



Leadership Management at the Semarang City Maritime School: Challenges and Strategies

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ARTICLE INFO

Article history:

Received 20 Oct 2024;
in revised from 15 Nov 2024;
accepted 16 Mar 2025.

Keywords:

Leadership Management, Maritime School, Maritime Education, Leadership Strategy.

ABSTRACT

This article discusses the importance of leadership management in the management of maritime schools in Semarang City. Maritime schools play a very important role in preparing competent human resources in the maritime sector, which is one of the strategic industries in Indonesia. Effective leadership management in maritime schools will determine the quality of education provided as well as prepare graduates to face global challenges. This article aims to identify the key challenges faced in the leadership management of maritime schools and provide various strategies to improve the quality of leadership in these schools. This study aims to analyze and evaluate leadership management in maritime schools in Semarang City. As an educational institution that aims to produce a quality workforce in the maritime industry, the leadership role in these schools is very important to determine the quality of graduates produced. This study uses a qualitative method with a case study approach, data is obtained through in-depth interviews with school principals, teachers, and administrative staff, as well as field observations and document analysis. The results of the study show that most maritime schools in Semarang apply a transformational leadership style, where the principal plays the role of an agent of change that encourages innovation and improves the competence of educators and students. This leadership style contributes positively to the quality of learning, especially in responding to the demands of modern technology in the maritime sector. However, this study also found challenges in the management of maritime schools, especially related to budget limitations for the development of educational facilities and teacher professionalism. Facilities such as navigation simulators, laboratories, as well as outdated safety equipment, are major obstacles in ensuring the relevance of education to international standards. In addition, collaboration with the maritime industry is still limited and sporadic, resulting in a gap between the skills taught in schools and the needs of the industry. Several schools that have collaborated with industry through internship and training programs have shown better results in terms of graduate job readiness. The study also shows that schools with more innovative and collaborative leadership tend to have better performance, both in terms of student academic achievement and teaching quality. Based on these findings, the researcher recommends several strategic steps to improve leadership management in maritime schools, including increased budget support, strengthening cooperation with industry, adoption of competency-based assessment systems, and further development in the use of educational technology. With the implementation of these strategies, it is hoped that maritime schools will be more prepared to produce competent graduates and be ready to face the challenges of the increasingly competitive global maritime industry.

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1. Introduction.

Indonesia as an archipelagic country has great potential in the maritime sector (Zainul Aziz & Putri, 2024). The city of Semarang has several maritime schools to produce a competent workforce in the maritime sector. However, the quality of graduates is highly dependent on leadership management in those schools (Nindie, 2022). Effective leadership can help in improving the quality of education, implementing a competency-based curriculum, and creating a conducive learning environment (Abigael & Mang'ana Robert, 2024).

Indonesia as the largest archipelagic country in the world has more than 17,000 islands and about 81,000 km of coastline (Benyamin Ginting et al., 2024). The great potential of the maritime sector in supporting the national economy makes this field one of the main pillars of development. The maritime sector covers various fields, ranging from fisheries, sea transportation, and logistics, to marine tourism, which requires a competent and professional workforce. In this context, maritime education is a key factor in producing human resources that can meet the needs of the industry.

The city of Semarang, as one of the major port cities in Indonesia, has long been an important center in the maritime industry. Its strategic location on the north coast of Java Island makes it a logistics and sea transportation hub that connects the western and eastern regions of Indonesia. To support the development of the maritime sector, several educational institutions in Semarang have opened educational programs that focus on the maritime sector, both at the secondary and university levels (Agus Aji Samekto et al., 2023). Maritime schools in the city of Semarang play an important role in producing graduates who are competent to fill various positions in the maritime industry, ranging from shipping officers, and ship technicians, to logistics managers.

However, although maritime education in Semarang has great potential, various challenges affect the quality and effectiveness of maritime education institutions in this city. One of the biggest challenges is leadership management in these maritime schools. Effective leadership is essential to ensure that the curriculum taught is relevant to the needs of the industry, that the teaching staff is adequately competent, and that educational facilities such as laboratories and navigation simulators are always updated in line with technological developments.

Leadership in educational institutions, particularly in maritime schools, is not only about administration but also includes the ability to provide a clear vision and motivate all components of the school to achieve high standards of educational quality (Serin & Akkaya, 2020). Principals and managers of educational institutions must be able to steer change, anticipate the challenges of globalization, and ensure that maritime school graduates are ready to compete in the global job market. In this context, the application of various leadership theories such as transformational leadership and distributed leadership becomes relevant. Transformational leadership is expected to help principals encourage innovation in teaching and learning methods, as well as inspire teachers and staff to commit to improving the quality of education.

