Berkala Ilmiah Pendidikan
Volume 6, Number 2, July 2026

scidac plus

Student-Centered Digital Service Management in Madrasah Education: Integrating Student Agency and Transformational Leadership for Generation Z

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Abstract

This study examines how student services at MAN 2 Aceh Utara are planned, implemented, supervised, and developed in response to Generation Z learners, and how student agency and transformational leadership shape these processes. The study addresses the gap between digital technology adoption and the development of genuinely student-centered services in madrasah education, where institutional responsiveness must remain aligned with Islamic educational values. A qualitative single-case study design was employed. Participants comprised one madrasah principal, two guidance and counseling teachers, and eight students aged 15–18 years. Data were collected from January to March 2025 through semi-structured interviews, observation, and document analysis, then analyzed thematically across four managerial dimensions: planning, implementation, supervision and evaluation, and service development. The findings show that planning is administratively established but lacks systematic student profiling; digital service delivery has improved communication and accessibility, but student participation remains limited; supervision emphasizes programme implementation and administrative compliance; and diverse service initiatives remain insufficiently integrated. The cross-dimensional analysis yields an empirically grounded conceptual framework comprising four interconnected dimensions: personalization, participation, participatory evaluation, and service integration. Student agency provides the basis for student contributions, while transformational leadership supports organizational coordination and continuous improvement. Islamic educational values provide the normative foundation for holistic student development. The study concludes that student-centered digital service management requires managerial and relational transformation beyond technological adoption. Because the framework derives from a single case, comparative and longitudinal research across multiple madrasahs is needed to examine its applicability and contextual variations.

Keyword: Digital Transformation, Generation Z, Madrasah Education, Student Agency, Student Service Management

INTRODUCTION

Digital transformation is changing not only how education is delivered but also how students expect educational institutions to respond to their needs (Mukul & Büyüközkan, 2023). For madrasahs, this shift is particularly significant because technological adaptation occurs within an educational tradition that integrates academic development, religious formation, and moral responsibility. Digital innovation therefore cannot be treated merely as an administrative convenience; it should strengthen educational services while remaining consistent with the values and purposes of Islamic education (Ilwan et al., 2025).

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This challenge has become increasingly visible with the presence of Generation Z in secondary education. Having grown up with digital technologies, these students are familiar with rapid access to information, interactive communication, and flexible digital environments (Hernandez-de-Menendez et al., 2020). Their expectations extend beyond access to technology to include responsiveness, participation, and educational experiences that recognize their interests and developmental needs (Prayesti et al., 2025). For madrasahs, responding to these expectations requires more than transferring conventional services onto digital platforms. It requires reconsidering how student services are planned, delivered, evaluated, and developed.

Student services are central to this process because they connect institutional management with students' everyday educational experiences. Academic guidance, counseling, extracurricular activities, religious development, and skills programs shape students' experiences of institutional support. However, services organized primarily around administrative routines may become less responsive when students have limited opportunities to communicate their needs or contribute to decisions affecting them. Research on student voice suggests that opportunities for students to express their views and provide feedback are associated with greater student engagement and agency (Conner et al., 2025). Digitalization can improve accessibility and communication, but technology alone does not necessarily make educational services student-centered; meaningful transformation also requires institutional responsiveness to students' experiences and contributions.

Recent studies have documented the growing use of digital technology, digital literacy, and institutional innovation within Islamic education (Kusuma et al., 2025; Nisa et al., 2024). Other studies have highlighted the changing characteristics of Generation Z and the need for educational practices that are more responsive to contemporary learners (Amin & Aman, 2025; Khunaivi et al., 2025). Although these studies provide important insights, the two strands of research remain insufficiently connected. Research on digital transformation tends to emphasize technological adoption and institutional modernization, whereas studies of Generation Z generally focus on learning preferences and student behavior.

Consequently, less is known about how technological and generational changes intersect within student service management, particularly in madrasahs. Important questions remain concerning whether services are designed around differentiated student needs, whether digital platforms create meaningful opportunities for participation, how students contribute to service evaluation, and how leadership integrates these practices into institutional routines. This gap suggests that digital adaptation and student-centered transformation should not be treated as equivalent processes.

