

## Human Resource Management Strategy in Supporting Madrasah Digitalization at MAN 2 Bireuen

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### ARTICLE INFO

#### Article history:

Received May 2025

Received in revised from May 2025

Accepted June 2025

Available online December 28, 2025

#### Keywords:

Human Resource Management;  
Madrasah Digitalization; MAN 2  
Bireuen

### ABSTRACT

The digital transformation of madrasah education requires strategic management of human resources (HR) to ensure the success of digital-based learning and administration. However, limitations in digital competence, resistance to change, and lack of structured development programs remain challenges. This study aims to analyze HR management strategies in supporting madrasah digitalization at MAN 2 Bireuen. A qualitative-descriptive approach was employed, involving interviews, observation, and documentation with school principals, teachers, and educational staff as participants. The findings reveal that HR planning is conducted strategically through digital competence-based recruitment, indicating the institution's commitment to adaptive and evidence-based staffing. HR organizing is implemented through a non-formal, competence-oriented team structure, though it poses risks of role ambiguity without clear accountability mechanisms. HR development is carried out comprehensively through formal training (RTM, Kemenag Pintar), self-directed learning, and in-class technical assistance. Finally, supervision is conducted through participatory evaluations in regular meetings, serving not only as performance assessment but also as a medium for collective reflection and continuous improvement. This study concludes that integrated and adaptive HR management is crucial for successful digital transformation in madrasahs, especially in regions with limited resources.

## 1. Introduction

Over the last decade, the acceleration of information and communication technology has driven significant changes in various sectors, including the field of education. One major transformation is the digitalization of educational institutions, including madrasahs, as part of an effort to increase operational efficiency, improve administrative services, and enhance learning quality. The shift to digital-based systems such as e-learning, academic information systems, digital libraries, and human resource management platforms has become a necessity in the era of Education 4.0 and Society 5.0. In this context, madrasahs are no longer only responsible for preserving religious education but are also expected to be adaptive institutions in the face of technological advancement.

The digital transformation of madrasahs aims to build "smart madrasah" models that integrate technology into both instructional and administrative processes. These models utilize digital tools to enrich learning experiences, expand access to Islamic knowledge, and ensure efficient institutional governance. However, the success of this transformation does not solely depend on technology infrastructure, but more crucially on the capacity and adaptability of human resources (HR).

Teachers, educational staff, and school leaders are the key agents in the implementation of digitalization. Inadequate digital literacy, resistance to change, and limited support systems are commonly cited as obstacles to digital transformation in many madrasahs.

Studies such as those by Zakiyyah (2023) and Ristanti (2023) highlight that the success of digital transformation in Islamic educational institutions is strongly associated with the quality of human resource management. Institutions that fail to equip their educators with adequate digital competence often encounter inefficiencies and setbacks. Conversely, madrasahs that implement structured planning, training, and supervision mechanisms are more likely to achieve sustained and meaningful digital innovation.

Moreover, research by Anugerah (2023) emphasizes that adaptive and strategic human resource planning is critical in narrowing the implementation gap between digitalization policy and on-the-ground practices in Islamic schools.

In the case of MAN 2 Bireuen, preliminary observations indicate that although basic digital infrastructure is in place, its utilization remains suboptimal due to varied digital competencies among staff, lack of continuous training, and absence of a formal digital management framework. These challenges reflect broader national patterns in which policy and technology provision are often not matched with sufficient investment in human resources. Addressing these constraints requires a deep understanding of how human resource management (HRM) functions—namely, planning, organizing, actuating, and controlling (POAC)—can be effectively applied to support digitalization efforts in madrasahs.

Theoretically, this study is guided by classical HRM frameworks, particularly the POAC model, and is complemented by Kurt Lewin's Organizational Change Theory. Lewin's model—comprising unfreezing, changing, and refreezing—provides a lens through which to analyze the readiness and adaptability of human resources in facing institutional transformation. Within this model, managing digitalization in madrasahs entails more than implementing new technologies; it involves reshaping mindsets, retraining personnel, and institutionalizing new work cultures. This aligns with contemporary perspectives in Islamic education management that emphasize not only technological innovation but also leadership, strategic planning, and staff empowerment.

