

Managing The Organizational Climate in The Digital Era for Teachers at SMP Negeri 4 Pakem and SMP Binajaya Banguntapan

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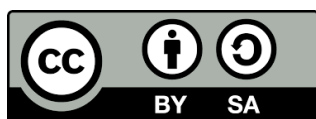
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Management; Organizational Climate In The Digital Era; Teacher Digital Literacy; Transformational Leadership; Teachers.

Abstract

This study aimed to analyze organizational climate management in the digital era for teachers at SMP Negeri 4 Pakem and SMP Bina Jaya Banguntapan and to identify the supporting and inhibiting factors affecting its implementation. The study employed a qualitative approach using a case study design and was conducted at two schools with distinct organizational climate characteristics. The participants included the school principals and ten teachers, comprising five teachers from SMP Negeri 4 Pakem and five teachers from SMP Bina Jaya Banguntapan. The study focused on teachers' attitudes and behaviors in their interactions with school principals and colleagues. Data were collected through semi-structured interviews, structured observations using observation sheets, and document analysis. The trustworthiness of the data was assessed based on credibility, transferability, dependability, and confirmability, supported by methodological, source, and temporal triangulation. Data were analyzed using the Miles and Huberman interactive model. The findings indicated that organizational climate management in the digital era was implemented through five management functions: planning, organizing, implementation, monitoring, and evaluation. Supporting factors included the enhancement of teachers' digital competencies through training and professional learning communities, principals' transformational leadership, and school policies supporting the provision of cloud-based databases, a basic web-based management information system (MIS), and digital communication platforms. The identified barriers included limited digital literacy among teachers at SMP Bina Jaya Banguntapan, inadequate technological infrastructure, and difficulties adapting to changes in the organizational climate associated with digital transformation.



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INTRODUCTION

Digital transformation has become a global phenomenon that is reshaping organizational operations, including those of schools as providers of educational services. Advances in information technology require organizations to adapt rapidly and utilize technology effectively to remain competitive in an increasingly interconnected environment (Avtalion et al., 2025). The widespread adoption of technology across society enables tasks to be completed more efficiently through greater access to information and reduced spatial and temporal constraints (Ullrich et al., 2023). This transformation is characterized by remote

communication, online learning, workflow automation, cloud-based data storage, and the integration of interconnected smart technologies (Zamzam & Yustini, 2021). These developments have introduced a new dimension to organizational behavior: the organizational climate in the digital era, defined as organizational members' collective perceptions of a work environment shaped by digital work culture, virtual collaboration, flexible working arrangements, and effective technology utilization. Globally, organizational readiness for digital transformation depends on interconnected factors at the individual, group, and organizational levels. Therefore, digital transformation should be understood not merely as a technological challenge but also as an issue involving human factors and the organizational work climate (Trenerry et al., 2021). Schools, as nonprofit educational institutions, must also adapt to these changes to provide high-quality educational services that meet students' needs (Banjarnahor et al., 2022).

However, the acceleration of digitalization has not always been accompanied by adequate preparedness to manage the organizational climate in schools. Several factors contribute to challenges affecting teachers' work environments in the digital era. The first factor is ineffective communication between principals and teachers, coupled with limited collaboration among colleagues, which may contribute to an unfavorable or extreme organizational climate (Pashiardis, 2000). The second factor is insufficient leadership by school principals in motivating and directing teachers, potentially resulting in poor work discipline (Astuti et al., 2023). The third factor involves limited opportunities for professional development and inadequate teacher resource management in responding to the demands of 21st-century education (Gemnafle et al., 2018). The fourth factor concerns inadequate digital infrastructure, despite its growing importance as a dimension of organizational climate that supports a conducive digital work environment and encourages organizational members' participation in digital activities (Avtalion et al., 2024). The fifth factor is teachers' limited digital literacy and insufficient technical and psychological support when new technologies are introduced without an integrated implementation strategy (Avtalion et al., 2025). The sixth factor involves an underdeveloped digital culture, limited career development opportunities, and insufficient organizational resilience, which may undermine organizational performance during digital transitions (Siregar & Hendarman, 2023).

These factors have significant implications for teachers' attitudes, behaviors, and professional performance. Poorly managed organizational climates may reduce teachers' enthusiasm for teaching, as organizational climate has been identified as an important predictor of teacher enthusiasm (Punia & Bala, 2023). An unfavorable organizational climate may also inhibit organizational and individual creativity within educational institutions, particularly in relation to leadership, interpersonal interactions, and commitment to professional responsibilities (Canli & Ozdemir, 2022). Furthermore, an unsupportive work environment may negatively affect teachers' job satisfaction, motivation, and organizational commitment (Argadinata, 2022), potentially contributing to reduced work motivation and declining teaching performance (Roviana et al., 2023). Conversely, a positive psychological climate can foster teachers' perceptions of the workplace as a supportive, comfortable, and rewarding environment, thereby contributing to school effectiveness (Roesminingsih et al., 2023). In the context of digital transformation, an organizational climate that lacks integrated management may increase employees' workloads, fatigue, and psychological stress, making

employee well-being a critical consideration during rapid technological transitions (Avtalion et al., 2025). Similar challenges were identified at both research sites, including increased teaching workloads, fragmented work documentation, and differences in teachers' readiness to adapt to digital technologies.

