OPPORTUNITIES FOR COLLABORATION BETWEEN ISLAMIC EDUCATIONAL INSTITUTIONS AND GREEN TECHNOLOGY INDUSTRY

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Abstract: The purpose of this study is to discuss the Opportunities for Collaboration Between Islamic Educational Institutions and the Green Technology Industry, the method used to conduct this study is Library Research, The results of this study are: The discussion of the collaboration model that was successfully implemented shows that the partnership between Islamic educational institutions and the green technology industry has great potential in overcoming challenges and increasing the effectiveness of sustainable education. Successful case studies show that this collaboration is able to facilitate relevant curriculum updates, the provision of environmentally friendly facilities, and the integration of industry knowledge into education. In terms of awareness and understanding of green technology, as well as infrastructure limitations, the importance of in-depth training and infrastructure support is key to the adoption of green technology in Islamic educational institutions. The success of this collaboration is highly dependent on effective planning and implementation, as well as ongoing support in terms of educator training, provision of facilities, and curriculum updates. With a holistic approach, this model can help overcome the challenges of awareness and infrastructure limitations, preparing students to face global challenges related to sustainability and green technology.

INTRODUCTION

The rapid development of green technology in various industrial sectors opens up great opportunities for collaboration with various institutions, including Islamic educational institutions. This collaboration can be a bridge between the need for environmentally friendly technology and education based on Islamic values that are responsible for the environment. Islamic education has great potential to contribute to environmental conservation efforts through integration with green technology. In this context, collaboration between Islamic educational institutions and the green technology industry is very relevant to develop.

The potential for this collaboration can be seen from the common goals between Islamic education and the green technology industry in preserving the environment. Islam as a comprehensive religion emphasizes the importance of maintaining the balance of nature and avoiding damage to the earth (QS Al-Baqarah: 205). These values

are in line with the basic principles of green technology which aim to reduce negative impacts on the environment. Therefore, collaboration between Islamic educational institutions and the green technology industry will not only benefit both parties, but will also strengthen global efforts in preserving nature.

In the context of education, collaboration with the green technology industry can provide many benefits for Islamic educational institutions. One of the main benefits is improving the quality of education through the introduction of the latest environmentally friendly technology. With this collaboration, Islamic educational institutions can access green technology that can be used in the learning process, both in the form of an environmentally based curriculum and educational facilities that support the principles of sustainability. This can increase the relevance of Islamic education in the modern era that increasingly demands high environmental awareness.

In addition, collaboration with the green technology industry can open up opportunities for Islamic educational institutions to develop more innovative educational programs that are in line with the needs of the times. For example, educational programs that integrate religious knowledge with knowledge of green technology can provide comprehensive provisions to students. They will not only understand Islamic teachings on environmental responsibility, but also have practical skills to apply green technology in everyday life. Thus, graduates of Islamic educational institutions will have a competitive advantage in a job market that is increasingly paying attention to environmental issues.

On the other hand, the green technology industry can also benefit from this collaboration. One of the benefits is increasing awareness and acceptance of green technology among the wider community. Through collaboration with Islamic educational institutions, the green technology industry can disseminate information about the importance of environmentally friendly technology to the younger generation. This is important considering that Islamic educational institutions have extensive networks in various levels of society, including in areas that may still be less touched by green technology. Thus, this collaboration can help the green technology industry to expand its market and introduce its products to a wider segment of society.

However, to realize this collaboration, there needs to be a clear understanding and agreement between both parties. One of the challenges that may arise is the difference

in goals and approaches between Islamic educational institutions and the green technology industry. Islamic educational institutions usually focus more on spiritual and moral aspects, while the green technology industry is more oriented towards technical and commercial aspects. Therefore, intensive dialogue is needed to find common ground that can be the basis for mutually beneficial cooperation.

In addition, it is also important to consider the regulatory and policy aspects that support this collaboration. The government has an important role in creating a framework that allows for collaboration between Islamic educational institutions and the green technology industry. For example, through incentive or subsidy policies, the government can encourage the green technology industry to participate in educational programs at Islamic institutions. Conversely, the government can also provide support to Islamic educational institutions to adopt green technology in their operational activities.

In order to strengthen this collaboration, it is also important to build a network of cooperation involving various stakeholders. In addition to Islamic educational institutions and the green technology industry, other parties such as the government, non-governmental organizations, and local communities also need to be involved. With a broad network of cooperation, this collaboration can run more effectively and sustainably. For example, the government can provide policy support, while non-governmental organizations can play a role in advocacy and educating the community about the importance of green technology.

Collaboration between Islamic educational institutions and the green technology industry can also be a means to develop research and innovation in the field of green technology. Through this collaboration, Islamic educational institutions can develop research centers that focus on the application of green technology in various aspects of life, in accordance with Islamic teachings. The green technology industry can support this research by providing the necessary resources and technology. The results of this research can then be used to develop products and solutions that are more environmentally friendly and in accordance with the needs of society.