While previous studies have addressed aspects of digital learning or policy-level analyses of digitalization in Islamic education, few have provided in-depth empirical insights into how human resource management is operationalized to support digital transformation at the school level. In particular, there is a lack of case-based research focusing on how madrasahs in rural or under-resourced areas manage their staff to cope with the demands of digital innovation. Therefore, this study aims to fill this research gap by exploring the management strategies adopted by MAN 2 Bireuen in aligning its HR system with its digitalization goals.

This research focuses on four key questions: (1) How is human resource planning carried out to support digitalization in MAN 2 Bireuen? (2) How is the HR organizing process implemented to facilitate digital transformation? (3) What strategies are used to develop HR competencies through training and implementation? (4) How is performance controlled and evaluated to ensure sustainability in digital-based learning and administration? By answering these questions, the study contributes to both theoretical and practical discourses on Islamic education management in the digital era.

In summary, the digitalization of madrasahs represents both an opportunity and a challenge. Its success is contingent upon the effective management of human resources, who act as both drivers and subjects of change. By focusing on the HRM approach applied in MAN 2 Bireuen, this study seeks to uncover replicable practices that may benefit other madrasahs navigating similar transitions. The findings are expected to enrich the literature on Islamic education management and provide evidence-based recommendations for policymakers and practitioners.

## **2. Methodology**

This study employed a qualitative-descriptive approach aimed at exploring human resource management strategies in supporting madrasah digitalization at MAN 2 Bireuen. Qualitative research was chosen because it allows for an in-depth understanding of social phenomena from the perspective of participants in their natural settings (Herdiansyah, 2010; Moleong, 2001). The descriptive dimension seeks to comprehensively portray the strategies, practices, and experiences related to human resource management without statistical generalization (Sugiyono, 2009).

### **2.1 Research Site and Participants**

The research was conducted at MAN 2 Bireuen, located in Cot Gapu Village, Kota Juang District, Bireuen Regency, Aceh, Indonesia. This site was purposively selected due to the presence of digital infrastructure yet suboptimal utilization. Observations showed that although the school had internet access and basic technological facilities, the integration of digital systems into learning, administration, and school management remained limited due to human resource constraints (Hardani et al., 2020). The participants in this study included the school principal, vice principals, teachers, and education personnel who were directly involved in managing and implementing digital transformation. These individuals were selected using purposive sampling to ensure they had relevant experiences and roles in HR and digital innovation processes (Usman, 2006).

### **2.2 Data Sources**

The study used both primary and secondary data. Primary data were obtained through direct interaction with research participants via in-depth interviews and field observations. Secondary data included institutional documents, government policy references, academic literature on HR management and digital education, and other relevant sources from the MAN 2 Bireuen website and publications (Herdiansyah, 2010; Sugiyono, 2009).

### **2.3 Data Collection Techniques**

Data were collected using three main techniques:

#### **1. In-depth Interviews**

Semi-structured interviews were conducted with key informants including the principal, vice principals, teachers, and administrative staff. The interviews aimed to explore perceptions, challenges, and strategies used in managing human resources to support digital transformation. The researcher focused on gathering narratives around recruitment practices, digital competency development, and leadership strategies (Sugiyono, 2009; Prastowo, 2011).

#### **2. Observations**

The researcher conducted participant observation at the school, engaging in and observing HR activities related to digitalization. This involved attending meetings, monitoring training sessions, and recording behaviors and procedures during the implementation of digital systems. Observation was used to validate interview data and obtain contextual insights (Moleong, 2001; Usman, 2006).

## **3. Document Analysis**

Supporting data were gathered from institutional archives such as strategic plans, HR development reports, training records, and official communication regarding digital policy implementation. These documents enriched the empirical analysis and triangulated findings from observations and interviews (Hardani et al., 2020).

## 2.4 Data Analysis Techniques

The collected data were analyzed using the interactive model of Miles and Huberman, which involves three key steps: data reduction, data display, and conclusion drawing with verification (Miles & Huberman, 1994). In the data reduction phase, the researcher filtered, summarized, and selected the most relevant information from raw interview transcripts, observation notes, and documentation. Irrelevant or redundant data were eliminated to focus on essential points, and the data were categorized according to the POAC framework—Planning, Organizing, Actuating, and Controlling—based on the thematic relevance of each segment (Hasibuan, 2020; Nawawi, 2011).

In the next phase, data display, the selected information was organized and presented in both narrative and tabular forms to make patterns and relationships more visible. This structured presentation of the data allowed the researcher to identify emerging themes and critical connections between different aspects of human resource management and digitalization practices. It also facilitated cross-comparison between data sources and supported more coherent interpretation (Miles & Huberman, 1994).

