



## Original Article

### Optimising Human Resource Management as an Effort to Improve Employee Performance through Digital Attendance

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#### Abstract:

The objective of this study is to uncover enhancements aimed at elevating employee performance standards within Madrasah Aliyah Nurul Falah. The research adopts a qualitative approach. Findings suggest that utilising fingerprint technology for electronic attendance is user-friendly and secure for accurate recording, due to its minimal susceptibility to manipulation. The head of the madrasah conducts a monthly assessment of the computerised attendance system. Any employee found absent without a valid reason will face repercussions as determined by the decisions made. Effective leadership characterised by integrity and consistent implementation of disciplinary measures by madrasa administrators will enhance the efficacy of computerised attendance systems. While the adoption of electronic attendance systems can positively influence employee discipline, occasional violations persist, notably instances of employees arriving late at the madrasah due to diverse reasons.

**Keywords:** Attendance, Performance, Management



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#### Introduction

The management's ability to effectively carry out its tasks stands as a pivotal factor in an organisation's success. The level of success is indicated by the effectiveness in managing the human resources of the organisation (Krisnahadi, 2021). Given that human resources represent a significant asset, companies must be capable of providing for them. A company's ability to achieve its objectives relies more on its workforce than sophisticated machinery, comprehensive buildings, or advanced infrastructure.

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The individual performance of employees significantly influences an organisation's capability to succeed. Every organisation, including schools, endeavours to enhance the performance of its employees with the hope of achieving organisational objectives. The presence of an employee in a madrasah or institution is evidence of their existence and work there. One crucial component in human resource management is recording employee attendance ([Fazrin, 2021](#)). Assisting in developing excellent performance and enhancing the work image and performance of Madrasah Aliyah Nurul Falah's employees towards professionalism. Employee discipline is necessary to improve reputation, output, and work performance. Employees also require a unified direction and perspective that can serve as guidance or reference in carrying out their duties and obligations ([Khasanah, 2021](#)). Additionally, some employees of Madrasah Aliyah Nurul Falah still disregard regulations governing fingerprint attendance, including arrivals and departures. If monitoring is not properly conducted, there are often opportunities for attendance data manipulation ([Yana, 2022](#)).

The use of electronic attendance in various settings, including government and corporate organisations, has been discussed in prior studies. However, research regarding electronic attendance in madrasahs remains scarce ([Sadat, 2020](#)). This research aims to advance understanding in the field of Islamic education management by focusing on the utilisation of electronic attendance to enhance staff discipline. The necessity of attendance as a manifestation of discipline for all learners and educational components has been elucidated in a study ([Ayu, 2019](#)) entitled 'Attendance Application System Using Android-Based Barcode Scanner Technology.' Due to its ineffectiveness and inefficiency in usage, manual attendance is no longer employed. To replace manual attendance methods, a digital Android-based attendance application must be developed. This aligns with the research conducted in Madrasah Aliyah ([Sitinjak, 2022](#)), which asserts that manual attendance record-keeping methods like signing attendance books and manual summaries are outdated in today's context. Therefore, utilising web-based QR Code technology for attendance design. With the convenience it offers, encompassing secure storage, rapid response, and staff work facilitation.

This is evident from previous justifications regarding the necessity of digital presence, indicating that every school or madrasah still faces challenges in implementing this contemporary attendance system. Although educational institutions still underestimate the value of discipline among educators, particularly in public service, ([Rizal, 2022](#)) claims that many schools have become aware of this issue. As the central authority cannot directly track absences, many teachers arrive late. The use of attendance logs would make it easier for teachers to violate rules, thus reducing efficiency. Attendance recording in these schools is still done manually, sometimes resulting in a decrease in orderliness due to instructors or administrative staff forgetting to record both teachers' and students' attendance. Therefore, scholars examine the reasons behind madrasah and school attendance challenges in implementing digital attendance.

