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In Facing the Industrial Revolution A.O.

PROCEEDINGS Indonesian High Education Institution Strategy



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WELCOMING REMARK

Universitat Internacional de Catalunya

First of all, I would like to express my most warm welcome to all authors

for their valuable work, time and dedication so we can have one full proceeding that is so rich of research contributions. I myself would like to see the proceeding as an interesting window to see research works from Asia, especially from Indonesia. Hopefully this proceeding book can serve as a memento and encouragement for the advancement of further research in the future and enhance and foster collaborations among scientific at international scale.

I wish all participants good luck and have a nice and fruitful conference. Last but not least, welcome and enjoy Barcelona!

Frederic Marimon

Full Professor in Business Administration

Vice-Rector of Planning and Quality

Universitat Internacional de Catalunya

OPENING REMARK HEAD OF LL-DIKTI REGION IV

Thanks to the grace of God Almighty (Allah SWT), alhamdulillah, the International Proceedings at the Universitat Internacional de Catalunya (UIC), Barcelona, Catalunya, Spain, is complete. We organize this seminar on November 11, 2019 with participants and speakers from Indonesia, Spain, Switzerland, India, Palestine and United Kingdom. With the theme: "The Role of Higher Education in Facing the 4.0 Industrial Revolution in Indonesia", we aim that the seminar participants gain and share knowledge and experience among the participants and speakers present at the event.

Most of the Human Resources (HR) in Indonesia do not fully understand how the 4.0 industry has started to appear rapidly at this time, in the joints of the Indonesian economy. The low understanding of human resources in Indonesia goes straight with the emergence of inequality between the capabilities of local human resources and foreign human resources that began to participate in the current 4.0 industrial revolution in Indonesia. In addition, there are not many formal educations specifically preparing human resources in this field. Efforts that can be made by tertiary institutions to enhance their role are that special courses need to be made on Information and Communication Technology (ICT). If it already exists, then it needs to be deepened to be able to better understand the development of new technologies such as the Internet of Things (IoT), artificial intelligence machines or artificial intelligence (AI), physical-cyber systems and cloud computing.

With the issuance of international proceedings, I would especially like to thank Mr. Mahir Pradana who has worked hard to facilitate seminar activities with UIC Barcelona. Our deepest gratitude also goes to UIC vice rector of Planning and Quality, Prof. Frederic Marimon, for having our participants in his remarkable university. Hopefully these activities can provide us motivation to always work and innovate in developing professionalism as lecturers.

Bandung, 5 November 2019

Head of LLDIKTI Region IV,

Prof. DR. Uman Suherman AS, M.Pd.

OPENING REMARK CHAIRMAN OF KORPRI LLDIKTI REGION IV

Thanks to the grace and sanctity of God Almighty, the international proceedings published by the Universitat Internacional de Catalunya (UIC), Barcelona, Catalunya, Spain, can be resolved in a timely manner. Also, with good cooperation between our personnel Mr. Mahir Pradana, UIC, the speakers, and participants from Indonesia, and several countries in Asia and Europe. Hopefully this proceeding can provide motivation for lecturers to develop Higher Education 'Tridharma', especially aspects in lecturer research.

The development of technology in the industrial revolution era 4.0 is very influential on the characteristics of jobs that exist today, where skills and competencies are the main things that need attention. Because in the era of the industrial revolution 4.0 the integration of the use of technology and the internet is so sophisticated and massive that it also greatly influences changes in the behavior of the business and industrial world, the behavior of society and consumers in general. Characteristics in the industrial revolution era include digitalization, optimization and customization of production, automation and adaptation, interaction between humans and machines, value added services and business, automatic data exchange and communication of information technology. Therefore, education and industry must be able to develop industrial transformation strategies by considering the human resource sector that has competence in their fields.

In facing the era of the industrial revolution 4.0, students are expected to have 4 (four) competencies in themselves, including: competence to interact with various cultures, social skills, new literacy (data, human technology) and lifelong learning (lifelong education) Hopefully the international proceedings issued by the University of Internationale de Catalunya (UIC) Barcelona can make useful contributions, especially for lecturers in developing the Tridharma of Higher Education.

Bandung, 5 November 2019

Prof. DR. Endang Komara, M.Sc

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PUBLIC POLICY AND INDONESIA'S DEMOGRAPHIC BONUS OPPORTUNITY

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Abstract

The concept of demographic bonus is a picture of the number of productive population as Indonesia's assets to become a developed country. Economically, according to population statistics calculations, the current population of Indonesia has reached 271.4 million people, that with this number it is very possible for Indonesia to achieve a demographic bonus based on statistical calculations where the composition of the Indonesian population is dominated by citizens aged 0-9 years at 45.93 million, while the age of 10-19 years is 43.53 million. Based on these figures, it is estimated that in 2020-2030, Indonesia will be filled with productive population ages which will enable them to receive a demographic bonus. The demographic bonus opportunities become an important pillar for increasing a country's productivity and economic growth to be rapid through the use of productive resources.