Finally, during the conclusion drawing and verification stage, the researcher interpreted the data by identifying recurring patterns, key statements from informants, and comparing multiple cases or perspectives. These preliminary conclusions were not immediately finalized; instead, they were continuously verified through repeated checks against the original data and theoretical frameworks. This iterative process ensured the credibility, consistency, and analytical rigor of the findings (Herdiansyah, 2010; Nawawi, 2011).

## 2.5 Trustworthiness of the Study

To ensure the credibility and trustworthiness of the findings, this study employed triangulation techniques across multiple dimensions. First, source triangulation was conducted by collecting data from a variety of informants—including the school principal, vice principals, teachers, and administrative staff—to cross-verify information related to human resource management practices. This approach helped to capture diverse perspectives and minimize individual bias (Usman, 2006). Second, technique triangulation was applied by comparing data obtained through different methods, namely interviews, participant observation, and document analysis. The use of multiple data collection techniques enhanced the consistency and reliability of the findings (Sugiyono, 2009). Third, the study adopted theory triangulation by interpreting the empirical data through relevant theoretical lenses, particularly the POAC (Planning, Organizing, Actuating, and Controlling) framework and Kurt Lewin's Organizational Change Theory, which includes the stages of unfreezing, changing, and refreezing (Lewin, 1947; Hasibuan, 2020; Nawawi, 2011). This theoretical integration ensured that the analysis was not only grounded in field evidence but also aligned with established academic constructs, thereby strengthening the validity of the conclusions drawn.

## 4. Results and Discussion

### 3.1. Planing

Human Resource Planning (HRP) is a fundamental step in the management cycle, especially within the context of digital transformation in educational institutions such as madrasahs. At MAN 2 Bireuen, the planning of human resources serves as the backbone of its digitalization effort. The school realizes that a successful digital transformation cannot rely solely on infrastructure and technology—it must be supported by human resources who are competent, adaptive, and aligned with digital demands.

The HR planning process in MAN 2 Bireuen includes five key elements as outlined in the classical HRM framework: recruitment, development, compensation, maintenance, and termination. Among these, recruitment plays a pivotal role in laying the groundwork for digital advancement. The school's recruitment approach reflects a shift from traditional credential-based hiring to a competency-based model, particularly focusing on digital literacy and practical technology skills.

Recruitment at MAN 2 Bireuen begins with direct observation of teacher practices. Rather than solely relying on educational background or administrative documentation, the school leadership emphasizes the ability of teachers to use digital tools in actual teaching. Observations are made on how teachers integrate PowerPoint presentations, videos, Word and Excel documents, and digital platforms like Google Classroom and Zoom into their daily instructional delivery.

This recruitment method exemplifies what is termed as evidence-based recruitment—a practical, contextual, and adaptive strategy to select teachers who are genuinely prepared for the demands of digital learning environments. According to Gunawan et al. (2025), evidence-based recruitment in the digital era demands that institutions prioritize demonstrated skills over credentials to ensure effectiveness in modern educational settings.

In interviews, the principal and vice-principal of MAN 2 Bireuen emphasized that digital competencies such as designing digital learning modules, conducting online assessments, and managing virtual classrooms are prioritized in the recruitment criteria. A quote from the school principal highlights this stance:

“We evaluate a teacher’s digital readiness from how they use tools in their daily lessons—PowerPoint, videos, or even just Word. This tells us whether they are fit to teach in a digital class”.

Similarly, non-teaching staff are also assessed based on their proficiency in operating digital systems. Administrative roles now demand familiarity with data management software, basic IT functions, and online reporting systems. As one staff member explained,

“Nowadays, handwritten reports are outdated. Everything is digital. So, we need staff who can operate computers and manage digital data efficiently”.

This transition in recruitment philosophy reflects a broader understanding that digital transformation requires cultural and operational change, not merely the procurement of hardware or software. As Hariyadi (2023) explains, recruitment strategies in the digital era must integrate technological competence assessments to ensure alignment with institutional goals.

Furthermore, the recruitment strategy at MAN 2 Bireuen integrates adaptive assessment tools, such as hands-on demonstrations, peer evaluations, and continuous skill monitoring. The institution does not merely stop at hiring; it ensures that newly recruited teachers and staff are capable of evolving with the school's digital roadmap. This is consistent with the notion proposed by Mangkunegara (2017), who asserts that HR planning must be aligned with long-term organizational strategies and should be flexible enough to accommodate changing external environments.