Student agency offers a useful perspective for examining this distinction. Students are not merely recipients of institutional programs; they can contribute knowledge about their educational needs and participate in shaping their learning environments (Mitra, 2014). Digital familiarity, however, does not automatically create institutional voice. A madrasah may extensively use messaging applications, online forms, and learning platforms while continuing to make service decisions with little student involvement. The critical issue is therefore not simply whether services have become digital, but whether digitalization has changed the relationship between students and the institution.

Leadership is equally important in enabling this transition. Transformational leadership emphasizes shared direction, empowerment, innovation, and organizational change (Bass & Avolio, 1994). Within madrasahs, these practices operate in a distinctive educational and moral context. Innovation needs to remain connected to religious development, Islamic values, and institutional identity. Transformational leadership in student services therefore involves not only promoting digital innovation but also creating conditions for participation, organizational coherence, and value-based educational development.

MAN 2 Aceh Utara provides a relevant setting for examining these dynamics. The madrasah has established academic, counseling, religious, extracurricular, and vocational services while incorporating digital

tools into communication and service delivery. Preliminary observations, however, revealed a more complex pattern: services were relatively well structured but not fully personalized; digital channels were increasingly used, yet student involvement in service design remained limited; evaluation emphasized program implementation; and several innovative initiatives operated without strong integration across service areas. These conditions indicate not an absence of innovation, but a gap between digital adaptation and student-centered transformation.

This study addresses that gap by examining student service management at the intersection of Generation Z characteristics, student agency, transformational leadership, and the institutional context of madrasah education. Rather than treating digitalization primarily as technological adoption, the study focuses on how services are organized, experienced, evaluated, and improved around students. Its central proposition is that digital transformation becomes educationally meaningful when personalization, student participation, participatory evaluation, and institutional integration are supported by leadership and remain grounded in the values of Islamic education.

Accordingly, this study examines how student services at MAN 2 Aceh Utara are planned, implemented, supervised, and developed in response to Generation Z characteristics, and how student agency and transformational leadership shape these processes. Rather than seeking to validate a universal model, the study derives an empirically grounded conceptual framework from a single case. In doing so, it seeks to explain how madrasahs can move from technology-enabled services toward more personalized, participatory, and integrated student services while retaining their distinctive educational values.

METHOD

This study employed a qualitative single-case study design to examine student service management for Generation Z within the digital transformation of MAN 2 Aceh Utara, Indonesia. This design enabled an in-depth investigation of managerial practices, student experiences, and leadership within a bounded educational setting (Creswell & Creswell, 2018; Yin, 2015). The madrasah was purposively selected as an information-rich case because digital technologies had been incorporated into several student services. The unit of analysis was student service management across four processes: planning, implementation, supervision and evaluation, and service development.

Participants were purposively selected based on their direct involvement in student services and comprised one madrasah principal, two guidance and counseling teachers, and eight students aged 15–18 years representing different grade levels and genders. Data collection proceeded iteratively until recurring patterns were established and additional data yielded no substantially new insights relevant to the research focus (Guest et al., 2020; Hennink & Kaiser, 2022).

Data were collected from January to March 2025 through semi-structured interviews, observation, and document analysis. Interviews explored service planning, accessibility, responsiveness, student participation, digital communication, evaluation, and improvement. Observations focused on service practices, student–provider interactions, and digital platform use, while documents included institutional policies, strategic plans, service reports, and relevant digital records. These sources enabled triangulation between participants' accounts, observed practices, and institutional documentation.

Data were analyzed thematically through familiarization, coding, theme development and review, theme definition, and interpretive reporting (Braun & Clarke, 2006). Codes concerning student needs, accessibility, personalization, participation, digital interaction, leadership, evaluation, and service development were compared across participants and sources before being organized into broader themes. Educational service management, Generation Z, student agency, and transformational leadership served as sensitizing concepts rather than predetermined analytical categories. Coding frequencies were used only to trace recurring

patterns, not to quantify service effectiveness; interpretation emphasized the meaning, context, consistency, and discrepancies within the evidence.