Based on these considerations, this study focuses on two interconnected concepts: management and organizational climate in the digital era. Management is understood as the process of coordinating organizational activities to achieve predetermined objectives through the effective utilization of human and organizational resources. Its principal functions include planning, organizing, implementing, supervising, and evaluating (Siagian, 2016a). These functions require leaders to guide organizational members through effective communication, interpersonal interaction, and motivation to achieve optimal performance (Tegor et al., 2020; (Elbadiansyah., 2023). Organizational climate refers to the internal organizational environment as perceived by its members, which influences their attitudes and behaviors in performing daily responsibilities. Its dimensions include responsibility, leadership quality, trust, communication, rewards, opportunities, and control (Richset Riwu Kore et al., 2022). At the secondary school level, organizational climate encompasses leadership support and facilitation, discipline, psychological safety, collegial relationships, and commitment to teaching (Hoy et al., 1996). In the digital era, organizational climate is increasingly shaped by the transition from paper-based administrative practices to integrated digital processes, accompanied by growing expectations of accountability and transparency (Zamzam & Yustini, 2021). This transition positions school management information systems (MIS) as strategic instruments for facilitating remote data collection, storage, processing, and analysis (Siagian, 2016b); (Gede & Bratha, 2022), while promoting more systematic, efficient, and accountable school data management (Susiani, 2022).

The novelty of this study lies in integrating management functions with the concept of organizational climate in the digital era through a comparative examination of two schools with contrasting organizational climate characteristics: SMP Negeri 4 Pakem, characterized by a positive organizational climate, and SMP Bina Jaya Banguntapan, characterized by an extreme organizational climate. Previous research has primarily focused on measuring school organizational climate using quantitative instruments (Hoy et al., 1996; Deer, 2015; Dellar, 1999) or identifying organizational climate dimensions at specific educational levels (Celik & Yildiz, 2018). Research on digital transformation has also emphasized general factors influencing workplace readiness (Trenerry et al., 2021), the role of digital infrastructure as a dimension of organizational climate (Avtalion et al., 2024), the implications of digital organizational climate for employee well-being (Avtalion et al., 2025), and the development of digital culture in for-profit organizations (Siregar & Hendarman, 2023). However, limited qualitative research has examined how school principals apply the five management functions to manage teachers' organizational climate in the digital era, particularly through integrated cloud-based document storage, simplified school management information systems, and improvements in principal-teacher communication. By comparing organizational climate management practices in public and private junior high schools, this study seeks to contribute to the theoretical understanding of digital organizational climate within the Indonesian educational context.

The urgency of this study arises from the continued implementation of school digitalization policies alongside disparities in teachers' readiness and organizational support for digital transformation. At SMP Negeri 4 Pakem, a web-based management information system has been implemented since 2018 to support grade entry, instructional material storage, student achievement data collection, and learning outcome reporting. In contrast, SMP Bina Jaya Banguntapan has not yet established a centralized cloud-based document storage system. Consequently, operational curriculum documents, school work plans, and instructional materials are stored separately on teachers' personal devices or storage accounts. These differences highlight disparities in digital infrastructure and administrative practices that may contribute to unequal educational service quality between the two schools if left unaddressed. Accordingly, this study is important for identifying practical strategies that school principals can adopt to establish a supportive digital organizational climate while minimizing the potential adverse effects of digital transformation on teachers' workloads and psychological well-being (Avtalion et al., 2025; Trenerry et al., 2021).

Based on this background, the study aims to examine three principal aspects of organizational climate management in the digital era. First, it seeks to analyze how organizational climate is managed for teachers at SMP Negeri 4 Pakem and SMP Bina Jaya Banguntapan through the five management functions of planning, organizing, implementing, supervising, and evaluating. Second, it aims to identify the factors supporting effective organizational climate management in both schools. Third, it seeks to examine the challenges encountered by school principals and teachers in managing organizational climate during digital transformation and the strategies employed to address these challenges. These objectives are investigated using a qualitative multiple-case study design involving two schools with contrasting organizational climate characteristics.

The findings of this study are expected to provide both theoretical and practical contributions. Theoretically, this research seeks to advance knowledge in educational management, organizational behavior, and organizational climate in the digital era, particularly within the relatively underexplored context of primary and secondary education in Indonesia. It is also expected to provide a foundation for future research on adaptive human resource management in educational institutions. Practically, the findings may assist school principals in planning, implementing, monitoring, and improving organizational climate management practices by leveraging available technologies and institutional resources. For teachers, the findings may provide a basis for professional self-evaluation, particularly in strengthening work discipline, adherence to established standard operating procedures, accountability, and collaboration within teaching teams. For educational administrators and policymakers, the study is expected to inform the formulation of policies that are more responsive to the professional needs of teachers and the educational needs of students in public and private junior high schools.

METHOD

A. Research Type and Design

This study employed a qualitative approach with a multiple-case study design to examine how school principals managed teachers' organizational climate in the digital era. The design enabled an in-depth exploration of management practices, organizational

interactions, and teachers' experiences in their natural settings through triangulated data collection (Sugiyono, 2023, p. 241). A case study approach was adopted to investigate organizational processes and management practices within their specific institutional contexts (Creswell in Sugiyono, 2023, p. 230). The study compared two schools with contrasting organizational climates: SMP Negeri 4 Pakem, which demonstrated a positive and adaptive climate, and SMP Bina Jaya Banguntapan, which exhibited an unfavorable organizational climate. This comparison aimed to identify differences in management practices, supporting factors, and organizational challenges, as well as potential strategies for improving digital organizational climate management in schools with limited resources.

