



Reformulation of School Management Strategies in Improving Teachers Digital Competence: A Case Study

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Abstract

This research aims to explore and analyze the reformulation of school management strategies in improving the digital competence of teachers in private high schools. Digital competence is an urgent need in the era of educational transformation, especially for teachers as the main actors in the learning process. This study uses a qualitative approach with a case study design on two private high schools located in the Magetan area. Data were collected through in-depth interviews, participatory observations, and documentation studies, analyzed using the Miles and Huberman model which included data reduction, data presentation, and conclusions drawn. The results of the study show that private schools that implement HR strategies in a planned and contextual manner ranging from digital skill-based teacher recruitment, continuous training, digital platform-based performance evaluation, to providing digital innovation-based incentives are more successful in improving teacher competence. The transformational leadership of the principal is a key factor in the success of the strategy. These findings confirm the importance of a comprehensive school management reformulation to support the successful digital transformation of education in private secondary schools. This research provides theoretical and practical implications for school and foundation management in designing digital needs-based human resource strategies.

Keywords

digital competency; leadership; school management

INTRODUCTION

The digital revolution has brought fundamental changes in the world of education, especially in terms of how the learning process is designed and delivered (Kardina Engelina Siregar, 2024). At the high school level, the need for the integration of technology in the teaching-learning process is very urgent (Rêgo et al., 2022). Teachers are not only

teachers but also facilitators of adaptive and innovative digital-based learning. Teachers' digital competence is the main prerequisite in answering this challenge (Li & Yu, 2022; Wohlfart & Wagner, 2023). However, this competency improvement cannot happen spontaneously, but must be encouraged by structured and strategic HR management. The vital role of school HR management in designing the right approach to equip teachers with digital skills that are relevant to the needs of the times (Meijerink et al., 2021).

The private school context presents unique challenges in HR management (de Oliveira et al., 2023). Unlike government public high schools where most of the teachers have the status of Civil Servants (PNS) and have a career development pattern controlled by the central or regional government, private high schools have full authority in recruiting, developing, and retaining their educators. Therefore, the HR management strategy in private high schools is an important key in maintaining the quality of education services (Tanjung, 2020). Private schools are required to be more flexible, innovative, and responsive in managing teachers as the institution's main asset. In this context, the reformulation of HR management strategies is a must so that teachers' digital competencies can be improved systematically and in a targeted manner.

Digital transformation in private high schools is not only about providing technological devices, but more deeply touching how teachers understand, master, and apply the technology in the teaching and learning process (Li & Yu, 2022; Nguyen & Habók, 2024). Many private schools experience obstacles in implementing digitalization due to the low level of teachers' digital literacy (Hasanah et al., 2022). Training that is sporadic or not in accordance with needs actually widens the gap between technology and pedagogy. Therefore, an HR strategy is needed that is not only reactive to technological trends, but also proactive in preparing visionary and digitally literate teachers. The strategy reformulation here covers all managerial aspects: from the recruitment of teachers with basic digital competencies, continuous training, to a digital performance-based evaluation system (Tran, 2022).

Theoretically, the Strategic Human Resource Management (SHRM) approach offers a relevant framework for analyzing the reformulation of HR strategies in schools (Lu et al., 2023; Meijerink et al., 2021). Strategic human resource management emphasizes the importance of alignment between human resource strategy and organizational strategic direction (Yong et al., 2020). Private high schools must design teacher development

strategies that support the school's goal of becoming a modern and competitive learning institution. In addition, human capital and transformational leadership theories are also important to be studied to understand how investment in teacher development can create sustainable competitive advantages (Dewi et al., 2024). With this approach, teachers are no longer seen as a burden of costs, but as a strategic asset that supports the achievement of the educational mission of private schools.

Previous studies tend to still be general in discussing teachers' digital competencies without highlighting HR management strategies (Kardina Engelina Siregar, 2024; Li & Yu, 2022; Wohlfart & Wagner, 2023). Management of private school contexts that have their own characteristics and challenges. This study focuses on how the reformulation of HR management strategies is carried out in private high schools in an effort to improve teachers' digital competence. This research is important not only to generate new theoretical understandings, but also to make practical contributions for school principals, foundation managers, and policymakers in designing more contextual and impactful HR strategies.

This study aims to explore how HR management strategies in private high schools are reformulated to answer the challenge of improving teachers' digital competencies. A qualitative approach is used to deeply capture the dynamics, strategies, and challenges faced by private school stakeholders in managing their teachers. Through this study, it is hoped that a conceptual framework or HR management model will be born that can be applied by private high schools in various contexts to strengthen the transformation of technology-based education in a sustainable manner.

