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Transformation of Islamic Educational Institution Curriculum to Improve Learning Outcomes in Facing the Challenges of Industrial Society

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ABSTRACT

Adapting the curriculum in Islamic educational institutions is crucial in responding to the ever-growing changes in industrial society. This study aims to analyze the strategy of curriculum adaptation in Islamic academic institutions, to prepare competitive graduates while upholding Islamic values. This study uses a descriptive qualitative method with a case study approach at MAN Bontang, SMA Hidayatullah, and SMA Darul Hikmah Boarding School. Data were collected through interviews, observations, and documentation. The study results indicate that curriculum adaptation is carried out through integrating religious knowledge with general knowledge, strengthening industry-based vocational skills, and implementing technology-based and project-based learning methods. Factors driving adaptation include government support, cooperation with the industrial sector, and community demands for Islamic-based education relevant to current developments. However, the main challenges are limited resources, a lack of competent teaching staff in the industrial sector, and resistance to change. This study concludes that effective curriculum adaptation can increase the competitiveness of graduates of Islamic educational institutions in the world of work while maintaining Islamic identity.

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Introduction

Educational institutions function as vital components of the social subsystem; thus, societal changes inevitably influence their sustainability and relevance. These institutions must continuously adapt to the evolving landscape of science and technology [1][2]. Consequently, they are required to align with shifting social resources and values [3][4].

Islamic educational institutions in Indonesia serve a dual role: they instill Islamic values in students [5][6] and operate based on Islamic principles [7][8]. To remain competitive and relevant, these institutions must also integrate general (secular) knowledge alongside religious instruction [9][10]. Such integration is essential for aligning Islamic education with broader developments in the educational sector [11][12].

In addition to transmitting Islamic values, these institutions are responsible for contributing to the overall quality of education at all levels [13][14]. As highlighted in Faizin [15], Indonesian educational institutions face quality-related challenges, necessitating innovation, particularly among Islamic institutions. This includes improving responsiveness, reliability, assurance, and empathy. However, efforts to enhance Islamic education often encounter resistance from the rapid and complex transformations of the modern era, characterized by increased rationality [16], openness [17], autonomy, and innovation across sectors [18].

These developments demand that educational stakeholders equip the next generation to manage and utilize information within an increasingly digital society effectively [19][20]. Indonesia has entered the information society era as an evolution of modern society marked by rationality [21][22]. Modern society is characterized by rationality [23], future orientation [24], openness [25], and respect for time [26], as well as creativity [27], independence [28], and innovation [29]. In this context, many parents are concerned about the moral development of their children, prompting them to seek educational environments that provide both academic excellence and religious grounding [30][31].

The government has responded to this demand by developing madrasas since the early 20th century. These institutions emerged as a response to dissatisfaction with the *pesantren* (boarding school) model, which focused heavily on religious education while neglecting general knowledge. Madrasas were established to bridge this gap and provide a balanced education. Over time, public schools have also incorporated Islamic teachings beyond the national curriculum, while Islamic boarding schools and madrasas have increasingly integrated general subjects and practical skills into their programs. Today, these institutions collectively serve the dual function of delivering formal education and reinforcing Islamic values.

Given this context, the present study examines how Islamic educational institutions in Bontang City adapt their curricula in response to the challenges of an industrial society. It explores the drivers and barriers to curriculum adaptation amid socio-economic changes in the region. While previous studies, such as Herdi and Abdurrahman [32], have addressed the integration of general and religious education, this research introduces an innovative approach by focusing on curriculum development that meets the industry's and modern society's needs. It expands the scope of Islamic educational institutions beyond their role as religious value transmitters to agents of educational innovation responsive to societal transformation.

Materials and Methods

A. Research Location

This research is a field study with a qualitative approach, referring to Kirk and Miller's theory. According to Kirk and Miller, field research consists of four stages: invention, discovery, interpretation, and explanation. In this study, qualitative data are used to explore the phenomenon of the adaptation of Islamic educational institutions in the industrial area of Bontang City, focusing on the experiences and perceptions of the community as customers of the institution. The qualitative method was chosen to describe how Islamic educational institutions adapt their curriculum in the industrial environment to survive and remain relevant.