B. Research Location and Period

The study was conducted at two purposively selected junior high schools in Yogyakarta, Indonesia. SMP Negeri 4 Pakem, located on Jalan Kaliurang Km 17, Pakembinangun, Sleman Regency, was selected because it had implemented a web-based management information system since 2018 and integrated digital technologies into administrative and instructional activities, including the use of iPads in teaching. SMP Bina Jaya Banguntapan, located on Jalan Wonosari Km 5, Pandansari, Bantul Regency, was selected because it faced challenges related to teacher discipline, standard operating procedures (SOPs), leadership, and professional development. Preliminary observations were conducted at SMP Bina Jaya Banguntapan from February 14 to 23, 2024, and at SMP Negeri 4 Pakem from February 26 to March 6, 2024. The main data collection period extended from August 12 to October 29, 2024, allowing observations of teachers' activities and organizational interactions across different situations.

C. Research Data Sources

The study involved 12 informants, comprising school principals and teachers, with six participants from each school. Informants were selected through purposive sampling based on criteria relevant to the research objectives (Abubakar, 2021). At SMP Negeri 4 Pakem, selection criteria included professional performance, participation in school programs, willingness to learn, work discipline, and involvement in educational innovation. At SMP Bina Jaya Banguntapan, informants were selected based on their experiences with digital literacy challenges, professional development limitations, and difficulties adapting to organizational changes. The study focused on teachers' attitudes, behaviors, and interactions with school principals and colleagues in relation to organizational climate management during digital transformation.

D. Data Collection Techniques and Instruments

Data were collected through nonparticipant observation, semi-structured interviews, and document analysis to ensure comprehensive coverage of the research objectives (Abubakar, 2021). Observations focused on principal–teacher interactions, collaboration among teachers, and organizational working conditions (Kartono in Gunawan, 2017, p. 143). Semi-structured interviews were conducted during the preliminary and main research phases, allowing informants to elaborate on their experiences and perspectives (Esterberg in Abubakar, 2021, p. 67). Document analysis involved examining annual work plans, operational curricula, digital teaching schedules, and teacher assignment decrees. The research instruments included observation checklists, interview guides, field notes, audio recorders, and cameras (Abubakar, 2021, pp. 117–118). Interview questions were developed

based on the organizational climate dimensions proposed by Devis and Kusnan, including leadership quality, communication, trust, responsibility, organizational identity, adherence to SOPs, interpersonal support, opportunities, control, and conflict (Zamzam & Yustini, 2021).

E. Data Trustworthiness

Data trustworthiness was assessed through credibility, transferability, dependability, and confirmability (Abubakar, 2021; Roosinda et al., 2021). Credibility was strengthened through source, methodological, and temporal triangulation. Source triangulation involved comparing information obtained from school principals and teachers, while methodological triangulation involved cross-checking findings from observations, interviews, and documentation. Temporal triangulation was conducted through follow-up interviews at different times to clarify inconsistent information (Sugiyono in Abubakar, 2021). These procedures were intended to improve the accuracy and consistency of the findings and ensure that interpretations were supported by empirical evidence (Sugiyono, 2015, p. 130).

F. Data Analysis Procedures and Techniques

The research was conducted in four stages: preliminary investigation, fieldwork, data processing and analysis, and reporting. The preliminary stage involved identifying research problems, reviewing relevant literature, and establishing the research focus. Fieldwork included obtaining research permissions, conducting interviews and observations, and collecting supporting documents. Data were analyzed using the interactive model of Miles and Huberman, comprising data collection, data reduction, data display, and conclusion drawing and verification (Huberman et al., 2020, pp. 10–14; Abubakar, 2021, p. 121). Data reduction involved summarizing interview transcripts, coding relevant information, organizing field notes, and identifying recurring themes within each school. The findings were interpreted using Siagian's (2016a) five management functions—planning, organizing, implementing, supervising, and evaluating—alongside organizational climate dimensions and indicators (Richset Riwu Kore et al., 2022; Zamzam & Yustini, 2021). A cross-case analysis was subsequently conducted to compare management practices, supporting factors, and challenges between the two schools. The analysis identified context-specific management strategies and potential approaches for strengthening organizational climate management during digital transformation.

RESULTS AND DISCUSSION

A. Location Profile and Study Overview

This study presents the results of managing the organizational climate of the digital era for teachers in two locations with characteristics that are deliberately chosen in contrast. SMP Negeri 4 Pakem has state status, is accredited A, and has the characteristics of a commitment to progress through the branding of "Champion Character School", boarding class programs, and positive discipline programs Physical and Mental Discipline which are directed at the formation of a culture of discipline and readiness to face the change in the digital work climate. Learning is conducted in blended learning with iPads, and each classroom is equipped with Apple TV, projectors, speakers, CCTV, and air conditioning. On the other hand, Bina Jaya Banguntapan Junior High School has a private status under the Bina Jaya Foundation, is accredited B, and displays characteristics that are less conducive, characterized by a high teacher turnover rate, work commitments that are not optimal, and a

poorly maintained physical environment. Learning takes place face-to-face with LKS books as the main source (paper based). This difference in profile is important to state because the organizational climate is the personality of the organization that distinguishes it from other organizations and leads to the perception of each employee in viewing the organization (Devis and Newstrom in Zamzam & Yustini, 2021, p. 36). The profile of the two schools is presented in Table 1 and visualized in Figure 1.