Keywords: demographic bonus, productivity, opportunity

1. INTRODUCTION

Demography is a bonus that needs to be appreciated by a country which shows a large proportion of productive population, in the age range of 15-64 years in population change in a country. Indonesia is one of the countries that are expected to receive a demographic bonus. However, in an effort to reduce the population, it is necessary to strengthen the Family Planning program aimed at reducing fertility, improving the quality of health, and supporting for the achievements of other development programs.

According to experts' estimates, Indonesia is predicted to receive a demographic bonus in 2020-2030, where the population of productive age is very large, while the young age is getting smaller and the old age is sparse. However, the productive age will be a burden for the country if it lacks quality, therefore the government seeks to continue to increase the 12-year compulsory education by conducting a regeneration coaching pattern using parenting methods and patterns of improving community nutrition so that children can grow and develop through, among others, Maternal and Child Health Services, and intensifying Early Childhood Education Programs, increasing family economic efforts, and increasing various segments of needs, so that Indonesian human resources are able to compete at the world class level.

The total age of the workers between 15-64 years in 2020-2030 is estimated to reach 70 percent, while the remaining 30 percent are unproductive populations, which are under the age of 15 years and above 65 years. The count is seen from the numbers, which the population of productive age reaches 180 million, while non-productive is only 60 million. With this condition, it is very possible that the productive age is greater than the unproductive age, thus allowing Indonesia the opportunity to get a demographic bonus quota.

This demographic bonus will certainly have socio-economic impacts, one of which makes the population dependency rate, namely the level of productive population will bear the non-productive population in the old age category and the number of children will be very low which is estimated at 44 percent per 100 population. This condition is very beneficial for a country to get a demographic bonus that will only occur once a century.

2. WRITING METHODS

This paper is an idea related to Indonesia's opportunities in the next ten years. The method used is phenomenological descriptive by examining and analyzing Indonesia's chances of getting a demographic bonus in the future.

3. DEMOGRAPHIC BONUS FOR INDONESIA

The terminology of population dynamics becomes a hot issue in Indonesia as a developing country, namely Demographic Bonus. The concept of demographic bonus is a picture of the number of productive population as Indonesia's assets to become economically developed countries in the calculation of population statistics. Since 2010, there have been hot discussions about the problem of Indonesia's productive workers, because, according to the estimation, there will be high opportunities for the succession of development in Indonesia in all fields in the coming 2020-2030, one of which is infrastructure development.

Various thoughts and analysis above are prediction about the population at productive age which has been considered large, where the young age is getting smaller and the old age is decreasing. This reasoning is supported by the data report obtained from the Statistical Research Agency (2010) which shows that the composition of Indonesia's population is dominated by children aged 0-9 years at 45.93 million, while children aged 10-19 years at 43.55 million. Based on these numbers, it can be estimated that in the period 2020-2030 Indonesia will be filled with productive age, thus this is what is called a demographic bonus.

Various speculations from economic and population observers have arisen over Indonesia's opportunities when it comes to receiving future demographic bonus, that it will experience extraordinary progress. This phenomenon arises specifically for Indonesia, as the population transition process has developed since the last few years, which has also been accelerated by the success in reducing fertility rates, improving health quality, the success of educational development programs, and changing community paradigms which state: 'many children are difficult, few children are effective' . Thus Indonesia is quite optimistic, because it is predicted to get a demographic bonus. This prediction will not be achieved if it is not accompanied by the improvement in the quality of **education**, **health services**, and **community nutrition**. This is the key to reaching the opportunity of demographic bonus for Indonesia in the next ten years.

Recently, Indonesia's population has reached 271.4 million people. This large number must be utilized to achieve the demographic bonus opportunity by not causing many problems in order to be able to maximize development evenly and prevent the increasing of unemployment. Demographic bonus opportunity is very attractive, that it is considered to be able to improve the economy of a developing country. This opportunity should not be wasted, because it can be in vain if the government is unable to solve various problems, especially those related to: (1) unevenly development, especially the development between Western and Eastern Indonesia, (2) the high level of unemployment at young age, (3) the flow of work industrialization that is not yet available because of cultural and political diversity problems, (4) people's laziness in working as indicated by the lack of motivation to work hard.

