

# Leadership Strategies in Optimizing Facilities and Infrastructure to Enhance Education

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**Abstract:** The research aims to identify and analyze effective leadership strategies in optimizing school facilities and infrastructure to improve the quality of education. The research problem raised is the role of leadership in ensuring that existing facilities and infrastructure in schools can be utilized optimally to support a quality learning process. This research uses a literature study (library research), where the object of this research is leadership strategies in optimizing facilities and infrastructure to improve the quality of education. This research uses data collection methods from journals/articles, textbooks, and periodicals. Data analysis is carried out by reading, collecting, quoting, concluding, and interpreting the results obtained. The research results show that effective leadership strategies in optimizing facilities and infrastructure include (mention research findings, for example: careful planning, active participation of all stakeholders, use of information technology, and regular maintenance of facilities). Consistent implementation of these strategies can improve the quality of learning and achieve better educational goals.

**Keywords:** leadership, optimization of facilities and infrastructure, quality of education

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## Introduction

In the midst of this global competition, realized or not, Islamic educational institutions or school systems are required to perform with effective and productive institutional performance. (Azmar et al. 2023) Under these circumstances, all institutions, especially education, are required to be able to create efficiency, prioritize quality, customer satisfaction and take advantage of opportunities quickly in order to compete and survive. The existence of competition is an element that cannot be negotiated anymore. (Noprika, Yusro, and Sagiman 2020) Success in improving the quality of educational institutions is highly dependent on leadership, principals as leaders in their institutions must be able to guide their institutions to achieve predetermined goals. (Diana, Kristiawan, and Wardiah 2021) Because a leader is tasked with managing and mobilising the potential of the

institution optimally to achieve goals. (Mauliddiyah 2021)

Improving the quality of educational institutions needs to be continuously pursued by promoting quality analysis theories and their application in every managerial process. (Hadi et al. 2020) The quality of education is the main aspect that determines the progress of schools in the midst of modern education competition. This quality can only be achieved if the institution has leaders who are able to manage all existing resources. (Rahmawati 2021) Education depends on understanding the enabling factors in schools. Leaders and stakeholders need to analyse them to improve the quality of education. (Amin 2017) Improving the quality of education requires the support of good infrastructure and optimal management strategies to maximise resources. (Nasution and Marpaung 2023) Optimisation means choosing the best way to

manage educational facilities to achieve maximum results with minimum losses.(M. Shobirin 2016)

Improving the quality of educational institutions needs to be continuously pursued by promoting the theory of quality analysis and its application in every managerial process.(Hadi et al. 2020) Because the quality of education is the main aspect that determines the progress of schools in the midst of modern education competition. This quality can only be achieved if the institution has a leader who is able to manage all existing resources.(Rahmawati 2021) Education relies heavily on understanding the enabling factors that exist in schools. Leaders and stakeholders need to analyse them to improve the quality of education.(Amin 2017) Improving the quality of education requires the support of good infrastructure and optimal management strategies to maximise resources.(Nasution and Marpaung 2023) Optimisation means choosing the best way to manage educational facilities in order to achieve maximum results with minimum losses.(M. Shobirin 2016)

The provision of facilities and infrastructure is the equipment and tools that support the continuing education process in the school environment. These include buildings, classrooms, laboratories, tables, chairs and libraries. Serious attention to the availability of facilities and infrastructure contributes to the quality of students.(Nisa et al. 2024) The provision of educational facilities and infrastructure is very important because it greatly affects the smooth running of learning.(Rizky, Karnati, and Supadi 2022) The management of facilities and infrastructure in educational institutions is very important. Adequate facilities support the smooth running of the teaching and learning process and maintain the sustainability of its utilisation in the long term. An effective leader must ensure good management so that resources are optimally utilised to achieve educational goals.

Furthermore, there are several things that make researchers interested in researching the optimisation of facilities and infrastructure in school education institutions, this is because there are still many school education institutions that still have limited facilities and infrastructure such

as not having a yard for extracurricular activities, not having a practical laboratory room, not having a large enough place of worship, not having adequate teaching materials and so on to accommodate all students in carrying out worship or learning related to religion.(Nasution and Marpaung 2023)

With adequate facilities, leaders ensure that resources support the learning process and focus on long-term maintenance. The quality of learning is influenced by the leader's methods, inputs, atmosphere and management.(Fatoni 2017) The author hopes this article can make a new contribution in analysing leadership strategies to optimise facilities and infrastructure to improve the quality of education. The purpose of this study is to investigate these strategies so that they become a source of insight, knowledge and reference for further research.

