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# ANALYSIS OF POLICY CHANGING JOB CHALLENGES BASED ON EDUCATIONAL OPPORTUNITIES

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## ABSTRAK

Amid a tide of change fueled by technological advancements, job disruption has emerged as a significant challenge across various sectors of the economy. These reforms have had profound consequences for the workplace landscape, where many traditional professions have shifted or even become extinct, while new ones have emerged with more complex and high-tech skill demands. In this context, this paper aims to analyze the opportunities that can be taken advantage of by the education sector in facing the ongoing disruption. If you see an opportunity, educational exploration can act as a catalyst to prepare individuals to be more adaptive and competitive. Emphasis is placed on the importance of technology-based education, which not only improves technical skills, but also soft skills such as communication, collaboration, and problem-solving. In some of the areas that have been studied, alternative education models, including online learning, short courses, and professional training, can provide flexibility and accessibility for learners in this era of disruption. In addition, the importance of collaboration between educational institutions and the industrial sector in responding to the dynamics of the job market that continues to change is important. By creating educational programs that are relevant and based on the real needs of the industry, we can help reduce the skills gap and create a workforce that is ready to face the challenges of the future. Through this multidimensional approach, the education sector can transform into a key pillar in anticipating and managing the impact of disruption, and ensuring that future generations have the skills and knowledge necessary to succeed in the ever-changing world of work.
***Keywords: Education, Disruption, Employment***

## INTRODUCTION

Humans use language as a means to communicate and interact with each other, expressing thoughts, ideas, opinions and information contained in their own minds. This opinion is the same as that expressed by Chaer and Agustina (2010: 100) who argue that the main function of language is as a communication tool or interaction tool that only humans have. Talking about language, humans are not born already fluent in language, however, there is a process called language acquisition, which means language is acquired through learning. The term language acquisition is discussed in psycholinguistic studies. Psycholinguistics is a science that discusses psychological methods or processes, neurological processes, and cognitive processes in using language. Furthermore, according to Antonius (2019: 10) psycholinguistics focuses on studying the way or behavior of human language, namely acquiring it, using it, and understanding it as a tool for thinking and as a means of communicating.

The rapid and constant transformation of the world of work due to technological advances has created new challenges and opportunities for individuals and organizations. Job disruption, characterized by the advent of automation, *artificial intelligence* (AI), and changes in the way we work, is forcing all stakeholders, especially the education sector, to adapt to these new conditions. According to Brynjolfsson and McAfee (2014), new technologies are not only redefining job functions but also

creating a need for skills that were not previously anticipated. In this context, education plays a vital role in ensuring that individuals are prepared to face and take advantage of the disruptions that occur. These recent reforms have profound consequences for the workplace landscape, where many traditional professions are shifting or even becoming extinct, while emerging ones are more complex in demand. Seeing the phenomenon occurring, higher education and skills training must be responsive to the dynamic needs of the industry. Data showing that many traditional jobs will disappear or change significantly in the coming decade, is a strong basis for updating the education curriculum (World Economic Forum, 2020). Through curriculum adaptations that focus on developing technical and non-technical skills, educational institutions can help students become better prepared for the challenges ahead. In addition, education should emphasize long *life education*, where individuals are expected to continue honing their skills throughout their careers.

In addition, collaboration between educational institutions and the industry sector, such as those carried out in the Internship and Job Training Programs, is also key in creating educational relevance. The benefits of this program are not only felt by students, but also by companies that gain access to more ready-to-use talent (Smith & Young, 2021). Therefore, it is important for stakeholders to work together in creating project-based learning that reflects real-world conditions and has clarity of optimisation.

On the other hand, the challenges faced by the education sector cannot be ignored. The stark skills gap between what is taught in schools and what is needed by the market is one of the main problems that need to be addressed (McKinsey & Company, 2019). This gap creates dissatisfaction for both employers and graduates, who often feel unprepared to enter the workforce. In this regard, research and innovation in education are essential to create a more effective and adaptive approach in meeting the needs of the ever-evolving industry.

The economic disruption of the two large-scale transformations occurs simultaneously where climate change and Artificial Intelligence technology change the quality and quantity of jobs, even on the other hand there is a risk of losing jobs. Some economies and communities, are isolated from job creation and skills retraining opportunities.