Notably, the HR planning process is also informed by Lewin's Organizational Change Theory, particularly in its unfreezing stage. By redefining recruitment standards and expectations, the institution is preparing its workforce to adapt and embrace new digital norms. This involves shifting from a traditional mindset that views ICT as supplementary, to a new understanding that sees digital competency as foundational to teaching quality and administrative excellence.

In line with this, the principal actively integrates recruitment with institutional development plans, ensuring that digital classes are staffed with individuals who not only understand Islamic values but also master digital tools. This integration serves as a form of strategic alignment between human resource planning and digital transformation agendas—a principle strongly advocated by Hasibuan (2020), who states that effective HR planning must be synchronized with technological advancements and organizational vision.

From a theoretical perspective, the approach used at MAN 2 Bireuen also resonates with the POAC framework. In the planning phase, HR recruitment serves as a mechanism to anticipate and prepare for future demands. By recruiting digitally literate teachers, the school effectively prevents resistance and promotes internal capability in adopting innovations. According to Zakiyyah (2023), this proactive form of HR planning enhances readiness and reduces friction in implementing technological change.

Another critical aspect of the recruitment strategy is the emphasis on organizational learning. Teachers who are hired are expected to be learners themselves—ready to upgrade their skills and contribute to peer learning communities. This aligns with the view of Nawawi (2011), who argues that HR planning must identify individuals not only with the right technical skills but also with strong learning orientation, adaptability, and resilience.

In summary, the human resource planning strategy at MAN 2 Bireuen reflects a thoughtful, future-oriented, and evidence-based approach to staffing in the era of digitalization. By prioritizing practical digital competencies, aligning recruitment with long-term goals, and embedding organizational change frameworks into the selection process, the institution has laid a solid foundation for sustained digital transformation. These practices offer valuable insights for other madrasahs navigating similar paths, especially in rural or resource-constrained settings.

In addition to observing practical teaching skills, MAN 2 Bireuen also integrates continuous needs analysis into its planning mechanism to ensure that HR recruitment aligns with institutional digitalization targets. This process includes identifying gaps in existing staff competencies and matching them with the evolving demands of digital platforms and online learning environments. For example, prior to the recruitment of new staff, school leadership conducts informal audits to evaluate which departments lack digital literacy, and what technical skills are most urgently needed. These findings are then used to shape job descriptions and selection criteria. Such planning reflects a strategic and data-driven HR model that enables the institution to anticipate future challenges and allocate talent accordingly.

Another noteworthy feature of HR planning at MAN 2 Bireuen is the strong leadership involvement in designing recruitment and development strategies. The school principal and curriculum vice-principal play direct roles in formulating digital skill standards for both teaching and administrative roles. Their leadership ensures that digital competencies are not treated as add-ons, but as foundational criteria embedded into all HR policies. This leadership-led planning reflects the madrasah's long-term vision of transforming into a digital-ready institution and echoes the findings in the thesis that strategic HR planning is crucial in the initial phase of institutional change management. By fostering leadership alignment and proactive planning, MAN 2 Bireuen is laying the groundwork for a more cohesive and future-oriented workforce.

### 3.2 Organizing

Organizing is a fundamental function of human resource management (HRM) that involves structuring roles, delegating responsibilities, and establishing communication lines to achieve institutional goals. Within the context of digital transformation in madrasahs, organizing human resources effectively is key to ensuring that technology adoption is not only successful but also sustainable. At MAN 2 Bireuen, the organizing of human resources for digital initiatives is shaped by both necessity and innovation, where flexibility, trust, and competence take precedence over rigid formalities.

The school has formed a dedicated digital team, which, although not officially established through formal decrees (Surat Keputusan/SK), functions actively in executing the digital learning agenda. This team consists of selected teachers with proven digital competencies, chosen not by administrative hierarchy but through their demonstrated ability to operate and integrate technology in teaching. According to the head of the madrasah,

“We already have a digital team, although it hasn't been formalized through an official decree. These teachers were chosen based on their ability, not just their position.”

This organizational model reflects what scholars term adaptive organizing, where team structures are fluid, task-oriented, and competency-based. This approach allows MAN 2 Bireuen to be agile in responding to digital demands. The vice principal of curriculum echoed this, stating:

“Although we haven't formed a permanent unit, these teachers are part of a special technical team working for the digital class program. They coordinate regularly with us, even if it's not formally listed in the organization chart.”