In addition, this collaboration can also be a means to create new jobs in the green technology sector. As more Islamic educational institutions adopt green technology, the need for workers with expertise in this field will increase. The green technology

industry can work with Islamic educational institutions to provide training and certification for students interested in pursuing a career in this sector. This will not only help reduce unemployment rates, but will also create a young generation that has the awareness and skills to contribute to environmental conservation efforts.

On the other hand, Islamic educational institutions can also play a role in educating the community about the importance of green technology through community service programs. For example, by holding seminars, workshops, or campaigns about green technology in local communities. The green technology industry can support these activities by providing the necessary materials and technology. Through these activities, the community can better understand the importance of green technology and how they can apply it in their daily lives.

In the long term, collaboration between Islamic educational institutions and the green technology industry can contribute to creating a more sustainable society. With a young generation that has environmental awareness and green technology skills, it is hoped that they can become agents of change who are able to face environmental challenges in the future. In addition, this collaboration can also be a model for other sectors to integrate sustainability values in their practices.

Finally, the opportunities for collaboration between Islamic educational institutions and the green technology industry must be utilized to the fullest to achieve the common goal of preserving the environment. Although challenges will always exist, with strong cooperation and commitment from all parties, this collaboration can make a significant contribution to a greener and more sustainable future.

RESEARCH METHODS

This study uses a library research method, where the data used comes from various literatures relevant to the topic. Library research is a method carried out through the collection and analysis of existing related literature without conducting experiments or collecting data directly from the field. Library research aims to review and analyze previous relevant scientific works in order to find, explain, and understand concepts or theories that support the arguments presented.

In library research, the data sources used consist of books, scientific journals, articles, and other documents relevant to the research topic. This secondary data is

analyzed by identifying theories, concepts, and previous findings related to the research problem. Sugiyono (2017) explains that library research is important to find a strong theoretical basis and help researchers clarify the research context. In addition, library research can also be used to identify research gaps that have not been discussed by previous research.

Data analysis techniques in library research are carried out through the process of identification, evaluation, and synthesis of relevant literature. The data obtained are then analyzed critically to understand the relationship between concepts and compile a synthesis of findings related to the focus of the research. According to Zed (2014), library research requires a deep understanding of relevant literature so that researchers can formulate strong arguments. The analysis process is also carried out by mapping various existing findings and comparing them with the theories used in this study.

In terms of data collection techniques, library research uses documentation studies as the main tool. Arikunto (2010) stated that documentation studies are one of the effective data collection methods for library research, because researchers can access information that has been tested for credibility and is academically recognized. The use of secondary data from various sources also allows researchers to compare findings from various literatures and draw conclusions based on the synthesis of previous theories and research.

Therefore, this library research method is very relevant to be used in this study, because it can help researchers identify and elaborate theories and concepts that support research problems. By using various valid and accredited literature, this study is expected to provide academic contributions in developing a broader understanding of the topic being studied.

RESULTS AND DISCUSSION

Benefits of educational collaboration with the green technology industry

Collaboration between education and the green technology industry offers significant benefits to both sectors, with the potential for broad positive impacts on innovation and technology development. One of the main benefits of this collaboration is the increased relevance of educational curricula to industry needs. According to Suryadi (2021), with collaboration between educational institutions and green

technology companies, curricula can be updated to reflect the latest developments in technology, so that students gain skills and knowledge that are in line with current industry trends. This not only prepares students for future challenges but also increases their competitiveness in the job market.

This collaboration can also accelerate the adoption of green technology in the education sector itself. According to Nasruddin (2020), educational institutions that collaborate with the green technology industry often get earlier and better access to the latest technologies. This allows them to implement innovative green technology solutions in the school environment, such as renewable energy systems, efficient waste management, and environmentally friendly infrastructure. With better facilities, education about sustainability can be instilled more effectively in students.

In addition, this collaboration can create opportunities for more effective research and development (R&D). Fauzan (2022) shows that collaboration between educational institutions and the green technology industry can facilitate applied research that is relevant to industry needs. Joint research programs enable the development of new technologies and innovative solutions that can be implemented on a larger scale. This has the potential to accelerate innovation in green technology, which is critical to achieving global sustainability goals.

This collaboration also provides an opportunity for students to be directly involved in industry projects. According to Rahmawati (2021), many educational programs that collaborate with industry offer internships, practical work, and real projects that provide students with hands-on experience. This experience not only improves their practical skills but also provides valuable insights into how the theories they learn are applied in the real world. It also helps students build professional networks that are useful for their future careers.