METHOD

Approaches Research

This research uses a qualitative approach with a case study type of research. This approach was chosen because it is suitable for understanding in depth the process and dynamics of reformulation of human resource management (HR) strategies in private schools, especially in the context of improving teachers' digital competence. Case studies allow researchers to explore contextual and complex phenomena in the natural environment in which the strategy is carried out. The main focus of this research is not only on the final results of the HR strategy, but also on the formulation, implementation, and challenges

faced by school managers. The qualitative approach is considered the most appropriate in answering research questions that are exploratory and in-depth.

Location and Research Subject

This research was conducted in two private high schools (SMA) that have different backgrounds, namely one school in an urban area and one in a semi-urban area in Magetan Regency. The researcher did not include the name of the school related to the ethics of publication approval which was feared to cause a conflict of interest between the two private schools. The location is written using initials, namely school A (school in urban areas) and School B (schools in semi-urban areas). The selection of locations was carried out purposively, taking into consideration that these schools have carried out digital transformation initiatives in the learning process and teacher management. The research subjects consisted of 2 principals, 2 vice principals for curriculum, 2 foundation managers, and 6 teachers who were actively involved in training or developing digital competencies. The selection of participants is also carried out purposively by paying attention to their position, experience, and direct involvement in the HR strategy reformulation process.

Data Collection

The data in this study was collected through three main techniques, namely in-depth interviews, participatory observations, and documentation studies. The interviews were conducted in a semi-structured manner to provide space for the speakers to explain their experiences and perceptions broadly, as well as direct the discussion according to the focus of the research. Observation is carried out in the school environment, especially during teacher training, strategic planning meetings, or the use of digital media in learning. Meanwhile, the documentation study includes an analysis of school strategic documents, work programs in the field of human resources, teacher training reports, and foundation policies related to teacher development. These three techniques complement each other to improve data validity and strengthen triangulation.

Data Analysis

Data analysis was carried out using the Miles and Huberman model which consisted of three stages: data reduction, data presentation, and conclusion drawing or verification. The

data reduction stage is carried out by selecting, grouping, and simplifying raw data from interviews, observations, and documents, in order to focus on information relevant to the research objectives. The presentation of data is carried out in the form of descriptive narratives and thematic matrices, making it easier for researchers to identify patterns, relationships between components, and managerial processes that occur. Conclusions are drawn by interpreting the patterns of findings that emerge, which are then verified repeatedly through triangulation of sources and techniques.

RESULT AND DISCUSSION

RESULT

This research produced important findings related to how the reformulation of HR management strategies is carried out by private high schools in improving teachers' digital competence. Based on data from in-depth interviews, observations, and documentation on two schools with different characteristics (urban and semi-urban), the researcher found that the level of effectiveness and systematization of the strategy was greatly influenced by the vision of the school's leadership, infrastructure readiness, and organizational support of the foundation. The findings are presented in six key components of the HR strategy, which include: teacher recruitment, digital competency training, performance evaluation, career development, incentive systems, and principals' leadership styles.

Teacher Recruitment

The results of the study show that teacher recruitment strategies are an important starting point in the reformulation of human resource management in private high schools. School A (urban) implements a digital competency-based recruitment pattern as the main prerequisite, by including a digital portfolio and online platform-based teaching simulations as selection instruments. This strategy represents a predictive hiring approach, where schools from the beginning anticipate the challenges of digitalization through the selection of prospective teachers who have technological readiness. In contrast, School B (semi-urban) still maintains a conventional recruitment pattern that relies on foundation networks and administrative selection, with no digital proficiency indicators as part of the selection process. This results in a mismatch between the profile of the teachers recruited and the demands of technology-based learning that are being developed.

Schools that make digital literacy a component of the initial selection of teachers tend to be better prepared to manage changes and faster in adapting digital learning. This shows that a visionary recruitment strategy contributes directly to institutional readiness to undertake educational transformation.

Digital Competency Training

This study found significant differences in the design and implementation of digital competency training in the two schools studied. School A applies a structured, sustainable, and partnership-based approach to training, particularly with educational technology startups. The training held included mastery of LMS, creation of digital learning content, and the use of interactive applications. This program is not incidental, but rather an integral part of the school's human resource development plan. On the other hand, School B shows a sporadic and reactive training pattern, relying only on programs from the Education Office that do not always suit the technical and pedagogical needs of teachers in the classroom. This creates a gap between teachers' abilities and the demands of technology-based learning, especially in terms of concrete implementation in the classroom.

Schools that build an internal digital training ecosystem and establish external partnerships tend to result in more significant and teacher-directed competency improvements. This shows that effective training is not just a matter of frequency, but integration with HR strategies and relevance to teachers' local needs.

