Industry 4.0 and the Impact of Moral Values for Madrasah 'Aliyah Negeri Students in Indonesia

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Abstract: This article examines discusses Industry 4.0 and the Impact of Moral Values for Students of Madrasah 'Aliyah Negeri (State Islamic High School) in Indonesia if the school culture enables the students to implement Islamic values, and the obstacles faced by Madrasah 'Aliyah Negeri in implementing moral values. Methods of using qualitative research. The information used in the study are headmasters and teachers of Madrasah 'Aliyah Negeri. The data were analyzed descriptively through data display, data reduction, and data verification. The result of the study revealed that the Industry 4.0 would not influence moral values of Madarasah 'Aliyah students for if they had strong faith and strong background of the best conduct (Akhlak al-Karimah), and the culture of the schools supported them to continuously apply Islamic moral values, and there was not significant challenges or obstacles found because the curriculum and the environment of the schools also supported the Madrasah 'Aliyah students to defend their moral values in their daily life, except for the students who rent houses or rooms to live in for they were far away from their parents and they were difficult to control and supervise as well..

I. INTRODUCTION

The industrial revolution 4.0 is marked by a sequence of new technologies that are amalgamating the physical, digital and biological worlds, influencing all courses, economies and industries, and even confronting ideas about what it means to be human (Daud, 2000; Ayuba, 2013; Muhammad, 2016; Pergerakan, 2017). Industry 4.0 concentrates on the formation of smart output and manufacturing processes. In future manufacturing, factories have to cope with the need for rapid product progression, flexible production as well as complicated environments. We cannot deny that Industry 4.0 will decrease human involvement and animal power in doing our activities because the power of the machine makes human beings become unemployment. It means that many jobs or works which were implemented by man but have been done or implemented by machines nowadays and automatically man can take a rest or no need to work anymore. Then, the influence of internet spreading everywhere and information technology which is very sophisticated and easy to access, it will also alter human morality, attitude, way of life as well as their mind.

Therefore, the curriculum of Islamic education should be comprehensive that consist of community needs and stakeholders' desires. Besides, the content of the curriculum should produce the pious Muslim, the best conduct (*akhlak al-karimah*) person, knowledgeable, skilfull,

intelligent, and honest (Abdurrahman 2018; Muhammad, 2016; Sulaiman, 2017) As we know, this kind of curriculum (Islamic educational curriculum) has been applied in all Madrasahs 'Aliyah Negeri (State Islamic Senior High School) in Indonesia.

Madrasah 'Aliyah Negeri, are schools under the Ministry of Religious Affairs of Republic Indonesia, have done very much in propagating moral values or Islamic education through its curriculum from elementary schools to university level. By teaching these moral values (Islamic moral values), it can avoid students or our young generation from moral decadence, free sex, drug abuse, juvenile delinquency, illegal racing, robber, suicide, cheating and the like. We are now living in the globalization era, willy nilly, and we cannot escape from this situation, we have to face and experience everything we encounter.

Everything happens very fast and the effect of everything can be felt and experienced on the spot. One of the effects or impacts of globalization is moral decadence especially our young generation (Daud, 2000; Muhammad, 2016). It seems those who are living in this Industry 4.0 era also experience various problems of living. For example, behavioral changes, food style, the way to get dressed, the way to think, and the way of life itself. As we have known, every Muslim should anticipate all negative possibilities to save the young generation by implanting moral values to Muslim children whether at their houses or schools. Fortunately, we have moral education subjects (*akhlak al-Karimah*) provided in Madrasah's curriculum all over Indonesia.

The contents of the curriculum especially moral values are a very important subject for character building. …Madrasah is one of the institutions which can be trusted to restore the nation's morality which is being damaged nowadays (Ene & Barna, 2015; Sulaiman, 2017). Fourth Industrial Revolution arouses the development of several types of new technology, which include the focus on imitative intelligence and automation of the system (Rahman et al., 2017; Carson et al., 2004). Sometimes people tend to say that this is a kind of disruptive technology or innovation.

The emergence of digital media, streaming video, smartphone, and the internet itself which produce email, social media and the like, will make human beings disrupted. It can be said that this Fourth Industry 4.0 era has changed many aspects of life for those who are living on this planet. None is immune to the change driven by our modern information and communication technology (Blackburn, 2008; Daud, 2000; Ayuba, 2013; Sulaiman, 2017). The most dangerous one is changing attitude, behavior, morality, way of thinking, and way of life. One thing that must be defended is the morality of the young generation because nowadays drug abuse, free sex, corruption, bribery, illegal racing, assassination, and raping always occur. All of these things are related to moral deviation and faith. For that reason, we believe that the role of Madrasah 'Aliyah in protecting the students' moral values cannot be denied. The teachers, students, curriculum, headmasters, parents, and the environment of the schools are supporting to apply Islamic moral values.