Table 1. Profile and Characteristics of Research Sites

Aspects	SMP Negeri 4 Pakem	Bina Jaya Banguntapan Junior High School
Status and Auspices	State Junior High School, Sleman Regency Education Office	Private, Bina Jaya Foundation, Bantul Regency Education Office
Accreditation	A	B
Number of Teachers	28 students	7 students
Educational Staff	12 students	6 students
Students (2024/2025)	484 students	58 students
Learning Groups	5 classes per grade level	1 class per grade level
Learning System	Blended learning with iPads, moving classrooms, zero zonks	Fully face-to-face, paper-based worksheets
Digital Classroom Resources	Apple TV, projector, speakers, CCTV, AC, Wi-Fi	Not equipped with digital facilities
Document Storage System	Cloud-integrated website-based SIM (since 2018)	Teachers' personal storage is not yet integrated
Climate Characteristics	Positive, adaptive, highly disciplined, collaborative	Extreme, high turnover, commitment is not optimal

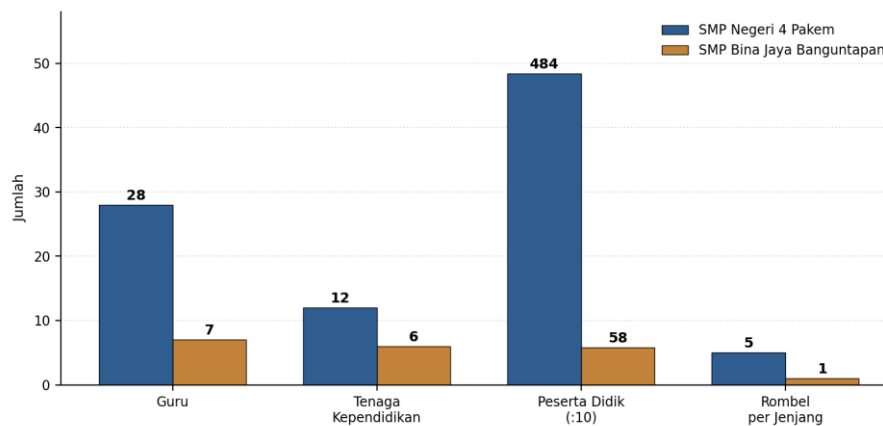


Figure 1. Comparison of Resources of the Two Schools

The data in Table 1 and Figure 1 show a striking gap in resources. SMP Negeri 4 Pakem has 28 teachers, 12 education staff, and 484 students with five study groups per level, while Bina Jaya Banguntapan Junior High School only has 7 teachers, 6 education staff, and 58 students with one study group per level. This gap is an important context in reading the findings, because the existence of digital infrastructure is a separate dimension that determines the formation of a conducive digital climate and encourages the participation of organizational members in digital activities (Avtalion et al., 2024).

B. Overview of Research Data

The research data was collected from twelve informants, namely six informants in each school consisting of principals, deputy principals, and subject teachers. Data were collected through semi-structured interviews conducted twice, non-participation observations, and documentation studies on RKT, KOSP, digital teaching schedules, and teacher assignment decrees. All data were tested through triangulation of sources, techniques, and time as well as the procedure for the validity of qualitative research data (Abubakar, 2021; Roosinda et al., 2021), then analyzed with Miles and Huberman's interactive model which includes data collection, reduction, data exposure, as well as conclusion drawing and verification (Huberman et al., 2020, pp. 10–14). The distribution of research data is presented in Table 2.

Table 2. Data Distribution and Research Data Sources

Data Type	SMP Negeri 4 Pakem	Bina Jaya Banguntapan Junior High School	Total
Principal/Vice Principal Informant	2 students	1 student	3 people
Subject Teacher Informant	4 students	5 students	9 people
Total Informants	6 students	6 students	12 people
Semi-structured Interview	2 stages (pre-research and data collection)	2 stages (pre-research and data collection)	2 stages
Non-participant Observation	Observation sheets and field notes	Observation sheets and field notes	2 locations
Documents Analyzed	Work Plan (RKT), Material Plan (KOSP), digital teaching schedule, assignment decree	Work Plan (RKT), Work Plan (RKS), Task Distribution Decree, Teaching Schedule	4 types of documents
Data Collection Time	August 12 – October 29, 2024	August 12 – October 29, 2024	3 months

The interview questions were derived directly from the dimensions of the organizational climate of Devis and Kusnan, namely leadership quality, warmth between employees, opportunities, communication, individual identity related to SOPs, control, trust, responsibility, support, and conflict (Zamzam & Yustini, 2021). The reduction of the dimension to the item of this question makes each informant's information can be directly mapped in the framework of analysis, so that the findings presented in the following section are the result of cross-reading between the principal's statement, teacher's statement, field observation notes, and documentary evidence. The informant code used in the description of the results follows the format of initials and positions, for example G6 for the principal of SMP Negeri 4 Pakem and G5 for the principal of SMP Bina Jaya Banguntapan.

C. Digital Era Organizational Climate Management for Teachers

The results of the study show that the management of the organizational climate in the digital era in both schools is carried out through five management functions, namely planning, organizing, implementing, supervising, and evaluating (Siagian, 2016a). Although all five functions are equally executed, the quality of implementation differs sharply due to the unequal support of digital data.

