

An Educational Transformation Strategy to Mitigate the Effects of Unemployment During Indonesia's Demographic Bonus (2020-2030)

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Abstract

Unemployment in Indonesia is a non-conventional threat to human security, particularly within the economic sector. The threat of unemployment can even have a broader impact and become a threat in other sectors, such as social instability, politics, and state security. This threat is becoming an increasingly worrying issue when Indonesia enters the demographic bonus era, where there will be an explosion in the productive age groups (15–64 years), as can be seen from the addition of the workforce reaching 4 million people every year. This research examines the threat of unemployment in the demographic bonus era and deals with this threat through educational transformation policies. This research uses a qualitative descriptive method with data collection techniques through interviews and literature studies. The results of this research show that the threat of unemployment in the Indonesian demographic bonus era is quite significant, mainly because the quality of human resources in Indonesia is still relatively low. The strategy implemented is improving the quality of human resources for Indonesian workers through educational transformation and vocational training that can produce competent, creative, and skilled human resources who can meet the demands of the job market, and in addition to providing opportunities for individuals to become entrepreneurs.

1. Introduction

The demographic bonus is a demographic shift due to changes in the age structure of the population. The term "demographic bonus" is used to describe this phenomenon, which occurs when the population of productive individuals aged between 15 and 64 years exceeds the population of non-productive individuals aged below 5 years and above 64 years (Rusli et al., 2015). According to the Central Statistics Agency (BPS), Indonesia experienced a demographic bonus period from 2020 to 2030. Projections indicate that the working-age population will comprise 70 percent of Indonesia's total population, estimated at 297 million individuals. This predominance of the productive-age population in Indonesia is further substantiated by data from the BPS, as depicted in the Indonesian population pyramid for 2022. According to this data, among a total population of 275.77 million Indonesians, 69.25 percent (190.98 million) fall within the productive age category. In contrast, the remaining 30.75 percent (84.8 million) are classified as unproductive age, neither yet nor no longer productive.

The demographic bonus is expected to yield several economic benefits, including accelerated economic growth, economies of scale in production due to increased consumer demand, reduced product costs, and heightened production, which in turn leads to broader business expansion and the emergence of

new entrepreneurs (Sasmito, 2020). To achieve this condition, the fulfillment of several criteria is necessary to encourage economic growth, namely that the workforce must comprise a considerable number of highly qualified individuals, as evident from their health, education, competence, etc., and that the quality of the workforce must be high enough to ensure the growth of the economy. Moreover, it should be combined with the opening up of decent employment and business opportunities, which will lead to an increase in the income and savings of individuals, families, and the nation. Otherwise, if the large population of productive age is not well managed, it will trigger a wave of unemployment in huge numbers, which will become a burden on the state.

The increasing labor force, if not absorbed by employment, will trigger a high Open Unemployment Rate (TPT). In February 2023, the unemployment rate in Indonesia reached 5.45 percent, affecting approximately 7.99 million individuals (BPS, 2023). This figure positions Indonesia as the nation with the highest unemployment rate within the ASEAN (Association of Southeast Asian Nations) region. The prevalence of TPT can be attributed to two key factors. Firstly, the rapid population expansion in Indonesia is not accompanied by the necessary infrastructure to support job creation. Secondly, creating employment opportunities independently can be challenging, further exacerbating unemployment issues. According to the threat concept, unemployment is classified as a non-traditional threat, which poses a significant threat to human security, particularly regarding economic security. In such circumstances, unemployment, a major component of economic instability, poses a significant threat to national security.

This research proposes an improvement in the quality of human resources (HR), with the aim of anticipating a surge in unemployment during the period of the Indonesian demographic bonus. Achieving quality human resources necessitates the implementation of two key strategies: quality education and practical value. Quality education provides students with the necessary skills while also cultivating their potential. Education can be a strategic tool to create collective awareness in society, connecting various social relationships, always respecting the existence of cultural, ethnic, racial, and religious differences, thus strengthening national unity (Irianto, 2011).

2. Literature Review

The United Nations Population Fund (UNPF) describes the demographic bonus as a condition in which the productive age population, aged 15-64, is more numerous and dominant than the non-productive population, aged under 15 and over 64. The prevalence of a substantial productive-age population can exert a favorable influence on an economy, contingent upon the fulfillment of specific criteria. These criteria include the satisfaction of market demands due to the substantial presence of a skilled labor force, the enhancement of per capita income through the augmentation of the labor force, the rise in the participation of female laborers, and the facilitation of enhanced family welfare, community savings, and productive investment. The investment in human capital resources, particularly in education and community skills, is also expected to rise (Maryati, 2015).