This flexible model of organizing yields several advantages. First, it reduces bureaucratic delays by allowing the institution to assign tasks quickly based on current needs and individual strengths. Second, it promotes collaboration across functions, as team members are not confined to rigid job descriptions. Third, it encourages participation and ownership, as members feel chosen for their skills and are trusted to deliver.

However, this non-formal structure also brings potential risks, particularly in terms of role ambiguity and accountability. Without clearly defined job descriptions and official recognition, team members may experience overlapping duties, uncertainty in task ownership, and lack of institutional protection in decision-making. Anugrah (2023) warns that such ambiguity, if prolonged, may lead to operational vulnerabilities during staff turnover or expansion of digital programs.

To mitigate these risks, MAN 2 Bireuen relies on routine coordination meetings and collaborative leadership practices. The digital team meets regularly with school leaders to align strategies, resolve technical issues, and review progress. These forums act as informal yet functional spaces for communication, clarification, and reinforcement of shared goals. The involvement of administrative staff also supports the operational continuity of the digital team, ensuring that their work is embedded within the wider school system.

From a theoretical standpoint, this organizing strategy reflects elements of Lewin's Change Theory, particularly in the "change" phase, where organizations experiment with new structures to accommodate transformation. By choosing flexibility over rigidity, the school is facilitating a smoother cultural and operational shift toward digital norms. According to Amalia et al. (2024), such organizing practices are necessary for schools undergoing digital transition, especially when formal structures lag behind evolving needs.

Additionally, the organizing model at MAN 2 Bireuen aligns with the principles of distributed leadership, where leadership responsibilities are spread among multiple individuals rather than concentrated at the top. Teachers in the digital team are empowered to lead initiatives, provide peer training, and make decisions related to platform use and instructional design. This horizontal structure strengthens engagement and fosters a culture of innovation.

Despite the absence of formal documentation, the school has shown institutional support for the team's work by integrating their tasks into the school's strategic plans. The digital team is often involved in curriculum development, planning for digital classrooms, and assisting with training programs for other teachers. These actions suggest that the organizing effort is not ad-hoc, but part of a larger vision that recognizes the importance of human capital in digital reform.

Nevertheless, the school leadership acknowledges the need for formalization. Recommendations have been made for the issuance of official SK (decree) to legitimize the team's position and establish clearer lines of accountability. This would not only enhance motivation but also protect the team institutionally. Such formalization could also pave the way for performance evaluation, recognition, and incentive mechanisms, which are essential components of effective human resource management.

In conclusion, the organizing of human resources in the digitalization effort at MAN 2 Bireuen reflects a dynamic and contextualized model that prioritizes competence, collaboration, and adaptability. The use of informal but structured coordination, supported by leadership engagement and a clear digital vision, has enabled the school to make meaningful progress despite structural limitations. However, to ensure long-term sustainability and scale-up of digital programs, formalizing the digital team structure and clarifying job roles will be crucial. This case illustrates the importance of blending flexibility with formalization, especially in educational institutions undergoing digital transformation in resource-constrained contexts.

### 3.3 Actuating: Implementation of Human Resource Development

Actuating, as one of the core functions in management, plays a pivotal role in operationalizing plans and organizational structures into concrete actions. In the context of digital transformation at MAN 2 Bireuen, the implementation of human resource (HR) development is not limited to training but extends to a more holistic and sustainable empowerment model. The madrasah employs a multifaceted strategy combining formal training, peer mentoring, classroom practice, and ongoing technical assistance.

The principal of MAN 2 Bireuen emphasized that several formal trainings had been conducted, such as the RTM (Rencana Tindak Madrasah) training and external programs from the Ministry of Religious Affairs like Kemenag Pintar. These programs focus on enhancing teachers' digital literacy, especially in using tools like Google Classroom, Zoom, and Microsoft Office applications. However, beyond formal training, the school also encourages self-directed learning, classroom implementation, and weekly reflections on digital practices.

"We do not stop at training. Teachers are also tasked with preparing digital documents, managing digital classrooms, and applying new skills directly. We monitor their progress through weekly meetings and address any platform-related challenges they face," stated the curriculum coordinator.