The aim of this research is to uncover optimisation efforts to enhance the performance standards of employees at Madrasah Aliyah Nurul Falah. Organising human resources to better consider the urgency of digital attendance is the primary objective of this study. Experts are interested in discussing design management regarding digitalisation of attendance for easier adoption, based on previous research

that still grapples with implementing attendance in schools or madrasahs. This study focuses on human resource management compared to infrastructure and facility management, which are also crucial components in implementing the paradigm of digital attendance.

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### Methods

The qualitative descriptive research methodology with a phenomenological approach through observation, interviews, and documentation was employed in this study. The aim was to uncover optimisation efforts to enhance the performance standards of employees at Madrasah Aliyah Nurul Falah. Monthly assessments of attendance and penalties for failure to meet attendance requirements are some guidelines administered by the institution's administration to ensure smooth operation of this attendance system. Madrasah Aliyah Nurul Falah served as the research site for this study. The headmaster and administrative head were the subjects of this research. Interviews on staff performance and attendance strategies at Madrasah Aliyah Nurul Falah were utilised in this research data collection method. Additionally, documentation was carried out during data collection, providing information for ongoing study processes. A combination of data reduction, data presentation, and drawing conclusions was employed to assess the gathered data ([Hardani, 2020](#)).

### Results

Madrasah Aliyah Nurul Falah is an educational institution under the auspices of the Nurul Falah Foundation. In its recent development, since the accreditation of its B-level study programmes, Madrasah Aliyah Nurul Falah has been continuously expanding its array of both distinguished and regular fields of study. The programs encompass Regular Sciences, Language, and Social Sciences. Madrasah Aliyah Nurul Falah has become an outstanding institution in all areas, both academic and non-academic. The institution utilises two types of work discipline: Preventive and Corrective.

Preventive discipline is an effort to motivate employees to adhere to the guidelines and work rules set by the madrasah. It is implemented by issuing warnings or advisories to prevent employees from violating established rules. The madrasah leadership is responsible for fostering a preventive disciplinary culture. Conversely, employees are obligated to understand, comprehend, and abide by all guidelines, regulations, and Standard Operating Procedures (SOPs) established within the madrasah ([Nafisah, 2022](#)).

Corrective discipline aims to guide employees in aligning with regulations and directing them to comply with various rules according to the applicable guidelines in the madrasah. This is executed by imposing sanctions on employees who breach the

regulations. The purpose of sanctions is to encourage the employee to improve and comply with the established rules. One way to assess time discipline is by examining an individual's attendance data ([Istiantara, 2019](#)).

The attendance data is compiled and organised in such a way that it can be easily accessed by relevant parties whenever needed. Generally, attendance is classified into two types: manual and electronic. Manual attendance involves inputting attendance data by signing using writing instruments on attendance sheets. Meanwhile, electronic attendance involves inputting attendance data using computerised systems ([Ritonga, 2021](#)).

With the progression of time, humanity has successfully created various mediums, both manual and digital. Moving forward, it is certain that there will be further advancements in various fields to facilitate the working methods of people across different service sectors. Thus, individuals are required to consistently upgrade and adapt to various changes, including in the continually evolving digital era ([Putri, 2022](#)).

Therefore, this underscores the significant importance of conducting research to provide input to the institution, enabling the enhancement of discipline among employees. This is expected to contribute to better performance and improvement through the optimisation of institutional discipline ([Khasanah, 2021](#)).

Digital applications have been widely adopted in various educational institutions to enhance the performance of both educators and education-related staff. The digital era has sparked a paperless trend where everything previously printed on paper can now be stored and processed digitally, reducing paper consumption. With technological advancements, this feature is extensively utilised for various purposes, including attendance tracking ([Krisnahadi, 2021](#)).

