Education Management Strategies to Face Challenges and Opportunities in The Digital Age

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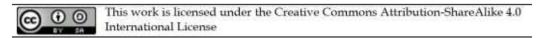
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ABSTRACT

The Digital Age brings many changes to the function of education, one of which is the leadership and role of the principal six who must adapt to the needs of the new era. The purpose of this research is to find out the principal's leadership style in facing the Fourth Digital Era from an educational management perspective. This research adopts a phenomenological perspective and qualitative research methodology. data collection procedures include observation, interviews, and research notes. In one of the private schools in Surabaya, the research informants consisted of 6 principals and 1 supervisor. The research findings show that a democratic leadership style is adaptive to change and principals need to develop new knowledge and skills in the era of the fourth industrial revolution, particularly in the areas of technology use and entrepreneurship.

Keywords: Mangement Strategy, Digital Age, Principal, Education.

INTRODUCTION

Changes in social life and technology in the digital era have an impact on various aspects of human life, including education. The increasing use of technology in education provides various opportunities to enrich learning methods but also presents various challenges that must be faced by decision-makers in education management. A process that consists of planning, organizing, implementing, and monitoring activities related to the provision of education is called education management (Hitt et al., 2017).

According to UNESCO (2019), digital-era learning emphasizes the use of digital technology to improve access, quality, and relevance of education. This can be done through the development of digital learning resources, such as e-learning platforms, learning videos, and mobile applications. The development of digital learning resources has become increasingly important in today's digital era. Educators and educational institutions around the world continue to develop a wide range of digital learning resources to enhance students' learning experience. This concept encompasses the use of digital technology in teaching and learning that enables students to learn anywhere and at any time. The concept of blended learning with online learning has a huge impact on the development of digital learning resources (Grosseck & Holotescu, 2016).

In facing the challenges and opportunities of the digital era, the role of education management strategies is crucial. Education management strategies are needed to manage and utilize technology effectively in supporting the learning process and the development of education personnel. Education management is a process carried out to ensure the

implementation of educational activities properly, effectively, and efficiently. The main objective of education management is to achieve optimal education quality to achieve the desired educational goals. In this case, education management also aims to maximize the use of available educational resources and create a conducive learning environment. This includes aspects such as curriculum development, improving the quality of teaching, and using technology in learning in an educational setting (Bridges, 1988).

Educational institutions have a very important role in generating quality national education and being able to compete in this increasingly modern era. If an educational institution is advanced, education in Indonesia will also advance. In this case, it will never be separated from the role of a school principal. Principals as priests, leaders, and stakeholders in schools. School principals must perform their functions as well as possible because they are the driving force of educational institutions. A principal's leadership style can have a positive or negative impact on an institution or organization.

The principal also wants a good education. Therefore, the principal must also pay attention to human resources in the organization. Within the framework of the Indonesian state, improving the quality of education is a development goal in the field of national education and an important component of initiatives to improve the standard of living of the Indonesian people nationally. The principal has the most important role in the school system. In addition to acting as the principal, the principal is also in control of all activities conducted there. The demands on the principal to lead the entire school community, teachers, and staff are quite high. To respond to the challenges of the digital era, the role of the principal as a school leader and manager is very important, so the principal must be smart and entrepreneurial to build networks and partnerships with various stakeholders, including school committees, Business and Industry (DUDI), and Non-Governmental Organizations (NGOs).

Teachers must also begin to modernize the education system to incorporate 21st-century learning models, moving away from conventional/traditional models. Given that the students they have to deal with today are a digital generation that is very dependent on technology, today's educators must become digital-era educators.