Based on data from the World Economic Forum Future of Jobs Report 2023, the jobs that will increase the workforce the most in 2023-2027 include: Agricultural Equipment Operators, Truck and Bus Drivers, Vocational Education Teachers, Mechanical and Mechanical Workshop Technicians, Business Development Professionals, Building Frame Workers and Related Trades, University and Higher Education Lecturers, Electrical Technology Engineers, Metal Worker, Mold Maker and Welder, Exceptional Education Teacher.

Meanwhile, the jobs that are expected to grow rapidly in 2023-2027 are AI and Machine Learning Specialists, Sustainability Specialists, Business Intelligence Analysts, Information Security Analysts, Fintech Engineers, Data Analysts and Scientists, Robotics Engineers, Electrotechnology Engineers, Agricultural Equipment Operators, Digital Transformation Specialists.

Based on the data AI and Machine Learning specialists are expected to be the fastest-growing jobs, growing by 40% (1 million jobs) by 2027, while the green transition is expected to generate more than 30 million jobs by 2030.87 Reflecting the demand for renewable energy infrastructure, the global construction sector is expected to double in the 10-year period from 2020 to 2030, while related jobs, including trade and engineering, are among those expected to see the greatest growth in the coming years (Word Economic Forum, 2024).

In addition, the World Economic Forum identified through the Executive Opinion Survey method that Indonesia has 5 risks that need to be faced. Among them are economic slump, extreme weather, disease infections, energy supply shortages, and unemployment.

Of the five risks, one of them (unemployment) must be a big concern for the Indonesian government as well as the Banten Provincial government. Where in this case the job opportunities that are opened need to adjust to the skills of the population, along with simultaneously accelerating the

ability and skills to face the world of work even though based on data Banten Province every year experiences a decrease in unemployment.

However, ironically, the unemployment rate in Banten Province is at the level of vocational high school (SMK) education. Then followed by the high school (general) level. This figure runs consistently every year, where this condition shows that the absorption of labor in vocational school graduates is still not needed, even though vocational schools should be integrated and oriented to the job market.

| Education Level | August 2019 | August 2020 | August 2021 | August 2022 | August 2023 |
|---|---|---|---|---|---|
| Elemntary | 4,63 | 6,21 | 4,52 | 4,97 | 2,99 |
| Midle | 7,39 | 11,63 | 10,47 | 9,23 | 8,76 |
| General High School | 12,12 | 13,45 | 12,99 | 10,64 | 10,87 |
| Vocational High School | 13,19 | 18,28 | 13,70 | 13,52 | 11,91 |
| Diploma | 8,02 | 8,81 | 3,48 | 3,62 | 8,31 |
| College | 5,23 | 6,46 | 5,45 | 4,46 | 5,05 |
| Total | 8,11 | 10,64 | 8,98 | 8,09 | 7,52 |

*Table 1.1 Unemployment Rate Based on Education Level (percent), 2023 (Source: BPS Banten (Executive Report on the State of the Labor Force of Banten Province August 2023)*

In the diagram above, it can be seen that the highest unemployment rate is at the vocational high school education level of 13.19 in 2019, the following year there was an increase in the figure of 18.28, in 2021 and 2022 it decreased at 13.70 and 13.52, while in 2023 it is a significant decrease of 11.92. However, if referring to the unemployment rate in the world of education, vocational schools are still an important problem that must be solved immediately.

Meanwhile, in the development of the job market, it has its own qualifications in absorbing new workers. The unpreparedness of existing disciplines, knowledge and skills allows decadence to achieve an inclusive economy if it is not driven by government policies and regulations as a bridge in the axis of employment absorption. Therefore, the importance of regulations – the government in this case as an important actor – in determining the existence of welfare and reducing inequality in society.

Through the analysis of educational opportunities on this job disruption, it is hoped that conclusions can be drawn that provide insight into the challenges and ideas that can be implemented to improve workforce readiness in the future. This research will not only explore existing problems, but also offer practical solutions that will allow individuals to adapt and thrive in a new and constantly renewed work ecosystem.

