

## Utilizing Information Technology for Independent Women Generation Z in Facing the Era of Society 5.0

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### Abstract

The era of the industrial revolution 5.0 or Society 5.0 is a social problem solving with the help of the integration of physical and virtual spaces. It is related to big data technology collected on the Internet of things (IoT) transformed by Artificial Intelligence (AI) to help significantly improve the community life. The era of Society 5.0 impacted all aspects of social life, especially the economy and education. It has been recorded that the number of poor people nationally reached 27.54 million people in March 2021. This number decreased by 0.01 million people compared to September 2020. However, this number experienced an increase of 1.12 million people from March 2020. In addition to cases of poverty that continue to decrease and increase in education, discrimination often occurs in people's lives. It is influenced by the emergence of a distinction seen from the community's perspective on the education rights of women and men. Education, especially for women in the Society 5.0 era for Generation Z, is part of growth, development, advancement in technology, and digitalization to encourage and support women to play a role in all aspects of society. Technological advances in the Society 5.0 era created many opportunities with increased access for women to education, self-actualization, and careers. However, on the other hand, it poses several challenges, namely an increasingly competitive world of work, changes in child upbringing, and balancing roles. One way to overcome the challenge is to strengthen the position and function of the family, relations between families, media, and information literacy, develop norms and cultural standards, and apply more democratic communication patterns.

**Keywords:** Era Society 5.0, Economy, Education, Generation Z, Independent Women

### INTRODUCTION

The industrial revolution is a significant change in humans existing management resources and products creation in several sectors such as transportation, agriculture, technology, mining, and manufacturing. These changes impact social, economic, and cultural conditions throughout the world, especially in Indonesia. The industrial revolution 1.0 was the first revolution in the 18th century, 1750 to 1850. This revolution was marked by the invention of a steam engine used for the production process of an item. The emergence of the industrial revolution 2.0 occurred in the 20th century, known as the technological revolution marked by the discovery of electric power to make steam engines which are often used in the production process and are increasingly being replaced by electric power. The emergence of the 3.0 industrial revolution that occurred at the end of the 20th century was marked by the emergence of digital technology and the Internet, triggered by various machines that can move and automatic processes made in the form of computers and robots. Furthermore, the 4.0 industrial revolution that emerged at the beginning of the 21st century was a revolution in which humans have found a new pattern with the emergence of technological advances rapidly.

Nowadays, Japan announced the possibility of the society 5.0 revolution, which is called the era of the awakening of society. The concept of 5.0 focuses on combining various aspects, such as people, data, and technology. Although they have similarities with the previous revolutionary era, these eras are completely different based on their focus [1]. Recently, the global world has prepared itself to enter the era of industrial revolution 5.0 or Society 5.0. It is a concept initiated by the Japanese government, not only limited to manufacturing factors but also in solving social problems with the help of the integration of physical and virtual spaces [2].



Figure 1. Illustration of Society 5.0

Society 5.0 has a concept related to big data technology collected on the Internet of things (IoT) which is transformed by Artificial Intelligence (AI) into something that can help, especially the community so that life becomes better [3]. Society 5.0 can impact all aspects of social life, from health, urban planning, transportation, agriculture, industry, and education (Law of the Republic of Indonesia on the National Education System). Society 5.0 aims to integrate virtual and physical space to make everything easy by using artificial intelligence in its application [4].

In the 5.0 industrial revolution or Society 5.0, women and men have equality so that women and men have the same change, opportunities, and access as development resources. This equality is a target that must be achieved in the medium-term and long-term national development goals related to the emergence of Society 5.0, which will be a challenge in adjusting to very rapid technological developments [5]. Gender equality is in the spotlight in advancing the role of women in development. From the point of view of intellectual ability, women and men have the same capacity and potential. So that women and men can be seen as equal. At the same time, specific abilities are abilities that are different because of their femininity, so that equality is not appropriate in this case, equality if it is seen to be the same. The concept of equality indicates that women and men must have the same capacities, preferences, and needs so that it can be seen that ideally, they should achieve the same level of health, education, income, political participation. It is not implicitly acknowledged that there are unequal between women and men [6].