1. Climate Planning

At SMP Negeri 4 Pakem, climate planning was carried out through a two-day working meeting on March 13-14, 2024 involving the principal, all teachers, and employees. The process starts from identifying teachers' needs in digital-based teaching, followed by open discussions until an agreement is reached, preparing work programs in line with vision and mission, planning for digital competency improvement, and setting targets and supervision procedures. The results of the meeting are outlined in the RKT and KOSP documents which are stored on the integrated cloud media of the school driver's license so that it can be quickly accessed by all school residents. These findings reinforce the view that planning is the process of setting goals and preparing strategic steps as a guideline for achieving organizational goals (Siagian, 2016a, pp. 88–89), while emphasizing that strengthening digital literacy needs to be integrated into participatory work programs (Trenerry et al., 2021). On the other hand, at Bina Jaya Banguntapan Junior High School, planning is also carried out through work meetings, but not all teachers can attend because some teach at other schools, so the results of the meetings are only shared through WhatsApp groups. This limited participation has the potential to reduce the sense of belonging to the program, even though the involvement of teachers in decision-making is influenced and at the same time affects motivation, responsibility, and work commitment (Veziroglu-Celik & Yildiz, 2018).

2. Climate Organizing

Climate organizing at SMP Negeri 4 Pakem is realized through the division of teaching tasks, additional tasks, and asset-based workloads, namely placing teachers according to their strengths. The vice principal for curriculum with the team compiles a schedule using Microsoft Excel, and what is interesting is that the schedule is not compiled per semester but is updated every week according to the needs of students, then uploaded to the school driver's license so that it can be accessed during moving class. These findings are in line with organizing as a whole process of grouping people, tools, and tasks as a unit to achieve goals (Siagian, 2016a, pp. 95–96), and affirm that an equitable division of tasks increases teachers' motivation and supports a conducive climate (Punia & Bala, 2023). At Bina Jaya Banguntapan Junior High School, the division of tasks is carried out by giving teachers the opportunity to submit their teaching day preferences, but the limited number and competence of teachers makes the division of work uneven so that some aspects have not been conducive (Roviana et al., 2023).

3. Climate Implementation

The implementation of climate at SMP Negeri 4 Pakem is marked by four main activities: iPad-assisted learning with access to materials through the cloud; optimization of digital platforms such as Google Classroom, Pijar Sekolah, Canva, PhET Simulation, Wordwall, Kahoot, Padlet, and Quizizz; training on the use of Gemini AI with internal school teacher resource persons; as well as learning community and team building activities to maintain the physical and psychological health of teachers. These findings reinforce the dimension of leadership quality and support in the organizational climate (Zamzam & Yustini, 2021) and are in line with the results that the leadership of principals who support teacher professional improvement programs contributes to the creation of a conducive work climate (Haryani, 2017). On the other hand, the implementation of climate at Bina Jaya

Banguntapan Junior High School is still conventional due to limited facilities and not all students have gadgets, and there are still teachers who are late to class. This condition requires strengthening the habituation of positive discipline, because a positive work discipline culture has been proven to develop a more conducive organizational climate (Wujarso, 2024).

4. Climate Surveillance

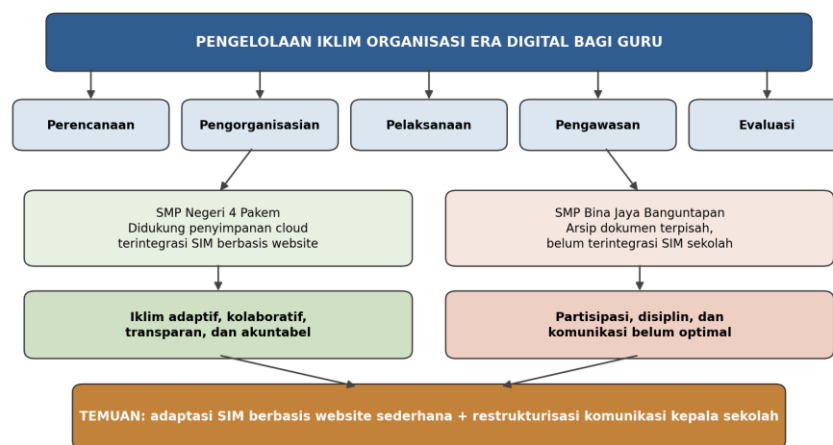
Climate monitoring at SMP Negeri 4 Pakem is carried out through scheduled academic supervision, teacher performance assessment, iPad-based learning monitoring, activeness monitoring through e-learning and School Incandescent, the use of CCTV, class visits, routine briefings every Monday, and periodic feedback. The monitoring data is stored in the school driver's license as digital surveillance data so that control shifts from conventional patterns to data-based supervision that builds transparency and accountability. These findings strengthen the supervisory function as a process of ensuring implementation according to planning (Siagian, 2016a) and affirm that technological adaptation supports the managerial work of school principals to be more accountable (Tahir et al., 2023). On the other hand, at Bina Jaya Banguntapan Junior High School, academic supervision is rarely carried out and supervision from the foundation is only about once a year, so that there are symptoms of teachers stopping teaching, mental fatigue, and decreased work morale. This condition emphasizes the importance of strengthening leadership quality as a climate dimension which is manifested through a willingness to listen, facilitate the needs of teachers, and protect subordinates (Zamzam & Yustini, 2021).