### **Literature Review**

Good quality education is strongly influenced by the management of adequate facilities and infrastructure. Optimal facilities and infrastructure can create a conducive learning environment and support an effective learning process. Therefore, the role of educational leaders is very important in designing and managing facilities and infrastructure to achieve better educational goals. Leadership in education requires a deep understanding of the management of existing facilities and infrastructure. Educational leaders must have the ability to plan and manage facilities and infrastructure, taking into account the needs of the institution and its potential. Effective leaders must be able to identify and optimise available resources to achieve educational goals.(Supriyono 2016) In research conducted by Hasibuan, it is stated that good leadership in education is not only managing people, but also managing facilities and infrastructure efficiently. Leaders who have a clear vision can create changes in the management of facilities and infrastructure to support the improvement of the quality of education.(Hasibuan 2017)

Optimisation of educational facilities and infrastructure is directly related to the quality of learning. Arikunto explained that good management of facilities and infrastructure will increase the comfort of learning for students and facilitate the teaching and learning process. Effective leaders will be able to design budgets and plan the procurement of facilities appropriately so that the teaching and learning process can take place optimally.(Arikunto 2013) In addition, according to Wibowo, the optimisation of facilities and infrastructure also depends on routine maintenance. Educational leaders must be committed to ensuring that facilities and infrastructure are always in good condition and ready to use, so that they do not hamper the education process.(Wibowo 2016) A good educational leader will ensure that all elements in the educational institution, including facilities and infrastructure, support the achievement of better educational goals. Siahaan asserts that the quality of education is strongly influenced by a comfortable and supportive physical environment, which can only be realised through effective leadership in managing facilities and infrastructure.(Siahaan 2019) Leaders who are able to optimise facilities and infrastructure will create an environment that encourages student engagement, increases teaching effectiveness and ultimately improves the overall quality of education

### **Research Question**

The general questions guiding this research are: 'How is the leadership strategy in optimising facilities and infrastructure to improve the quality of education?

### **Research Purpose**

This study aims to reveal the strategic steps taken by educational leaders, such as school principals or managers of educational institutions, in managing facilities and infrastructure. The aspects studied

include planning facility needs, optimising the utilisation of available facilities, monitoring maintenance, and innovations made in dealing with limited resources. In addition, this study highlights how effective leadership can empower staff and involve related parties to support the efficient utilisation of facilities and infrastructure. Thus, this research is expected to provide insight into the best practices of leadership in improving the quality of education through the optimisation of existing facilities.

### **Role of Reasearchers**

The role of the researcher in this study is to collect, analyse and interpret relevant secondary data to develop an in-depth understanding of leadership strategies in optimising educational facilities and infrastructure. The researcher is responsible for: Literature Collection: Identifying, selecting and collecting reliable literature sources, including scientific journals, reference books, research reports and policy documents related to leadership strategies in education. Analysing Information Analysis: Critically analyse the data obtained from various sources, identifying patterns and deviations from existing knowledge in the relevant literature. Integration of Findings: Compiling and integrating the results of the analysis to provide a comprehensive synthesis of effective leadership practices in optimising educational facilities and infrastructure. In this role, the researcher acts as an intermediary bridging previous research with new in-depth understanding, which can be the basis for developing future leadership strategies.