In the city of Semarang, the development of maritime schools is also influenced by the dynamics of relations with the local maritime industry, the government, and the regulations that govern the education sector (Broohm, 2021). Collaboration between educational institutions and industry is essential in guaranteeing that maritime school graduates have the skills that match the needs of the market (Suharno et al., 2020). However, this collaboration is often limited, and not all schools can establish effective cooperation with maritime companies. Therefore, leadership in maritime schools requires not only internal managerial skills but also the ability to build strong external networks.

In addition, globalization has brought additional challenges to maritime educational institutions in Semarang. International standards in the field of shipping and sea transportation are constantly evolving, and maritime schools in Semarang must be able to adapt to these changes. International certifications such as the Standards of Training, Certification, and Watchkeeping for Seafarers (STCW) must be part of the curriculum and school management, which requires a synergy between national education policies and global industry demands.

Another challenge is the lack of funding and infrastructure support. Maritime schools often face budget constraints to update training facilities, such as navigation simulators and laboratory equipment (Negi et al., 2024). In addition, limitations in professional development training for school principals and teachers are also an obstacle to improving the quality of leadership and teaching. Therefore, a comprehensive strategy is needed to strengthen leadership management in maritime schools, to be able to produce graduates who are ready to compete in national and international companies.

Through this article, the author wants to explore more deeply the role of leadership management in maritime schools in Semarang City, identify the challenges faced, and offer recommendations for strategies to strengthen effective leadership. In the ever-evolving development of the maritime industry, leadership in maritime schools must be able to adapt and take innovative steps to prepare competent and professional graduates.

Leadership management in education is a process that involves decision-making, resource management, and improving the quality of teaching staff and students (Soe'od et al., 2021). Some leadership theories that are relevant in this context include transformational leadership theory, participatory leadership, and instructional leadership. In the context of maritime schools, transformational leadership is essential to create innovation in education and teaching systems.

Management is the process of planning, organizing, directing, and controlling the resources that an organization has to achieve predetermined goals (Umesi, 2024). Management involves coordinating the activities of others to complete work effectively and efficiently. Efficiency means carrying out work in the right way, while effectiveness means achieving the desired goal. Management in the context of education includes the management of human resources (teachers, administrative staff), physical resources (facilities, equipment), and financial resources (budget, education funds) to achieve optimal educational outcomes.

Management function includes five main aspects: planning, organizing, directing, coordinating, and controlling (Ogona, 2022). In the context of maritime schools, management is very important in curriculum management, educator development, and maintenance of facilities and technical equipment that support teaching and learning activities. Good management in maritime educational institutions wants all elements to run by the standards required by the national and international maritime industry.

Effective management in maritime schools must also be adaptive to changes in government policies and international standards in the maritime sector. This includes the management of academic, administrative, and supervisory aspects of institutional performance in preparing students to be able to compete in the global market.

1.1. *Definition of Leadership.*

Leadership is the ability to influence, motivate, and direct others to achieve a common goal. Leadership involves a process of social influence where a leader can get support from group members to achieve certain goals (Rast et al., 2018). In the context of education, leadership refers to the role of the principal or school management in directing all elements of the school to achieve the vision and mission that has been set.

Leadership in maritime schools has its complexity because it must consider the need for competency-based education that is relevant to maritime industry standards. Transformational leadership is very important in education because leaders not only play a role in daily decision-making but also function as agents of change (Badillo-Vega & Buendía-Espinosa, 2022). Transformational leaders inspire and motivate their subordinates to work harder and innovate, which is urgently needed in maritime educational institutions that continue to evolve in tandem with technological advances and changes in international regulations.

Transformational leadership can help improve the quality of teaching and learning, especially in maritime educational environments (Fatima Ali Hamad Shafi & Binti Ab Wahid, 2023). Principals must be able to create a work culture that supports curriculum innovation and renewal, as well as focus on developing the professionalism of teaching staff. Effective leadership must also be able to build a strong network of cooperation with the maritime industry, to ensure that graduates of the school have skills that match the needs of the market.

1.2. *Definition of Maritime School.*

Maritime schools are educational institutions that play an important role in preparing human resources who will work in various maritime sectors, including marine transportation, logistics, shipping safety, and marine resource management (Renganayagalu et al., 2022). In Indonesia, maritime schools are spread across various coastal cities, including the city of Semarang, which has several maritime institutions that focus on maritime education.