Trustworthiness was strengthened through source and method triangulation, member checking, peer debriefing, and an audit trail (Lincoln & Guba, 1985). Participation was voluntary, informed consent was obtained, and participant identities were anonymized throughout analysis and reporting.

RESULT AND DISCUSSION

Result

Service Planning

Student service planning at MAN 2 Aceh Utara was supported by an established administrative system. Annual work programs, service schedules, and institutional documents covered academic guidance, counseling, extracurricular activities, religious development, and other student services. Interviews with school personnel indicated that these programs were routinely prepared at the beginning of each academic year and aligned with the institutional calendar. As the principal explained: *"We prepare student service programs at the beginning of each academic year. The programs are documented and adjusted to the school calendar, but we have not yet conducted a comprehensive mapping of students' individual needs." (Principal, Interview, 2025)*

Observation and document analysis confirmed that service planning followed established administrative procedures. However, comprehensive student profiling had not yet become a routine component of planning. Information about students' interests, talents, aspirations, and developmental needs was generally obtained through classroom observation and informal communication rather than through a systematic needs-assessment process.

Interviews with students further indicated that they could express opinions informally to teachers, but their involvement in determining service priorities remained limited. Consequently, student services were primarily planned according to institutional programs rather than based on differentiated student profiles. Overall, the findings indicate that student service planning at MAN 2 Aceh Utara is administratively well organized, yet mechanisms for systematically incorporating individual student characteristics into service planning remain limited.

Service Implementation

The implementation of student services at MAN 2 Aceh Utara reflected a growing integration of digital technology into everyday educational practices. Interviews with school personnel, supported by classroom observations and institutional documents, indicated that digital platforms were routinely used to disseminate academic information, coordinate counseling activities, facilitate communication between teachers and students, and support various administrative services. These practices enabled student services to be delivered more efficiently and reduced reliance on conventional face-to-face administrative procedures.

A guidance and counseling teacher explained that digital communication had become an important medium for maintaining interaction with students, particularly in sharing information related to academic activities and student services. However, the teacher also acknowledged that digital platforms were primarily used to communicate institutional programs rather than to involve students in service decision-making.

> *"Digital platforms make communication much easier, especially for delivering information to students. However, most of the communication still concerns scheduled programs and administrative matters, while opportunities for students to contribute ideas remain relatively limited." (Guidance and Counseling Teacher, Interview, 2025).*

Observations during the fieldwork supported this finding. Students actively accessed digital communication channels and regularly used available online services, yet interaction generally occurred after institutional decisions had already been made. Opportunities for students to participate in determining service priorities or suggesting improvements were observed only occasionally and were mostly conducted through informal conversations with teachers rather than through structured institutional mechanisms.

Document analysis further confirmed that the madrasah had established several digital communication procedures and service guidelines. Nevertheless, these documents primarily emphasized service delivery and administrative coordination, with limited evidence of formal procedures encouraging student participation during service implementation.

Overall, the findings indicate that student service implementation at MAN 2 Aceh Utara has successfully adopted digital technologies to improve service accessibility and communication. However, student participation in shaping and improving service implementation remains relatively limited, indicating that digital adaptation has progressed more rapidly than participatory service practices.

Service Supervision

Student service supervision at MAN 2 Aceh Utara was carried out through routine monitoring, coordination meetings, administrative reporting, and periodic evaluations conducted by the madrasah leadership and teachers responsible for student services. Interviews with administrators indicated that supervision was regarded as an integral component of institutional management to ensure that planned programs were implemented according to established procedures.

The madrasah principal emphasized that supervision focused on monitoring program implementation, reviewing service activities, and ensuring that each unit fulfilled its assigned responsibilities. *"We regularly monitor the implementation of student service programs through meetings and activity reports. Evaluation is conducted to ensure that every planned program has been implemented properly and that each unit carries out its responsibilities." (Principal, Interview, 2025).*

Observational evidence showed that supervisory activities were primarily directed toward monitoring program implementation, student participation in scheduled activities, and the completion of administrative requirements. Discussions during coordination meetings generally focused on operational issues, including attendance, activity schedules, and program completion.