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In the digital age, the biggest challenge faced by educational institutions and society at large is the rapid and constant changes in technology and information. Some of the biggest challenges faced are Lack of access to technology and digital resources Many students and teachers do not have access to the technological equipment and infrastructure needed for effective learning and teaching in the digital age. Learning paradigm shift Learning in the digital era requires different learning paradigms and methods than those used in the past. Teachers need to learn how to integrate technology and digital resources into their

curriculum and teaching methods. The digital divide: The digital divide occurs when some students and groups in society have greater access to and skills in using digital technologies and resources than others. This can lead to inequalities in the quality of education and opportunities for different students. School principals are expected to be innovative and have bright ideas to be able to understand the opportunities that occurred during the Industrial Revolution so that they can present the right solution for school principals facing the Industrial Revolution era. The leadership difficulties faced by school leaders in the era of the Industrial Revolution are expected to lead to the development of effective solutions that will help them fulfill their responsibilities in the era of the Fourth Industrial Revolution and 21st-century learning.

The purpose of this research is to find out how well management strategies are applied and the caliber of learning activities to face challenges and opportunities for students, teachers, and principals in the digital era, departing from the introduction of the research and for the realization of conversations by expectations.

MATERIALS

2.1 Education Challenges in the Digital Age

According to Wati (2019), the challenges of education in the digital era are related to changes in the learning paradigm that require teachers and students to acquire new skills and abilities in managing abundant and complex information. This requires support and development of digital competencies for teachers and students to be able to optimally utilize technology in the learning process. The challenges of education in the digital age are related to limited access and technological infrastructure in remote or developing areas. This leads to a digital divide that exacerbates the education gap between urban and rural areas and complicates efforts to apply technology in learning (Jaidi et al., 2021).

Meanwhile, according to Ardiansyah et al (2021), the challenges of education in the digital era are related to changes in the learning paradigm that require teachers to have higher digital skills and competencies to integrate technology into the learning process. In addition, the role of teachers is also expected to be more dominant in guiding students in managing increasingly complex information and social media.

It can be concluded that the challenges of education in the digital era include the digital divide, student data management, and a shift in the learning paradigm that requires higher digital skills and competencies for teachers and students. To address these challenges, efforts are needed to improve access and technology infrastructure, protect students' data, and provide support and digital competency development for teachers and students.

The implementation of technology in education management can bring many benefits, such as improved accessibility, efficiency, learning quality, and collaboration. Education in the digital era offers many opportunities that can be used to improve the quality of learning. However, challenges in terms of the digital divide, lack of digital skills, and student data protection must be addressed to ensure that the benefits of technology can be felt across the board. Therefore, a concerted effort from all parties is needed to improve access and technology infrastructure, provide support and digital competency development for teachers and students, and properly protect students' data.

2.2 Digital Literacy

Digital Literacy as Technology and Information Skills: Digital literacy is the ability to use Information and Communication Technology (ICT) effectively, efficiently, and safely. According to Martin (2017), digital literacy includes knowledge about technology, the ability to use software and hardware, and the ability to evaluate information found on the internet. According to Cheung (2019), digital literacy includes the ability to solve problems, think critically, produce digital content, and collaborate and communicate effectively through technology. Digital Literacy as an Understanding of Digital Culture: Digital literacy also includes an understanding of digital culture and ethics in using technology. According to Martin (2018), digital literacy includes an understanding of copyright, privacy, and security in internet use.

Technology-based learning (PBT) is a learning process that uses ICT to facilitate or enhance the teaching-learning process. Technology-based learning includes all forms of technology that are used to support, enhance or transform the learning experience and actively engage students in the learning process" (Roblyer & Doering, 2012).

The advantages of PBT are 1) Interactive and multimedia: Learning materials can be presented using various media, such as video, audio, and animation, which makes the learning process more interesting and interactive; 2) Fast feedback: Teachers or learning systems can provide quick and accurate feedback to students on their achievements and progress in learning; and 3) Learning consistency: Learning materials can be presented in a consistent and structured way, making it easier for students to understand and remember the information learned. In implementing PBT, it is important to consider these challenges and provide solutions to overcome any problems that may occur. In addition, PBT should be used wisely and should be integrated with traditional learning for maximum benefit.