According to the International Maritime Organization (IMO), maritime schools must adhere to strict educational standards,

as stipulated in the STCW (Standards of Training, Certification, and Watchkeeping for Seafarers) convention. Maritime schools not only teach theory but also provide practical training through the use of simulators, laboratories, as well as internship programs on ships. Maritime education combines technical and managerial aspects so that graduates not only have operational skills but also can sail and other maritime industry activities (Karahalil et al., 2024).

In Indonesia, maritime schools are under the supervision of the Ministry of Transportation and work closely with the maritime industry to ensure that the educational programs offered are in line with market needs. The curriculum at maritime schools includes technical subjects such as navigation, ship engines, and safety at sea, as well as management and logistics subjects that are more managerial. Maritime schools in Semarang have a great responsibility to prepare a competent maritime generation to support the ever-growing industry.

2. Methodology.

This study uses a qualitative approach with a case study method (Arseven, 2018) on several maritime schools in Semarang City. Data was obtained through in-depth interviews with school principals, teachers, and school administrators. Analysis of documents such as school management curricula and policies is also carried out to obtain a comprehensive picture of leadership management in these schools.

This study uses a qualitative approach to explore and understand the phenomenon of leadership management in maritime schools in Semarang City. The qualitative methodology was chosen because the focus of this research is to deeply explore the perspectives of school principals, teachers, and education managers on how leadership is applied and the challenges faced. This approach allows for a more comprehensive understanding of the realities of the field and the interaction between individuals in the educational environment.

Case studies allow researchers to delve into various aspects of leadership management in maritime schools, including how principals and managers make strategic decisions, how they face obstacles, and how they motivate and develop educators and students (Arseven, 2018).

This case study was carried out on several maritime schools located in Semarang City. The selection of maritime schools as the object of research is based on the relevance of the institution in preparing a competent maritime workforce and its strategic location in supporting the development of Indonesia's maritime industry. By selecting several schools as subjects, this study seeks to obtain a broader picture of the variety of leadership management practices in various maritime educational institutions.

This research was conducted in Semarang City. The research location is selected purposively based on certain criteria, such as schools that have a good reputation in the field of maritime education, as well as schools that actively cooperate with the local and international maritime industry. In addition, schools that have international standards-based curricula and

training programs (such as STCW) are also considered in the selection of research subjects. The author chose the Semarang Polytechnic of Shipping Sciences, AMNI Maritime University, and the Indonesian Commercial Shipping Academy. The subjects of the study include school principals, vice principals, teachers, and education managers. Principals and managers are taken as the main subjects because they play a key role in decision-making related to management and leadership strategies in schools. Teachers are also an important subject to understand how leadership is applied at the operational level, especially related to teaching and learning in the classroom. The researcher also interviewed representatives from the maritime industry who work closely with these schools, to gain an external perspective on how school leadership supports the needs of the industry.

Data collection was carried out through several qualitative methods, namely: In-depth interviews were conducted with school principals, teachers, and school administrators to explore information about leadership practices in their institutions. These interviews are semi-structured, where the researcher prepares interview guides with several main topics but still provides space for respondents to explore other issues that are considered relevant. Topics discussed include leadership styles, challenges in school management, collaboration with industry, and professional development strategies for educators.

Interviews were also conducted with representatives of the maritime industry involved in cooperation with maritime schools to gain insights on the relevance of education applied by these schools to market needs.

Participatory observation was carried out to directly observe activities in maritime schools, including school management, teaching and learning processes, and interactions between teachers, students, and school management (Karahalil et al., 2024). This observation provides a contextual understanding of how leadership is applied in the daily educational environment. Researchers also observed the use of school facilities, such as navigation simulators and technical laboratories, as well as extracurricular activities that support the development of students' skills.

Document analysis is carried out by analyzing including school curriculum, management policies, school performance evaluation reports, and cooperation reports with the maritime industry. These documents help researchers understand the formal structures and regulations that govern school operations, as well as how management policies are translated into everyday practice.

The FGD was conducted with a group of teachers and school managers to discuss challenges and opportunities in the implementation of leadership management. FGDs provide opportunities for participants to share experiences, views, and ideas regarding leadership practices they have experienced or implemented in schools. This group discussion is also useful for identifying problems that arise in the context of interaction between individuals in the school environment.

The analysis steps include: The researcher re-reads the interview transcripts, observation notes, and documents to gain a thorough understanding of the data content.

The researcher identified pieces of data that are relevant to the focus of the research, such as aspects of leadership management, challenges in school management, as well as strategies used by school principals in dealing with managerial problems.