#### 1. Human Resource Management with Digital Attendance at Madrasah Aliyah Nurul Falah

Quality resources are demonstrated by high performance and productivity. An individual's performance is linked to behaviour quality oriented towards tasks and work. Similarly, a teacher's performance can be viewed from administrative and professional development perspectives. Performance embodies the work carried out by an employee or organisation; hence, efforts should be made to enhance factors influencing this performance, including compensation, performance quality, and work motivation.

Improving the quality of education necessitates capable leadership within every organisation, particularly in educational institutions. The head of a madrasah plays a crucial role in relation to teachers, as they bring about positive changes. Teachers, being pivotal in the teaching-learning process, contribute significantly to human resource development in education. Therefore, meeting the needs of teachers is the responsibility of the madrasah head to enhance their competencies. With the convenience provided to teachers, they will gladly teach at the school and feel comfortable with any recognition received.

Regarding educational advancement, Madrasah Aliyah Nurul Falah can be deemed quite satisfactory. This is evident through the availability of educational facilities at the madrasah, which is one of the religious education institutions at the high school level (MA). Madrasah Aliyah Nurul Falah is not a general education institution but rather a non-formal religious education institution. Consequently, the institution focuses solely on religious studies as per the curriculum in place at Madrasah Aliyah Nurul Falah.

Additionally, it's noteworthy that Madrasah Aliyah Nurul Falah is a private educational institution where the majority of its teaching staff consists of private teachers.

This circumstance may lead to a lack of discipline among teachers at the madrasah, where a majority of the teaching staff have private or honorary status. This situation inevitably influences the teaching-learning process at the school. Given that most madrasah teachers are private or honorary, all teachers at Madrasah Aliyah Nurul Falah bear responsibilities beyond the school to fulfil their primary needs in daily life activities. Consequently, this often results in teachers being absent from their teaching duties, ultimately leading to a lack of discipline among teachers in their activities, thereby affecting the smoothness of the teaching-learning process.

As a teacher who has pledged to faithfully impart knowledge to students, external needs should not serve as a reason for skipping classes or frequent absences during teaching hours. Similarly, as a madrasah head, it is their duty to secure budgetary funds for teacher salaries. Therefore, when teachers attend, there is a sense of satisfaction in receiving a guaranteed salary. With the provision of salaries, it becomes easier for the institution to manage human resources with stringent attendance regulations.

## 2. Implementation Process of Digital Attendance at Madrasah Aliyah Nurul Falah

The purpose of using fingerprint attendance is to ensure accurate recording of employee attendance data, free from manipulation. The ultimate goal is to enhance employee discipline. Based on an interview with the head of the madrasah, fingerprint attendance at Madrasah Aliyah Nurul Falah began in 2022, implemented for all madrasah employees, including the head, teachers, administrative staff, janitors, and security personnel. Electronic attendance is coordinated by the administrative head. Before the introduction of fingerprint attendance, employees could delegate their attendance to others; with fingerprint usage, attendance data becomes more precise ([Zain, 2022](#)).

In the utilisation of fingerprint attendance, operators must first register employees' fingerprints ([Tahyudin, 2022](#)). Subsequently, the operator uploads the employee's identity data along with the fingerprint scan results, ensuring their accuracy. Then, the operator sets working hours, such as arrival at 06:30 AM and departure at 03:00 PM. The study directly observes the attendance process, which swiftly records data without requiring extensive time. Employees find it effortless to use the fingerprint attendance machine—placing their finger on the machine automatically stores their data online in the personnel database ([Ngurah, 2020](#)).

Following the rules established by the foundation overseeing the madrasah, the head of the institution reviews the attendance summary for a month. The implementation of electronic attendance aligns with the purpose of technology to provide convenience and better solutions in line with the challenges of evolving times ([Ayu, 2019](#)).

The implementation conducted in the madrasah aligns with the phased concept of fingerprint attendance usage: (1) Employee fingerprint registration, (2) Downloading employee data and fingerprints, (3) Uploading employee data, (4) Setting working hours, (5) Downloading attendance data, and (6) Calculating reports. To ensure successful implementation of electronic attendance, there must be disciplinary enforcement rules for employees ([Khasanah, 2021](#)).