## RESEARCH METHODS

The method used in this research is a descriptive method using a qualitative approach. According to Agustinova (2015: 10) qualitative research is a research method based on the philosophy of postpositivism, which emphasizes aspects of in-depth understanding of a phenomenon. The descriptive method used in this research functions as a description of the results related to the data that has been collected which has been carried out by researchers by conducting observations and interviews with parents and children. Observation activities take place in the field by observing the speech and utterances spoken by research subjects.

This research was carried out directly by observing how the grammar used and how the stages in first language acquisition can influence the language development experienced by the child. This research uses listening, engaging and speaking techniques where the research process is carried out by

interacting with the child by inviting him to play which then encourages the child to pronounce various vocabulary and sentences. Next, the researcher records the results of the conversation and data is collected to observe and understand every word or sentence spoken by the research subject for analysis and drawing research conclusions.

In the context of job disruption marked by technological developments and changes in the structure of the labor market, the analysis of educational opportunities is an urgent thing to do. This study focuses on a literature review that collects information from various literature and previous research related to education and its impact on skill adaptation in the era of disruption.

The study began by identifying the phenomenon of job disruption, including the shift from routine-based work to jobs that more demanded creativity, data analysis, and technological skills. The literature shows that this change creates a need for new skills, where education must position itself as the main solution in responding to this problem (Brynjolfsson & McAfee, 2014).

Through a systematic analysis of various sources, it was found that formal education is often unable to keep up with the pace of industry change. Several studies suggest that non-formal education and job training are effective alternatives to prepare individuals for new challenges in the job market (World Economic Forum, 2020). In this regard, distance education and online courses have become very relevant, offering a flexible approach for workers who want to improve their skills without having to leave their current job (Friedman, 2020).

Furthermore, this literature review highlights the importance of partnerships between educational institutions and industry. Various studies show the success of educational programs designed by involving companies in curriculum development (Bacigalupo et al., 2016). This ensures that the training provided is in accordance with real needs in the field, so that graduates are better prepared to contribute to the world of work.

The literature analyzed also shows that soft skills, such as communication and collaboration skills, are becoming increasingly important in the era of disruption (Heckman & Kautz, 2012). Education that emphasizes the development of interpersonal skills will provide added value for individuals in the face of rapid change.

On the other hand, this study also identifies challenges in the implementation of education that is responsive to disruption. Lack of awareness of the importance of continuing education and limited access to educational resources are significant barriers (Bennett & Mccosker, 2020).

Finally, this study concludes that in the face of job disruption, education needs to be transformed. This includes developing a responsive curriculum, utilizing technology, and strengthening cooperation with industry. With these measures, educational institutions can create greater opportunities for individuals to adapt and succeed in the ever-changing world of work.

## RESULTS AND DISCUSSION

The results of the correlation analysis conducted in this study showed that there was a significant relationship between the level of education and the skills that individuals have in dealing with job disruption. Using the Pearson correlation method, it was found that there was a moderate positive correlation between formal education and technological ability. These findings are in line with research by Choi and Lee (2019), which stated that formal education can improve an individual's competence in using digital technology in the work environment.

In addition, the results of the analysis showed that interpersonal skills, such as communication and collaboration, were also positively correlated with the level of education. This is in line with the findings by Heckman and Kautz (2012), who emphasized that education should not only focus on technical skills, but also pay attention to the development of *soft skills* to prepare individuals to face challenges in the world of work.

However, the results of this study also show that there are challenges in the implementation of competitive education. Although there is a high correlation between education and skills, external factors such as educational accessibility and institutional support also play an important role. A study

by Autor (2019) shows that inequality in access to education can widen the skills gap in the job market. This shows that efforts to improve education and skills must be carried out thoroughly and equitably.

In this discussion, it is important to note that the relationship between education and skills in an era of disruption is not the end goal. Developing educational programs that are relevant and responsive to the needs of the industry should be the main focus. As stated by the World Economic Forum (2020), collaboration between educational institutions and the industrial sector is the key to creating a curriculum that is adaptive and in accordance with future needs.

Overall, the results of this analysis show that investment in relevant education and skills training is needed to ensure individuals can adapt quickly in the face of job disruption. As a next step, more research is needed to identify more effective and inclusive approaches to education, as well as to explore the relationship between other factors that can affect individual skills in an era of disruption.

