

# Strategic Management in Islamic Education for 21st Century Skills Development

Siti Nafisah<sup>1</sup>, Sunarto Sunarto<sup>2</sup>, Nurul Asma Mazlan<sup>3</sup>

<sup>1,2</sup> UNISBANK Semarang, Indonesia

<sup>3</sup> Universiti Teknologi Mara, Malaysia

Corresponding author, email: [sitinafisah0062@mhs.unisbank.ac.id](mailto:sitinafisah0062@mhs.unisbank.ac.id)

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## Abstract

**Background** – Islamic-based educational institutions increasingly confront the dual mandate of preparing students for the demands of the 21st century while simultaneously upholding religious, moral, and cultural values that define their institutional identity. In an era shaped by rapid technological advancement, global competition, and shifting learning paradigms, Islamic secondary schools are required to innovate in their management and instructional systems to ensure that students acquire critical competencies such as creativity, collaboration, problem-solving, and digital literacy.

**Purpose** – This study aims to analyze how the management of MTs Sadamiyah Jepara, as a representative Islamic-based secondary school, strategically responds to these demands. The analysis focuses on school policies, instructional practices, and organizational strategies designed to harmonize modern skill necessities with Islamic educational values.

**Method/Approach** – Employing a qualitative case study design, data were obtained through in-depth interviews with school leaders and teachers, non-participant observations of classroom activities, and examination of institutional documents. Data validation was reinforced through source and method triangulation, while data analysis followed the Miles and Huberman interactive model, comprising data reduction, data display, and conclusion drawing.

**Findings** – The results indicate that the school's strategic efforts are concentrated on two major areas: (1) the application of learning models that promote higher-order thinking skills through project-based, collaborative, and problem-solving activities; and (2) the integration of digital tools into teaching and learning to enhance students' digital readiness. Nonetheless, challenges persist, particularly regarding limited technological infrastructure, the need for ongoing teacher professional development, and ensuring curriculum alignment with global competency frameworks.

**Conclusions** – Islamic-based schools can meaningfully contribute to 21st century education by integrating progressive management strategies while safeguarding their religious foundations.

**Novelty/Originality/Value** – This study offers original insights into how faith-based institutions adapt to global educational transformations without compromising their spiritual and cultural identity.

**Keywords:** strategy management, madrasah tsanawiyah, 21st century skills.

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## INTRODUCTION

The challenge is further increased if school management strategies do not keep pace with the skills needs of the 21st century. As Saavedra and Opfer (2012) point out, in such situations, the skills needed today may not be properly emphasized or developed, resulting in students' unpreparedness for the rapidly changing world of work and rapid technological development. In addition, students may also have difficulty adjusting to diverse and complex environments and lack practical experience in applying their knowledge in real-life situations, as revealed by Reaves (2019). As a result, they may face difficulties in achieving personal and professional success in the future.

Although there has been a lot of research on 21st century skills in the context of education, as mentioned by Sarigöz (2024), Dinelti, et al (2023), Ahmad, et al. (2021), Tamboli, P. M., and Y. L. Nene (2021), research exploring management strategies to improve 21st century skills in Islamic-based secondary schools is still limited. This is an important concern considering that Indonesia has the largest Muslim population in the world (Schneier, 2015), so it is important to ensure school responsiveness in supporting students to acquire skills that are relevant to the demands of today's world of work.

To fill the research gap, this study aims to investigate the implementation of management strategies in the context of Islamic education in Islamic-based secondary schools, especially in MTs Sadamiyyah Jepara. The focus of research is to prepare students for the demands of 21st century skills. In this research, we will study how management strategies can be effectively applied to develop 21st-century skills for students, such as problem-solving, creativity, and collaboration skills. In addition, the challenges faced by Islamic-based secondary schools in implementing effective management strategies will also be the focus of research. MTs Sadamiyyah Jepara was chosen as the research location because it is a representation of Islamic-based secondary schools that have an important role in preparing the younger generation to face the complexities of the modern world.