The application of sanctions aims to maintain employee discipline. The severity of sanctions applied will affect the good or poor discipline of employees.

Sanctions must be logically reasoned, sensible, and clearly communicated to all employees. Fingerprint is a form of biometrics, using employees' physical characteristics for identification. The use of biometric fingerprint attendance systems reduces the level of fraud, such as data manipulation and attendance delegation ([Elianur, 2018](#)).

In the realm of education, fingerprint technology aids in enhancing employee discipline. With fingerprints, employees are trained in discipline. Fingerprint technology also helps determine whether employees have adhered to instated regulations or planned activities by the institution. Rules are established as guidelines for institutions to foster a sense of security and comfort, mitigating negative incidents. The fingerprint reader technique in the fingerprint device is termed optical. This system records or scans using light ([Muhamad, 2022](#)).

The tool used is a digital camera. The place to lay the fingertips is called the touch surface (scan area). There is a light or light emitter illuminating the fingertip's surface. The light reflected from the fingertip enters the memory. The scanning result is then stored in digital format during registration or fingerprint enrollment. The fingerprint recording is processed and a list of fingerprint feature patterns is created, then stored in the memory or database ([Zain, 2022](#)). During identification, the fingerprint features are compared with the scanned fingerprint results.

Discipline is the foremost measure to enhance an employee's personality in daily life. Discipline is the primary key to achieving good results. Based on the above explanation, this research is presented to obtain a comprehensive overview regarding the use of electronic attendance systems on employee performance. Fingerprints have drawbacks, such as being unable to detect dirty or wet fingerprints, and sometimes the scanning tool gets scratched, causing it to be unable to detect fingerprints.

### **3. Impact of Electronic Attendance Implementation**

Fingerprint attendance systems have been implemented in the madrasah with the objective of enhancing employee discipline. The previously applied manual attendance system was deemed ineffective as its records were susceptible to manipulation and inadequately recorded. Alongside the implementation of the fingerprint attendance system, the madrasah established rules specifying consequences for employees failing to achieve a 90% attendance rate. Furthermore, monthly evaluations are conducted.

Employees falling short of the 90% attendance requirement are summoned by the madrasah's principal, which may evoke a sense of embarrassment among them. The implementation of electronic attendance systems and the established rules have led to a decline in employee dishonesty ([Khasanah, 2021](#)).

The attendance summary of employees in the madrasah indicates minimal tardiness and manipulation of attendance records. This research concludes that the fingerprint system is user-friendly and prevents dishonesty in attendance recording, thereby enhancing employee discipline. Similar findings were derived from other studies indicating that the fingerprint system significantly improves employee attendance discipline in the madrasah.

#### **a. Punctuality in Working Hours**

By adhering to punctuality, it becomes possible to determine the percentage of hours or minutes required and the necessary preparation time for work processes. Interviews with the head of Madrasah Aliyah Nurul Falah revealed instances of

tardiness and early departures, even with the manual attendance system in place. However, with the implementation of electronic attendance, employees are aware that late arrivals or early departures outside the designated times won't be recorded by the system. The tolerance for lateness for electronic attendance in Madrasah Aliyah Nurul Falah is 30 minutes. Furthermore, the head of administration ensures employees understand their individual responsibilities. Employees granted tolerance by the head of the madrasah should not disregard these rules.

b. Compliance with Regulations

Despite the regulations issued by the head of Madrasah Aliyah Nurul Falah, there are still violations that indicate employee indiscipline. To address this, the principal has formulated rules on employee discipline. However, in reality, these regulations have not effectively curbed employee violations. Many employees still lack discipline, exhibit a lack of conscientiousness in task completion, and demonstrate insufficient responsibility toward their work (Herawati et al., 2022).