II. Method

This study is done qualitatively. The sample was selected through purposive and snowballing sampling techniques. Besides, triangulation was also employed in collecting data, for example, interview, observation, and documentation. The method of data analysis was done based on what is suggested by Miles and Huberman--- data display, data reduction and data verification (Creswell, 2010; Juliansyah, 2014; Miles & Huberman 1984). The location of the study is located in the Province of Aceh ---- Madrasah 'Aliyah Negeri 1 Pidie Jaya, Aceh; Madrasah 'Aliyah Negeri 1 Aceh Selatan (South Aceh); Madrasah 'Aliyah Negeri 1 Jeuram, Nagan Raya, Aceh; Madarasah 'Aliyah Swasta (Private Islamic

High School), Calang Aceh Jaya, Aceh; Madrasah 'Aliyah Negeri 1, Langsa, East Aceh; Madrasah 'Aliyah Negeri 2 Langsa, East Aceh; Madrasah 'Aliyah Negeri 1 Aceh Jaya; and in the Province of West Nusa Tenggara--- Madrasah 'Aliyah Negeri 1 Mataram Municipality; and Madrasah 'Aliyah Negeri 2 Mataram Municipality. All of these madrasahs (schools) are under the Ministry of Religious Affairs of Republic Indonesia

III.   Findings and Discussion

The Impact of Industry 4.0 for Moral Values of Students in State Islamic Senior High School in Indonesia.

It is recognized that moral deviation among the young generation especially students in State Islamic High Schools cannot be avoided except for those who have strong faith (belief) and those who have a strong background of *akhlak al-karimah* (the best conduct). It is very difficult to supervise students' attitudes or behavior when they are outside of the schools because the internet, wifi, and social media are very open and free to access everywhere and anytime.

This is proven by the internet that growingly spawns a surrounding culture regardless of a positive or negative environment. So everything will change whether we need or needn't, positive or negative impacts (Abu-Rayya et al. 2016; Daud, 2000; Sulaiman, 2017). The emerge of the internet is an obstacle for us particularly for the young generation and that is why parents at home and teachers at schools must do the extra job to control or supervise their children/students in their daily activities. They tend to do anything that they watch from television, the internet, and social media without being filtered. The use of an android handphone and gadget freely will be dangerous for students. Hence, we do not allow students to use handphones in the school environment (Ene & Barna, 2015; Muhammad, 2016; Sulaiman, 2017). The cooperation between household and schools (parents and teachers) are very important to protect our children/students/ young generation from moral decadence and juvenile delinquency such as free sex, pornography, drug abuse, and quarreling among the students (Dianti, 2014; Sulaiman, 2017).

Every Friday morning we are reciting Surah Yasin (*one of the Surah in Al-Qur'an*) together in *musalla,* and after that one of the teachers or someone who was invited from outside the school to give a talk about Islamic Syari'ah, Akhlak al-Karimah (the best conduct or moral), how to respect parents, teachers, and older as well as the dangerous of drug abuse. Besides, students are also provided with religious instruction by a religious teacher through the subjects existing within madrasah's curriculum (Azhar, 2007; Sulaiman, 2017). It is not an exaggeration to say that students of Madrasah 'Aliyah Negeri in Indonesia are not easily influenced by negatives things such as illegal racing, drug abuse, raping, interschool demonstration (*quarreling between the students of the other schools*). Probably, by implementing Islamic education, implanting moral values, and spreading the best examples to be followed by the students, moral deterioration or deviation is still maintained and remains intact.

It is believed that industry 4.0 will make a machine or robot changes human position (manpower) for the sake of efficiency and acceleration. This cannot be avoided for those who hold firmly Islamic shariah and Islamic faith. On the other hand, we also have to think that unemployment is increased, of course, crimes are also coming up for man has lost his/her job. These problems should be considered in this millennium era for anticipating bad possibilities that are happening in the near future.