In the context of higher education, collaboration with the green technology industry can improve the quality of education through updating teaching materials and teaching methods. Abdullah (2020) noted that these partnerships often involve the development of new curricula that focus on the skills and knowledge needed by the industry. With direct input from technology companies, educational institutions can ensure that their teaching materials are up-to-date and relevant to industry needs, thus preparing graduates with highly sought-after skills.

Industry involvement in education also encourages improvements in educational facilities. According to Hidayat (2019), green technology companies often donate equipment, software, and other infrastructure needed for technical training. This not only enriches the learning experience but also ensures that students have access to the latest technology they need to thrive in the green technology field.

Furthermore, this collaboration can expand the reach and impact of educational programs on green technology. Nasution (2020) explains that partnerships with industry allow for the dissemination of educational and training programs to wider communities, including schools in remote areas that may not have access to green technology. With these programs, more individuals can receive education and training on sustainability and green technology.

Collaboration between education and industry also supports the development of policies and best practices in green technology. Aziz (2021) stated that green technology companies are often involved in creating policies and best practice guidelines that can be adopted by educational institutions. This helps ensure that the practices implemented in education are not only innovative but also in line with global industry standards.

However, to maximize the benefits of this collaboration, good planning and coordination are needed between all parties involved. Haryanto (2020) underlines the importance of clear communication and aligned goals between educational institutions and industry. Without effective coordination, the potential of this collaboration may not be fully realized, and the expected benefits may not be achieved.

Overall, collaboration between education and the green technology industry offers many potential benefits, including increasing curriculum relevance, accelerating green technology adoption, research and development opportunities, and improving the quality of education. With proper planning and strong partnerships, this collaboration can produce innovations that benefit both education and the green technology industry, and contribute to global sustainability.

Collaboration for green technology based curriculum development

Collaboration between the green technology industry and Islamic educational institutions in developing green technology-based curricula presents great potential to

increase the relevance and effectiveness of learning. Integrating industry knowledge into the educational curriculum in Islamic schools not only enables students to understand green technology from a practical perspective but also helps them apply these principles in a religious and moral context. According to Suryadi (2021), this collaboration can ensure that the educational curriculum does not only focus on theory but also provides practical skills that are in line with the latest technological developments. With this approach, students can be better prepared to face the challenges and opportunities in the green technology industry.

This collaboration also allows for faster curriculum updates and responsiveness to technological changes. Fauzan (2022) stated that the green technology industry often experiences rapid development, so that curriculum that is not updated regularly can become outdated quickly. Through partnerships with industry, Islamic schools can update their teaching materials regularly to reflect the latest innovations and trends in green technology. This is important to ensure that students are not only learning outdated technology but also gaining up-to-date knowledge that is relevant to industry needs.

In addition, this collaboration provides opportunities for students to be directly involved in real industry projects. According to Rahmawati (2021), many educational programs integrate industry knowledge through internships, practical work, and collaborative projects. This practical experience provides students with valuable insight into how green technology is applied in the real world, as well as enabling them to develop skills needed in their future careers. It also helps them to relate the theories learned in class to practical applications in the field.

Collaboration can also improve the quality of education by providing access to better resources and facilities. Abdullah (2020) points out that green technology companies often donate equipment, software, and other facilities needed for technical training. With these facilities, Islamic schools can provide a more quality and relevant education, thereby improving the learning experience of students and preparing them for greater challenges in the green technology industry.

Integrating industry knowledge into the educational curriculum also facilitates the development of broader competencies among students. According to Nasruddin (2020), this collaboration allows schools to teach more specific and technical skills

needed in the green technology industry, such as energy management, environmental engineering, and sustainable design. With these skills, students can prepare themselves for various roles in the industry and contribute effectively to sustainability initiatives.

On the other hand, industry involvement in curriculum development helps ensure that education does not only focus on technical aspects but also on ethical and sustainability values. Hidayat (2019) emphasized that partnerships with industry can bring a more holistic perspective to green technology education, combining sustainability principles with moral and ethical teachings taught in Islamic schools. This helps students understand the importance of implementing green technology within the framework of religious and social values.

In addition to practical benefits, this collaboration can also expand students' professional networks. According to Aziz (2021), through partnerships with green technology companies, students can build relationships with industry professionals and gain access to job opportunities and career guidance. This network can be a valuable asset in their career development and help them connect with the wider industry community.

This collaboration also supports research and innovation in green technology education. According to Suryadi (2021), educational institutions that collaborate with industry often engage in joint research that focuses on the development of new technologies and innovative solutions. This research not only expands academic knowledge but also makes a direct contribution to the advancement of green technology, which can be reintegrated into the educational curriculum.

The importance of good planning and coordination between educational institutions and industry cannot be ignored. Nasution (2020) noted that to maximize the benefits of this collaboration, clear communication and aligned goals between both parties are essential. Without careful planning and effective coordination, the potential of this partnership may not be fully realized, and the expected benefits may be hampered.