Teacher Performance Evaluation

Findings from the field show that there is a striking difference in the approach in the teacher performance evaluation system between School A and School B. School A has developed a digital rubric-based evaluation mechanism that is integrated with the LMS. Teachers are evaluated based on quantitative and qualitative indicators that include activeness on learning platforms, quality of digital content produced, and participation in technology training. This evaluation is formative and summative, and the results are used as a basis for decision-making in career development and incentivization. In contrast, School B still uses a manual performance evaluation system that is oriented towards administrative aspects, such as the attendance or completeness of teaching documents, without considering the involvement of teachers in digital learning. This creates a

disconnect between the direction of the school's digital transformation and the teacher performance assessment system, so there is no strong incentive for teachers to carry out technology-based innovations.

Performance evaluation based on digital indicators encourages changes in teaching behavior and increased technological literacy among teachers. On the other hand, an evaluation system that is not in line with the goals of digital transformation is actually an obstacle to pedagogical adaptation and innovation.

Teacher Career Development

The results of the study show that teacher career development is a strategic dimension in building sustainable digital competencies. School A has designed digital certification-based career paths, such as Google Certified Educator, basic coding training, and technology-based learning design. The program is not optional, but is integrated into the teacher professional promotion and incentive scheme. This step reflects the school's long-term vision to make digital literacy part of teacher professionalism standards. Meanwhile, School B does not yet have a structured career development framework, let alone one that focuses on the digital aspect. Efforts to increase teacher capacity are still administrative, such as additional assignments or bureaucratic training, without encouraging the improvement of technological competence. This leads to stagnation in teachers' ability to keep up with the direction of more dynamic digital education changes.

Career development that is integrated with the achievement of digital competencies results in intrinsic and structural incentives for teachers to continue learning and innovating. Without digitally directed career paths, teacher competency improvement will be sporadic and unsustainable.

Incentives and Rewards

This study found that incentive strategies play a key role in accelerating the process of technology adoption by teachers. School A has implemented a digital performance-based incentive system, in the form of annual bonuses, award certificates, and internal publications for teachers who demonstrate innovation in the use of learning technology. The scheme is designed to recognise teachers' efforts in transforming their classrooms through a digital approach. This mechanism creates a healthy competitive climate and

strengthens a culture of innovation within the teacher community. In contrast, School B still maintains a conventional incentive model that is fixed and not associated with technology-based achievements. Teachers do not get concrete feedback for efforts to develop digital methods in teaching. As a result, there is a demotivation that hinders the emergence of agents of change at the teacher level.

When incentives are contextually designed and directly linked to digital achievements, teachers are encouraged to innovate and expand their competencies. In contrast, the absence of digital transformation-based incentives reinforces the status quo and slows down the cultural change of school organizations.

Principals Leadership

The leadership of the principal plays a key role in the reformulation of HR strategies. School A is led by a principal with a transformational leadership style, who actively drives change, sets an example for the use of technology, and builds a digital culture in the school environment. The principal also involves teachers in making strategic decisions related to human resource development. Meanwhile, principals at School B exhibit a transactional leadership style that focuses more on administrative aspects and does not prioritize the digital transformation agenda as part of the school's core strategy.

Table 1. Comparison of HR Strategies in Two Private High Schools

HR Strategy Components	Urban High School (School A)	Semi-Urban High School (School B)
Teacher Recruitment	Digital portfolio, practice test	Foundation recommendations, general selection
Digital Competency Training	Intensive, routine, technology partners	Sporadic, dependent on the Department of Education
Teacher Performance Evaluation	Digital rubrics, LMS integration	Manual, not yet digital-based
Career Development	Formal digital certification pathway	Digital channels are not yet available
Incentives and Awards	Bonuses based on digital performance	Fixed, not digital performance-based
Principal's Leadership	Transformational, digital-oriented	Transactional, administrative

The results of this study show that the reformulation of HR management strategies greatly determines the success of improving teachers' digital competencies in private high schools. Schools that successfully design HR strategies that are in line with the goal of digitizing education are able to encourage teachers to transform. The strategy does not only

involve training, but covers the entire HR management cycle, from recruitment to career development. In addition, the principal's leadership style has proven to be a determining factor in whether the strategy can be implemented consistently.

The difference between urban and semi-urban schools also shows that resource management affects the capacity of schools to reformulate strategies. However, these challenges can be overcome if principals and foundations have a strong commitment to digital transformation and are willing to invest in sustainable human resource development.

DISCUSSION

The results of this study underline that the reformulation of HR management strategies in private schools plays a central role in improving teachers' digital competence. Private high schools located in urban areas show more strategic and adaptive managerial capacity compared to schools in semi-urban areas (Martin & Benedetti, 2025; McKinney et al., 2024). Educational institutions that have high institutional autonomy and support for technological infrastructure tend to be more successful in integrating HR strategies that are responsive to digital transformation (Kormos, 2024). The needs-based approach is an important principle adopted by schools that have successfully formulated effective human resource development strategies.