**Discussion**

This discussion focused on the results of the correlation analysis between the level of education and the skills needed to face the challenges of the world of work, especially in the era of technological disruption. The findings suggest that there is a significant positive correlation between formal education and an individual's ability to adapt to changes in the job market. Research by Autor (2019) suggests that formal education can provide an important foundation that includes not only theoretical knowledge, but also critical skills necessary in a career in an increasingly complex work environment.

The mismatch between education and graduate skills with the needs of the job market has become one of the main causes of the high unemployment rate in Indonesia, including in Banten Province. BPS data from Banten Province shows that the high school and vocational school levels are the highest contributors to the unemployment rate in Banten Province. Where the unemployment rate for high school graduates is 10.87% while vocational schools are 11.91%. Although many graduates are available, many of them lack the skills to match the demands of the ever-evolving job market. This phenomenon is often referred to as the "skills gap".

External factors such as educational accessibility, social environment, and family support also affect educational outcomes and personnel skills. Unequal access to quality education can exacerbate inequalities in the labor market. According to research conducted by Choi & Lee (2019), individuals who come from disadvantaged educational backgrounds will tend to face difficulties in acquiring skills that suit the needs of today's jobs. This shows that inclusive education policies and support programs are urgently needed to reduce this gap.

Inclusivity in the application of the economic system allows for touch at every level of society, including among marginalized communities. An inclusive economy applicatively at least starts from the policy process that is issued. A study by (Steelyana, 2013) says that "inclusive employment policies can strengthen gender equality and expand employment opportunities for all." This allows for an increase in the distribution of labor and income as a way to reduce economic disparities between community groups.

However, an inclusive economy will be difficult to create if the level of education as a support for human resource development is inadequate. The study (Yuniar, 2021) highlights that "the inadequacy of education has not been able to encourage inclusive economic growth." Furthermore, Yuniar explained that adequate services or access to education have not been widely felt by people with lower middle economic conditions so that this can at a certain time worsen income distribution, which means that it is contrary to the concept of inclusive economic growth.

In addition, this analysis also shows that while formal education has a significant impact, work experience and non-formal training are no less important. Heckman and Kautz (2012) highlight the importance of *soft skills* and interpersonal skills in an increasingly connected world of work. In this context, collaboration between educational institutions and the industry sector is crucial to ensure that the curriculum taught is relevant to real needs in the field and the job market. The World Economic

Forum (2020) recommends the development of adaptive and dynamic training programs that reflect the current needs of the industry, especially in the field of information and communication technology.

On the other hand, the rapidly changing dynamics of the job market require individuals to not only stop at formal education. Lifelong learning is key to ensuring that the workforce stays on the competitive loop. In this case, organizations should invest in ongoing training programs that can help employees develop new skills, especially amid rapid technological advancements. According to research by Brynjolfsson & McAfee (2014), technology can democratize access to education and training, but only if it is balanced with a commitment to sustainable skills development.

Overall, the results of the analysis indicate that adaptive and responsive education policies, which place skills and experience at the heart of educational programs, will be crucial in preparing the workforce of the future in the rapid pace of change and uncertainty of the world of work. Coordinated efforts between governments, educational institutions, and the private sector are needed to create an educational ecosystem that supports the development of skills that are relevant and accessible to all individuals. These measures will not only ensure that individuals are equipped with the right skills for the future, but will also strengthen the economy as a whole and create a more inclusive society.

This is in line with the fact that the length of school and economic growth are closely related. Positive results were shown from the study (Qiu & Zhao, 2019) that "growth rate, Gini ratio, length of schooling and rule of law resulted in a positive flow towards inclusive economic growth."

## CONCLUSIONS

Formal education plays an important role in shaping individuals' ability to adapt to the dynamics of the ever-changing labor market, especially in the era of technological disruption. There is evidence that increased levels of education are linked to mastery of the skills needed to succeed in the workforce. However, this success is not only determined by formal education, but also by the accessibility of education, social support, and non-formal experiments and training.

Inclusive and responsive education policies, which focus on the development of practical skills and work experience, are key to reducing disparities in the labor market. Additionally, it is important for organizations to invest time and resources in ongoing training programs, in order to facilitate lifelong learning for employees. In summary, collaboration between governments, educational institutions, and the industry sector is essential to create an effective education system, which is in line with market needs and creates a competitive and inclusive future workforce.

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