Interviews with students suggested that they occasionally expressed opinions regarding school services during informal interactions with teachers. However, systematic opportunities for students to provide structured feedback on service quality or learning experiences were not consistently available. This finding was also supported by document analysis, which showed that institutional reports mainly documented program implementation and administrative outcomes rather than students' evaluations or experiences.

Taken together, these findings indicate that supervision of student services at MAN 2 Aceh Utara has been implemented through well-established administrative procedures. Nevertheless, supervision continues to emphasize monitoring program implementation and institutional compliance, while mechanisms for systematically incorporating students' perspectives into service evaluation remain underdeveloped.

Service Development

The findings indicate that student service development at MAN 2 Aceh Utara has expanded beyond routine administrative functions to include various academic, religious, extracurricular, vocational, and digital service initiatives. Interviews with school personnel revealed that these programs were designed to support students' academic achievement, character formation, religious development, and practical skills while responding to institutional priorities and emerging educational needs.

A guidance and counseling teacher explained that service development was carried out continuously by introducing new programs and improving existing activities in accordance with the madrasah's educational objectives. *"We continue to develop student service programs according to the needs of the madrasah. New activities are introduced when necessary, while existing programs are regularly improved to better support students' academic and personal development." (Guidance and Counseling Teacher, Interview, 2025).*

Observation and document analysis confirmed the presence of various initiatives, including academic support services, Qur'anic memorization programs, extracurricular activities, vocational skills training, counseling services, and the increasing use of digital platforms to facilitate communication and service delivery. These initiatives demonstrate the institution's commitment to providing diverse opportunities for student development.

Nevertheless, evidence from interviews and observations suggested that many of these initiatives were implemented independently within their respective service areas. Coordination among academic services, counseling, extracurricular activities, religious programs, vocational education, and digital services remained limited. Institutional documents likewise showed that each program was generally managed separately, with relatively few mechanisms for integrating planning, implementation, evaluation, and subsequent development across different service units.

Students also acknowledged that the available programs provided valuable learning opportunities. However, they indicated that information obtained from their experiences and feedback was not always reflected in subsequent service development. New initiatives were more commonly introduced through institutional planning than through systematic analysis of students' evaluations or changing needs.

Overall, the findings indicate that MAN 2 Aceh Utara has developed a wide range of student service programs supported by a strong institutional commitment to student development. However, service innovation remains largely program-based, while stronger integration across academic, counseling, religious, extracurricular, vocational, and digital services is still needed to create a more coherent student service system. The findings across the four managerial dimensions reveal a consistent pattern in student service management at MAN 2 Aceh Utara. Although each dimension demonstrates positive institutional practices, several developmental issues remain evident. To facilitate comparison across the findings, the main empirical results are summarized in Table 1.

Table 1. Summary of Empirical Findings Across Student Service Management Dimensions

Managerial Dimension	Established Practice	Empirical Finding
Planning	Annual planning supported by institutional documents and work programs	Planning is administratively well established, but comprehensive student profiling and systematic needs assessment remain limited.
Implementation	Digital platforms support communication and student services	Digital service delivery has improved accessibility, yet student participation in implementation remains limited.
Supervision	Routine monitoring and administrative reporting	Supervision emphasizes compliance and program implementation, with limited use of student feedback.
Development	Various academic, religious, digital, and extracurricular programs	Service innovation is evident, but integration across programs remains limited.

Table 1 summarizes the principal empirical findings of this study. Across the four managerial dimensions, student service management at MAN 2 Aceh Utara demonstrates an established institutional foundation, particularly in planning, digital service delivery, routine supervision, and the provision of diverse student development programs. Nevertheless, the findings consistently indicate that greater attention is needed to strengthen student-centered personalization, participatory implementation, student-informed evaluation, and integration across service areas. These recurring patterns provide the empirical basis for the discussion presented in the following section.