B. Research Setting

This research was conducted in three Islamic educational institutions in Bontang City, East Kalimantan: MAN Bontang, SMA Hidayatullah, and SMA Darul Hikmah Boarding School (DHBS), which were selected based on their unique characteristics in adapting the Islamic education curriculum.

- MAN Bontang is the only State Madrasa Aliyah (MA) in Bontang City and since 2020 has been designated as a Skills MAN. This school develops a skills-based curriculum to equip students with vocational competencies such as information technology, culinary arts, makeup, and photography, while strengthening Islamic values. The location of MAN Bontang in an industrial area makes it particularly interesting to study in the context of adapting the Islamic education curriculum to industrial needs.
- SMA Pesantren Hidayatullah is a modern Islamic boarding school that integrates the national curriculum with the unique curriculum of Pesantren Hidayatullah. This institution holistically prioritizes education based on Islamic values , including morals, intellect, and spirituality. This high school was chosen because of its innovation in responding to the needs of modern education and its role as a model for Islamic boarding school learning amid an industrial environment.

- SMA DHBS is an integrated Islamic school part of the Indonesian Integrated Islamic School Network (JSIT). Although still relatively new, SMA DHBS has experienced rapid development in implementing education based on Islamic values. Its selection as a research object is based on its progress in responding to educational challenges in industrial cities and applying a relevant modern curriculum in the era of globalization.

These three schools were chosen as research locations because they represent various approaches to Islamic education in facing the challenges of industrial society in Bontang City.

C. Data Collection Technique

1. Interview

Data collection through interviews was conducted purposively, based on specific criteria. The participants included the head of the madrasa, the principal, and the deputy head of the madrasa or school in charge of the curriculum; the head of the Islamic Education Section of the Ministry of Religious Affairs of Bontang City; and the head of the Elementary and Secondary Education Section at the Education Office of Bontang City. Additionally, interviews were conducted with parents of students and teachers, who represent the internal stakeholders of educational institutions. Company representatives from PT. Badak NGL and PT. Pupuk Kaltim provides insights into the necessary skills for the workforce. Table 1 shows the interview.

Table 1. Interview guidelines

No.	Variables	Question
1.	Curriculum Relevance to Industry Needs Technical and Non-Technical Skills Development	What percentage of subjects or modules are directly related to industry needs? (e.g., technology, management, or technical skills).
		How is the partnership or collaboration with industrial companies in developing the curriculum?
		How is integrating the latest technology (e.g., artificial intelligence, big data, and the Internet of Things) in the curriculum?
2.	Project-Based or Practical Learning	What percentage of the curriculum includes technical skills training (hard skills) such as programming, machine operation, or product design?
		What proportion of the curriculum develops non-technical skills (soft skills) such as communication, leadership, teamwork, and problem solving?
		Is there an entrepreneurship learning module to encourage innovation?
3.	Adjustment to Technological Developments Industry Involvement in the Learning Process	What is the frequency of project-based learning activities (PBL) involving simulations of real industrial problems?
		How many hours of practical learning in the laboratory or workshop?
		What is the percentage of internships or field work practices (PKL) in the curriculum?
4.	Focus on Sustainability and Work Ethics	Is the curriculum updated regularly according to developments in industrial technology?
		How is the use of e-learning platforms or digital learning technology in education?
		How is the use of modern technology, software, and equipment in learning?

No.	Variables	Question
5.	Monitoring and Evaluation of Graduates Curriculum Flexibility, including indicators	How much collaboration with industry players is needed to provide training, seminars, or guest lectures?
		How is the involvement of industry players in assessing student learning outcomes?
		Are there mentoring programs or career guidance by industry professionals?
6.	Focus on Sustainability and Work Ethics within Islamic educational curricula	Are modules teaching sustainability principles in industrial processes (sustainable development)?
		Does the existing curriculum include professional ethics and social responsibility in the workforce?
7.	Curriculum Relevance to Industry Needs Technical and Non-Technical Skills Development	What percentage of graduates are absorbed in the industrial workforce within a specific period?
		How satisfied are companies with graduate performance?
		How long does it take graduates to get their first job relevant to their field?
8.	Project-Based or Practical Learning	How is the curriculum able to adapt to various regional industry needs?
		Are there learning paths that students can choose according to their interests and career needs?
		How is the integration of the concept of lifelong learning in the curriculum?
9.	Adjustment to Technological Developments	What are the obstacles to adapting the LPI curriculum to respond to the industrial community?
		What factors support the adaptation of the LPI curriculum in responding to industrial society?