Education data management has data collection and storage this section covers all aspects related to education data collection such as surveys, school administration data, and student data. In addition, it also includes data storage and archive management of educational data (Hammer, 2015). To facilitate parents' collaboration and involvement in their children's education, schools and teachers can organize events and activities that involve parents, such as parent-teacher meetings, collaborative projects, and family activities. By actively involving parents in children's education, we can help ensure children's success at school and in their lives.

2.3 Implementation of Education Management Strategies in Schools

Some effective education management strategies according to Stone (2019) include: 1) Planning: This involves developing a vision, mission, goals, and strategies to achieve educational objectives. Planning should include the effective use of resources, as well as short-term and long-term planning to achieve the set goals; 2) Organizing: Organizing includes setting tasks and responsibilities, coordination and collaboration between individuals and departments, and setting up an efficient and effective organizational structure; 3) Implementation: Implementation of educational management strategies, such as curriculum development, use of technology, development of staff and teaching personnel, and development of student development programs; 4) Evaluation: Evaluation is conducted to assess the effectiveness and efficiency of the education management strategies that have been implemented. It also helps to determine the need for improvement and change in the future; and 5) Leadership: Effective leadership is key to the success of

education management strategies. Good leadership includes the ability to motivate, inspire, and lead the team, as well as making the right decisions and directing the direction of the education strategy.

Effective implementation of education management strategies will help improve the effectiveness and efficiency of education management, improve student learning outcomes, and achieve the stated educational goals. The implementation of education management strategies is a complex process and involves many parties. The following is Harris & Jones (2018) opinion on the steps of implementing education management strategies: 1) Prepare an Implementation Team Before implementing the strategy, it is necessary to prepare an implementation team that is competent and has the ability to carry out the strategy; 2) Developing a Work Plan A detailed and complete work plan should be developed, including strategy objectives, implementation steps, responsibilities, timeframes, resources and evaluation; 3) Identifying Barriers and Risks Before implementation, education management should identify barriers and risks that may occur during the implementation process, so that necessary control and corrective actions can be taken; 4) Communicating the Strategy Education management should communicate the strategy to be implemented to all relevant parties, such as staff, students and parents, to minimize uncertainty and increase support for the strategy; 5) Conduct Training and Upskilling Training and upskilling are necessary for staff and teachers involved in strategy implementation so that they can be prepared for challenges and obstacles that may occur during the implementation process; and 6) Conduct Evaluation and Adjustment Evaluation is conducted to evaluate the effectiveness of the strategy and find out whether the strategy has achieved its objectives. If necessary, education management can make adjustments to improve the effectiveness of the strategy in the future.

Journal: "Implementation of Educational Management at Elementary Schools in Indonesia: Challenges and Strategies" (Jhon et al., 2021) According to this journal, the challenges of implementing educational management strategies in primary schools in Indonesia include: 1) Lack of understanding of education management among principals and teachers, resulting in a lack of awareness in implementing appropriate education management strategies; 2) Limited human and financial resources that can affect the implementation of education management strategies; 3) The lack of commitment from all relevant parties, including principals, teachers, parents, and communities, in implementing the education management strategies that have been developed; and 4) Teachers and principals lack the skills and knowledge to develop innovative and effective education management strategies.

Common challenges in implementing education management strategies in primary schools that are also mentioned in the bibliography include 1) Lack of effective communication between principals, teachers, parents, and the community in implementing the education management strategy; 2) Lack of active involvement from parents and the community in supporting the education management strategies that have been developed; 3) The absence of skills and knowledge development for teachers and principals on innovative and effective education management strategies; and 4) The absence of adequate support and resources from the government to implement the education management strategies. Facing the challenges of implementing education management strategies in primary schools requires a strong commitment from all relevant parties and the development of skills and knowledge in teachers and principals to implement effective and

innovative education management strategies. In addition, adequate support and resources from the government are also crucial to effectively implement education management strategies in primary schools.

