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The Contribution of the Education System Quality to Improve the Nation's Competitiveness of Indonesia

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Abstract

The quality of education and the competitiveness of college graduates in Indonesia is still far behind, both at the international level, even at the level of ASEAN. In the other side, the issues of demographic bonus in Indonesia become an important factor in the development of human resources. The Indonesian population increased continuously about 1.49% per year. The impact of the quality of education is the nation's competitiveness. Before analyzing its aspects, the data about the nation's competitiveness can be used as a reference. Although not entirely represent competitiveness, this data can function as an indicator of progress. Good human resources will be the driving factor for a variety of activities a state and a nation can make, including the economy. In the development of competitiveness, a country is positioned in its change of factor-driven to innovation-driven. The important problems arousing in education are: the quality of school management, quality of research and training, the quality of the education system, and also the higher education participation rate is still low. These four main things that need to be improved in education before it can move to other sectors. The main problem on education in Indonesia is in the low focus on the development of mentality or character. While the analysis of competitiveness problems Indonesia is known that the root problem in competitiveness is the high level of corruption in the country. This is a problem of mentality. The government policy to ensure the well distributed funding for education throughout all provinces will reduce the gap and lack of human development.

Keywords: *competitiveness, education, human capital, national strategy, government policy*

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Introduction

The quality of education and the competitiveness of college graduates on labor market in Indonesia is still far behind, both at the international level, even at the level of ASEAN (Kemristekdikti, 2015). It became a common concern among educators in Indonesia. Education-related issues such as the role of education, school management, quality of education, the education system, educational outcomes assessment, and others are always discussed. This is because education is the main system that can drive changes in society. Through education there will be a new generation that brings new better values. The new generation is as a determinant of human resources for a variety of cultural products both tangible and intangible. The efforts of many countries to allocate their funding sources for developing the best education system will determine the progress of the country in the future. It will also determine how the country's position in the constellation of competition among countries worldwide.

The national development has been recognized not yet fully capable to improve the quality of life and well-being of people throughout the country equally. There has been a development imbalance between regions mainly occurs between Java and outside of Java, between the Western Region of Indonesia (*Kawasan Barat Indonesia* or KBI) - Eastern Region of Indonesia (*Kawasan Timur Indonesia* or KTI), as well as between certain city and village. That's because there are still many underdeveloped areas, including the border areas of country. It becomes the challenge in national development. People living in underdeveloped areas are generally less touched by development programs as a whole, therefore the access to social services centre, the centre of economic, and political social activities become limited, especially in the isolated areas. At the border areas of country, including small islands at the forefront of country are faced with a considerable challenge despite having the potential of natural resources and strategic geographical position. But their condition is relatively worse compared to the territory conditions of the neighboring countries. For example at Sambas, West Kalimantan Province which is at the border is worse condition than Serawak, Malaysia.

The number of underdeveloped areas in Indonesia by the end of 2015 was 122 districts (Cabinet Secretary of Indonesia, 2015) decreased from the previous year i.e. there were 183 under developed districts at 2014 (KPDT, 2014). Moreover, Indonesia's rank of Human Development Index (HDI) dropped from 107 at 2013 to 110 at 2014, even the index magnitude was increasing (UNDP, 2015). The increasing number of underdeveloped regions is caused by several factors. One of them is the area that had been developed or developing, slumped again due to some public facilities and infrastructure destroyed by the disaster. The emergence of underdeveloped areas was caused by regional splits expansion, too. Some of those split regions failed to develop because they are not ready in both infrastructure and economic development. Additionally, some areas are underdeveloped due to horizontal conflicts in the community.

Considering the current condition in Indonesia especially on education quality improvement, it seems there is many problems to be solved. The aim of this paper is to describe the education condition in Indonesia; therefore some proposed solution can be concluded for better improvement.

Methods

This paper used qualitative description methods using literature data. For the analysis, force field analysis technique was used to explore the positive and negative phenomena on certain aspect. Based on both phenomena, the deep analysis using relevant concepts and theories was used to find the solution for education quality improvement.

Results and Discussion

Demographic Bonus

Thus, considering various phenomena associated with the development of underdeveloped areas there are problems that need to be solved by utilizing science and technology to achieve a strong national endurance. In regard, the crucial issue to uphold is how the role of education can enhance the quality of human resources. The issues of demographic bonus in Indonesia become an important factor in the development of human resources. As information, the Indonesian population increased continuously about 1.49% per year since 1960. Prediction of the Central Statistics Agency (*Badan Pusat Statistik* or BPS) showed that the proportion of the population aged 14 to 65 in the range of 65% of the total population. The population posture of Indonesia expressed that Indonesia's population in productive age is higher beyond the number of dependent age people. The dependency ratio is decrease

from 50.5 at 2010 to 48.6 at 2015 (BPS, 2015). More detailed of the prediction of the population is shown by Figure 1 until 2035.