The industrial revolution 4.0 will probably make human beings forget about the real moral values,

for example, those who are living in industrial countries who are very busy with their works in their offices and there is no time to implement moral values and religious instruction (Bowen, 1984; Azhar, 2007; Jaschok & Chan, 2009). In the life of Muslims, moral values, good attitude, sense of responsibility, religious tenet, and sense of caring are always practiced hand in hand. According to the result of research done by Puspa Dianti that there were some criminal cases occurring several years ago committed by the young generation including students themselves (Dianti, 2014; Fip-Upi, 2007). Also, the Indonesian Child Protection Commission (KPAI) mentioned that crime students in 2010 consisted of 2413 cases, in the year 2011 consisted of 2508 cases, and in the first quarter of 2012 there were 2008 cases (https://setara-institute.org/index-kinerja-penegakan-ham-2012). Anyway, we have never found our students getting involved in drug abuse, pornography, and cybercrime because we provide our students with religious instruction, religious lectures, religious talk/speech both in the classroom and in *mushala* (prayer room). There are some school regulations applied and must be implemented by all students of Madrasah 'Aliyah Negeri--- no handphone during at school environment, no smoking, and no quarreling at school surroundings. But, if they do too, we will punish them by expelling from school (Azhar, 2007; Sulaiman, 2017). This is a consequence for students who brake school regulation or Islamic moral values. In fact, this is the values containing within Islamic education which is practiced in all Madrasah 'Aliyah students all over Indonesia.

The School Culture Enable Student's of State Islamic High School to Implement Islamic Moral Values

One of the most important things to defend Islamic moral values for madrasah's students is the school culture. It consists of discipline to get dressed politely, shy to do bad things, communicate with each other when meeting, spread *salam* (greeting), and always learn and follow religious teachings and religious training as well as religious gathering. Then extracurricular activities like a boy scout, English and Arabic club, red crescent, and so forth. All these school cultures and extracurricular done at Madrasah 'Aliyah Negeri in Indonesia strengthen the students' personality, their mind, and their attitude. The values containing within the subjects, activities are derived from Islamic Morality which was inherited by our Prophet Muhammad (peace be upon him).

 It is usual for the teachers and students to perform congregation prayer especially at *zuhr* prayer (mid-day prayer), recite al-Qur'an together every Friday morning, short religious speech done after *zuhr* prayer and after reciting al-Qur'an together, Monday morning of flag ceremony, spreading *salam* (greeting) when meeting with friends and teachers as well their visitors who are visiting the schools (The result of interview with SR, teacher of Madrasah 'Aliyah 1 Jeuram, Nagan Raya of Aceh province) . These are all school culture which has been practiced all the time either by the teachers or by the students in Madrasah 'Aliyah in Indonesia and they are part of madrasah's curriculum. The objectives of such activities are to make students respect each other, respect their teachers, respect their parents, respect older and feel affection towards the younger, speak smoothly with people, diligent in studying, discipline in running school activities, to be punctual to go to school, and to avoid doing bad things both at school environment and outside of the school. By doing these things, they are familiar with kindness, doing a good deed, help each other, and always keep in touch with their teachers and friends.

Islam does not reject modernization as long as modernization is aimed at improving the life of mankind, not at the expense of decreasing his/her dignity (Ene & Barna, 2015; Muhammad,

2016). No problem for us to live in this industrial revolution 4.0 or this global era, no need to blame this modernity, but we have to prepare our young generation/ students with Islamic moral values to enable them to filter something new in their life. Extracurricular is also a part of madrasah's curriculum such as sports group, *halaqah* (religious discussion group), religious training when holidays and during the month of *Ramadhan* (fasting month), and the like. Truly speaking, moral values can protect people from the influence of the global economy and industry 4.0. Besides, moral (akhlaq) is safety. It saves people from doing bad things and violating behavior (Sulaiman, 2018). Civil Service Police (*Satpol PP*), local community, teachers and parents are always getting involved in monitoring or observing the students' activities when they are within the school environment or outside the school during the time of studying. We also provide the students with *Aqidah-akhlak* (faith and moral) subjects in which the teacher can strengthen school culture to be practiced during the school days .The school culture should be based on the community's custom, Islamic Syariah, and eastern values which are not opposing each other when implementing among the people (Nazir, 2017; Saminan, 2015; Sulaiman, 2018). The Era of the 4.0 Industrial Revolution has given great implications for the changing Lives of the world society. The changes occur in all aspects related to the needs of the community; Economics, education, and politics. Schwab and Rosyadi (2018) explains the Industrial Revolution of 4.0 has changed the life and human work fundamentally. Unlike the previous Industrial Revolution, this 4th generation Industrial revolution has a wider scale, scope, and complexity.