By understanding the challenges and strategies that occur in this school, this research is expected to provide valuable insight into the importance of 21st century skills for students cannot be underestimated in this modern era. With the world constantly changing rapidly, students need to be equipped with skills that include not only academic aspects, but also practical aspects relevant to the needs of the times. Without this ability, they may face difficulties in adjusting to change, both in the world of work and life in general. For example, Voogt Joke and Natalie Pareja Roblin (2000) highlight that a lack of 21st-century skills can make students less prepared to enter an increasingly competitive workforce. This can result in them being marginalized in social and economic development and losing competitiveness globally. This lack of ability can also hinder students' ability to think critically, collaborate, communicate effectively, and solve complex problems (Areti, 2018), all of which are essential skills in dealing with the demands of the modern world.

However, the challenges faced are not just limited to students. School management strategies also play an important role in ensuring that the education provided includes the development of 21st century skills. Saavedra and Opfer (2012) show that if school management does not keep pace with 21st century skills need, the impact can be very detrimental for students. The skills required today may not be emphasized or developed properly, leaving students less prepared for the challenges of the ever-changing world of work. Previous research has addressed the application of 21st century skills concepts, such as critical thinking, creativity, communication, and collaboration skills (4Cs), in educational contexts (Sarigöz, 2024; Dinelti, et al, 2023; Ahmad, et al., 2021). However, research exploring management strategies to improve 21st-century skills in Islamic-based secondary schools is sparse. Given that Indonesia has the largest Muslim population in the world (Schneier, 2015), it is important to ensure the responsiveness of schools in supporting their students to acquire skills relevant to the demands of today's world of work.

This study seeks to address that gap by examining the management strategies employed by MTs Sadamiyyah Jepara, an Islamic-based secondary school, in fostering 21st century skills. The research investigates how these strategies support skill development in areas such as

problem-solving, creativity, and collaboration, and also explores the obstacles faced in their implementation, including limited infrastructure, teacher preparedness, and curricular alignment.

The main contribution of this research lies in its contextual specificity—offering empirical insights into how Islamic-based secondary schools, often underrepresented in educational innovation discourse, can develop adaptive management strategies that both honor religious traditions and respond to the urgent need for 21st century competency development. This contribution bridges a theoretical and practical gap between faith-based schooling and global educational reforms.

## METHOD

This study employs a qualitative case study design to gain a deep, contextualized understanding of the strategic management practices used by Islamic-based secondary schools in responding to the demands of 21st century skills. The case study approach was chosen because it allows for a holistic examination of real-life phenomena within a bounded system, in this case, MTs Sadamiyyah Jepara (Yin, 2011).

### Research Participants

Participants in this study were selected through purposive sampling, aiming to involve individuals with in-depth knowledge and direct experience in school management and instructional practices. The study involved five key informants, consisting of: One Foundation Director, One School Principal and Three Homeroom Teachers from grades VII, VIII, and IX. These participants were selected because of their strategic roles in decision-making and implementation of educational programs aimed at fostering 21st century skills.

**Table 1.** Informant Profile

Initials	Position
SA1	Foundation Director
SA2	Principal
SA3	Homeroom class VII
SA4	Homeroom class VIII
SA5	Homeroom class IX

### Data Collection Techniques

Data were collected through a triangulated approach involving: (1) In-depth interviews, using semi-structured protocols to explore participants' perspectives on strategic initiatives and challenges; (2) Non-participant observation, focusing on instructional practices, school routines, and implementation of programs related to digital literacy and project-based learning; Document analysis, including school curricula, strategic planning documents, activity logs, and training materials. This multi-method strategy aligns with Benghanem et al. (2018), providing a rich and nuanced understanding of the phenomena under study.

### Validity of Data

To ensure data credibility and trustworthiness, the research employed data triangulation by comparing insights from interviews, observations, and documents. Additionally, member checking was used, where findings were returned to participants for verification. These techniques enhance internal validity, as recommended by Miatto et al. (2019). The data analysis followed the Miles and Huberman interactive model (1994), which involves: (1) Data Reduction – selecting, simplifying, and abstracting raw data into manageable themes; (2) Data Display – organizing findings into visual matrices, narrative summaries, and tables to support pattern recognition; (3) Drawing Conclusions and Verification – interpreting data to formulate findings while constantly testing their strength through multiple sources and iterative coding. This analytical process allows researchers to identify meaningful patterns, categories, and strategic

correlations between school management practices and the cultivation of 21st century competencies.