The concept of human capital by Gary Becker in his book *Human Capital* (Atmanti, 2005) states that formal education is not the determinant of human capital. Still, workers must also participate in training outside working time, both formal and informal. According to the theory of allocation or status competition supported by Meyer (1977) and Collins (1979), people with low formal education but receive training on specific skills, even if the training is non-formal and in a relatively short period, are believed to have relatively the same productivity as individuals with high formal education (Ritonga, 2021).

The term "unemployment" refers to individuals who are part of the labor force and are seeking employment, but have not yet secured a position (Mahdar, 2015). According to Kaufman and Hotchkiss (1999), unemployment is defined as the state of being without employment, with the active pursuit of new employment occurring within the past four weeks. The phenomenon of unemployment can also be attributed to the failure of public and private institutions, which can influence market conditions, demographic trends, and regulations. Institutions, within this unemployment context, have been shown to exert significant influence on factors such as labor supply and demand, wage conditions, and the efficacy of search and matching processes within the labor market (Lindbeck, 1999), due to the lack of government's role in preparing workers to improve their skills through training, and due to limited access to information about available jobs.

The threat spectrum is divided into two categories: traditional (conventional) and non-traditional (non-conventional) threats. The conventional threats are more militaristic or visible, such as acts of terrorism, insurgency, coups, invasions, territorial violations, etc. While non-traditional threats are invisible, it is even mentioned that these threats are extensive in scope, but interrelated and often overlapping. These threats include economic security, human security, food security, environmental security, maritime security, and energy security (Sagena, 2013). According to the principles of threat theory, economic security stands as a critical pillar of national interest. Economic threats involve economic crises that may threaten the stability of a nation's economy (Wiranata, 2024). Ensuring economic stability is therefore essential for the welfare of the people. Therefore, the high unemployment rate in the era of demographic bonus is a serious threat because it targets the state, resulting in the fragility of the sovereignty of the Republic of Indonesia. Consequently, it is imperative to address these challenges in the economic sector promptly, devising effective countermeasures to avert the escalation of threats and ensure the security of the nation.

3. Method

This research is based on a descriptive qualitative research design, expected to help researchers analyze and realize the right strategy in the face of the threat of unemployment waves that may occur in the demographic bonus era. Also, based on the results of interviews and secondary data, researchers will analyze by utilizing the SWOT analysis method as a classic strategic planning method that can provide a simple way to define a strategy, both in terms of what can be achieved and other things that should be of concern (Fatimah, 2020). Furthermore, the primary goal of a SWOT analysis is to integrate insights from both the internal and external environments to develop appropriate strategies (Pasaribu et al., 2025). As a result, it is hoped that it will be able to sharpen the researcher's review in research related to educational transformation strategies in facing the threat of unemployment in the demographic bonus era.

4. Results and Discussion

4.1. Overview of Indonesia's Demographic Bonus

BPS projects that the peak of the demographic bonus will occur in 2030. At that time, it is estimated that Indonesia will meet the criteria for the demographic bonus phenomenon, where if two Indonesians of productive age support one Indonesian of an unproductive age. However, Indonesia's demographic bonus opportunity still has several challenges, including:

a. Unemployment rate

According to data from the August 2023 update, the unemployment rate in Indonesia stood at 5.32 percent, affecting 7.86 million individuals within a total labor force of 147.71 million. Furthermore, according to data from the BPS National Labor Force Survey (Sakernas) in February 2023, the unemployment rate is particularly high among individuals with a middle-level education (SMA/SMK/equivalent), reaching 8.41 percent, and among the young age group (15-24 years), with an unemployment rate of 16.46 percent. This indicates that for every 100 young individuals in the labour force, 16 of them are unemployed.

b. Education level of the Indonesian workforce

As of February 2023, the Indonesian workforce generally consists of individuals with a basic level of education, reaching 55.22 percent. There is still an Indonesian workforce that has never even attended school, reaching 1.77 percent.

c. Human Development Index (HDI)

Despite the considerable disparities in HDI, Indonesia still faces some disparities. Significant disparities in HDI exist between provinces, with some demonstrating notably higher levels of development. For example, DKI Jakarta is the province with the highest HDI 2023 in Indonesia, which is 83.55, while Papua has the lowest HDI in Indonesia, which only reaches 63.01.