A teacher recruitment approach oriented to basic digital skills shows that HR management in urban schools focuses not only on pedagogic competence, but also on digital literacy as part of the initial selection (Beck et al., 2025; McKinney et al., 2024). These findings affirm the theory of Strategic Human Resource Management (SHRM) which emphasizes that educational organizations must recruit human resources that are aligned with the strategic direction of the institution (Elrehail et al., 2020). When recruitment is carried out without considering the digital aspect, as happens in semi-urban schools, then the organization will experience internal resistance in technological transformation. At the global level, making digital competence one of the main criteria in the teacher selection process since the beginning of 2010 shows that the strategic direction of recruitment greatly determines the readiness of schools in responding to the demands of education digitalization (Llamazares de Prado & Arias Gago, 2023; McKinney et al., 2024).

Teacher training is the component that most shows the disparity in HR strategies between the two schools. Urban schools organize training systematically and collaboratively with external partners such as educational technology companies, while semi-urban schools still rely on conventional training from the Education Office that is not contextual (Kardina Engelina Siregar, 2024). Countries with decentralized teacher training systems and based on local practices show better results in the integration of educational technologies (Yong et al., 2020). Effective training should be prepared as part of long-term HR planning and not as an incidental response to government policies. Private schools should ideally have a digital training blueprint compiled based on an analysis of teacher needs and local dynamics.

One of the indicators of the success of HR management in the context of digital education is the existence of an evaluation and reward system based on digital performance. The results of the study show that schools that successfully implement digital rubrics in evaluating teacher performance encourage an improvement in the quality of technology use in learning (Lee et al., 2021). This concept is in line with the performance-based management approach that emphasizes that the evaluation system must be directly linked to the organization's strategic outcomes (Rêgo et al., 2022; Zheng et al., 2024). Teacher evaluations that are integrated with technology (such as the use of LMS, online student participation data, and digital content) have a significant effect on improving teacher performance and student satisfaction (Lee et al., 2021; Purmayanti, 2022; Wohlfart & Wagner, 2023). The absence of an evaluation system relevant to the digital era will only perpetuate an unprogressive administrative work culture.

The leadership of school principals emerged as the most powerful differentiating factor in the reformulation of HR strategies (Dewi et al., 2024). Schools with transformational-minded and visionary principals have proven to be more progressive in designing and executing comprehensive HR development strategies (Wiens et al., 2025). The importance of visionary leadership in creating participatory, innovative, and digital-minded organizational culture change is directly linked to improving the quality of learning and teacher professionalism (Beck et al., 2025; Wronowski et al., 2024). In semi-urban schools that are still dominated by administrative leadership, HR strategies do not develop dynamically, as there are no drivers of change from the upper structure (Tran, 2022).

The reformulation of HR management strategies in private high schools cannot be done partially. Reform must involve the entire HR management cycle from recruitment, training, evaluation, to incentives and leadership. This study supports the idea that improving teachers' digital competencies is not solely the teacher's personal responsibility, but part of the structural responsibility of the school organization (Kardina Engelina Siregar, 2024; Rêgo et al., 2022). Private schools that want to survive and compete in the digital education ecosystem must develop HR strategies that are data-driven, adaptive to technological change, and oriented towards 21st century learning achievements. This research makes an important contribution for education stakeholders at the micro (school) and macro (foundations and government) levels, that the success of digital education transformation is highly dependent on the capacity of institutions to manage their human resources strategically.

CONCLUSION

The reformulation of human resource management strategies in private high schools has a very crucial role in improving teachers' digital competence in response to the demands of 21st century education transformation. Private schools that successfully implement HR strategies systematically, ranging from digital portfolio-based recruitment, continuous training, performance evaluation integrated with digital platforms, to providing digital performance-based incentives, show a higher level of readiness and adaptation to the digitalization of learning. The transformational leadership of school principals has also proven to be a major driver in encouraging a culture of innovation and digital learning in the school environment. On the other hand, schools that still apply administrative and static approaches in human resource management experience gaps in improving teacher competencies, which has an impact on the stagnation of overall education quality. Therefore, it is recommended that private schools design HR strategies that are adaptive, based on teacher needs, and support digital transformation as an institutional priority, as well as build collaboration with technology partners and professional training institutions. The limitation in this study lies in the scope of the location which only includes two private schools with different geographical contexts, so the generalization of the results needs to be done carefully; For this reason, follow-up research is recommended involving more

schools in various regions as well as longitudinal approaches to understand the dynamics of HR strategies in the long term.

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