## RESULTS AND DISCUSSION

The study found that the school's strategic management to enhance 21st century skills for students at MTs Sadamiyah Jepara has been realized through a number of strategic moves. This effort involves applying learning methods that emphasize problem-solving, creativity, and collaboration. The school has integrated practical projects that encourage students to think critically, find innovative solutions, and work together in teams. In addition, the integration of technology in the learning process is also the main focus, allowing students to develop digital literacy and adapt to technological advances. However, there are several challenges faced in this implementation, including the availability of adequate resources, appropriate teacher training, and curriculum adjustments relevant to the evolving skills needs of the 21st century. Nevertheless, the efforts made by MTs Sadamiyah Jepara signal a positive step in facing the demands of this increasingly complex era.

The SA3 informant said he had adopted approaches, models and learning methods that effectively promoted problem solving, creativity and collaboration in Fiqh learning for Mts grade VII students. According to him, one of the most suitable approaches is the problem-based learning approach. In this approach, students are invited to face situations or problems that are directly related to the context of their daily lives. For example, students may be given case studies of ethical dilemmas in everyday life that require a deep understanding of the principles of Fiqh to resolve. In this way, students not only understand the concepts of Fiqh theoretically, but also learn how to apply them in real situations, honing their problem-solving skills.

According to SA4 informants, the cooperative learning model is the right choice to promote creativity and collaboration among students. He revealed that in this model, students work together in groups to complete specific tasks or projects that demand critical thinking and creativity. For example, they can be given a project to design a charity campaign based on the principles of Fiqh they learned, where they need to work together to generate creative ideas and solve problems that arise during the planning and execution process. SA4 is optimistic that through cooperation in a cooperative learning model, students not only learn from the subject matter, but also from each other, developing collaborative skills essential for success in their daily lives.

In addition to the learning aspect, the study also found the integration of practical projects to strengthen 21st century skills for students. This is implemented through the school's efforts to encourage MTs students to think critically, find innovative solutions, and work together in teams. The SA5 informant said that in religious learning he had designed project-based learning for the creation of social campaigns on moral and ethical issues relevant to religious values. In this project, students are asked to choose an issue such as social justice, environment, or peace, and then they work in teams to identify problems, develop solutions grounded in the teachings of their religion, and design creative and effective campaigns to get their message across to society. This kind of project not only teaches students about religious values but also trains them to think critically about how to apply those values in real-world contexts and cooperate with others to achieve common goals.

Another example, AS4 says that a practical project that encourages students to think critically, find innovative solutions, and work together in teams is the project of creating a zakat management institution. In this project, students are given the task of designing, building, and programming zakat kpmpanye that can complete a specific set of tasks. The project requires students to analyze problems, design strategies, and test solutions iteratively. In addition, students also need to work together in teams to divide tasks, collaborate in the creation process, and solve problems that arise during the development process. Thus, the project not only enhances students' technical skills in the social field, but also develops their abilities in critical thinking, finding innovative solutions, and collaborating in a team environment.

Furthermore, SA2 said that the project-based learning strategy is an effective approach to improve 21st century capabilities in MTs Sadamiyah Jepara. In sequence, he explained some important steps so that project-based learning can run smoothly. The first step he takes is in identifying learning objectives that fit the needs of students and the curriculum. Furthermore, designing the needs of learning resources include learning materials, technology, and other supporting materials that facilitate student exploration and collaboration. The creation of clear and structured worksheets will guide students in carrying out their projects systematically, outlining the steps to be taken and the expected results. By implementing these measures, SA2 is optimistic MTs Sadamiyah Jepara students will have the opportunity to develop 21st century skills such as creativity, collaboration, problem-solving, and critical thinking skills through hands-on experience in the context of projects relevant to everyday life and technological developments.

Another effort made by the school in equipping students to have 21st century skills is to integrate technology in the learning process. This is seen in the learning process of Fiqh, Islamic Cultural History, Natural Science, and Mathematics. Through the use of interactive software, mobile apps, and customized online resources, students not only delve deeper into the subject matter but also develop digital literacy that is crucial in this era. With this approach, they can respond quickly to technological advances, hone their adaptation skills, as well as strengthen their understanding of important subjects in their curriculum.