2. Documentation Study

Data collection utilized documents as the primary source of information in research. Documentation techniques involve a series of systematic stages to explore and analyze data from various relevant documents. Data sources collected through documentation studies included internal documents from educational institutions and industries that describe curriculum collaboration and policies and regulations from government institutions such as the Ministry of National Education and the Ministry of Religious Affairs. Documentation studies aim to provide an in-depth analysis of curriculum adaptation in response to industry needs based on verified documents. Table 2 shows the guidelines for the documentation study.

Table 2. Documentation Study Guidelines

No.	Required Documents
1.	Profile of MAN Bontang, SMA Hidayatullah, and SMA DHBS
2.	Curriculum documents
3.	Vision, mission, and strategic plan documents
4.	Regulations on the curriculum of Islamic educational institutions.
5.	RPP documents containing digital literacy, creative thinking, and technological skills
6.	Documents of cooperation with the industrial sector
7.	Incubation program documents (this business mentoring program includes training, workshops, etc.)
8.	Digital literacy, creative thinking, and technological skills programs.
9.	Decree of the curriculum control and development team
10.	SOP for curriculum development

No.	Required Documents
11.	Program documents such as cooperation between educational institutions and IDUKA (Industry, Business World, and Work World)
12.	Infrastructure documents

3. Observation

Observations were conducted directly in three educational institutions, MAN Bontang, SMA Hidayatullah, and SMA DHBS Kota Bontang, to observe the environment's activities, behaviors, events, and phenomena. Observations were conducted in two stages: the first, initial observation, which includes the institution's facilities and infrastructure, the location of the institution, and the social environment of the surrounding community. The second is in-depth observation, which focuses on interpersonal interactions within the institution, including the relationship between leaders and teachers, between teachers, and between teachers and students. See Table 3 for the observation guideline.

Table 3. Observation Guidelines

No.	Observed Activities
1.	Physical and social environment of MAN Bontang.
2.	Educational support facilities: laboratories, practice rooms, or technology facilities relevant to industry needs.
3.	The relevance of learning materials to competency needs in the industrial society era, such as the use of technology and digitalization.
4.	Implementing learning methods supports the development of 21st-century skills, such as critical thinking, creativity, and collaboration.
5.	Availability of technology-based learning aids, such as educational software, e-learning platforms, or other digital devices.
6.	Existing facilities support industry-based skills learning, such as project-based training, group collaboration, or industrial work practices.
7.	The available facilities support learning practices relevant to industry needs, such as technology-based simulations, industrial demonstration tools, and skills training materials.

D. Data Analysis

The data analysis technique used in this study uses qualitative data analysis based on the Miles and Huberman model [33]. The analysis process is carried out systematically and interactively. The Miles and Huberman model analysis technique can be seen in Figure 1.