At this time, Generation Z plays an important role from the results of the 2020 Population Census, which was released by the Central Statistics Agency (BPS) at the end of January, providing an overview of Indonesia's demographics which has undergone many changes from the previous census results from 2010. According to the predictions and analysis of various groups, Indonesia is in a period known as the Demographic Bonus. The composition of Indonesia's population in 2020 mostly comes from Generation Z/Gen Z (27.94%), namely the generation born between 1997 and 2016. The Millennial Generation, which is predicted to be the motor of the current movement of society, is slightly below Gen Z, which is 25.87% of the total population of Indonesia. It causes the existence of Gen Z to play an important role and influence the development of Indonesia today and in the future.

It is also known that Gen Z women's interest in obtaining degrees related to industrial science, engineering, technology, and mathematics is quite large, as evidenced by the large number of women

who have studied technology and science majors. It is a positive development impact to take a strategic position in nation building because education has a significant influence on the gap between women and men, it can be seen from the results of a survey by the Indonesian Internet Service Providers Association (APJII) in 2016, which found the highest internet penetration in the college student group as much as 89.70% and students as much as 69.70% [7].

Understanding the educational context about the characteristics of each generation, especially women, becomes important to determine how effective education strategies are. The goal is not just academic and pedagogical achievements, but how the educational process can foster character in adjusting the learning system in educational spaces according to needs without ignoring interests and habituation as a generic group to get a more independent life and empower women both in family, community and national development institutions [8]. The current events show efforts need to be made to foster strong commitment and support, especially from local governments and the House of Representatives, to realize education for women.

Another effort is to increase the participation of Indonesian women in various economic activities. Later, they can become women who dare fight for their rights without relying on men or other people by having their own income. This paper aims to discuss the importance of independent women's readiness for Indonesian women to provide an independent life and more empowering women both in family, community, and national development institutions.

## METHOD

This study uses secondary and primary data. Secondary data related to poverty and education levels in Indonesia were obtained from the Central Statistics Agency or *Badan Pusat Statistika (BPS)* website. Furthermore, preliminary data was obtained from the results of the Women Independent Webinar activity form (Preparing Multitalented Women in Era Society 5.0) held by BEM KM Universitas Amikom Yogyakarta on Saturday, October 02, 2021, through the zoom platform page with the speaker, Wiji Nurastuti, MT as Owner Nazma Office and Atika Maulida S.Ag, one of the hijab community owners, moderated by Rizka Devu Susak, one of the female empowerment staff of BEM KM, Amikom University Yogyakarta.

In primary data from the results of filling out the activity form, 74 respondents were taken, most of whom came from Generation Z/Gen Z, namely the generation born between 1997 and 2016 who answered questions related to knowledge about the Internet, the era of Society 5.0. and readiness to deal

with it, especially women, and programs that are suitable in preparing for the Society era.

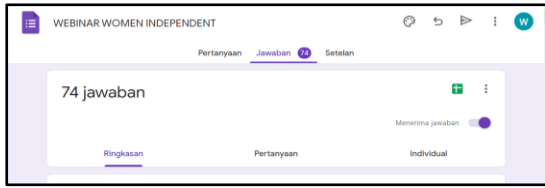


Figure 2. Results of Number of Respondents

This webinar activity gives an understanding of the emergence of the Society 5.0 era that can impact all aspects of social life, from health, urban planning, transportation, agriculture, industry, and education. One of the social issues related to men and women on their roles, functions, and problems in a family and society is an exciting issue and is very relevant to be discussed. Furthermore, it discusses the importance of women's independent readiness for a more independent life and empowering women in the family, community, and national development institutions. The following is a zoomed view of the activities that have been carried out.



Figure 3. Display Zoom

## RESULTS AND DISCUSSION

Discussions related to human resources are now increasingly becoming the main concern for companies and countries. Each individual's talents and qualities are key to growth, job creation, and innovation. Based on the capabilities or skills of each human resource owned by a country, there are several indicators for this index assessment, including the level of economy, education, computer information technology infrastructure, social environment, and gender. It has been recorded that the number of poor people nationally reached 27.54 million people in March 2021. This number decreased by 0.01 million people compared to September 2020. However, this figure experienced an increase of 1.12 million people from March 2020. When viewed as a percentage, the

poverty rate in Indonesia was 10.14% in March 2021 and then decreased by 0.05% compared to September 2020. However, the figure increased by 0.36% points from March 2020. The following describes the number of poor people in Indonesia by the province as of September 2021 from BPS data.