Education Management Strategies to Face Challenges and Opportunities in the Digital Age will be the main topic of discussion in this research. So that researchers can claim that the author or previous researchers have never discussed the title. This section should be described concisely and clearly to allow experiments to be repeated. For commonly used methods, a simple reference is sufficient. Avoid references that are not readily accessible.

FINDINGS

According to the research findings, there are many different leadership philosophies that principals may use depending on who they are and how they lead their organizations. The principal has a very autocratic attitude towards his employees. The following is a transcript of an interview with the interviewee: "My leadership is very firm because if teachers are not given firmness then they will not be disciplined, all teachers obey my orders as principal, and it is proven that the work is done well" (Interview with SV, on March 02, 2023). The results of the interview quotes show that the interviewee's leadership is characterized by an authoritarian leadership style. The autocratic principal's leadership stance often involves the use of force. Karl Marx's conflict theory can be used to study authoritarian leadership because it shows how sensitive conflict is due to holding total power. Authoritarian school administrators are very strong in their leadership, and they strictly monitor the output of their staff members. Authoritarian principals do not provide a platform for other teachers, employees, and students to voice their thoughts, excluding them from decision-making. Ultimately, this can exacerbate existing problems in the school, such as inappropriate policies not being addressed, individuals being disadvantaged or discriminated against, and the possibility of financial corruption due to the principal's enormous influence.

Charismatic leadership style is defined by the personality of a unique leader who has authority and attractiveness so that his subordinates obey him, a leader who has strong power and is respected by his subordinates, and a charismatic leader who can influence his subordinates through his leadership style. According to research, charismatic leadership style is rare because not just anyone can have it. A leader with a paternal leadership style cares, pays attention, and supports his team members. Since a paternalistic leader will always view his followers as immature, this fatherly school principal always wants to be listened to and well-informed, thus rarely allowing his staff members to make adjustments, innovations, or creations. The various leadership must be adapted to the demands of today's society. Ideal leadership comes from the competencies possessed by the principal in leading his/her school. The competencies of school principals have been stipulated in the Regulation of the Minister of National Education No. 13/2007 on School Principal Standards, that school principals have competencies, namely: personality, supervision, managerial, entrepreneurial, and social competencies.

Based on the research findings, some personality competencies that are considered important for principals according to Hoy & Miskel (2013) include: 1) Principals must

have the ability to lead and manage the organization, provide direction, motivate, and inspire students and teachers; 2) Principals must have the ability to communicate well, both orally and in writing, in order to build good relationships with students, teachers, and parents; 3) Principals must have the ability to make the right decisions based on available data and information, so as to manage the organization effectively; 4) Principals must have the ability to manage and resolve conflicts that occur within the organization, so as to create an environment conducive to learning and working; 5) Principals must have the ability to adapt to change and be open to change and innovation in education, so as to lead the organization successfully in the midst of change; 6) Ethics and Integrity: Principals should have strong ethical values and integrity, so as to set a good example and build trust from students, teachers and parents; and 7) Principals must have the ability to work with relevant stakeholders, including teachers, parents, communities and government agencies, to achieve organizational goals together.

For teachers and students to be creative and innovative in the classroom during the fourth industrial revolution, school managers must have entrepreneurial skills. The researchers found that there is very little emphasis on entrepreneurship in schools, according to their informant interview transcripts. Since students generally come from poor economic backgrounds, it is difficult to operate an entrepreneurial school, so I don't have one in my school. However, I will build a cooperative for the children in the future with an honesty kiosk (Azzahrainterviewed on March 02, 2023)

These quotes show that school managers have not succeeded in fostering an entrepreneurial culture in their institutions. Therefore, assistance from various parties is needed to be able to explore the various potentials of the school. The majority of principals are unsure where to start, lack funds, and struggle to find qualified resources in the entrepreneurship sector. The principals' entrepreneurial skills are expected to be able to build partnerships with Small and Medium Enterprises (SMEs) in the surrounding environment to work together to realize school businesses.