Discussion

Student-Centered Digital Service Management Beyond Digital Adoption

The findings demonstrate that student service management at MAN 2 Aceh Utara has progressed beyond the initial stage of digital adoption. Student services are supported by structured planning and the increasing use of digital communication platforms, indicating that digital technologies have become embedded in everyday managerial practices. However, the findings also reveal that digital transformation has not yet been accompanied by an equivalent transformation in service philosophy. Although planning is administratively organized and digital platforms improve service accessibility, student services remain largely institution-driven rather than systematically informed by students' individual needs and active participation. These findings suggest that digital transformation in madrasah education should be understood not merely as the introduction of technology, but as the reorientation of educational services toward students as active participants in the educational process.

This interpretation is consistent with the perspective of educational service management, which emphasizes that the quality of educational services depends not only on administrative efficiency but also on the extent to which services respond to learners' diverse needs and support their educational development (Babu et al., 2024). From this perspective, the planning process observed at MAN 2 Aceh Utara represents an important organizational foundation, yet the limited use of systematic student profiling indicates that managerial decisions are still primarily guided by institutional programs rather than evidence about students' individual characteristics. Consequently, digitalization has strengthened administrative coordination without fully transforming service planning into a student-centered process.

The findings also reflect broader discussions on digital transformation in Islamic education. Previous studies have documented substantial progress in digital literacy, technology integration, and institutional modernization within madrasahs (Kusuma et al., 2025; Nisa et al., 2024). However, these studies largely emphasize technological adoption and institutional readiness. The present findings extend this discussion by showing that digital transformation should also encompass managerial change. Digital technologies may improve communication and operational efficiency, yet their educational value remains limited when they are not integrated with systematic needs assessment, personalized service planning, and mechanisms that enable students to participate in shaping educational services.

The implementation findings reinforce this argument. Digital platforms have facilitated communication between teachers and students, improved access to educational information, and supported the delivery of counseling and administrative services. Nevertheless, students continue to participate primarily as service users rather than as contributors to service implementation. This distinction is particularly significant for Generation Z, whose educational expectations extend beyond rapid access to information toward interactive, flexible, and personalized learning environments (Hernandez-de-Menendez et al., 2020; Seemiller & Grace, 2015). Accordingly, the effectiveness of digital services cannot be evaluated solely through

technological availability but should also consider the extent to which digital environments provide meaningful opportunities for student participation.

Research on educational leadership in digital environments supports this interpretation. (Sholeh et al., 2022), in their study of madrasah principal leadership during digital transformation, emphasize the importance of strategic planning, innovation, collaboration, and supervision in managing technological change. Similarly, (Adriantoni et al., 2024) found that digital leadership was significantly associated with improvements in academic services in higher education. Although their institutional context differs from that of MAN 2 Aceh Utara, these studies reinforce the argument that digital transformation depends on leadership and management practices as well as technological infrastructure. The present findings add a student-centered perspective by showing that the development of digital services also needs to be accompanied by stronger mechanisms for understanding student needs and involving students in service improvement.

The main challenge facing digital transformation in madrasah student services is therefore not technological capacity alone, but the orientation of service management. A student-centered approach requires digital platforms to function not only as channels for administrative communication but also as means of identifying student needs, facilitating dialogue, and supporting responsive service delivery. The contribution of this study lies in showing how structured planning, personalization, and student participation need to develop together if digital services are to become genuinely responsive. In the context of Islamic education, this shift must also remain consistent with the madrasah's educational mission and its commitment to academic, religious, and moral development.

Student Agency, Transformational Leadership, and Organizational Learning

The findings indicate that supervision and service development at MAN 2 Aceh Utara remain largely institution-driven despite the presence of regular monitoring and various student development initiatives. Supervision primarily emphasizes administrative compliance and program implementation, while service development is characterized by diverse innovations that tend to operate independently across academic, counseling, religious, extracurricular, vocational, and digital service areas. Consequently, evaluation functions more as a mechanism for confirming program implementation than as a process for generating organizational learning from students' experiences. This pattern suggests that the developmental challenge lies not in the absence of supervision or innovation, but in strengthening feedback processes that connect evaluation, student participation, and continuous service improvement.