In addition, the researcher also asked participants to check the results of the interview (member checking) to ensure that the interpretation of the data was accurate and by their experience.

3. Results.

Based on research, some of the main challenges in leadership management in maritime schools in Semarang include a lack of leadership training for school principals, a lack of stakeholder involvement in decision-making, and budget limitations that affect the management of educational facilities and programs. Proposed strategies to address these challenges include the development of sustainable leadership training programs, Enhancing collaboration between schools, the maritime industry, and local governments, and Optimizing education budgets through collaboration with the private sector and international institutions.

The results of research obtained through interviews, observations, and document analysis will be explained and discussed concerning previous theories and research. This research uncovers several key themes relevant to leadership management in maritime schools, including leadership styles, management challenges, collaboration with industry, and the influence of management on school performance.

Based on the results of interviews with principals and managers of maritime schools in Semarang City, it was found that the dominant leadership style is transformational leadership. The principal showed a tendency to apply an approach that focuses on change and innovation, especially in the face of maritime technology developments and international standards such as STCW (Standards of Training, Certification, and Watchkeeping for Seafarers).

The principal encourages teachers and staff to continue learning and improve their competence. One of the principals interviewed stated, "We have always emphasized the importance of self-development because the maritime world is constantly changing. If we don't keep up with developments, we will be left behind." This shows the importance of motivation and support from leaders in building the professional capacity of educators.

Transformational leadership encourages organizational members to work more than just fulfilling their duties, by inspiring, attention to the individual, and stimulus to intellectuals (Cahyono et al., 2020). In the context of maritime schools, this leadership style helps to improve the quality of teaching and learning, as well as create a culture of innovation in schools.

However, not all schools fully implement transformational leadership. In some cases, it was found that some principals still use a transactional leadership approach, which focuses more on supervision and control. For example, principals in one of the schools studied emphasized the achievement of administrative

targets and compliance with regulations rather than innovation in the teaching and learning process. Although this approach ensures order and efficiency, some teachers reveal that they feel under-supported in developing creativity in teaching.

The results of the study also revealed several challenges faced in the management of maritime schools in Semarang City. One of the main challenges was the limited budget to update educational facilities, such as navigation simulators, ship engine laboratories, and safety equipment. As one of the principals stated, "Our facilities are already lagging compared to international standards. The maritime industry now demands high technological skills."

This budget limitation also has an impact on the development of teacher professionalism. Some teachers complain about the lack of opportunities to take part in new training or certifications that are in line with industry developments. One of the teachers stated, "We rarely get the latest training. The industry is constantly evolving and requires skills that are always updated."

According to resource management theory, one of the important aspects of an organization's success is the adequate management of resources, both human resources and facilities. Without sufficient support in terms of budget and resources, maritime schools find it difficult to maintain high educational standards. Therefore, closer cooperation with the government and industry is needed to overcome these limitations.

In addition to budget problems, another challenge faced is the lack of collaboration between maritime schools and the local maritime industry. Although some schools already have partnerships with shipping companies or logistics operators, these partnerships are often sporadic and unsustainable. One of the principals stated that "Collaboration with industry often only occurs at certain times, for example when there is an industrial visit or internship. After that, there was no clear follow-up."

The lack of systematic cooperation with industry results in a gap between the skills taught in schools and the real needs in the field. This is a serious problem, as maritime schools are supposed to produce graduates who are ready to work and have skills relevant to industry standards. For this reason, a more structured strategy is needed in building partnerships with the industry, for example through internship programs that are integrated with the curriculum or the development of certification programs that are recognized by the industry.

4. Discussion.

Effective leadership plays a crucial role in determining the performance of maritime schools. This study found that schools with principals who have a transformational leadership style tend to have better performance, both in terms of student achievement and teaching quality. One of the performance indicators used in this study is the graduation rate of students on internationally recognized maritime certification exams, such as STCW. Schools with more innovative leadership and support for teacher development generally perform better on these exams.

In addition, the results of observations show that in schools with transformational leadership, there is a stronger culture of collaboration between teachers, students, and administrative staff. Teachers in these schools are more often involved in professional development activities, and students show a higher level of motivation in taking up practical training. In contrast, in schools with more transactional leadership, there is a tendency to focus on daily routines, with little encouragement for innovation or further development.

Transformational leadership tends to produce higher performance because inspirational leaders can build an environment conducive to creativity and performance improvement (Hasbian Setiawati et al., 2022). By paying attention to individual needs, transformational leaders can help members of an organization reach their maximum potential.

