Education and Technology in Human Capital Management Studies in Indonesia

Meinarti Puspaningtyas , Sri Harnani
STIE Jaya Negara Tamansiswa Malang, Indonesia

Abstract : Education is a mechanism for increasing human capital in understanding new information and knowledge, including the absorption of experience and the use of new technology. This research aims to understand the role of education in the absorption and adaptation of technological developments that are reflected in economic growth in the framework of human capital management. With the descriptive quantitative method, moving average autoregression model. We find that education in Indonesia can encourage economic growth through increasing human capital in the absorption of new knowledge and the use of new technology.

Keywords: Human Capital, Education, Indonesia
JEL Classification : A1,C0,J24

1 INTRODUCTION

Technology is developing and influencing in the education sector. Information technology can be useful in distance learning, so it is very effective in cross-regional learning to occur anywhere. Technology also allows free access to information so that learners can more easily learn many things. Technology helps the education sector in communication and learning (Gudanescu, 2010). Technology plays a role in the efficiency of education so that education distribution is more comfortable and faster. Technology also improves the quality of educational content and provides more comprehensive access to knowledge. Technology is developing very rapidly so that the education administration system is also helped to evaluate grades better and faster and monitor the development of students can be done correctly and efficiently (Koch et al., 2017).

During a pandemic like today (2021), technology's role is vital in learning because every student and teacher can use online learning and exchange information quickly thanks to the existence of information technology that continues to develop rapidly and massively. Technology is an economic driver that can help increase production more efficiently and assist in the business's supervision and management in the real sector. Technology also enables researchers to acquire and understand the necessary research data (Mishra, 2017). Technology continues to develop along with the development of science so that education is the basis for developing innovation and technology. Important discoveries such as steam engines and electricity generators to the internet are technological developments that come from the development of science, resulting from the educational process in developing human resources (Kavita, 2015). Technology continues to change and encourages rapid economic growth. The role of education is to prepare humans to adapt to technology and environmental changes due to technology. Education is a mechanism to accelerate the understanding of new knowledge and information to take advantage of the latest technology to improve performance (Hojeghan & Esfangareh, 2011).

2 LITERATURE REVIEW

Technological developments bring economic growth. But it also increases social wealth on the one hand by increasing the level of income and wealth and causing some social issues on the other. Technological developments make a significant contribution to economic and socio-cultural life (Abbott, 2020). Technology is considered a critical factor in economic development. Technology plays a vital role in enhancing human civilization and economic growth. In adapting and developing technology, education is a crucial factor in accelerating the understanding and development of human knowledge to understand, use and develop the latest technology (Litvinenko, 2020). Human capital is a significant factor in economic development supported by education, which plays a role in developing human capital. With adequate human capital, technology can be controlled and designed so that human performance can increase and encourage economic growth (Sulaiman et al., 2015).

The human capital theory states that increasing human capital through human capital investments such as education and training can increase income. This increase in revenue is obtained from an increase in performance due to the rise in human capital as a form of return on human capital investment (Robinson, 2019). The human capital theory explains that investing in human capital through education, training and work experience development processes and mechanisms can improve performance. Where this can make work results better and faster. Human capital makes a person trained in their field of work and increasingly skilled in their work field so that they deserve additional income because they can complete work better and faster and more (Stehr, 2015).

3 RESEARCH OBJECTIVE AND METHODOLOGY

With the econometric equation as follows:

GDPt = βt1IEt1 + βt2Tt2 c

4 RESULTS AND DISCUSSION

The estimation results of the Autoregressive Moving Average are as follows:

GDP = 8484246182.25*IE + 41.5226214473*INOVATION_AND_TECHNOLOGY + 717698799238

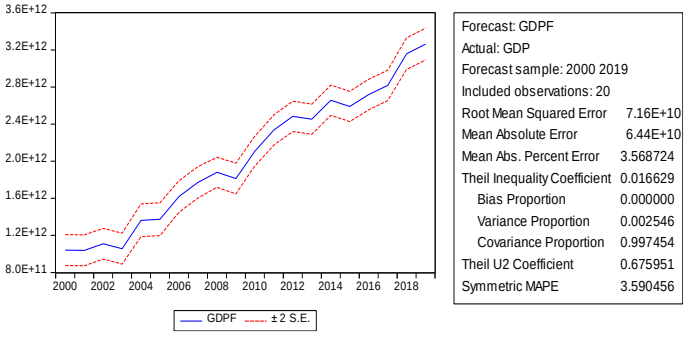
With the estimation result table as follows:

Table 1. Estimation Result

Variable	Coefficient	Std. Error	t-Statistic
Investment in Education (IE)	8.48E+09	9.34E+08	9.088626
INOVATION_AND_TECHNOLOGY (T)	41.52262	5.22864	7.941381
C	7.18E+11	3.99E+10	17.98613
R-squared	0.989869	Mean dependent var	2.03E+12
Adjusted R-squared	0.988677	S.D. dependent var	7.30E+11
S.E. of regression	7.77E+10	Akaike info criterion	53.12652
Sum squared resid	1.03E+23	Schwarz criterion	53.27588
Log likelihood	-528.2652	Hannan-Quinn criter.	53.15567
F-statistic	830.5356	Durbin-Watson stat	2.176888

Based on the estimation results, it can be seen that the relationship between education and technological innovation is in line with the economy so that it can be said that education in Indonesia is able to educate the community and increase the human capital of the community which is reflected in economic growth with the results of forecasting economic growth as an impact of improving education services as follows:

Figure 1. GDP Forecasting



The forecast shows an increase in economic growth along with an increase in education investment and the development of innovation and technology in Indonesia.

5 CONCLUSION

Education in Indonesia during the research period shows a positive relationship to economic and technological growth, which reflects that education in Indonesia can develop the human capital of the Indonesian people in adapting to new knowledge and technology to boost the economy..

REFERENCES

Abbott,L.F(2020).Technological Development in Industry: A Business-economic Survey and Analysis.Manchester, England :Industrial Systems Research

Gudanescu,S.(2010).New educational technologies. Procedia, Social and BehavioralSciences,10(2),5646-5649.https://doi.org/10.1016/j.sbspro.2010.03.922

Hojeghan,S.B., Esfangareh,A.N.(2011).Digital economy and tourism impacts, influences and challenges. Procedia - Social and Behavioral Sciences,1(19),308-316.https://doi.org/10.1016/j.sbspro.2011.05.136

Kavita,S.(2015).Organizational Behaviour: Text and Cases, 3rd Edition.New Delhi,India : Vikas

Koch, T., Windsperger, J. (2017). Seeing through the network: Competitive advantage in the digital economy. Journal of Organization Design,6(6),1-30. https://doi.org/10.1186/s41469-017-0016-z

Litvinenko, V.S. (2020). Digital Economy as a Factor in the Technological Development of the Mineral Sector. Nat Resour Res, 10(29), 1521–1541.. https://doi.org/10.1007/s11053-019-09568-4

Mishra,A.K., Arunachalam,V., Patnaik,D.(2018).Current Issues in the Economy and Finance of India: ICEF 2018.Cham,Swiss: Springer

Robinson,P.(2019).Perspectives on the Sociology of Education: An Introduction.London ,UK:Routledge

Stehr,N. (2015).Moral Markets: How Knowledge and Affluence Change Consumers and Products.London,UK : Routledge

Sulaiman, C., Bala, U., Tijani, B. A., Waziri, S. I., & Maji, I. K. (2015). Human Capital, Technology, and Economic Growth: Evidence From Nigeria. SAGE Open. https://doi.org/10.1177/2158244015615166