5. Climate Evaluation

Climate evaluation at SMP Negeri 4 Pakem is carried out through participatory work meetings that are scheduled regularly every three months by utilizing digital data from school driver's licenses as evidence-based evaluation instruments. The meeting not only assesses the achievement of the program, but also serves as a means of joint reflection to identify obstacles and prepare follow-ups, in line with the placement of evaluation as a management function to measure the achievement of goals and become the basis for decision-making for sustainable improvement (Siagian, 2016a). Teacher involvement in this forum encourages collaborative behavior and strengthens trust in leadership, just as individual and group behavior is influenced by social interaction, leadership, communication, motivation, and participation (Banjarnahor et al., 2022). On the other hand, at Bina Jaya Banguntapan Junior High School, the schedule of the evaluation meeting is not known for sure and its implementation is not in line with the RKT document that has been determined, so the principal's managerial abilities in the aspects of supervision, coordination, and follow-up still need to be improved. The comparison of the five management functions in the two schools is presented in Table 3, while the flow of management findings is visualized in Figure 2.

Table 3. Cross-Site Analysis of the Five Functions of Organizational Climate Management in the Digital Age

No	Management Functions	SMP Negeri 4 Pakem	Bina Jaya Banguntapan Junior High School
1	Planning	Two-day participatory work meeting; decisions are outlined in the RKT and KOSP, which are stored in the school's integrated cloud-based SIM (School Management Information System).	Work meetings were held, but teacher attendance was limited; meeting minutes were only shared via WhatsApp group.
2	Organizing	Asset-based task allocation; schedules are prepared in Excel and updated weekly, then uploaded to the school's SIM.	Teachers proposed preferred teaching days; assignments were not evenly distributed due to limited human resources.
3	Implementation	iPad-assisted learning, digital platforms, Gemini AI training, learning communities, and team building.	Conventional face-to-face learning was based on worksheets (LKS); teacher discipline still needs improvement.
4	Supervision	Scheduled academic supervision, e-learning monitoring, CCTV, and regular briefings; data is stored as digital supervision data.	Academic supervision was rare; foundation oversight occurred approximately once a year.
5	Evaluation	Quarterly-based evaluation meetings are held based on digital data from the school's SIM.	Evaluation meeting schedules were uncertain and not aligned with the RKT document.

**Figure 2.** Flow of Findings on Organizational Climate Management in the Digital Era for Teachers

D. Supporting Factors for Organizational Climate Management in the Digital Era

The results of the study identified three supporting factors at SMP Negeri 4 Pakem. First, strengthening teachers' digital literacy competencies through internal training, in-house training outside schools, digital literacy podcasts, learning communities, and independent learning, all of which are stored in school digital storage so that they can be learned by other teachers. These findings reinforce the view that teacher capacity development through training and learning communities strengthened by school programs form learning organizations (Tahir et al., 2023). Second, the transformational leadership of school

principals that does not stop at direction and motivation, but provides digital infrastructure in the form of adequate capacity cloud storage as a result of partnerships with universities to strengthen school internet connectivity (Avtalion et al., 2025; Gemnafle et al., 2018). Third, the role of institutions through moving class and zero zonk innovations that eliminate empty hours and optimize the use of digitally equipped spaces. At Bina Jaya Banguntapan Junior High School, the supporting factors identified are collaboration between teachers through the learning community that can still be improved (Astuti et al., 2023), communication between principals through WhatsApp groups that need to be restructured so as not to replace direct communication (Ramadhan, Karwanto., 2020), and the role of foundations that are still limited in budget. A summary of the supporting factors and constraints is presented in Table 4.

Table 4. Supporting Factors and Constraints of Managing Organizational Climate in the Digital Era

School	Supporting Factors	Obstacles	Solutions/Recommendations
Public Middle School 4 Pakem	Continuous strengthening of digital literacy; transformational leadership that provides digital infrastructure; moving class innovation and zero-disability programs	Workload increases, but is not perceived as an obstacle	Time management and work prioritization; strengthening a growth mindset
Bina Jaya Banguntapan Middle School	Collaboration between teachers through learning communities; communication through WhatsApp foundation support	Limited coordination time; lack of competent teachers; facilities do not meet standards; unequal distribution of tasks; student discipline issues	Adaptation of a simple website-based MIS; restructuring principal communications; leadership and digital literacy training

At SMP Negeri 4 Pakem, no significant obstacles were found. The high workload due to the demands of the digital work environment is not perceived by teachers as an obstacle, but as a consequence of the responsibility that is carried out in totality because teachers have formed a mindset of growing, independent learning, and collaborating in the learning community (Tahir et al., 2023). The solutions taken by teachers are in the form of time management and the determination of work priority scales that are consistently reminded by the principal. On the other hand, at Bina Jaya Banguntapan Junior High School, five obstacles were found, namely limited face-to-face coordination time, lack of competent teachers, facilities and infrastructure that have not met minimum service standards, uneven division of tasks, and the issue of discipline of students' character. This condition confirms that the effectiveness of organizational climate management needs to be improved through participatory work collaboration (Veziroglu-Celik & Yildiz, 2018).