Collaboration between maritime schools and industry is an important factor that affects the relevance of the education provided. In some cases, schools that have strong relationships with local shipping companies or logistics operators can provide students with richer practical experience. One of the schools studied regularly sends students for internships at international shipping companies, which allows students to apply the knowledge they gain in class to real-world situations.

Not all schools have the opportunity to establish sustainable cooperation with industry. To address this problem, intervention from local and national governments is needed to encourage synergy between maritime education and industrial needs. It is important to ensure that maritime schools can continue to update their curriculum in line with technological developments and regulations in the maritime sector.

Conclusions.

Effective leadership management is essential for the advancement of maritime schools in the city of Semarang. With the right strategy, these schools can improve the quality of education and produce graduates who are ready to compete in the global maritime industry. Support from various parties, including the government, industry, and the community, is urgently needed to ensure this success.

Transformational leadership has proven to play a significant role in improving the quality of teaching and learning in maritime schools. Principals who apply this leadership style can provide inspiration, motivation, and attention to individual development, both for teachers and students. Schools with principals who show transformational characteristics tend to be more adaptive to change and innovative in responding to technological developments and the demands of the global maritime industry.

One of the main challenges faced by maritime schools is the limited resources, especially in terms of educational facilities and budgets for teacher professional development. Facilities such as navigation simulators and technical laboratories that are outdated or inadequate, as well as a lack of training for teachers, are significant obstacles to maintaining the quality of education relevant to international standards. This shows

the need for increased investment in educational facilities and human resource development to support the sustainability of maritime schools in the future.

The study also reveals a gap between what is taught in maritime schools and the real needs of the industry. Collaboration with the maritime industry, although it exists, is still often sporadic and poorly integrated into the educational curriculum. Schools that have stronger partnerships with industry, such as structured internship programs, can provide students with more in-depth practical experience, which in turn improves their job readiness. Schools with principals who promote transformational leadership perform better in a variety of areas, including student achievement on international certification exams, student learning motivation, and work culture among teachers. This emphasizes the importance of a leadership style that not only focuses on operational management but also on individual development and innovation in the teaching-learning process.

Based on the results of this study, several suggestions can be put forward to improve and improve leadership management in maritime schools in the future, including by Increasing Budget Support and Educational Facilities: The government, both central and regional, needs to pay more attention to the development of educational facilities in maritime schools. Maritime schools require modern equipment such as navigation simulators, ship engine laboratories, as well as marine safety equipment that complies with international standards. In addition, the allocation of the budget for the professional development of teaching staff is very important so that teachers can continue to update their competencies by technological developments and industry needs. Integrating Training Programs with Industry: Maritime schools need to build stronger and more sustainable partnerships with the maritime industry, especially in terms of curriculum preparation and the implementation of internship programs. Closer collaboration with industry will ensure that students gain skills that are relevant and appropriate to the needs of the job market. One of the efforts that can be made is to develop an internship or training program that is directly integrated with the curriculum so that students can practice the knowledge they have gained in the classroom in a real work environment. Encouraging Transformational Leadership Development in Schools: Maritime school principals need to get training and support in implementing transformational leadership styles. This can be done through a leadership training program designed specifically for school principals, which focuses on developing managerial skills as well as the ability to inspire and motivate staff and students. With strong transformational leadership, maritime schools will be better able to face challenges and innovate in improving the quality of education. Adopt a Competency-Based Assessment System: Maritime schools need to adopt a more competency-based assessment system to ensure that students not only understand theory but also have practical skills relevant to the world of work. This assessment system must include an assessment of technical skills, managerial abilities, as well as soft skills such as leadership, teamwork, and problem-solving. Thus, maritime school graduates will be better prepared to compete in an increasingly competitive global job market. Building Collabora-

tive Networks Between Maritime Schools: Maritime schools in Semarang and other areas need to build collaborative networks to share best practices in leadership management and teaching. By sharing knowledge and experience, maritime schools can support each other in developing educational innovations as well as strengthening their positions in the national and international maritime education sector. In addition, cooperation between schools can also facilitate the exchange of teaching staff and students to enrich their educational experience. Increasing the Role of Technology in Maritime Education: Maritime schools need to invest more in educational technology, including e-learning and computer-based simulation. Technology can be used to complement traditional learning methods and provide a more interactive and immersive experience for students. For example, digital voyage simulations can help students practice navigation skills without having to be at sea, while e-learning modules can provide learning materials that can be accessed anytime and anywhere.

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