A significant innovation in the actuating process is the peer mentoring model. Teachers with advanced ICT skills serve as informal mentors to their peers. This collaborative learning culture promotes not only technical skill development but also reinforces mutual support among educators. For instance, a teacher from the IT background regularly assists colleagues in managing digital platforms and troubleshooting issues.

This strategy aligns with the ideas of Hargreaves and Fullan (2012) on professional capital, which highlights the importance of collective teacher efficacy and collaborative professionalism in driving sustainable change.

Rather than relying solely on external experts, MAN 2 Bireuen leverages internal capacity building through trust-based collaboration.

Moreover, the madrasah maintains continuous supervision as an integral part of HR development. Regular classroom observations are conducted to assess how teachers integrate digital tools into their teaching. When specific applications, such as “Jelajah Ilmu,” are found to be less effective, alternative platforms are sought based on teacher feedback. This adaptive and responsive feedback mechanism ensures that digital tools remain aligned with classroom realities.

Another noteworthy element in the implementation is the technical assistance provided by administrative staff. When teachers encounter difficulties in managing files, accessing platforms, or preparing digital reports, administrative personnel step in to provide hands-on support. This cross-functional collaboration ensures that digital transformation is not siloed within teaching staff but becomes a shared institutional agenda.

“We help teachers organize their digital documents, assist during Zoom-based orientations with Jelajah Ilmu, and provide technical guidance when they encounter platform issues,” explained an administrative staff member.

In addition, MAN 2 Bireuen collaborates with external parties such as Jelajah Ilmu (Intan Kaliwara) to conduct virtual orientation programs via Zoom. This exposes teachers to various platforms and expands their digital teaching repertoire. According to Amroini et al. (2024), such exposure is crucial in increasing teacher motivation and bridging the digital competence gap in madrasahs.

From a theoretical lens, this implementation reflects Flippo’s operative management function, which involves training, development, and performance appraisal. The school not only provides training sessions but also follows through with performance monitoring and mentorship, ensuring that the new competencies are applied and internalized.

The combination of formal training and informal, grassroots initiatives reveals that MAN 2 Bireuen does not adopt a one-size-fits-all model. Instead, they design a contextual HR development strategy based on actual needs and internal resources. As stated by Ratu et al. (2023), effective HR development in digital madrasahs must involve training planning, technical mentoring, and performance evaluation through structured supervision and reports.

Furthermore, the madrasah ensures that training initiatives are linked to institutional goals. Digital skills are not seen as additional competencies but as essential tools for achieving the school's mission of delivering quality Islamic education in a digital era. Therefore, all development efforts are documented and evaluated periodically, and adjustments are made to address emerging gaps.

In conclusion, the implementation of HR development at MAN 2 Bireuen demonstrates a multi-layered, inclusive, and adaptive strategy. It combines structured training, collaborative peer learning, responsive supervision, and institutional support. This approach not only enhances the digital competencies of educators but also fosters a professional culture centered on growth, teamwork, and innovation. The school's experience provides a replicable model for other madrasahs striving to integrate digital transformation into their educational practices.

In addition to these internal efforts, MAN 2 Bireuen has also emphasized the importance of reflective evaluation and action research as part of professional development. Weekly meetings serve as a space not only for planning but also for sharing teaching experiences and digital experimentation results. Teachers are encouraged to discuss classroom challenges, propose platform alternatives, and demonstrate innovations they have implemented. This practice reflects the school's recognition of teacher agency and creativity as critical drivers of digital transformation. As revealed in interviews with school leadership, these sessions often lead to concrete decisions such as platform switching or adjustment of teaching strategies based on collective input.

Furthermore, the institution is aware that digital development is not a one-time agenda but a long-term organizational shift. Therefore, MAN 2 Bireuen continues to institutionalize a culture of digital learning through structured documentation, evaluation records, and sustainability plans. Digital portfolios are gradually being developed to monitor individual progress, while collaborative digital products—such as shared teaching modules—serve as institutional memory. These practices align with Ratu et al.'s (2023) findings which highlight the need for systematic supervision, peer mentoring, and performance evaluation as core strategies in building resilient human resources for Islamic education in the digital era.

This integrated approach not only reinforces the quality of digital practices but also strengthens the institutional culture of accountability and innovation.

### 3.4 Monitoring and Supervision of Human Resources

Controlling or supervision represents a crucial managerial function in ensuring the success and sustainability of human resource (HR) initiatives, particularly in the context of digital transformation. In the case of MAN 2 Bireuen, the controlling function is not merely a formality or administrative process but is applied as a participatory evaluation mechanism that supports the professional growth of educators, improves institutional performance, and maintains the quality of digital education.