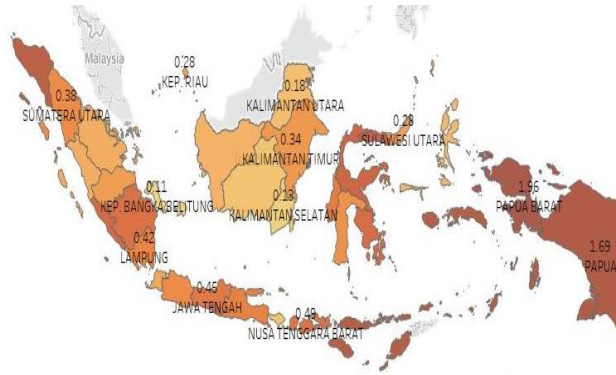


Figure 4. Poverty Rate in Indonesia in 2021

In a report from the BPS, the poorest people in Indonesia are found in Papua Province, West Papua, and Maluku. Meanwhile, the provinces with a low poverty rate are Bangka Belitung Island, South Kalimantan, and DKI Jakarta. One of the factors that cause the high poverty rate is the low level of education. A report released by INSEAS has compiled a ranking of the emphasis on the importance of education. Several aspects of education that become a measure are formal education, vocational education, literacy and numeracy, an international ranking of universities, international students, the relevance of education to the business world, the number of research results, scientific journals, the number of graduates of technicians and researchers.

Based on the results of the Education Index released by Human Development Reports in 2017, Indonesia is in the seventh position in ASEAN with a score of 0.622. Singapore with the highest score of 0.832. Malaysia obtained second place was at 0.719 and then followed by Brunei Darussalam at 0.704. Thailand is in the fourth position is with the Philippines as much as 0.661.

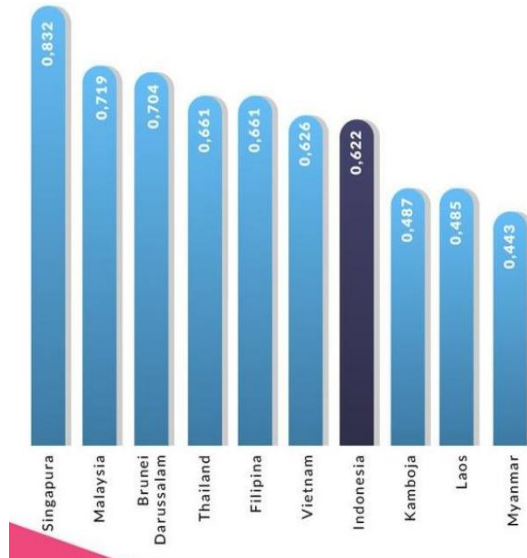


Figure 5. Education Index 2017

Discrimination against education in Indonesia is still common in people's lives. It is influenced by the emergence of distinction in society itself which is seen from the community's point of view of the education rights of women and men. Other factors that give rise to discrimination against education include traditional norms or rules that have killed women's character, physical form, economical speed, cultural beliefs that grow in people's lives, especially in rural areas, and wrong interpretations of religious teachings. It requires maximum effort in aligning the community with the right to education for women and men. The following illustrates the number of children out of school by education level and gender in 2020 in Indonesia.

Table 1. Number of Children Not in School

Gender	Education Level		
	ES	JHS	SHS
Male	0,72	8,42	23,57
Female	0,52	6,08	21,00

BPS data on Table 1, it is known that the higher the level of education based on the gender of women and men, the higher the number of children out of school, but it can be seen that the percentage of children out of school for women is lower than that for men. This shows that the more time goes by, the higher the desire to go to school for girls. In the event, namely the Independent Women's Webinar (Preparing Multitalent Women in the Era of Society 5.0), which BEM KM held, Amikom University Yogyakarta on Saturday, October 02, 2021, through the zoom

platform page with speakers, namely Wiji Nurastuti, MT as Owner of Nazma Office and Atika Maulida S. Ag is one of the owners of the hijab community, moderated by Rizka Devu Susak, one of the female empowerment staff of BEM KM, Amikom University, Yogyakarta. The activity was attended by various groups dominated by Generation Z women, namely the group born between 1997 – 2016. It means that the oldest age of Gen Z is 24 years, and the youngest is six years. Then the author asked to fill out a google form related to knowledge about the Internet, the era of Society 5.0 and readiness to deal with it, especially women, and programs suitable for preparing for the Society era, which 74 respondents have filled out. Obtained answers related to the understanding of the world of information technology on average answered since they were at the school education level with the following description:

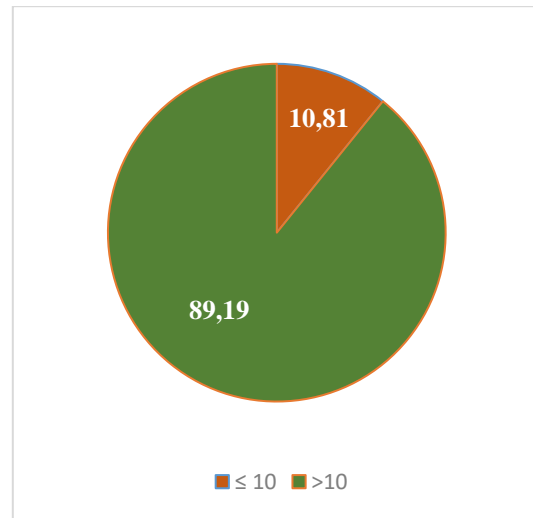


Figure 6. Pie Chart

The pie chart above indicates that the respondents have started to know the world of information technology since school at 10 years old and over. Furthermore, the respondents were asked questions related to welcoming the Society 5.0 era, especially for women. There was a statement that women must start increasing their role in realizing justice, gender equality, and never giving up. They continue to learn to be great and quality women without leaving their nature as wives and mothers to work together with men to build the nation and state of Indonesia. The role of women in the Society 5.0 era, namely as part of growth, development of the times in technology, and digitalization, has encouraged and supported women to play a role in all aspects of society. Discussions related to women's emancipation and gender equality, the government has supported



that there will be no differentiating boundaries between women and men in various fields to advance the nation.

Now, the challenge is balancing their role as part of society to become a wife and mother. In the current era of Society 5.0, women must continue to improve their quality by seeking knowledge and information, especially those related to technology, because of the concept of Society 5.0, namely a concept of a human-centred and technology-based society. Artificial intelligence will transform big data collected through the Internet in all areas of life (the Internet of Things) into something new dedicated to increasing capabilities in opening up opportunities for humanity to live a more advanced life. The following is an illustrative example of technological developments in the era of Society 5.0.



Figure 7. Technology Development Society 5.0

Technological advances in the Society 5.0 era created many opportunities with increased access, especially for women, to education, self-actualization, and careers. Nevertheless, on the other hand, it poses several challenges, namely an increasingly competitive world of work, changes in child care patterns, and balancing roles for women. One way to overcome these challenges is to strengthen the part of the family by increasing the function and position in the family, improving relations between family members, forming media and information literate families, developing norms and cultural standards, and implementing more democratic communication patterns.

## CLOSING

### Conclusion

The rapid change in the 5.0 industrial revolution or Society 5.0 era is not limited only to manufacturing factors but also social problems solving with the help of physical integration and virtual spaces. Physical integration and virtual spaces

are related to big data technology collected on the Internet of things (IoT), which is changed by Artificial Intelligence (AI), impacting all aspects of life, especially the economy and education.

It has been recorded that the number of poor people nationally reached 27.54 million people in March 2021. This number decreased by 0.01 million people compared to September 2020. However, this number experienced an increase of 1.12 million people from March 2020. When viewed as a percentage, the poverty rate in Indonesia was 10.14% in March 2021, then decreased by 0.05% compared to September 2020. However, the figure rose by 0.36% points from March 2020. Based on the results of the Education Index released by Human Development Reports in 2017, Indonesia is in the seventh position in ASEAN with a score of 0.622. Singapore's highest score was 0.832. Malaysia obtained second place at 0.719 and then followed by Brunei Darussalam at 0.704. In the fourth position are Thailand and the Philippines as much as 0.661.

The Indonesian state is faced with increasing maximum effort in harmonizing the community towards the right to education, especially for women. The role of women in the era of Society 5.0, especially Generation Z, is part of the growth, development of the times in technology and digitalization to encourage and support women to play a role in all aspects of society.

## Suggestion

The government is expected to continue to support the absence of distinction between women and men in various fields to advance the nation. They are increasing the role of the family in improving the function and position in the family, improving relations between family members, forming media and information literate families, developing norms and cultural standards, and implementing more democratic communication patterns.

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