#### 4. Factors Supporting and Hindering the Implementation of Fingerprint Attendance

There are elements that both support and hinder the use of fingerprint attendance. Infrastructure and facilities constitute supportive elements. As commonly known, adequate infrastructure and other supporting resources are crucial for the effectiveness of policy implementation. Given the significance of infrastructure for electronic attendance activities, having well-functioning infrastructure will facilitate the effectiveness of fingerprint attendance. Undoubtedly, there are limiting factors and also those that assist. A prioritized element is internet connectivity. A robust internet network is pivotal for any organisation or business globally, making work more manageable (Nurhajati, 2021).

According to interviews with the head of the madrasah, the following issues were also encountered: (a) Slow sensor identification; (b) Hanging; (c) Failure to receive scans; (d) Incorrect time and date; (e) Failure to connect to computers; all of which are sometimes caused by an unstable internet connection. The IT department addresses these issues to ensure the smooth functioning of electronic fingerprint attendance (Khasanah, 2021).

Secondly, conduct multiple scans at once. When performing fingerprint attendance, staff members have a tendency to hang or jam the fingerprint instrument after several attempts at scanning due to their lack of familiarity with the fingerprinting device (Istiantara, 2019).

#### 5. Evaluation of Electronic Attendance Implementation

Every month, the Head of Madrasah Aliyah Nurul Falah conducts an evaluation of the staff's performance. Employee attendance is one of the metrics assessed in the monthly review. The aim of this assessment is to caution tardy employees and those who frequently miss work without proper justification. If the Head of the Madrasah identifies individuals who have not met the minimum 90% attendance requirement, they will be summoned. If the summons is received twice consecutively, a warning letter will be issued; if received thrice consecutively, the employee will be honourably dismissed (Irawan, 2021).

The optimal response to this issue will be evident. To prevent employees from arriving late and using trust letters, the head of the madrasah also strives to assist in resolving the issue. The madrasah leader sets a good example and upholds strict

discipline. Employees in the madrasah learn discipline through such behaviour ([Fahmi Kamal, 2020](#)).

In management, performance appraisal is a technique used to evaluate and assess an employee's work. Performance reviews are conducted so that staff members can better understand each other by knowing what is expected by the head of the madrasah. Assessing the extent to which individual or group work can help achieve current goals is a primary focus of performance evaluation. It is not too late for the head of the madrasah to issue warnings to rotating staff.

This is a positive step if applied with more discipline to enhance employee performance, especially if there is no manipulation of attendance and absenteeism. A madrasah that achieves exceptional service and discipline can win the hearts of its staff. Better performance correlates with a higher level of discipline ([Putri, 2022](#)). Employee discipline is influenced by leadership variables. Effective staff discipline also depends on firm actions and discipline from the leader. The madrasah leader has a responsibility to uphold discipline by providing motivation, leading by example, considering the needs of others, and enforcing rules ([Kurniawan, 2021](#)).

### **Conclusion**

The research findings indicate that fingerprint usage for electronic attendance applications is user-friendly and secure for recording purposes due to its low potential for manipulation. The head of the madrasah conducts an evaluation of the computerized attendance system every month. An employee will face consequences as per the decisions made if they skip work or arrive late without a valid reason. If the head of the madrasah leads with integrity and applies disciplinary actions for violations, the use of the computerized attendance system will be more successful. The use of electronic attendance can have a positive impact on employee discipline, although there are still some violations, such as employees arriving late at the madrasah for various reasons.

### **Suggestion**

The use of fingerprint attendance systems has proven effective but requires various specific actions or steps. The head of the madrasah needs to routinely evaluate the system and consistently implement disciplinary measures for violations. By leading with integrity and consistency in enforcing rules, this system can have a positive impact with significant influence on the discipline of employees/educators.

### **Competing interests**

The authors declare that there is no conflict of interest.

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## Underlying data

All data underlying the results are available as part of the article and no additional source data are required.

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