The primary strategy employed by the school is the monthly evaluation meeting, which functions both as a monitoring tool and a dialogic forum. All teachers—including those assigned to digital and non-digital classrooms—participate in these meetings. The agenda of these forums covers the review of digital platform use, teaching challenges, administrative issues, and proposals for improvement. The principal emphasized,

“We organize monthly evaluations involving all teaching staff. These meetings are not just for reporting but serve to identify issues and formulate solutions together.”

Such a participatory approach aligns with the concept of collaborative control, which encourages shared responsibility in identifying problems and implementing practical solutions. Teachers are not passive recipients of feedback; they are active contributors to the improvement process. A teacher noted:

“Evaluation is not just about being checked—we feel supported. When we raise a problem about using a platform, usually the school follows up with real solutions.”

The outcomes of the evaluations are documented and followed up through technical assistance, training, or adjustment of digital tools. For instance, when difficulties emerged in using the Jelajah Ilmu platform, the school coordinated alternative solutions and offered tutorials to ease the transition.

This dynamic is consistent with Flippo's operative management theory, which views performance evaluation as a continuous process that must inform actionable improvements, not merely reflect past shortcomings.

The evaluation mechanism at MAN 2 Bireuen serves multiple roles: quality control, professional development, and institutional learning.

The involvement of educational staff (*tendik*) in the monitoring process is also a significant feature. Their tasks include compiling digital documents, ensuring standardized formatting, supporting teacher data input, and participating in performance discussions. As one *tendik* explained:

"We help manage files, ensure documents are stored correctly, and assist during evaluation reviews. All technical aspects are reviewed in the meetings and followed up accordingly."

The presence of *tendik* in controlling processes highlights the cross-functional nature of digital transformation. Monitoring is not limited to pedagogical output but includes data governance, reporting mechanisms, and technical documentation. This interdependency builds a robust ecosystem of support and accountability across all levels of the school's structure.

Theoretical reinforcement for this strategy is provided by Nurhayati and Rosadi (2022), who emphasized that participatory supervision is essential in educational institutions undergoing transformation. It ensures that control mechanisms do not demotivate teachers but instead serve as capacity-strengthening efforts.

Moreover, the controlling function also considers emotional and motivational aspects. The school leadership intentionally designs evaluations as non-punitive and solution-oriented. This approach helps reduce anxiety and fosters a culture of trust. Teachers feel heard, supported, and respected, which in turn increases their willingness to engage with digital initiatives.

"The evaluations are more about listening and improving together, not judging. That makes us more open," said a teacher during field interviews.

However, challenges remain. The absence of formal digital performance indicators and written reporting frameworks sometimes leads to inconsistencies in evaluation depth and follow-up. To address this, recommendations were made to develop structured monitoring instruments that integrate both quantitative (platform usage, digital output) and qualitative (teacher reflections, student engagement) data.

Another area for enhancement is the documentation of evaluation follow-up. While current practices are responsive, a formal system for logging actions and results would help in scaling successful interventions and maintaining institutional memory.

In essence, the controlling strategy at MAN 2 Bireuen exemplifies formative and dialogical supervision. It is rooted in trust, collaboration, and ongoing professional support. This model differs from top-down inspection and instead reflects the principles of Islamic participatory leadership, where every actor in the madrasah is empowered to be both accountable and creative.

According to Aifalesasunanda et al. (2024), the integration of innovation, collaboration, and feedback loops in HR development is key to ensuring that digitalization enhances—not replaces—human agency in educational contexts.

Furthermore, the approach taken by MAN 2 Bireuen is consistent with the findings of Amroini and Rindaningsih (2024), who argue that sustainable transformation in madrasahs requires continuous evaluation, reflective culture, and iterative feedback systems that evolve along with technology.

To enhance accountability and ensure institutional memory, MAN 2 Bireuen has initiated efforts to improve the documentation of evaluation outcomes. Key points from monthly evaluations are recorded systematically, including identified issues, teacher suggestions, and agreed-upon actions. However, the absence of a standardized digital performance rubric presents challenges in maintaining consistency across evaluations. The school leadership has recommended the development of monitoring instruments that combine both quantitative indicators—such as frequency of digital platform use—and qualitative insights like teacher reflection and student engagement feedback.