The new technological advances that integrate the physical, digital and biological worlds have influenced all disciplines, economics, industry, and government. Areas that have been torn down by new technological advances include (1) Artificial Intelligence robotic, (2) Nano Technologies, (3) biotechnology, and (4) Quantum computer technology, (5) blockchain (such as Bitcoin), (6) Internet-based technologies, and (7) 3D printers (Arshad et al., 2019; Wagner et al., 2017). The Era of Industrial Revolution 4.0 changed the human life system in a sophisticated and modern direction, almost all the problems and needs of human beings are bound or related to technology and the Internet. It's one of the cultural changes living in the era of the 4.0 Industrial Revolution. As with education, the education system is built on internet-based technology. The technological developments in the 4.0 industrial era have been positively implicating in the advancement of education in Indonesia and creating quality education. The management of education systems based on technology and the Internet provides convenience for users in accessing information (Wagner et al., 2017).

The Era of the 4.0 Industrial Revolution has a great advantage over the development of Madrasah education in generating innovations so that madrasah education is increasingly in public interest. Madrasah can offer an excellent program that suits the needs of the community in the 4.0 industrial era. One of the great implications of the era of the 4.0 industrial Revolution was the change to the student's moral damage resulting in negative behavioral changes. Almost all current students have gadget technology that is used as a communication and interaction tool. Besides, gadget technology can provide a variety of information that is not limited so it opens opportunities for students to access information that contradicts morally. The Era of the 4.0 industrial revolution, characterized by the rapid development of technological charts, also has positive implications for the education and learning process of students at Madrasah. Positive implications in the form of giving the students a degree of learning information. The whole era of the 4.0

Industrial Revolution has been a positive implication on the development of Madrasah programs relevant to the industry (Muhammad, 2016; Sulaiman, 2017).

Culture of Madrasah

Muhammad Iqbal, Niswanto & Sakdiah Ibrahim explained, this under the Ministry of National Education in the school curriculum Development Book explained that the school culture has two parts, namely the observable and Not observed. Observable sections such as architecture, spatial, exterior, and interior, habits and routines, rules, stories, ceremonies, rites, ampersand, logos, slogans, flags, pictures, signs, politely, Manners, and dress. This aspect also affects the character education of the Madrasah. Madrasah to create a regulatory norm that can lead to a student's peseta character.

Furthermore, the implementation effort was made through the culture of madrasah to involve the people of Madradah; Learners, education personnel, and teachers. All residents of the Madrasah must be actively involved in the process of implementing character education. Kardiyem refers to Hayes (2003), the process of determining this value should involve the school community, teachers, parents, and the surrounding community; So that the school will reflect the whole community they serve, able to produce learners with characters as per the community expectations (Ene & Barna, 2015; Zuriah, 2007). The involvement of Madrasah residents in the implementation of Karter education to form the sincerity and understanding so that the character education can be carried out successfully.

The development of the culture of Madrasah to support the application of character education can be done as follows:

1. Habituation of character values in the Madrasah environment.
2. Teachers and all residents of Madrasah are consistent in giving support to character education.
3. Application of Madrasah regulations.
4. Discipline
5. Teachers and energy weaver speak politely.
6. Effective education/learning services (Azhar, 2007; Veugelers, 2000; Sulaiman, 2017).

The habituation of the value character of the students and all the residents of Madrasah implicates the development of the characteristic madrasah culture. Masita explained that the culture of Madrasah that applied noble character values by promoting attitudes and moral influence on the development of students ' character. In line with the description, Mukhibat explains the important Madrasah culture for the implementation of character education. Therefore, the culture development efforts of Madrasah that support the application of character education must be supported by conditioning and support of all residents of Madrasah. Saminan (2015) explaining, Islamic education is an education system that is a commitment of the government and society to be developed in the practice of education in Aceh. The Islamic education system is seen according to the philosophy of living and social value of Acehnese people in particular and Indonesian in general. Islamic education does not merely contain science or Islamic religious subjects, but more than that, it concerns the implementation of Islamic values in school life, so that Islamic culture becomes the essence of school culture (school and becomes a spirit in the process of organizing education in the school) (Saminan, 2015; Sulaiman, 2017).

Moral Formation Pattern in Aceh

The moral establishment of students in Madrasah Aliyah in Aceh in facing the 4.0 Revolution era was carried out by implementing different local wisdom with the education process elsewhere. The local wisdom is formatted in the Madrasah curriculum program, in the form of;

(1) Tahfiz Program and Reading Al-Qura'an operationally performed on Fridays and some madrasahs implementing the Program to show the Qur'an on a daily basis before beginning the learning process.

(2) Education curriculum based on Islamic law in Aceh province.