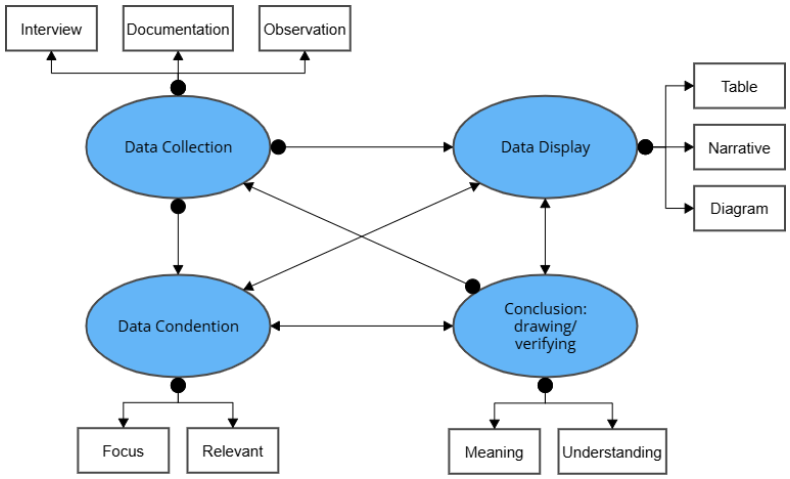


Fig. 1. Components of Data Analysis: Interactive Model by Miles and Huberman

The components of this study are given in Figure 1. It shows some processes, such as data reduction, that involve selecting and summarizing data from interviews, field notes, and documentation to make it more focused and relevant. Then, data presentation functions to organize data into an easily understood form, such as tables, narratives, or diagrams, to find patterns and relationships. Finally, concluding is the process of analyzing findings, identifying the meaning of the data compiled, and understanding the relationship between curriculum adaptation and industry needs in Bontang City.

Results and Discussion

A. Responses of Islamic Educational Institutions Adapting Industry-Based Curriculum

Table 5 summarizes the findings of a study on how MAN Bontang, SMA Hidayatullah, and SMA DHBS have adapted their educational approaches to the context of Bontang as an industrial city. The table compares these schools across four key aspects: understanding the context of industrial society, implementing Islamic values, relationship with the environment, and overall curriculum adaptation.

Each institution addresses the influence of industrialization by integrating relevant skills, technology, and Islamic character education into its programs. MAN Bontang emphasizes a competency-based curriculum with vocational skills and environmental awareness, despite facing challenges such as limited facilities and diverse student backgrounds. SMA Hidayatullah, as an Islamic boarding school, maintains strict religious discipline and responds to the needs of migrant families by creating a values-based, immersive learning environment. SMA DHBS focuses on character and work ethic, blending Islamic teachings with digital literacy and community involvement.

Table 4 provides a comparative overview of character education initiatives at MAN Bontang and MTsN Model Samarinda across five key aspects: environmental awareness, responsibility, integrity, independence, and global awareness. Both schools demonstrate strong efforts in fostering student character, though with varying strategies and program focuses.

Table 4. Response on Adapting Industry-Based Curriculum

Aspect	MAN Bontang	SMA Hidayatullah	SMA DHBS
Understanding the Context of Industrial Society	Adapts to industrial workforce needs with competency-based curriculum, soft skills, and vocational training (e.g., multimedia, culinary); integrates technology despite limited facilities and teacher availability; and addresses diversity	Responds to demographic changes due to industrialization; established to meet the educational and religious needs of migrant worker families; emphasizes religious-based character education.	Recognizes demand for technical and soft skills; integrates tech (e.g., simulations, project-based learning); balances industrial readiness with Islamic values and character education.

Aspect	MAN Bontang	SMA Hidayatullah	SMA DHBS
	challenges in instilling Islamic values.		
Implementation of Islamic Values	Embeds Islamic values via Al-Qur'an memorization class, structured worship practices, and Garimah (charity) program; instills spiritual and social intelligence through daily religious routines and habits.	Maintains Islamic identity through strict boarding rules; 24-hour monitoring reinforces Islamic lifestyle; supports immersive religious practice in daily life.	Promotes Islamic values via teacher role models, *halaqah*, Qur'an memorization, Arabic study, and Islamic-themed extracurriculars (e.g., ROHIS, social services); builds disciplined, ethical character.
Relationship with the Environment	Connects learning with industry via field visits and partnerships; fosters entrepreneurship and environmental awareness (e.g., *Adiwiyata*, zero waste); and conducts CSR collaborations and community charity.	Recruits diverse educators to enrich pedagogy; engages students in preaching, social work, and disaster relief; positions school as a community hub for religious and social outreach.	Encourages tech mastery and community involvement; instills social values through structured programs (e.g., Friday donations, Ramadan takjil); emphasizes collaborative school-community relations.
Curriculum Adaptation Focus	Vocational-practical integration with religious values and environmental activism supports character and skill development for modern society.	Religious and academic synergy responding to industrial city needs ensures moral resilience amid modern culture.	Holistic development blending Islamic ethics, workforce competencies, and digital literacy in a boarding school context.