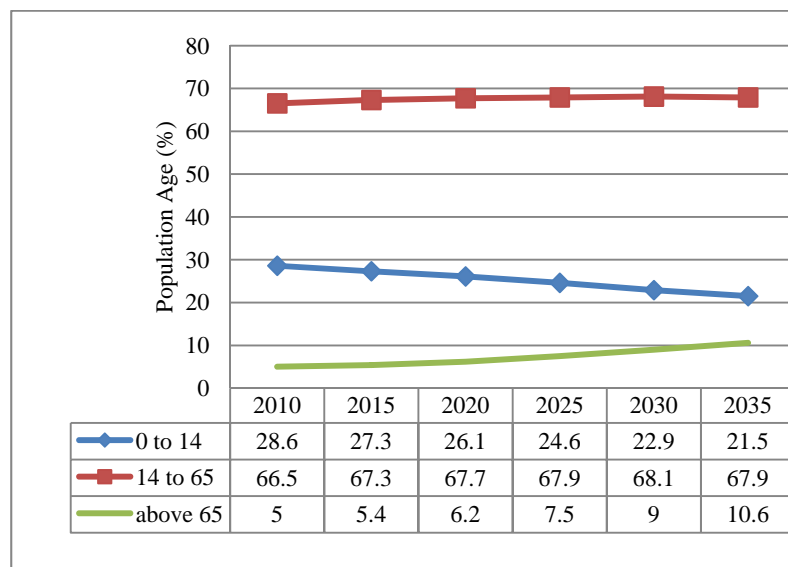


Figure 1. Population prediction

Data on Figure 1 was calculated using data taken from BPS (2015). It can be seen that the elderly in the long term will continue to rise from 5% in 2010 to 10.6% in 2035. While the population of children aged will decrease from 28.6 in 2010 to 21.5% in 2035. If this population changing is a linear trend, it will affect on the population of aged 14 to 65 in the long term. It means there will be a period where the productive population will be reduced because of old age population is increasing. It became a sign of a shift in the population pyramid to be an old state as experienced by countries, such as Japan, South Korea and Europe. The anticipation of the shifting on the population pyramid will impact on how to take the benefit of the demographic bonus.

Human Development Index

One indicator to measure the progress of human resources quality is human development index. HDI measures the achievement of human development based on a number of basic components of quality of life. HDI is built through the approach of the three basic dimensions: a long and healthy lifespan; intelligence, and a decent life (BPS, 2015; UNDP, 2015). The dimension of health is measured through life expectancy at birth. The dimension of intelligence is indicated by both literacy rates and average of the time duration of school completion. As for measuring the dimension of decent life can be seen from the ability of people's purchasing power of the in comparison with their expense per capita.

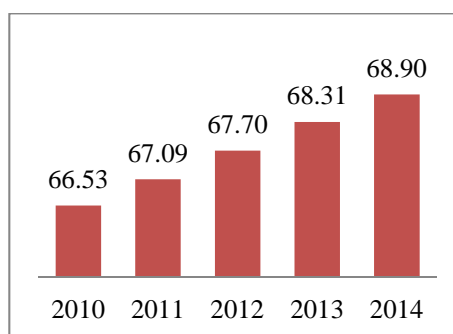


Figure 2. Human Development Index of Indonesia

Even the HDI of Indonesia increased as mention on Figure 2, but compared to the other closed countries it has got slower rate of the HDI improvement as shown by Figure 3.

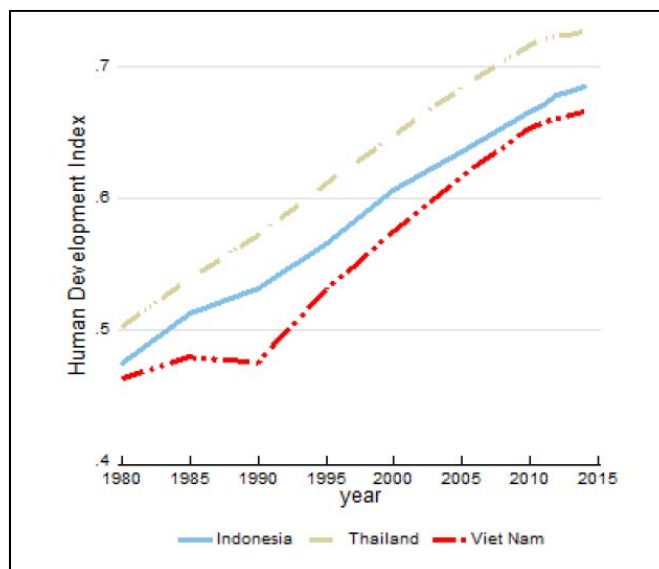


Figure 3. HDI trends for Indonesia, Vietnam and Thailand, 1980-2014 (UNDP, 2015)

