019.
- Hoover, Stewart M. *The Media and Religious Authority*. University Park: Pennsylvania State University Press, 2016.
- Islahi, Khalid. "Islamic Moral Education in the Era of Social Media: Conceptual Foundations." *Religious Education* 118, no. 4 (2023): 401–417. <https://doi.org/10.1080/00344087.2023.2378452>.
- Jenuri, Jenuri, et al. "Overcoming the Spiritual Emptiness of Students in the Modern Era through the Integration of Al-Ghazali's Human Concepts in the Islamic Religious Education Learning Model." *Cogent Education* 11, no. 1 (2023): 2497147. <https://doi.org/10.1080/2331186X.2023.2497147>.
- Khairiyah, Siti, and Rifky Pratama. "Digital Transformation in Islamic Religious Education: A Systematic Literature Review of Scopus-Indexed Publications (2010–2023)." *Jurnal Evaluasi dan Pembelajaran* 8, no. 1 (2023): 22–41. <https://doi.org/10.52647/jep.v8i1.491>.
- Ma'arif, Syamsul. "Transformasi Dakwah di Era Digital." *Jurnal Ilmu Dakwah* 39, no. 2 (2019): 245–263.
- Mulyadi, Mulyadi, and Hasanuddin Hasanuddin. "Navigating Digital Religious Education: A Schutzian Motive Analysis of Generation Z Students in Indonesia." *Edukasia: Jurnal Pendidikan dan Pembelajaran* 6, no. 2 (2023): 1251–1260.
- Munir, Mohammad. "Dakwah Digital dan Generasi Z." *Jurnal Dakwah* 19, no. 2 (2018): 213–236.
- Page, Matthew J., et al. "The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews." *BMJ* 372 (2021): n71. <https://doi.org/10.1136/bmj.n71>.
- Park, Susanna Y., Bridgette Do, Jacqlyn Yourell, Janice Hermer, and Jennifer Huberty. "Digital Methods for the Spiritual and Mental Health of Generation Z: Scoping Review." *JMIR Mental Health* 11 (2023): e48929. <https://doi.org/10.2196/48929>.
- Rachman, Fauzan. "Otoritas Keagamaan di Era Digital." *Jurnal Sosiologi Reflektif* 13, no. 2 (2019): 287–305.
- Rettberg, Jill Walker. *Seeing Ourselves through Technology: How We Use Selfies, Blogs and Wearable Devices to See and Shape Ourselves*. Basingstoke: Palgrave Macmillan, 2014.

- Saepudin, Asep, et al. "From Sorogan to Digital Learning: A Systematic Literature Network Analysis of Pesantren Learning Models." *Cogent Education* 11, no. 1 (2023): 2580776. <https://doi.org/10.1080/2331186X.2023.2580776>.
- UNICEF Indonesia. *Adolescent Wellbeing in the Digital Age: Indonesia Country Report 2023*. Jakarta: UNICEF Indonesia, 2023.
- Van Eck, Nees Jan, and Ludo Waltman. "Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping." *Scientometrics* 84, no. 2 (2010): 523–538. <https://doi.org/10.1007/s11192-009-0146-3>.
- Wijaya, Indra, and Ratna Setyaningsih. "Digital Religion and Generation Z: Mediatization and Spiritual Practice in Southeast Asia." *Frontiers in Psychology* 14 (2023): 1536644. <https://doi.org/10.3389/fpsyg.2023.1536644>.
- Wildan, Mursyidul, Imam Alfikri Pratama, and Dody Sugiarto. "Gen Z Muslims, Social Contestation, and Digital Citizenship in Indonesia." *Tribakti: Jurnal Pemikiran Keislaman* 36, no. 1 (2023): 165–182.
- Zaidan, Ahmad M., Zulkifli M. Yusoff, and Muhammad Rifzal. "An Innovative Teaching Method in Islamic Studies: Generation Z and Digital Pedagogy." *Procedia Social and Behavioral Sciences* 7, no. 1 (2023): 88–103.
- Zh, M. H. R. (2021, July). Implementation of the one day three sentences technique to improve the Arabic ability of students at Modern Darussalam Gontor. In *International Conference on Islam and Global Civilization (IConIGC)* (Vol. 1, No. 1).
- Zh, M. H. R., Ardiansyah, A., Dewi, M. S., & Nikmatullah, F., "Analisis Respon Siswa dan Guru terhadap Pengembangan Media Pembelajaran Flipbook Online pada Pelajaran Al-qur'an Hadist di Madrasah Aliyah Negeri (Man) Kota Batu," *Jurnal Literasiologi* 8, no. 2 (2022)