### **Materials and Methods**

This paper uses a descriptive qualitative method with library research. This approach involves collecting information from scholarly works

relevant to the literature review without additional data manipulation. A combination of descriptive and qualitative approaches was used in this research. The main sources of information are books, journal articles, the internet, and other writings related to the literature review. (Ridwan et al. 2021)

Related to this method: I Made Winarta explains that the analysis of descriptive qualitative methods includes the process of analysing, describing, and summarising various conditions obtained from a collection of information obtained through interviews or direct observations in the field related to research problems. (I Made Wirnatha 2006) While Sugiyono explains descriptive qualitative research as a research method that uses the philosophy of postpositivism as its foundation, which is generally used to conduct research on objective conditions with researchers assigned as key instruments. (Sugiyono 2008)

## **Results and Discussion**

### **Theme 1. The role of leadership in facilities and infrastructure management**

The term leadership in education covers various aspects related to the duties of the leader of an educational institution. Successful leaders are those who understand schools as complex and unique organisations, and are able to perform their role as individuals responsible for leading. (Wahjosumidjo 2008) The main role of a leader is to develop the school into a quality educational institution and be able to achieve educational goals. Leaders are responsible for motivating teachers, students, and administrative personnel to be willing and able to implement the provisions and regulations that apply in schools. (Rohana 2022) The conditions that must be possessed by educational leaders according to Makawimbang include: Humble, simple, helpful, patient and have emotional stability, believe in themselves, honest, fair and trustworthy. (Murniati 2017)

Good educational leadership is very important for the development of educational facilities, because it has a direct impact on the quality of education. Leaders who have clear characteristics

and traits can significantly improve the management of educational infrastructure, so that infrastructure can support the teaching and learning process. Educational facilities in general include all facilities that are directly used and support the educational process, such as: Buildings, classrooms or classrooms, educational tools or media, tables, chairs, and so on. While what is meant by facilities / infrastructure is everything that indirectly supports the course of the educational process, such as: yard, garden or school garden, or the road to school. (Muspawi and Claudia 2018)

The management of educational institutions that include various elements of facilities and infrastructure is the main key in achieving the vision and mission of the institution. In this context, it is necessary to transform facilities and infrastructure to support the increasingly complex needs of the times. Creative, intelligent and wise leaders are essential to motivate their members to improve performance. One of them is by strengthening facilities and infrastructure. The management of educational facilities and infrastructure, known as school administration, aims to support schools in achieving an optimal educational process. This activity includes planning, procurement, use, maintenance, capital investment, and destruction. All aspects of this management need to be carried out optimally by adhering to existing principles and minimum standards. (Pakpahan and Habibah 2021) The management of educational institutions which includes various elements of facilities and infrastructure is the main key in achieving the vision and mission of the institution. In this context, it is necessary to transform facilities and infrastructure to support the needs of an increasingly complex era. Creative, intelligent and wise leaders are essential to motivate their members to improve performance. One of them is by strengthening facilities and infrastructure. The management of educational facilities and infrastructure, known as school administration, aims to support schools in achieving an optimal educational process. This activity includes planning, procurement, use, maintenance, capital investment, and destruction. All aspects of this

management need to be carried out optimally by adhering to existing principles and minimum standards.(Pakpahan and Habibah 2021)

### **Theme 2. The relationship between facilities and infrastructure and the quality of education**

Facilities and infrastructure management is an activity that organises and prepares various equipment or materials to support the implementation of the educational process in schools.(Rohiat 2006) Meanwhile, according to Mulyasa, facilities and infrastructure management is the process of managing and maintaining educational facilities so that they can make an optimal contribution in supporting the educational process. This activity includes planning, procurement, supervision, storage, inventory, removal, and arrangement of facilities.(Mulyasa 2012) Thus, based on the opinions of the two experts, it can be concluded that the management of facilities and infrastructure is an activity of managing educational facilities effectively and efficiently so that the educational process can take place optimally. Furthermore, the relationship between facilities and infrastructure and the quality of education is very important because adequate facilities can affect the effectiveness of the teaching and learning process and support the achievement of educational goals:

**Direct Impact on Learning:** Adequate facilities and infrastructure, such as comfortable classrooms, well-stocked libraries, good laboratories and technology facilities, directly affect the quality of student learning. Students who study in a comfortable, clean and well-equipped environment tend to be more motivated and concentrated, which will have a positive impact on their academic performance.(Chayani and Januardi 2019)

**Support for Teachers in Teaching:** Teachers need adequate facilities in order to teach effectively. For example, audiovisual facilities and interactive technology can help them deliver materials in a more engaging and interactive way. Without the support of good facilities and infrastructure, teachers may experience limitations in providing creative and effective learning.(Suyadi 2020)