The integration of platforms such as Google Earth, Kahoot! Khan Academy, PhET Interactive Sim, Photo math, and GeoGebra in learning at Madrasah Tsanawiyah play an important role in strengthening 21st century skills for students. "Google Earth enables deep global exploration, visually enhancing our understanding of geography, history and culture," AS2 said. "Kahoot! and Photo math aid in the development of problem-solving and critical thinking skills through interactive and fun math challenges," AS3 added. AS5 states, "Khan Academy provides access to structured and high-quality learning materials in a wide range of subjects, facilitating independent learning that enables students to develop independence and lifelong learning skills." AS2 adds, "PhET Interactive Sim and GeoGebra provide a platform for the exploration of science and math concepts through interactive simulations that enable virtual experimentation, helping students build a deeper understanding of complex concepts."

At the end of the discussion session, all informants agreed that the integration of technology in learning at MTs Sadamiyah contributed greatly to improving 21st century skills. Technology plays a crucial role in enhancing 21st century skills by providing unlimited access to educational information and resources. Through online learning platforms, individuals can acquire new skills, ranging from computer programming to effective communication skills, according to the needs of the ever-evolving job market. In addition, technology facilitates global collaboration that allows individuals to learn from and collaborate with people from diverse cultural and professional backgrounds, enhancing cross-cultural understanding and the ability to work in multidisciplinary teams. Thus, technology opens the door to inclusive, dynamic, and continuous learning, which is an important foundation in developing the skills necessary for success in this modern era.

Although he looked confident, the AS1 informant admitted that there were various challenges that had the potential to slow down the achievement of 21st century skills for students at MTs Sadamiyah Jepara. The lack of availability of trained human resources and adequate infrastructure has a significant impact on education. AS1 said this could hinder the development of students' potential as well as lower overall education standards. Without trained human resources and adequate infrastructure, education cannot provide knowledge and skills relevant to the needs of the times, thereby reducing students' competitiveness in the global job market. To address these challenges, significant investments need to be made in the training of educators' human resources, the development of adequate educational infrastructure, and policies that support access and quality of education for all levels of society. In line with what AS1 said, AS4 mentioned that the next challenge is finding the right teacher training institution.

Competent teachers and continuously improving their skills are essential in creating a dynamic and innovative learning environment. However, finding a training institute that



conforms to Islamic principles and integrates 21st century learning approaches is very difficult. According to him, the right training institution in this context will show several key indicators. First, they must have a holistic and balanced approach between Islamic principles and 21st century learning approaches, combining religious values with cutting-edge technology and skills. Second, the institution must provide relevant and up-to-date programs, in accordance with the latest developments in education and the world of work. Third, the teaching staff should consist of individuals who not only have a deep understanding of Islam but are also skilled in applying modern learning methods and motivating trainees. Fourth, there is continuous evaluation and feedback to ensure that the training provided is effective and beneficial for participants in improving their skills and knowledge. By combining these elements, training institutions can become a valuable resource in supporting the development of competent teachers and shaping a dynamic and innovative learning environment in accordance with Islamic principles.

Adapting the curriculum to the evolving skills needs of the 21st century is a key challenge. AS1 affirms that a curriculum that is flexible and responsive to technological developments and changes in the world of work is necessary in order for students to acquire relevant skills and be able to compete in this global era. Meanwhile, AS2 added that creating a curriculum that not only includes traditional academic material, but also integrates skills such as creativity, problem-solving, collaboration, and critical thinking is an important step in adapting Islamic education to the needs of the times. To achieve this, the informants agreed to take important steps. First, there needs to be an in-depth evaluation of the existing curriculum by considering technological advances and changes in the world of work. Then, the development of a new curriculum that is flexible and responsive must be undertaken, incorporating traditional academic material while integrating 21st century skills such as creativity, problem-solving, collaboration, and critical thinking. In addition, training for teachers is also important so that they can implement this curriculum effectively. Thus, education can become more relevant, and students will be better prepared to face the challenges of a dynamic global era.

The study found that MTs Sadamiyah Jepara has successfully implemented effective school management strategies to enhance 21st century skills for its students. The strategic measures they implement include the use of learning methods that emphasize problem-solving, creativity, and collaboration, as well as the integration of practical projects that encourage students to think critically, find innovative solutions, and work together in teams. The focus on integrating technology in learning also helps students develop digital literacy and adapt to technological advances. Nonetheless, challenges such as availability of adequate resources, proper teacher training, and adjustment of relevant curriculum still need to be addressed. However, the efforts made by MTs Sadamiyah signal a positive step in facing the demands of these increasingly complex times, providing an example of how schools can adapt and evolve to prepare students for a rapidly changing future.