All three schools firmly commit to Islamic values through daily worship routines, Qur'an memorization, and social charity programs. They also maintain active relationships with their communities through CSR collaborations, environmental education, and social outreach. Collectively, the table illustrates how education in Bontang aligns with the city's industrial demands while preserving religious and cultural integrity.

B. Factors that Encourage Islamic Educational Institutions to Adapt Industry-Based Curriculum

Table 5 summarizes the driving factors of curriculum adaptation at MAN Bontang, SMA Hidayatullah, and SMA DHBS. The driving factors behind curriculum adaptation in three Islamic high schools in Bontang reflect a shared commitment to balancing Islamic identity with the demands of a modern, industrial society. Each institution implements strategic efforts to ensure students are equipped with academic competence and strong Islamic character.

Table 5. Summarizes the Driving Factors of Curriculum Adaptation

School	Driving Factors of Curriculum Adaptation
MAN Bontang	• Integrating religious and general knowledge to produce morally strong and academically competent graduates.

	• Emphasis on discipline, responsibility, and hard work in daily learning practices. • Motivation to align with workforce needs while preserving Islamic values.
SMA Hidayatullah	• Desire to stay relevant to industry needs while maintaining the Islamic boarding school identity. • Recruitment of educators from outside the boarding community to bring innovation. • Curriculum remains based on Islamic teachings but enriched with modern, workplace-relevant methods.
SMA DHBS	• Focus on soft skills development: communication, leadership, teamwork, and work ethic. • Teachers serve as role models for professionalism and discipline. • Partnerships with industry: coaching, visits, and market-oriented training. • Supportive infrastructure: labs, libraries, and tech-based learning. • Entrepreneurship education in practical fields. • Active involvement of parents and government support to integrate Islamic and academic values.

At MAN Bontang, the curriculum is designed to integrate general and religious education, aiming to produce graduates who are not only knowledgeable but also uphold Islamic morals and ethics. The madrasa emphasizes discipline, responsibility, and hard work as essential values in learning and daily life. This approach allows MAN Bontang to stay relevant in an industrial context while preserving its religious foundation.

SMA Hidayatullah, as a boarding school, focuses on maintaining its Islamic environment while adapting to workforce needs. A key strategy is the recruitment of educators from outside the internal community, which introduces diverse and innovative learning methods. These external inputs help align the curriculum with industry trends without compromising the school's Islamic principles.

SMA DHBS adopts a comprehensive adaptation strategy driven by developing soft skills (communication, leadership, teamwork, and ethics) embedded in the curriculum. Teachers serve as professional role models, while partnerships with the business and industrial sectors expose students to real-world practices. The school also offers entrepreneurship education and benefits from strong facilities, government support, and active parent participation.

Collectively, these driving factors demonstrate how each school adapts to industrial challenges while ensuring students' spiritual, social, and academic development.

C. Factors that Hinder Islamic Educational Institutions in Adapting Industry-Based Curriculum

Although various Islamic educational institutions in Bontang City, such as SMA DHBS, SMA Hidayatullah, and MAN Bontang, have adapted their curriculum to respond to industrial society's development, several inhibiting factors still need to be overcome. The following will present the factors hindering the adaptation of the curriculum of Islamic educational institutions in responding to industrial society in Bontang City.

At MAN Bontang, a significant issue lies in the limited expertise of teaching staff in industry-based learning and vocational education. While educators are well-versed in religious and academic subjects often lack training in technology, entrepreneurship, and workforce-related content. As a result, the curriculum remains heavily theoretical, with minimal integration of practical skills such as information technology and business management.

Table 6. The Comparison in Implementing CFE

School	Inhibiting Factors of Curriculum Adaptation
MAN Bontang	• Teaching staff lack expertise in industry-based learning and vocational skills. • Limited training in technology, entrepreneurship, and industrial content. • The curriculum is still heavily focused on academic and religious subjects. • Practical and workforce-oriented skills like IT and business management are not fully integrated.
SMA Hidayatullah	• Teachers struggle to integrate technology into teaching. • Lack of digital literacy and skills in modern educational platforms and tools. • Predominant backgrounds in Islamic and traditional education hinder technological adaptation. • Resistance to innovation due to traditional teaching mindsets.
SMA DHBS	• Student overuse of gadgets reduces focus on learning and character formation. • Difficulty in recruiting qualified and dedicated dormitory supervisors. • Challenges in managing student discipline and educational consistency in a boarding environment.