From the perspective of Student Agency, this finding highlights the importance of positioning students as contributors rather than merely recipients of educational services. Student agency emphasizes learners' capacity to express their views, communicate educational needs, and participate meaningfully in decisions that affect their learning experiences (Cook-Sather, 2020; Mitra, 2014). The findings show that students at MAN 2 Aceh Utara occasionally shared opinions through informal interactions with teachers, yet structured opportunities to contribute systematically to service evaluation and subsequent development remained limited. As a result, valuable experiential knowledge generated by students was not consistently translated into institutional improvement. These findings reinforce previous research arguing that student voice strengthens educational quality when it becomes an integral component of institutional evaluation rather than an occasional source of informal feedback (Charteris & Smardon, 2019).

The findings also demonstrate that student agency alone is insufficient to transform educational services without supportive leadership. Transformational leadership provides the organizational conditions through which feedback can be interpreted, coordinated, and translated into institutional change. Rather than functioning merely as administrative supervision, transformational leaders encourage collaboration, stimulate

innovation, and create shared commitment toward continuous improvement (Bass & Avolio, 1994; Bass & Riggio, 2006). Within the context of student service management, this implies that leaders should facilitate communication among teachers, counselors, students, and other stakeholders while ensuring that student experiences become part of managerial decision-making. In this way, supervision evolves from monitoring procedural compliance into a collaborative process that supports organizational adaptation.

The relationship between leadership and student engagement is also relevant to the experiences of Generation Z. Burhan et al. (2024) found that organizational culture can help shape Generation Z students' identities, social engagement, and adaptation to changing digital environments. Although their study focused on higher education rather than madrasah student services, it highlights the importance of an institutional environment that connects organizational values with students' experiences and participation. In the present study, this perspective helps explain why student agency needs more than opportunities to communicate: it also requires an institutional culture and leadership practices that take student contributions seriously.

These findings can also be understood through the perspective of organizational learning. Learning organizations continuously improve by transforming information, experience, and feedback into new knowledge that informs future practice (Senge, 2006). At MAN 2 Aceh Utara, supervision, evaluation, and service development have established an important organizational foundation. However, the findings suggest that these managerial processes are not yet fully interconnected. Information obtained during supervision is not consistently utilized to redesign services, while feedback from students has not yet become a systematic resource for institutional learning. Consequently, innovation tends to emerge through separate initiatives rather than through an integrated cycle of planning, implementation, evaluation, and improvement.

Within the madrasah context, organizational learning also operates within a distinctive educational mission. Continuous improvement is directed not only toward enhancing managerial effectiveness but also toward strengthening the integration of academic development, religious formation, character education, and student well-being. Therefore, student participation and organizational learning should not be interpreted as mechanisms for transferring institutional authority to students. Instead, they provide complementary sources of evidence that assist educational leaders in refining services while maintaining the Islamic educational values and institutional identity of the madrasah.

Taken together, these findings suggest that sustainable improvement in student services depends on the interaction between student agency, transformational leadership, and organizational learning. Student feedback provides the experiential knowledge needed to identify emerging needs, transformational leadership creates organizational commitment and coordination for change, and organizational learning enables institutions to convert evaluation into continuous service development. This interaction extends previous discussions of digital transformation by demonstrating that the long-term quality of student services depends less on technological innovation itself than on the institution's capacity to learn continuously from the students it serves.

Toward a Student-Centered Digital Service Framework for Madrasah Education

Taken together, the findings suggest that student-centered digital service management cannot be understood as a collection of independent managerial activities. Rather, planning, implementation, supervision, and service development constitute an interconnected process through which student services gradually become more responsive to the characteristics and expectations of Generation Z learners. The analysis indicates that weaknesses identified in one managerial dimension are closely related to conditions in the others. Limited student profiling constrains personalized planning; limited participation during implementation reduces opportunities for meaningful feedback; supervision that emphasizes administrative compliance provides insufficient evidence for improvement; and fragmented innovations restrict the

development of a coherent student service system. Consequently, student-centered digital transformation should be understood as a continuous managerial process rather than a series of isolated technological initiatives.