**Increase Student Learning Satisfaction and Motivation:** Complete facilities and infrastructure also increase student learning satisfaction. When students have access to facilities that suit their needs, such as science labs, computers or sports equipment, they tend to be more motivated to learn and engage in school activities.(Mulyani 2021)

**Improving academic competence and achievement:** Supporting facilities such as reference-rich libraries, comfortable reading rooms and good internet access can help students develop their academic competence. Research shows that students in schools with good library access and learning facilities tend to have high academic achievement.(Haris 2022)

**Increasing Student Learning Satisfaction and Motivation:** Well-equipped facilities and infrastructure also increase student learning satisfaction. When students have access to facilities that meet their needs, such as science labs, computers or sports equipment, they tend to be more motivated to learn and engage in school activities.(Mulyani 2021)

### **Theme 3. Strategy for optimising facilities and infrastructure**

Optimisation of facilities and infrastructure has a strategic role in supporting the effectiveness and efficiency of various services, both in the education sector, government, and other public institutions. Good management of facilities and infrastructure directly contributes to the quality and convenience of the services provided. Therefore, careful planning, the use of information technology, and the involvement of all stakeholders are the three main pillars in the optimisation strategy. In this context, good planning is the foundation for the procurement and construction of facilities that are in accordance with the needs and available resources.(Kemendikbud 2017)

On the other hand, the application of information technology, such as management information systems, allows the process of monitoring, managing and maintaining infrastructure facilities to be more efficient and transparent. Through this technology, inventory data and facility conditions can be accessed in real-

time, so that their utilisation and maintenance can be carried out more optimally. (Rachman, A, Wulandari 2020) In addition, the involvement of stakeholders, both leaders, staff, and the community, allows the creation of mutual awareness and commitment in maintaining facilities and infrastructure, which ultimately has a positive impact on the sustainability of facilities and infrastructure management. (Permendikbut RI Nomor 24 Tahun 2007) In discussing strategies for optimising facilities and infrastructure, especially in educational or public institutions, there are several important aspects that can be analysed, namely:

Careful planning in the procurement and development of facilities and infrastructure: includes several aspects, such as needs assessment, budget analysis, and long-term planning by considering the lifetime of the facilities. Through comprehensive planning, institutions can identify the main needs so that the procurement of facilities and infrastructure becomes more efficient and in accordance with the available budget. Good planning also includes predicting trends in future needs so that facilities development remains relevant and useful. (Kemendikbud 2017)

Utilisation of Information Technology in Management: Information technology is essential to the management of facilities and infrastructure, such as the utilisation of Management Information Systems (MIS) to maintain facilities, keep up with maintenance, and manage inventory. This technology makes it easier to track the use of facilities and save costs. (Rachman, A, Wulandari 2020) In the education sector, this technology helps integrate facilities such as libraries and laboratories so that their utilisation is more optimal and easily accessible to users.

Involvement of All Stakeholders in the Optimisation Process: In order to optimise facilities and infrastructure, it is important to involve various stakeholders, such as management, staff, students (in the context of education), and the surrounding community. Through their involvement, management can better understand the needs and concerns of facility users, so that the optimisation carried out is more targeted and can meet the real needs of its users. In addition, the

involvement of various stakeholders can also build a sense of shared responsibility for the maintenance and wise use of facilities and infrastructure. (Permendikbut RI Nomor 24 Tahun 2007)

#### **Theme 4. Constraints and Solutions in Optimising Infrastructure Facilities**

In an effort to improve the quality of services, both in educational institutions and other public institutions, the optimisation of facilities and infrastructure is crucial. Adequate facilities and infrastructure not only support operational efficiency, but also have a direct impact on user comfort and productivity. However, the optimisation process is often faced with various complex obstacles, including limited funds, less competent human resources, and policy constraints that are not always supportive. These constraints require strategic solutions that not only address the problems directly, but also create sustainable innovations in the management of facilities and infrastructure. (Permendikbut RI Nomor 24 Tahun 2007)

Therefore, innovative measures such as the utilisation of information technology in the management of facilities and the involvement of local communities are one of the reliable solutions. These efforts not only overcome existing limitations, but also create efficiency in the use of resources, improve service quality, and encourage active participation from all stakeholders. Thus, the main objective of optimising facilities and infrastructure as the main support for creating a conducive and productive environment can be achieved. (Supriyanto 2020) The following is an explanation of the obstacles and solutions in optimising facilities and infrastructure:

Financial constraints: One of the main obstacles in optimising facilities and infrastructure is the limited budget that institutions have. Many institutions experience difficulties in obtaining sufficient funds for the procurement and maintenance of facilities. This budget constraint in many cases results in the low quality of facilities provided and the limited amount of infrastructure that can be accessed by users. (Kemendikbud 2017) To overcome this, a strategy that can be done is to

partner with private parties or non-governmental organisations that can provide financial assistance or donations of facilities and infrastructure.