SMA Hidayatullah faces obstacles related to digital adaptation. Many of its teachers struggle with using educational technology, including software and online platforms. This is partly due to their academic backgrounds, mainly in Islamic studies and conventional teaching approaches. In addition, some educators maintain a traditional mindset and resist adopting technological innovation, slowing down curriculum modernization.

Meanwhile, SMA DHBS encounters challenges primarily concerning student behavior and boarding school management. Students' widespread use of gadgets often distracts them from academic and character-building activities. Moreover, the school faces difficulties recruiting dormitory supervisors who are competent and committed to guiding students in educational, spiritual, and personal development.

These inhibiting factors highlight the need for targeted interventions, such as teacher training, digital literacy programs, and institutional support, to ensure curriculum adaptation aligns with industrial society's realities.

Discussion

The study results show that Islamic educational institutions in Bontang City have made various adaptations to respond to the demands of the industrial community. These adaptations include curriculum updates, strengthening student competencies, and integrating religious values with the needs of the modern work world. This ensures that graduates of Islamic

educational institutions have a solid spiritual foundation and can compete in the challenging industrial era.

A. Response of Islamic Educational Institutions in Adapting Industry-Based Curriculum

1. Understanding the Context of Industrial Society

Based on the results of research conducted at three research loci (MAN Bontang, SMA Hidayatullah, and SMA DHBS, curriculum adaptation in understanding the context of industrial society has a vital role in ensuring that graduates have skills that are relevant to the needs of the workforce and still adhere to Islamic values. The following describes the research results related to understanding the context of industrial society in each school. In education, especially in environments close to industrial centers, understanding the context of industrial society is an essential element in compiling a relevant and adaptive curriculum [34]. This aims to ensure that graduates have skills and characters that meet the demands of the workforce while maintaining local moral and cultural values [35]. Research results at MAN Bontang, SMA Hidayatullah, and SMA DHBS show that curriculum adaptation to the context of industrial society has become the primary focus in designing a learning system. MAN Bontang adapts its curriculum to industrial needs by utilizing technology in learning. MAN Bontang has adopted digital technology and project-based learning to equip students with industrial skills. This is a form of behavioral adaptation, where learning methods are adjusted to the demands of the times. Integrating soft skills in the curriculum benefits graduates in industrial areas that require technical skills, communication, teamwork, and leadership skills. Therefore, MAN Bontang has adopted a strategic adaptation strategy to improve its students' competitiveness in the workforce and collaborate with companies and CSR. MAN Bontang collaborates with industrial companies through the Corporate Social Responsibility (CSR) program to support the development of student skills. This reflects the adaptation process, where educational institutions build sustainable systems through strategic partnerships [36].

SMA Hidayatullah focuses on religious education and integrates digital literacy, entrepreneurship, and industrial skills into its curriculum. This reflects behavioral adaptation, where the learning approach is adjusted to the needs of the industry. Facing a competitive industrial sector, SMA Hidayatullah instills the principles of Islamic business ethics in learning. This shows the strategy of strategic adaptation, where the institution ensures that its students have a strong moral foundation in the workforce. Project-based learning and social service are applied to improve students' social and economic skills in facing industry challenges.

SMA DHBS, to ensure that graduates have global competitiveness, implements a program of accelerated *tahfidz* classes, foreign language proficiency, and digital literacy. In partnership with the Business World and Industry, this is a behavioral adaptation, where the education system undergoes significant changes to meet the workforce's needs. The school collaborates with industry through internship programs and project-based learning, which are forms of process adaptation to improve students' work readiness.

2. Implementation of Islamic Values

Implementing Islamic values in adapting student behavior aims to form characters that align with Islamic teachings in the educational environment and everyday life. This behavioral adaptation is essential in facing increasingly complex social, cultural, and technological changes, especially in industrial society [37].