Across the four dimensions, a common direction for improvement emerges. Planning requires a more systematic understanding of students' characteristics and needs; implementation should provide meaningful opportunities for participation; supervision should incorporate students' experiences into evaluation; and service development requires stronger coordination across academic, counseling, religious, extracurricular, vocational, and digital services. These dimensions are mutually reinforcing rather than strictly sequential. Information obtained during implementation and evaluation, for example, can inform subsequent planning, while better coordination can help ensure that improvements in one service area support the others. Together, these relationships create the basis for continuous organizational learning and service improvement.

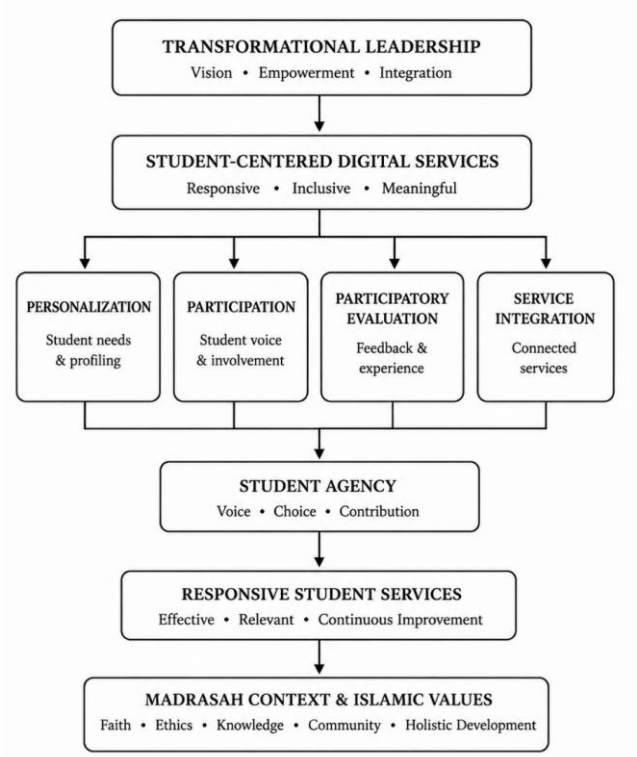


Figure 1. Student-Centered Digital Service Management in the Madrasah Context

As illustrated in Figure 1, transformational leadership provides strategic direction and helps coordinate personalization, participation, participatory evaluation, and service integration within a coherent management approach. Student agency enables students to contribute information about their needs, experiences, and aspirations, while digital technologies provide practical means of facilitating communication, interaction, and access to services. These elements are connected rather than independent: leadership helps create the conditions for participation, student input informs service evaluation, and the resulting insights can guide further development. In this way, digital technologies support a broader process of organizational improvement rather than serving merely as tools for administrative communication.

The framework reflects the distinctive context of madrasah education, where Islamic values guide decision-making across all four managerial dimensions. Student participation creates opportunities for meaningful dialogue and shared responsibility without transferring institutional authority to learners.

Accordingly, digital transformation extends beyond technological modernization to integrate academic development, religious formation, character education, and student well-being within a coordinated service system, consistent with scholarship on Islamic educational management and adaptive learning in Islamic education (Dika Tripitasari, 2024; Lutfiah, 2024). This approach also underscores the importance of organizational culture and leadership in responding to Generation Z's changing expectations (Burhan et al., 2024).

The principal contribution of this study is the development of an empirically grounded conceptual framework explaining how student-centered digital services may evolve in Islamic secondary education. Rather than presenting a universally validated model, the framework brings together four managerial dimensions personalization, participation, participatory evaluation, and service integration with student agency, transformational leadership, digital technology, and Islamic educational values. The framework suggests that the educational significance of digital transformation depends not simply on technological sophistication, but on how effectively these elements are connected within everyday management practices. It also provides a basis for further research into how madrasahs can develop more responsive and integrated student services while maintaining their distinctive educational mission.