The ability to supervise education in schools is thus linked to the expertise of school principals. According to the findings of an interview with the head supervisor of a private school, 'As a supervisor, I always advise principals to be able to conduct monitoring independently and routinely, to improve the quality of education in schools'. Although supervision is one of the principals' responsibilities, so far principals think that supervision is the responsibility of the supervisor (Interview with interviewee PK, March 09, 2023) To improve the quality of their leadership, principals must develop several necessary skills.

Based on Fitrah's research findings, principals have a very important role in various efforts to improve the quality of education by monitoring and evaluating programs that focus on the vision and mission of the school. Principals also play an important role in ensuring that students receive a quality education. The last skill that principals must possess is social competence, which is demonstrated by the partnership between the principal and the community. The school should be able to engage in social activities and show social concern for its environment.

Research related to the readiness of school principals in the digital era has been conducted by several scholars: Research by Yucel & Goktas (2015) shows that most principals do not have sufficient information and communication technology (ICT) skills. They also do not have sufficient knowledge about the use of ICT in learning and school management. Research by Karsiti et al (2016) found that principals who have good ICT

skills tend to use technology in school management, communication, and decision-making. However, principals who lack ICT skills tend to have difficulties in integrating technology into school activities. Research by Junaidi & Purwanto (2019) showed that most principals have used technology in school management, including data management, communication, and decision-making. However, many of them still struggle to develop effective strategies for using technology in learning.

In conclusion, the results show that many principals still need to improve their skills and knowledge in terms of information and communication technology, especially in integrating technology into learning. However, principals who have good ICT skills tend to be more effective in using technology for school management and decision-making.

According to education management, principals should be agents of change in educational institutions. As a change agent, the principal must have the ability to identify changes that occur in the educational environment and take the necessary actions to ensure that the school can adapt and survive in a changing environment. The principal must be a visionary leader, have the ability to lead the team, and encourage them to adopt the necessary changes. In addition, the principal must be a facilitator in the change process, by developing appropriate strategies and plans to address the changes. The principal should also be able to motivate and encourage teachers and other support staff to engage in the change process and collaborate to achieve common goals. In this case, the principal should be an example to others, showing high commitment and enthusiasm in following the changes and leading the school toward a better future.

In conclusion, as a change agent, the principal must be a visionary leader, a facilitator in the change process, and an example for others to follow the changes and ensure the success of the school in a changing environment. According to the functional structure hypothesis, schools carry out their different obligations and responsibilities according to their respective functions. According to functional structural theory, principles can effectively fulfill their roles. Consequently, principals' functional leadership has an impact on the development of the educational institution they lead and can benefit students and staff, especially teachers. The research findings show that teachers' motivation and performance can be influenced by principals' leadership. Therefore, it is not surprising that the principal's leadership is the cornerstone of educational success. Attending workshops on principals' responsibilities and obligations that can improve the quality of teachers is one way to improve the competence of principals and teachers in the institutions they supervise. In addition, principals can pursue higher education to keep up with the latest information, as well as attend seminars, training sessions, and other supporting activities to hone their leadership skills.

CONCLUSIONS

Along with these adjustments, the principal's leadership style has also changed. Nowadays, democratic leadership, which can involve teachers, students, school committees, guardians, and the community, is more appropriate. Schools must perform their duties well in the study of the sociology of education so that the principal's leadership can advance the educational institutions they lead. Personality, managerial, entrepreneurial,

supervisory, and social skills are needed to be a successful principal. The principal's proficiency in using technology and entrepreneurial ability shows that he/she has the necessary skills to face the Digital Age. school principals try to hone their abilities by continuing to learn, and participating in various trainings, seminars, conferences, and other supportive activities. For school principals to develop into capable leaders, cooperation from various stakeholders, especially policymakers, is needed.

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