Discussion

Cross-site analysis shows that the main difference between the two schools does not lie in the presence or absence of a management function, but in the availability of integrated

digital data as a basis for decision-making in each function. SMP Negeri 4 Pakem performs all five functions on top of cloud-based storage support integrated with the school SIM, while SMP Bina Jaya Banguntapan performs the same function with separate archives and documents that have not been digitized. These findings reinforce and build on previous studies: while previous research placed digital infrastructure as a climate dimension (Avtalion et al., 2024) and highlighted the impact of digital climate on employee well-being (Avtalion et al., 2025), this study shows that such infrastructure only has an impact when it is attached to all five management functions and accompanied by a willingness to learn together among peers. The findings on organizing also fill gaps in previous research that highlighted the role of principals and school climate on teacher discipline without linking it to digital data support (Astuti et al., 2023), while findings on supervision show a shift from administrative supervision to data-based supervision that is used as a reference for improvement (Aimang & Rahman, 2019).

The practical implications of this comparison are quite clear. Schools with limited resources do not have to wait for the availability of expensive devices to improve their work climate, because the steps that have proven effective at SMP Negeri 4 Pakem rely on simple instruments, namely data processing with Microsoft Excel, cloud-based document storage, and website-based SIM managed by the school's internal team. What makes the difference is precisely the consistency of the principal in making the data a reference for each management function and his openness to build two-way communication with teachers. Thus, the novelty of this research lies in strengthening the management theory based on five functions combined with the digital organizational climate theory, as well as in the formulation that the success of managing the organizational climate in the digital era is determined by the adaptation of a simple website-based SIM and the restructuring of the principal's communication in creating a conducive and adaptive organizational climate in a sustainable manner.

CONCLUSION

The management of teachers' organizational climate in the digital era at SMP Negeri 4 Pakem and SMP Bina Jaya Banguntapan can be improved by providing cloud-based digital document storage facilities integrated with school management information systems (MIS). Schools can implement simple web-based systems that enable teachers to store and retrieve documents efficiently and upload reports on teacher and student activities. These systems can support the five management functions: planning, organizing, implementing, supervising, and evaluating. Furthermore, the availability of digital document storage facilities, the development of a learning organization, and principals' transformational leadership are essential factors supporting effective organizational climate management in the digital era.

REFERENCES

- Abubakar, R. (2021). *Pengantar Metodologi Penelitian*. SUKA-Press UIN Sunan Kalijaga.
- Aimang, H., & Rahman, W. (2019). Pengaruh Kepemimpinan Kepala Sekolah dan Iklim Organisasi terhadap Kepuasan Kerja Guru di SMP Negeri 1 Toili. *Jurnal Akuntabilitas Manajemen Pendidikan*, 7(2), 233–244.
- Argadinata, H. (2022). Corrective Culture and Organizational Climate as Determiners of Teachers Motivation in Schools. *Internasional Research-Based Education Journal*, 4(1), 43–55.
- Astuti, D., Yuliejantiningasih, Y., & Miyono, N. (2023). Pengaruh Peran Kepala Sekolah dan Iklim Sekolah terhadap Disiplin Kerja Guru Sekolah Menengah Pertama Sekecamatan Susukan. *Jurnal Inovasi Pembelajaran Di Sekolah*, 4, 289–296. <https://doi.org/10.51874/jips.v4i2.115>
- Avtalion, Z., Aviv, I., Hadar, I., Luria, G., & Bar-Gil, O. (2024). Digital Infrastructure as a New Organizational Digital Climate Dimension. *Applied Sciences*, 14, 8592. <https://doi.org/10.3390/app14198592>
- Avtalion, Z., Aviv, I., Hadar, I., Luria, G., & Bar-Gil, O. (2025). The Impact of Digital Climate on Employee Wellbeing in the Digital Transformation Era. *IEEE Access*, 13, 78992–79006. <https://doi.org/10.1109/ACCESS.2025.3566211>
- Banjarnahor, A., Handiman, U., Samosir, K., Purba, B., Siagian, V., Gandasari, D., Army, W., Sihotang, J., Nugroho, A., Hasan, M., Kafrawi, A., Rahman, E., B, A., & Djufri, I. (2022). *Transformasi Digital dan Perilaku Organisasi (M. J. F. Sirait & J. Simarmata (eds.); Pertama, Issue November)*. Yayasan Kita Menulis.
- Canli, S., & Ozdemir, Y. (2022). *The Impact of Organizational Climate on Organizational Creativity in Educational Institutions*. <https://digitalcommons.nl.edu/ie/vol14/iss1/6>
- Celik, M., & Yildiz, T. G. (2018). Organizational Climate in Early Childhood Education. *Journal of Education and Training Studies*, 6(12), 88–96. <https://doi.org/10.11114/jets.v6i12.3698>
- Deer, C. E. (2015). Measuring Organizational Climate In Secondary Schools. *The Australian Journal of Education*, 24(1), 26–43.
- Dellar, G. B. (1999). *School climate, school improvement and site- based management*.
- Elbadiansyah. (2023). *Pengantar Manajemen*. Deepublish.
- Gede, W., & Bratha, E. (2022). *LITERATURE REVIEW KOMPONEN SISTEM INFORMASI MANAJEMEN: SOFTWARE, DATABASE DAN BRAINWARE*.
- Gemnafle, M., Waimuri, S. P., & Batlolona, J. R. (2018). Organizational Climate of the School and Teacher Performance Improvement in the 21st Century. *International Journal of Science and Research*, 7, 119–126. <https://doi.org/10.21275/ART20179865>
- Gunawan, I. (2017). *Metode Penelitian Kualitatif: Teori dan Praktik*. PT Bumi Aksara.
- Haryani, E. (2017). Pengaruh Iklim Organisasi Sekolah dan Kepemimpinan Kepala Sekolah terhadap Manajemen Pembelajaran untuk Mewujudkan Kinerja Guru. *Jurnal Pendidikan Universitas Garut*, 11(1), 77–87.
- Hoy, W. K., Hoffman, J., Sabo, D., & Bliss, J. (1996). The organizational climate of the Middle Schools: The development and test of the OCDQ-RM. *Journal of Educational Administration*, 34, 41–59. <https://doi.org/10.1108/09578239610107156>
- Huberman, A., Saldana, J., & Miles, M. B. (2020). *Qualitative Data Analysis: A Methods Sourcebook (4th ed, p. 341)*. Sage. <https://www.metodos.work/wp-content/uploads/2024/01/Qualitative-Data-Analysis.pdf>
- Pashiardis, G. (2000). School climate in elementary and secondary schools: views of Cypriot principals and teachers. *International Journal of Educational Management*, 14(5), 224–237. <https://doi.org/10.1108/09513540010373162>