(3) Creating an Islamic Madrasah environment.

(4) The implementation of the culture of greeting, Sapa, and Smile (S3) to develop the climate of education in Islamic madrasah (Saminan, 2015; Sulaiman, 2017).

The application of the wisdom in the education program of Madrasah Aliyah in the province of Aceh implicates the moral and character development of students in facing the era of the 4.0 industrial Revolution so that students are better prepared in the face of technological advances with the strengthening of the skill and character of the students. In addition to this pattern, implicates the strengthening of the character of students who are relevant to Islamic sharia in Aceh province.

The Obstacles Faced by Madrasah 'Aliyah Negeri in Implementing Moral Values

There are not significant factors which are faced by the Madrasah 'Aliyah Negeri in Indonesia in implementing moral values. Because all the students are Muslim and moral values applied in Madrasah 'Aliyah are also coming from al-Qur'an and the Sunnah of the Prophet Muhammad (peace be upon him) (Sulaiman, 2017). Both al-Qur'an and Sunnah are the guideline for every Muslim and it is by following their way of life. In this case, both teachers and students have no trouble implementing it in a school environment.

Besides, the subjects provide at Madrasah are supporting to implement moral values for students because the subjects taught are Al-Qur'an, Hadis (Sunnah), Faith (aqidah), Akhlak (moral), prayer guidelines, Islamic Law, and Islamic history, Tafsir al-Qur'an (Quranic translation), Arabic and History of Islamic Civilization (Ayuba, 2013; Nazir, 2017; Sulaiman, 2017). All of these subjects relate each other and contain Islamic teachings, and the whole Islamic teachings mention about how to behave with parents, teachers, older, younger, leaders, how to get dressed Islamicly, how to get involved in politics, how to choose or elect leader, and how to run the country. All subjects taught at school should be related to moral values stated within the moral education curriculum.

Probably, students who come from villages which are far away from the town where the school located, they have to rent houses or room to stay during their studies in Madrasah, they are difficult to control and observe for their places scattered. This will be an obstacle for teachers and parents themselves to observe their activities (Azhar, 2007; Sulaiman, 2017). The life of the city is different from the village, the students who live far away from their parents and their community are difficult to control and to see what they are doing. This is also a challenge to apply moral values for students for them far away from their parents (The result interview with the head master and vice head master Madrasah 'Aliyah Negeri 2 Mataram, 2019). The success of education is indeed much dependent on several parties----household (parents), educational institution (schools), government (police, civil service police, ministry of education and other

educational boards), and community wherever they are and whenever it is. All of these components are responsible for the nation's morality.

The other challenges are a few students sometimes came late to schools, smoking and lazy to pray congregation (Azhar, 2007; Sulaiman, 2017). These problems are almost happening for the students who went to go to sleep late at night because they have to work part-time at a restaurant or at a coffee shop, particularly those who come from small scale families (Saminan, 2015). We still find students who are working part-time after studying at school but not so many, they probably work for decreasing their parents' burden during their studies. This will be a little bit problem to be disciplined to follow all regulations at schools.

IV. Conclusion

This study can be concluded that the impact industry 4.0, sophisticated information technology such as the internet, wifi, smartphone, Android, and other social media will influence human beings, including the students. Their behavior, moral values, the way to get dressed, the way to think and even their way of life will be changed unless they have strong faith (belief) and strong background of their akhlak al-karimah (the best conduct). Madrasah 'Aliyah students can anticipate such changes for the subjects provided in the madrasah curriculum, school activities, extracurricular activities and the environment itself which are all supporting students to apply Islamic moral values following Islamic teachings.

Besides, the school culture which has been implemented by the students inherently also supports the students to implement Islamic moral values in their activities. For example, congregational prayer, spreading salam when meeting, social visit, Quranic recitation together every Friday morning, religious speech/talk after Monday morning program for raising a flag, Birthday of Muhammad (peace be upon him) celebration, and other Islamic Holidays ceremonies, boy scout, etc. All of these activities or programs are considered worship, good deed, kindness, and advising each other which is suggested to do according to Islamic teachings.

Finally, it suffices to say that there is no significant obstacle found in implementing Islamic moral values in Madrasah 'Aliyah Negeri in Indonesia except a little case. For example, the students who come from the village far away from the city where the schools located, they have to rent houses or rooms to stay in. It is a little bit hard to observe or to supervise either by the teachers themselves or parents. Anyway, there are not many students experience this problem. Then, the problem of punctuality, we still found some students who were late to schools for they went to bed late during the night for part-time working.

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