This demographic bonus opportunity is essentially an important pillar for increasing a country's productivity and a source of economic growth through the use of productive resources. When the productive and old ages are decreased, per capita income for the needs of the population at the age of children and elderly can be by itself diverted to the program on improving the quality of education and health. It is expected that Indonesia will be able to take advantage of this demographic bonus, because it is an opportunity that must be addressed wisely and decisively, so that the government must prepare concrete steps, so in the future Indonesia will not experience life abrasion and turbulence that can destroy and mislead the Indonesian people.

According to Endang Srihadi, a social affair researcher of The Indonesian Institute (2010), there are four preconditions that must be fulfilled in order to achieve benefits of demographic opportunity, namely: (1) The exploding young population must have productive work and be able to save, (2) Household savings can be invested to create productive employment, (3) There is investment to increase human capital in order to take advantage of the momentum of the upcoming opportunity window, (4) Creating an environment that allows women to enter the labor market. The other factors, he says: 'the handling of children at school age, the increasing of work ethic, entrepreneurship education with emphasis on soft skills competencies, the increasing of health level, the empowerment of women and the improvement in educational regulations. This opportunity is automatically estimated to reduce the number of the elderly, if the government is able to use this opportunity optimally.

4. GOVERNMENT POLICY

If Indonesia is able to take advantage of various opportunities as stated by the analysts above, then the demographic bonus will be a blessing. The abundance of the working age population will benefit from the development side, so that it can spur economic growth to a higher level. The impact is the improvement of overall community welfare starting from upstream to downstream.

The government must be able to become the "agent of development" by improving the quality of human potential, starting from education, health, communication skills, to technological mastery. Another solution is the need of providing skills to the productive workers, so they no longer depend on the availability of employment itself. In addition, the government must also be able to maintain the availability of jobs and protect the country's assets so that they are not controlled by foreigners, which will harm the indigenous employment opportunities.

According to Lailatul Muniroh (2012), the government has now set a good concept that will integrate three main elements, namely (1) the development of economic potential, (2) the strengthening of national connectivity that is locally integrated and globally connected, (3) the strengthening of the ability of human resources and science with national communication technology to support the development of major programs in each economic corridor, (4) the arrangement of "full participation" strategy set by the government in order to increase the productivity of the productive age population.

Demographic bonus is like a double-edged sword; one side is a blessing if it is successful, but on the other side it will be a disaster if the quality of the human resources is not improved. Indonesia as a strong nation must have a plan, including building strong and quality human resources that will be a competitive edge for a nation. In fact, change cannot be done in an instant, and therefore the process of human quality improvement must continue and metamorphose gradually.

5. PUBLIC POLICY RECOMMENDATIONS

After various thoughts about demographic bonus have been considered by taking the views of experts, a number of recommendations for the achievement of demographic bonus in Indonesia are then put forward, namely:

- a. According to the Chairperson of National Population and Family Planning Board (BKKBN) and several multinational companies in Indonesia, Indonesian workers have a "skill gap" that still needs to be fixed. Such weaknesses are including the lack of English mastery and computer skills, and weak team work mental attitude and ethic that leads the workers to be unable to deal with high pressures at work. These weaknesses need to be fixed as soon as possible.
- b. Good governance must lead to policies that encourage economic improvement which can create many job opportunities. The management of the state budget (APBN) must also lead to the development of workspace and prevent unemployment so that it can sustain the fully increasing number of the productive age.
- c. There are four things in determining the demographic bonus policy that the government needs to pay attention to, including: (1) Improving the quality of education, (2) Improving the quality of health, (3) Provision of significant employment opportunities, (4) Continuous suppression of fertility rates.
- d. Economic issues must be synchronized with the concept of justice and prosperity. For this matter, Indonesia must take a lesson from several countries that fail to integrate the two problems into two sides of a coin, because at this time Indonesia's economic growth is still centered on Java Island, which is nonetheless experiencing "over capacity" to be inhabited by residents.
- e. To deal with the demographic bonus in 2020, the government should develop gradual programs and policies that contain an element of epidemic or reality emphasis that appears as physical evidence in the order of people's lives, such as improving education and health, providing employment, investment, and various things that can have implications for improving people's lives and welfare.

6. CLOSING REMARKS

Thus the idea of this article is conveyed, hopefully it will be useful and become an inspiration for Indonesia to achieve the demographic bonus opportunity, so that Indonesia in the future will get the blessing of progress in improving overall national welfare from west to east or from Sabang to Merauke. A prolific, just, prosperous Indonesia is in accordance with its beautiful natural potential, adorned with strands of high mountains, vast oceans, abundant natural resources: gold, natural stone, coal, oil, flora and fauna, and friendly and polite people, as well as very high ethics and cultures.

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