Overall, collaboration for green technology-based curriculum development offers a variety of benefits, including increased curriculum relevance, access to better facilities and resources, and research and innovation opportunities. With solid partnerships and good planning, Islamic schools can effectively leverage green

technology in their education, preparing students for a more sustainable and sustainable future.

Collaboration models that have been successfully implemented

The successful collaboration model between Islamic educational institutions and the green technology industry shows how this partnership can have significant positive impacts for both parties. One prominent example is the partnership between Madrasah Tsanawiyah Nurul Huda and a green technology company in a training program and the application of environmentally friendly technology. According to Suryadi (2021), this partnership has proven effective in introducing green technology into the Islamic education curriculum and creating a learning environment that supports sustainability. Through this collaboration, students not only learn the principles of green technology but also engage in real projects that implement the technology in the school environment.

This collaboration also involves intensive training for educators to ensure that they have the skills and knowledge needed to teach green technology effectively. Rahmawati (2021) explains that in this model, educators are given access to training and workshops led by professionals from the green technology industry. This training covers not only technical aspects but also pedagogy, so that educators can deliver the material in an interesting way that suits the needs of students.

In addition, this collaborative model has succeeded in creating educational facilities integrated with green technology. Abdullah (2020) noted that educational institutions involved in this partnership often receive donations from green technology companies in the form of environmentally friendly equipment and infrastructure. For example, several schools have adopted solar panel systems and rainwater management systems, which not only reduce their carbon footprint but also serve as practical learning tools for students.

This model also includes the development of a curriculum that focuses on green technology. Fauzan (2022) stated that in this collaboration, the curriculum was adjusted to include material on green technology and sustainability. This material was developed collaboratively by educators and industry professionals to ensure that the content delivered was up-to-date and relevant to the latest technological developments. This

integrated curriculum provides students with a deep understanding of how green technology is applied in a broader context.

These partnerships also expand opportunities for students to engage in research and industry projects. Nasruddin (2020) points out that students are often involved in collaborative projects that allow them to work directly with green technology companies. These projects provide valuable practical experience and help students develop relevant skills for their future careers.

This collaborative model has been successful in building professional networks for students and educators. Aziz (2021) explains that partnerships with the green technology industry often open up opportunities for internships, career guidance, and employment for students. This not only provides students with access to career opportunities but also allows them to build connections that can be beneficial for their future in the green technology industry.

Furthermore, this model also contributes to increasing awareness and culture of sustainability in the school environment. Hidayat (2019) noted that with green facilities and technology, as well as a curriculum that focuses on sustainability, schools can create a culture that supports environmentally friendly practices. This not only educates students but also influences the school community as a whole to be more aware of environmental issues.

However, to achieve such success, it is important to have effective planning and management. Nasution (2020) underlines that a successful collaboration model requires clear communication and good coordination between all parties involved. Without a well-thought-out plan and clear goals, the potential of this partnership may not be fully realized.

The success of this collaborative model also depends on ongoing support from all parties. Suryadi (2021) noted that long-term commitment from educational institutions and the green technology industry is essential to ensure that the programs developed remain effective and relevant. This support includes investment in training, facilities, and ongoing curriculum development.

Overall, the collaboration model that has been successfully implemented shows that partnerships between Islamic educational institutions and the green technology industry can provide significant benefits in curriculum development and the

implementation of environmentally friendly technologies. With good planning, ongoing support, and commitment from all parties, this collaboration can create an innovative and sustainable educational environment, and prepare students for future challenges and opportunities.

CONCLUSION

In the discussion of the successfully implemented collaboration models, addressing the issues of awareness and understanding of green technology among Islamic education managers, and infrastructure constraints, it is seen that collaboration between Islamic educational institutions and the green technology industry has significant potential to address various challenges and improve the effectiveness of education in the context of sustainability. The successful collaboration models, as described in the case studies, demonstrate how these partnerships can facilitate relevant curriculum updates, the provision of environmentally friendly educational facilities, and the integration of industry knowledge into education. Meanwhile, addressing the issues of awareness and understanding of green technology and infrastructure constraints demonstrate the importance of in-depth education and training, as well as adequate infrastructure support to support the effective adoption of green technology in Islamic educational institutions.

Overall, the success of this collaboration depends not only on the partnership between educational institutions and industry, but also on effective planning and implementation. Continuous support from all parties involved, whether in terms of educator training, provision of facilities, or curriculum updates, is essential to ensure that this collaboration model can function optimally. Addressing low awareness, limited understanding, and infrastructure limitations must be addressed through a holistic and integrated approach, so that green technology education can be delivered comprehensively and sustainably, preparing students to face global challenges in the field of sustainability and green technology.

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