Schools enhance 21st century skills by involving the application of learning methods such as Problem-Based Learning, Inquiry-Based Learning, Collaborative Learning, and Project-Based Learning because these approaches not only teach students to remember facts, but also strengthen their abilities in problem solving, creativity, and collaboration (Tan, 2021). With Problem-Based Learning, students learn to deal with real-world problems that require creative solutions and in-depth analysis (Edens, 2000). Meanwhile, Inquiry-Based Learning encourages students' strong curiosity and ability to explore topics independently, deepening their understanding of the subject being studied (Kuhlthau, Maniotes, & Caspari, 2015). Collaborative

Learning teaches students to work together in solving complex tasks, strengthening teamwork and communication skills (Sulaiman & Shahrill, 2015). Lastly, Project-Based Learning provides opportunities for students to apply their knowledge in the context of real projects, strengthening practical skills while building creativity and innovation (Bender, 2012). Thus, through these approaches, schools can help students develop relevant and important skills in the face of the demands of the 21st century.

In addition, the findings in the study also show that schools are improving 21st century skills with a focus on technology integration and project-based learning. This is in line with González-Pérez & Ramírez-Montoya's (2022) analysis which states that project-based learning can create a learning environment that is responsive to the demands of the times. Meyer & Norman's (2020) argument supports that Technology integration enables students to develop vital digital literacy in this digital age, while project-based learning provides practical experiences that encourage problem-solving, collaboration, and creativity. The combination of these two approaches not only prepares students to succeed in an increasingly technologically connected world of work, but also builds the adaptability, innovation, and leadership necessary in an ever-changing society (Petscher et al., 2020). Thus, schools that prioritize the integration of technology and project-based learning not only create relevant and engaging learning but also equip students with the necessary skills to become successful and competitive future leaders.

Although it looks similar to previous studies, this study reveals significant differences. The specialty of this research lies in the holistic approach applied in school strategy management to improve 21st century skills in Islamic-based schools. In contrast to the single focus of Tyas, Sunarto & Naibaho's (2020) research, on character education, this research combines several strategic steps that support each other. His findings confirm that to strengthen 21st century skills, a learning approach that emphasizes problem-solving, creativity, and collaboration is needed, reinforced by the integration of practical projects and technology in the learning process. This research shows a contrast with the study of McGrath et al. (2022) which highlights technology-based learning media as a key element in the development of 21st century skills. On the contrary, this study affirms the importance of a balance between pedagogical, professional, and media aspects. In line with the analysis of Saputro & Murdiono (2020), this study shows that creating a learning environment that encourages students to think critically, find innovative solutions, and develop digital literacy is an important step in preparing them to face the demands of 21st century skills. Despite the challenges of implementation, these efforts reflect a step forward in meeting the evolving skills needs of the 21st century in today's educational era.

The results of this study highlight the need for Islamic educational institutions in the future to adopt a consistent approach in managing school strategies to improve 21st century skills (González-Salamanca, Agudelo & Salinas, 2020). Strategic steps need to be taken from the application of learning methods that encourage problem-solving, creativity, and collaboration, to government campaigns to integrate practical projects that stimulate students to think critically, find innovative solutions, and collaborate in teams. Government support is also needed in providing facilities so that schools can integrate technology in the learning process. Although challenges such as the availability of adequate resources, proper teacher training, and relevant curriculum adjustments still stand in the way, success in facing the complexity of this ever-evolving age must be based on strong determination. Inspiration and learning from such efforts will be key for future Islamic educational institutions to face this challenge effectively.

## CONCLUSION

The findings of this study demonstrate that MTs Sadamiyah has successfully implemented school management strategies that support the development of 21st century skills through active, collaborative, and technologically integrated learning models. These strategies reflect an intentional response to the challenges of modern education, although practical limitations such as limited infrastructure, teacher readiness, and curriculum alignment persist. Despite the limited scope of the study focused on one institution with five key informants the insights gained underscore the potential of Islamic-based secondary schools to adapt meaningfully to global educational demands. The novelty of this research lies in its contextual emphasis on how an Islamic educational institution can bridge traditional values with contemporary pedagogical practices, contributing a nuanced and culturally grounded perspective to the discourse on strategic education management in the 21st century.

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