IMPLICATION RESEARCH

The findings suggest that student service management in madrasahs could be strengthened through systematic student needs assessment, structured participation, and evaluation that goes beyond administrative compliance. Student interests, talents, aspirations, and developmental needs should inform service planning, while regular feedback mechanisms can provide students with meaningful opportunities to contribute to decisions concerning academic guidance, counseling, religious activities, and extracurricular programmes. Combining student feedback with administrative records would also enable school leaders to assess service quality more comprehensively and identify areas requiring improvement.

The findings also highlight the importance of leadership and coordination across academic, religious, extracurricular, vocational, and digital services. Madrasah leaders can encourage collaboration among teachers, counseling personnel, programme coordinators, and other stakeholders to ensure that services contribute to shared educational priorities while remaining grounded in Islamic values. Digital tools may facilitate information collection and communication, provided that student information is handled responsibly. These implications are based on the experience of MAN 2 Aceh Utara and should therefore be understood as context-sensitive directions for improvement rather than interventions whose effectiveness has been established across madrasahs.

LIMITATION

This study employed a qualitative single-case design at MAN 2 Aceh Utara, involving one principal, two guidance and counseling teachers, and eight students. Although interviews, observations, and document analysis provided insights into institutional management, service provision, and student experiences, the study did not include other relevant stakeholders, such as parents, additional teachers, administrative personnel, or representatives of the madrasah committee. The findings are therefore context-specific and may not fully represent the experiences of madrasahs with different leadership arrangements, resources, student populations, or levels of digital development.

Data were collected between January and March 2025 and reflect the institutional conditions during that period. Furthermore, the proposed framework is an interpretive synthesis of the empirical findings, not a model validated through comparative, longitudinal, or quantitative testing. Although the study identifies

connections among personalization, participation, participatory evaluation, service integration, student agency, and transformational leadership, it does not establish causal relationships or demonstrate their effects on student outcomes. These limitations should be considered when interpreting the framework and its potential applicability to other settings.

FUTURE RESEARCH

Future research could employ comparative case studies across madrasahs with different institutional characteristics, including variations in location, resources, student populations, and digital infrastructure. Broader participant groups including students, teachers, counseling personnel, administrative staff, parents, and school leaders would help researchers examine how different stakeholders understand service quality, participation, and institutional responsiveness. Particular attention should be given to how student feedback is collected, interpreted, and incorporated into managerial decisions.

Longitudinal and mixed-methods studies could further examine how student profiling, participation mechanisms, evaluation procedures, and service integration develop over time and relate to students' experiences. Such research could also investigate the organizational conditions that enable meaningful student participation and the role of digital tools in improving services while protecting student privacy and ensuring equitable access. Rather than assuming universal applicability, future studies should assess the proposed framework across different institutional and sociocultural contexts and identify the conditions under which its four managerial dimensions can be adapted effectively.

CONCLUSION

This study examined student service management for Generation Z at MAN 2 Aceh Utara and found that, although planning, digital service delivery, routine supervision, and student development programmes were well established, services remained insufficiently student-centered. The main challenges involved limited systematic student profiling, restricted student participation, supervision focused primarily on administrative compliance, and fragmented service initiatives. The study contributes an empirically grounded conceptual framework comprising four interconnected dimensions personalization, participation, participatory evaluation, and service integration supported by student agency, transformational leadership, and Islamic educational values.

The findings suggest that meaningful digital transformation requires managerial and organizational change alongside technological adoption, including systematic needs assessment, structured student feedback, evaluation that informs organizational learning, and coordination across service areas. However, because the study involved a single madrasah, a limited group of participants, and data collected between January and March 2025, the framework remains context-specific and has not been validated across different institutional settings or tested for causal effects on student outcomes.

Future researchers should therefore conduct comparative and longitudinal studies involving multiple madrasahs and broader stakeholder groups, using qualitative or mixed-methods approaches to examine the framework's applicability, identify contextual factors influencing its implementation, and investigate how student participation and integrated digital services relate to students' educational experiences and service quality.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the support and cooperation of the principal, guidance and counseling teachers, and students of MAN 2 Aceh Utara who participated in this study. Their willingness to

provide information, share experiences, and facilitate the data collection process was invaluable to the completion of this research. The authors also appreciate the institutional support provided by MAN 2 Aceh Utara throughout the study.

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