The study showed that MAN Bontang, SMA Hidayatullah, and SMA DHBS showed that student behavioral adaptation can be directed through curriculum alignment with Islamic teachings. Some forms of integration of Islamic values in learning include integrated Islamic character education in the form of instilling values, such as honesty, trustworthiness, discipline, hard work, and responsibility, through subjects and daily practices [38]. Teaching how science, technology, and modern skills can align with Islamic teachings, so that students understand that religion and the development of science support each other. Implementing project-based learning that links theory with authentic experiences, based on Islamic values.

Students must adapt well to Islamic values in a society that continues to develop, especially in the industrial and digital era [39]. Islamic-based behavioral adaptation aims to form individuals who are superior in academics and have noble morals according to Islamic teachings [40]. Islamic education institutions implement Islamic values in the behavioral adaptation of students by implementing an Islamic value-based curriculum, where general and religious subjects are integrated so that students understand the relevance of Islamic values in various aspects of life [41]. In addition, the active role of students in the adaptation process is vital because students are not only seen as recipients of education but also as active agents of change. Students are invited to actively participate in the Islamic education teaching and learning process, for example, through social projects or community initiatives that promote Islamic values in the industrial environment. This helps them internalize the values taught and see their relevance in everyday life.

3. Relationship with the Environment

The success of Islamic educational institutions in areas prone to social conflict and industrial societies cannot be separated from the involvement of various actors who support the institution's sustainability. Madrasas can survive and develop amidst complex

social dynamics with the synergy between the government, religious leaders, the community, parents, and social and religious organizations [42]. The government provides policies, regulations, and financial support for the operation of madrasas, including affirmative programs that ensure access to education for all levels of society [43]. Religious leaders and scholars also contribute to strengthening Islamic values and guiding students in building a strong Islamic character. Islamic education based on multiculturalism effectively builds harmony in a diverse environment. In addition, research conducted by MAN Bontang, SMA Hidayatullah, and SMA DHBS shows that the behavioral adaptation of Islamic educational institutions is internal and external, where interaction with the surrounding community is a significant factor in the sustainability of Islamic educational institutions. In the context of areas prone to social conflict or areas with a majority industrial society, implementing multicultural-based education can be an effective strategy to maintain relevance and competitiveness without eliminating Islamic values.

B. Factors that Encourage Islamic Educational Institutions to Adapt Industry-Based Curriculum

To meet social demands and community needs, MAN Bontang must meet the community's expectations by providing superior Islamic-based education and preparing graduates who can continue to college or the workforce. SMA Hidayatullah utilizes a boarding school-based education system that integrates religious and general knowledge. This approach effectively addresses the community’s demand for education grounded in Islamic values.

Meanwhile, SMA DHBS focuses on modern education while upholding Islamic values. This school meets the community's need for an educational institution combining academics and Islamic character. MAN Bontang, SMA Hidayatullah, and SMA DHBS are all committed to providing quality Islamic-based education. All three integrate Islamic values in the learning system through formal curriculum and character education and by strengthening religious values. In addition, they aim to prepare graduates who are not only excellent in academics but also ready to continue to college or enter the workforce with competencies that meet the demands of society. These results are supported by research conducted by Shadiev and Sintawati [44], which found that Islamic education strategically shapes students' character and morals. Islamic-based high schools strive to integrate Islamic values into their curriculum to create graduates who are not only academically superior but also have a strong Islamic personality.

Another study conducted by Fadillah et al. [45] found that Madrasa Aliyah graduates have sufficient academic competence to continue to college, especially in Islamic studies and social humanities. However, there are still challenges in science and technology, which require

improvements in teaching methods and learning facilities. Madrasa Aliyah graduates generally have basic communication, leadership, and teamwork skills. However, technical skills and special expertise in the professional field still need to be improved through additional training or vocational education.

C. Factors that Hinder Islamic Educational Institutions in Adapting Industry-Based Curriculum

Educational institutions are part of the social subsystem in people's lives. Therefore, any change in society's social system will impact the sustainability of social institutions, including educational institutions. In the context of modernity, academic institutions will face significant challenges along with advances in science and technology. Therefore, educational institutions must immediately adapt to the various resources and social values . A curriculum is necessary to effectively respond to societal progress and changes, supporting academic institutions in achieving meaningful outcomes for students and graduates. The curriculum is a fundamental element of education that serves as the primary guide for the learning process. Its role is vital in producing graduates with the academic knowledge and practical skills the industrial sector needs.