Such instruments are crucial to strengthen evidence-based decision-making and ensure fair performance appraisal for all staff involved in digital teaching.

Moreover, the participatory and non-punitive approach adopted by MAN 2 Bireuen in its supervision strategy has fostered a stronger sense of ownership and motivation among teachers. Evaluation forums are not merely used for assessment but function as collaborative learning spaces where innovative ideas can emerge. This aligns with the concept of adaptive supervision, where feedback mechanisms are dynamic and responsive to technological developments and classroom realities. As noted in the findings, teachers feel more confident to voice their challenges and are more receptive to institutional changes when they see their input valued and acted upon. This supervision culture not only supports the professional development of educators but also nurtures a sustainable and innovation-oriented school environment.

## **5. Conclusions**

This study explored the implementation of human resource management (HRM) in supporting madrasah digitalization at MAN 2 Bireuen by analyzing four core managerial functions: planning, organizing, actuating, and controlling (POAC). The findings underscore that the success of digital transformation in madrasah education is not solely dependent on the availability of technology or infrastructure, but rather on how human resources are managed, empowered, and aligned with institutional digital goals.

In the planning phase, MAN 2 Bireuen employed a competency-based recruitment strategy that emphasized practical digital skills rather than solely academic credentials. Teachers and staff were selected based on their ability to use digital tools such as Google Workspace, online learning platforms, and digital reporting systems. This evidence-based recruitment approach ensured that new personnel were prepared for the demands of a digital learning environment and aligned with the school's digital vision.

The organizing phase was characterized by the formation of a flexible and informal digital team. While the team was not yet formalized through official decrees, its operation was guided by clear objectives, regular coordination meetings, and collaborative leadership. This structure allowed the school to remain agile in assigning roles and addressing digital challenges. However, the absence of formal job descriptions and written responsibilities created potential ambiguities that may require formalization for long-term sustainability.

During the actuating or implementation phase, MAN 2 Bireuen demonstrated a strong commitment to ongoing professional development. Teachers were engaged in formal training programs such as RTM and Kemenag Pintar, complemented by internal peer mentoring, in-class application, and self-directed learning. Administrative staff played an active role in technical support, bridging the gap between policy and practice. The integration of technical assistance, supervision, and reflection ensured that digital skills were not only acquired but effectively implemented in daily tasks.

The controlling phase was realized through participatory monthly evaluations involving all staff. Rather than adopting a punitive approach, evaluations were designed as collaborative forums where challenges were discussed and addressed collectively. Teachers appreciated the non-threatening and solution-oriented nature of these evaluations, which contributed to a culture of openness, trust, and continuous improvement. Nevertheless, the study found that the development of formal monitoring instruments and structured documentation systems would further strengthen the sustainability and institutionalization of these practices.

In summary, the digital transformation efforts at MAN 2 Bireuen were supported by a holistic and adaptive HRM strategy. The school successfully operationalized the POAC framework by combining structured planning with informal innovation, peer collaboration, and responsive supervision. These practices have enabled MAN 2 Bireuen to navigate the complexities of digitalization while maintaining educational quality and staff engagement. The insights from this case study may serve as a reference for other madrasahs—particularly in resource-constrained areas—that aim to embark on similar digital reform journeys. Future research may build upon these findings by conducting comparative studies or evaluating long-term outcomes of digitalization in Islamic educational institutions.

The study also highlights the importance of leadership commitment and institutional culture in sustaining digital transformation. At MAN 2 Bireuen, the active involvement of school leaders in facilitating training, promoting open dialogue, and delegating digital responsibilities has fostered a supportive climate for change. This reflects the idea that effective HRM in the digital era is not limited to administrative functions, but requires strategic thinking, cultural adaptation, and distributed leadership. The school's emphasis on collaboration over hierarchy enabled teachers and staff to take initiative and innovate within their roles, thereby reinforcing ownership and resilience throughout the transformation process.

Moreover, this study underlines the need for policy alignment and capacity building at the systemic level. While MAN 2 Bireuen has made significant progress through grassroots strategies, broader support from regional education authorities, including clear policy guidelines, technical infrastructure, and scalable professional development models, is essential for sustaining change. Therefore, integrating HRM practices with national digital education policies and frameworks would further strengthen institutional readiness. In this regard, madrasahs in similar contexts should be encouraged to adapt the POAC model not only as a managerial tool but also as a reflective framework for ongoing evaluation and growth.

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