**Limited Human Resources (HR):** Apart from finance, a common constraint faced is the lack of competent human resources in the management and maintenance of facilities. Inadequate human resources can hinder the optimal management of facilities and infrastructure. The solution to this problem is to increase training and development of human resources, so that they have adequate expertise to manage and maintain facilities. (Rachman, A, Wulandari 2020) In addition, institutions can also adopt automation technology to reduce the workload that requires direct human resource involvement.

**Policies that Hinder:** Sometimes, internal or external regulations or policies become obstacles in optimising facilities and infrastructure. Rigid policies or bureaucratic procedures can hinder the procurement and maintenance of facilities. Therefore, regular policy evaluation and updating is essential to ensure policies remain relevant and flexible in supporting the optimisation of needs. (Permendikbut RI Nomor 24 Tahun 2007)

**Innovative Solutions to Overcome Obstacles:** To overcome various obstacles in optimising facilities and infrastructure, innovative solutions are needed. For example, the use of technology such as cloud-based inventory management applications or the involvement of local communities in facility management can have a significant impact. This approach not only overcomes existing constraints but also improves the efficiency and effectiveness of facility and infrastructure utilisation. (Supriyanto 2020)

## Discussion

This article discusses the importance of leadership strategies in optimising educational facilities and infrastructure to achieve quality improvement. Good leadership plays a major role in ensuring that every component in the school environment can be optimally utilised to support effective and efficient learning processes. Innovative leadership not only focuses on physical facilities, but also pays attention to the development of existing human resources. (Mulyasa 2011) Therefore, to improve the

quality of education, leaders of educational institutions need to pay attention to strategic measures, including the management of facilities and infrastructure, improving the quality of human resources, participatory approaches, and the utilisation of technology in learning.

**Management of Facilities and Infrastructure:** Optimisation of facilities and infrastructure in educational institutions should be based on proper needs analysis. A good leader needs to understand the condition of existing facilities and plan the use of the budget wisely to cover the lack of facilities that play a direct role in learning activities. (Suryosubroto 2004) This can include improvements to classrooms, laboratories, libraries, and sports and arts facilities.

**Improving the Quality of Human Resources:** Developing the quality of teachers and other education personnel is very important in leadership strategies in educational institutions. For example, periodic training for teachers on the use of new technologies and teaching methods will help them make optimal use of the available facilities and infrastructure. (Sutisna 2001) This will directly contribute to improving the quality of learning and student achievement.

**Participatory Approach:** In creating an effective learning environment, leaders need to involve all components of the school in planning and decision-making. According to Wahjosumidjo, a participatory approach allows leaders to obtain input from various parties, so that the strategies taken are more comprehensive and acceptable to all parties. (Wahjosumidjo 2008)

**Utilisation of Technology for Learning:** Education leaders need to support the use of technology in learning to improve the quality of education. Facilities such as computer labs, the internet and projectors can help students access more information and engaging learning experiences. (Uno 2010) Leaders should also encourage teachers to integrate technology into their teaching methods.

## Conclusions

Effective leadership plays an important role in optimising facilities and infrastructure to improve the quality of education. School principals as leaders must be able to plan, manage and maintain facilities by involving technology and the participation of all stakeholders. Adequate educational facilities, such as classrooms, laboratories and libraries, greatly affect the quality of the learning process and students' learning motivation, as well as supporting teachers in teaching effectively. Constraints such as limited funding and competent human resources are often encountered, but can be overcome through innovative strategies such as partnerships and the utilisation of information-based technology. Optimising facilities and infrastructure through comprehensive and innovative leadership strategies will encourage the creation of a high quality and competitive educational environment.

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