- Punia, P., & Bala, M. (2023). The Impact of Organizational Climate on Teacher Enthusiasm: A Two-Staged Structural Equation Modelling-Artificial Neural Network Approach. *Open Education Studies*, 5, 1–16. <https://doi.org/10.1515/edu-2022-0195>
- Ramadhan, Karwanto., R. F. (2020). Membangun iklim organisasi sekolah melalui peran kepala sekolah dalam upaya meningkatkan kinerja guru. *Syntax Idea*, 3(4), 867.
- Richset Riwu Kore, J., Zamzam, F., & Ora, H. F. (2022). *Iklim Organisasi Pada Manajemen SDM*. Deepublish.
- Roesminingsih, M., Nusantara, W., Prisma, I. P. E., & Widyaswari, M. (2023). Analysis of School Climate in the Unesa School Lab. *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan*, 9, 17–26. <https://doi.org/10.32678/tarbawi.v9i01.7051>
- Roosinda, F., Aziz, I., Suntiksno, D., Anisah, H., Utama, A. A. G., & Lestari, N. S. (2021). *Metode Penelitian Kualitatif (D. U. Suntiksno, Ratnadewi, & I. Aziz (eds.); Ed.1)*. Zahir Publishing.
- Roviana, S., Haryati, T., & Yuliejantiningih, Y. (2023). TERHADAP MOTIVASI KERJA GURU SEKOLAH MENENGAH. *Jurnal Manajemen Pendidikan*, 12(3), 348–359.
- Siagian, S. P. (2016a). *Filsafat Administrasi*. PT Bumi Aksara.
- Siagian, S. P. (2016b). *Sistem Informasi Manajemen*. PT Bumi Aksara.
- Siregar, C., & Hendarman, A. F. (2023). Increasing Employee Performance through Digital Culture, Compensation, Career Development and Employee Resilience in PT. Janji Mulya Executive Learning. *International Journal of Current Science Research and Review*, 06(01), 821–832. <https://doi.org/10.47191/ijcsrr/v6-i1-88>
- Sugiyono. (2015). *Metode Penelitian dan Pengembangan Pendekatan Kualitatif, Kuantitatif, dan R&D*. Alfabeta.
- Sugiyono. (2023). *Metode Penelitian Studi Kasus*. Alfabeta.
- Susiani, I. W. (2022). *Implementasi Kurikulum Merdeka di SMP Darur Rohmah Gandu Mlarak Ponorogo*.
- Tahir, R., Iswahyudi, M., Leuwol, F., Terimajaya, I., Liklikwatil, N., Hayati, N., Muhyi, H., Purnomo, M., Aulia, D., Riana, N., Afyah, S., Hermanto, B., Burin, S. N., Salong, A., & Raharja, S. J. (2023). *Perilaku Organisasi (Teori & Praktik) (Sepriano & Efitra (eds.); 1st ed.)*.
- Trenerry, B., Chng, S., Wang, Y., Suhaila, Z. S., Lim, S. S., Lu, H. Y., & Oh, P. H. (2021). Preparing Workplaces for Digital Transformation: An Integrative Review and Framework of Multi-Level Factors. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.620766>
- Ullrich, A., Reißig, M., Niehoff, S., & Beier, G. (2023). Employee involvement and participation in digital transformation: a combined analysis of literature and practitioners' expertise. *Journal of Organizational Change Management*, 36, 29–48. <https://doi.org/10.1108/JOCM-10-2022-0302>
- Veziroglu-Celik, M., & Yildiz, T. G. (2018). Organizational Climate in Early Childhood Education. *Journal of Education and Training Studies*, 6, 88–96. <https://doi.org/10.11114/jets.v6i12.3698>
- Wujarso, R. (2024). *Perilaku Organisasi: Memahami Perilaku Individu, Kelompok dan Organisasi (A. Pranadani & A. Ismail (eds.); 1st ed.)*. PT.ASADEL LIAMSINDO TEKNOLOGI.
- Zamzam, F., & Yustini, T. (2021). *Iklim Organisasi Era Digital*. Deepublish.