4.2. Indonesia Employment Overview

The Indonesian employment structure is subject to constant change, influenced by various internal factors, including educational and labor training developments, as well as external factors such as technological advancements, educational policies, and global events, such as war and the Covid-19 pandemic, which have severely affected the national economy and directly affected Indonesia's employment conditions, as evidenced by the occurrence of mass layoffs in various industries. To illuminate the current state of employment in Indonesia, the author undertakes a comprehensive review, addressing the following key points:

a. Workforce by educational qualifications

The quality of the workforce in Indonesia can be seen from the level of education that can be completed. It is evident that the level of education directly correlates with the qualification of the individual worker. However, until August 2023, the Indonesian working population was dominated by workers with a primary school education or less, reaching 36.82 percent.

b. Labor Absorption

A review of BPS data from August 2023 reveals that the sectors with the highest labor absorption were accommodation and food services, construction, and agriculture. These sectors collectively employed 1.18 million, 0.77 million, and 0.75 million individuals, respectively.

c. Main employment status of Indonesian people

Employment status is divided into formal and informal work. The Indonesian population in August 2023 was recorded to dominate or mostly work in the worker/employee/employee sector, reaching 37.68 percent of the total workforce. Consequently, the proportion of informal workers is substantial, accounting for more than 50 percent of the working population.

d. Unemployment issues in Indonesia

In the August 2023 period, the highest TPT was experienced by workers with an education level of secondary school graduates. Still, the highest was at Vocational High School, reaching 9.31 percent of Indonesia's total TPT. This situation is a concern and deserves the government's attention, as it is precisely the population with a better education level that experiences unemployment. This is especially when compared to primary school graduates, who have the lowest TPT in Indonesia. This phenomenon can be attributed to the fact that as educational attainment increases, individuals tend to pursue occupations that align with their level of education.

e. The phenomenon of youth unemployment

According to data from the Indonesian Ministry of Manpower for the period of February 2023, open unemployment is predominantly concentrated among young people aged 20-24 years, constituting approximately 2.39 million individuals, followed by the 25-29 age group at 1.21 million, and then the 15-19 age group with 1.12 million. The total number of unemployed individuals during this period reached 7.9 million. This issue is inseparable from the imbalance between supply and demand, the mismatch between skills and available jobs, as well as the existence of work requirements, namely having work experience, and the number of youths who do not actively seek work in the labor market (Priyono, 2015).

4.3. Overview of Education and Training in Indonesia to Support Employment

The cultivation of superior human resources and skilled labor is inextricably linked to the domain of education and training. In the traditional view, the higher the level of education and skills of an individual, the more likely they are to access or obtain employment. In this regard, the following is an overview of the current state of Indonesia's education and training:

a. Low Education Level

In Indonesia, the quality of formal education is often criticized for its substandard standards. The average years of schooling in Indonesia is currently 8.77 years (BPS, 2023). To enhance the quality of human resources and a skilled workforce, the minimum formal education requirement is 12 years. The enhancement of educational quality is further supported by the presence of adequate teachers and infrastructure facilities, as well as the improvement of the quality of educational services. However, referring to the Ministry of Education and Culture's basic education data, as of 2022 the

number of students in Indonesia reached 52.7 million people, with the number of teachers, lecturers, and educators reaching 3.03 million, and the number of education units ranging from PAUD to higher education reaching 446,966 education units.

b. Education Mismatch with the Labor Market

The mismatch phenomenon, also known as the mismatch between the needs of the labor market and the educational competence of the workforce, or if workers get jobs that are not in accordance with their competencies, is a persistent issue in the Indonesian education sector. This condition persists as a salient issue within the Indonesian education sector. According to Seta (2019), more than 40 percent of the total available workforce currently falls into the mismatch category. In addressing this challenge, the Ministry of Education, Culture, Research, and Technology has sought to establish a connection and alignment between vocational education and the business or industrial sectors.

4.4. Education Transformation Strategy

In order to formulate an effective strategy, the researchers used SWOT analysis to identify several factors, which the researchers found based on interviews with informants and secondary data. The identification process yielded internal factors (strengths and weaknesses) and external factors (opportunities and threats) associated with educational transformation strategies in the face of the threat of unemployment in the period of demographic bonuses:

Internal Strategic Factor Analysis Summary (IFAS)

The analysis consists of strength and weakness variables in education in Indonesia, including programs, regulations, institutions, and efforts made in supporting education and training in Indonesia, as shown in the following table:

Table 1. The Result of IFAS

Internal Factors		Weight	Rating	Score
No	Strenght			
1	Education program as a pillar of national human resource development	0.11	4	0.44
2	Curriculum and education system adapted to contemporary needs	0.07	3	0.22
3	3. Education regulations that accommodate the needs of the labor market.	0.07	4	0.30
4	The revitalization of vocational education and training	0.11	4	0.44
5	Free government vocational training institutions	0.11	4	0.44
Total Strength				1.85
No	Weakness			
1	Educational facilities and infrastructure are unevenly distributed	0.07	1	0.07
2	Equitable distribution and supply of quality teachers	0.11	1	0.11
3	Unoptimal collaboration in labor preparation between institutions	0.11	2	0.22
4	Lack of national labor market mapping	0.11	2	0.22
5	The difficulty of implementing central policies at the regional level	0.11	1.5	0.17
Total Weakness				0.80
Total Internal Factors		1		1.06