The industrial sector continues to develop along with technological changes, market needs, and globalization. A curriculum designed with these needs can help graduates become more relevant and competitive. For example, a curriculum integrating mastery of digital technology, analytical skills, and communication skills according to industry demand will increase graduates' readiness to face work challenges. For this reason, educational institutions, especially Islamic-based education, must improve innovation and adaptation of the curriculum to various advances [28]. According to Moslimany et al. [46], the main challenge in adapting the Islamic education curriculum is bridging spiritual and scientific needs with the demands of the labor market. Many Islamic educational institutions still focus on normative religious learning without linking it to technological innovation or the practical needs of industrial society. With an outcome-based approach, the curriculum can be designed to meet academic goals and make a real contribution to the development of useful innovation.

Islamic boarding schools and madrasas often position themselves as Islamic educational institutions that aim to form a faithful, pious generation that does good deeds. However, some parents and students tend to focus more on aspects of facilities, infrastructure, environment, and opportunities to continue their studies or get a job, considering that Bontang City is an industrial city, so the orientation of its people to go to school is to get job opportunities in companies or other fields. Islamic educational institutions in the industrial area of Bontang City, with their adaptations, can provide beneficial contributions to students and even support economic growth and social development in Bontang City. Integration between education and

industry can create graduates who are more prepared and relevant to the job market. As an industrial area, Islamic educational institutions in Bontang City can synergize with companies regarding education and training, partnerships with industry, entrepreneurship education, technology-based education, and understanding of Islamic business ethics. Access to Islamic educational institutions can improve in developing industrial areas thanks to economic and infrastructure progress. Improving infrastructure in industrial areas makes it easier for students to reach Islamic educational institutions and can enhance the quality of education provided. In addition, economic growth in industrial areas also plays a role in facilitating access to Islamic educational institutions, because with increasing income, people can more easily access quality education, including Islamic education. Industrial areas can also cause unemployment among graduates of Islamic educational institutions if the type of industry and skills required do not match those taught in Islamic institutions [47]. The challenge for Islamic educational institutions is to revitalize by offering educational services that meet the needs of the labor market and technological developments, as well as strengthening partnerships with industry [48]. Changes in community behavior patterns in industrial areas can be seen from the increasing tendency to be consumptive and decreasing participation in cooperation and other community activities.

Conclusions

Islamic educational institutions in Bontang (MAN Bontang, SMA Hidayatullah, and SMA DHBS) have made commendable strides in adapting their curricula to meet the demands of an industrial society while preserving core Islamic values. These adaptations involve aligning religious teachings with relevant academic and practical competencies, ensuring students are spiritually grounded yet ready for modern workforce challenges.

Each institution has employed unique strategies. MAN Bontang emphasizes skills training, research, and the integration of local wisdom. SMA Hidayatullah combines the national curriculum with *pesantren* traditions, maintaining its religious identity while introducing innovative methods. Meanwhile, SMA DHBS adopts a technology-oriented, accelerated learning model that incorporates character education, emphasizing honesty, discipline, and cooperation.

Despite their progress, challenges persist. Teachers often lack training in industry-relevant fields and digital literacy, limiting their ability to connect Islamic content with modern knowledge. Gadget overuse among students and the difficulty recruiting dedicated dormitory mentors also affect educational effectiveness. To address these issues, three key recommendations are proposed:

1. Continuous professional development for teachers in digital tools, character education, and curriculum integration.
2. Industry collaboration with local companies such as PT Badak NGL and PT Pupuk Kaltim to align learning with workforce needs and offer practical experiences.
3. Inclusive curriculum design teams involving educators, religious figures, and industry professionals to ensure content remains both contextually relevant and values-based.

Establishing strong monitoring and evaluation systems will also help track curriculum effectiveness and guide future improvements. Ultimately, sustainable and responsive curriculum adaptation will ensure these institutions continue to fulfill their dual mission: upholding Islamic principles and preparing students for ethical and competent participation in industrial society.

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Conflict of Interest

The authors declare that there is no conflict of interest.

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