Table description:

Ratings are determined as follows:

4 = very strong

3 = strong

2 = weak

1 = very weak

According to the results in Table 1 of the IFAS matrix, the total internal factors are 1.06, with the Strength value reaching 1.85 and the Weakness value reaching 0.80. These calculations indicate that the education transformation strategy exhibits a stronger position in comparison to its identified weaknesses. The Education Program as a pillar of National HR development, Revitalization of Vocational Education & Training, and free government vocational training institutions are the internal factors with the main

strengths of education transformation, with a score of 0.44. Conversely, the internal factors that necessitate attention to mitigate the identified weaknesses, with a score of 0.22, are the absence of optimal collaboration in preparing the workforce between institutions and the absence of national labor market mapping.

External Strategic Factor Analysis Summary (EFAS)

This analysis is based on a variety of opportunities and threats that exist in education in Indonesia, including the psychological condition of the community, local government support, infrastructure related to education and training in Indonesia, as shown in the following table:

Table 2. The Result of EFAS

Internal Factors		Weight	Rating	Score
No	Opportunity			
1	Improvement of community interest in learning	0.08	3	0.23
2	Improving the welfare of teaching staff to support education professionalism	0.12	4	0.46
3	National policy of differentiated education transformation	0.08	4	0.31
4	The number of private vocational education/training institutions	0.12	4	0.46
5	Increased interest from industry in collaborating in vocational education.	0.08	4	0.31
Total Opportunity				1.77
No	Threat			
1	Lack of education budget allocation at the local level	0.12	1.5	0.17
2	Education is not a priority of local government	0.12	2	0.23
3	Education is not a priority for the poor	0.08	1	0.08
4	Private education costs continue to rise	0.12	1.5	0.17
5	Education/training institutions are not qualified	0.12	1.5	0.17
Total Threat				0.83
Total Internal Factors		1		0.94

According to the results in Table 2 of the EFAS matrix, the total external factors score is 0.94, with a breakdown of the Opportunity score reaching 1.77 and the Threat score reaching 0.83. This indicates that the opportunities for implementing educational transformation are significantly greater than the threats, which can be minimized. According to the EFAS calculation, the main external factor with the highest opportunity score for educational transformation is the improvement of human resources welfare for educators, with a score of 0.46, which supports educational professionalism. Additionally, the increasing number of private vocational education/training institutions contributes to this opportunity. The main threat to educational transformation, with a score of 0.23, is that education is not a priority for the government at the regional level. To assess the position of educational transformation as a strategy to address the threat of unemployment during the demographic bonus era, we can refer to the SWOT diagram. This diagram is based on the internal factor score of 1.06 (X-axis) and the external factor score of 0.94 (Y-axis), as shown below.

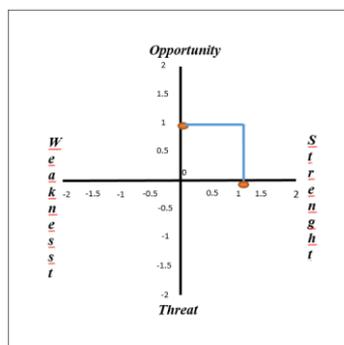


Figure 1. SWOT Diagram of Educational Transformation

Based on Figure 1, the results of the SWOT analysis show that the coordinates for educational transformation in addressing the threat of unemployment during the demographic bonus era are positioned in Quadrant I. This position represents a favorable situation (supporting an aggressive strategy), where the educational transformation strategy can be optimally utilized to face the unemployment threat

in the demographic bonus period. Specifically, this can be achieved by employing the SO strategy (Strengths-Opportunities strategy). The strategy can leverage the strengths of the system while taking advantage of the opportunities related to educational transformation in Indonesia.

5. Conclusion

Indonesia is set to experience a demographic bonus from 2020 to 2030, with the working-age population accounting for more than 70 percent of the total population. The demographic bonus has the potential to positively impact the acceleration of national economic development, provided that the workforce is of high quality. However, the current state of Indonesia's human resources, which is predominantly dominated by secondary education, results in a workforce that lacks sufficient quality and is at risk of contributing to mass unemployment. The threat of unemployment during the peak of the demographic bonus is classified as a serious threat, considering that its impact extends beyond just the economy, also affecting social, political, and national security stability. To address this challenge, improving the quality of human resources through educational transformation in the vocational sector becomes a key strategy to ensure Indonesia can fully benefit from the demographic bonus. Vocational education provides the workforce with the competencies needed to meet market demands, while also offering opportunities to foster creativity and entrepreneurship.

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