If we analyze deeper into province level, we can see that their level of human development index varies one another. Distribution of HDI in the all provinces at 2014 in Indonesia (BPS, 2015) can be made into a normal curve. In the median, there is dominant HDI score in the range of 70 and tend to be uneven. We will get the same data from Normality Analysis using statistics approach. Using the same data of the HDI distribution by province at 2014, the descriptive statistic can be calculated. The result showed that the standard deviation equal to 4.2. It means that there is a wide gap of the HDI among provinces. From the other indicator, the number of kurtosis is 1.52 with an error degree is 0.8. It showed that the curve tends to be spiky. It can be interpreted that there is inequality HDI among provinces. The distribution data showed that the high quality of human resources is in Java (more than 70 in average) and Bali (72.48) regions relatively to other provinces.

Education Gap

By plotting the HDI by province and population of each province, it can be made an analysis of how inequality of human development occurs (see Figure 4). From Figure 4, it can be seen by noting the provinces at the top and bottom. It appears that the out of Java provinces located at the bottom, which means having a lower HDI than with Java and Bali. The lowest three of HDI in Indonesia are Papua (56.75), West Papua (61.28) and West Sulawesi (62.24). While the top three one are Jakarta (78.39), Yogyakarta (76.81), and East Kalimantan (73.82) respectively.

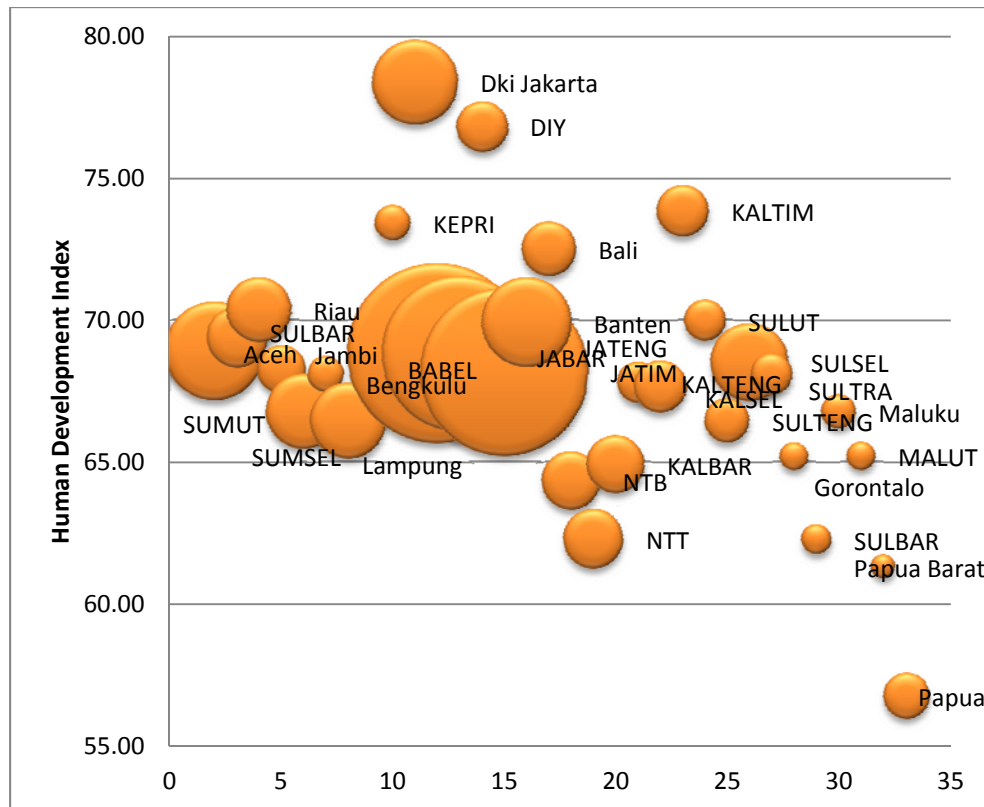


Figure 4. HDI for each province in Indonesia

The ball diagram indicates the proportion of the population. It can be seen that low HDI occurred in the provinces outside Java where the highest gap happens in West Papua. This confirms the previous analysis.

Education and Global Competitiveness

The impact of the quality of education is the nation's competitiveness. Before analyzing its aspects, the data about the nation's competitiveness can be used as a reference (Schwab, 2014; Schwab, 2015). Although not entirely represent competitiveness, this data can function as an indicator of progress. Good human resources will be the driving factor for a variety of activities a state and a nation can make, including the economy. In the development of competitiveness, a country is positioned in its change of factor-driven to innovation-driven (Schwab, 2014) as shown on Figure 5.

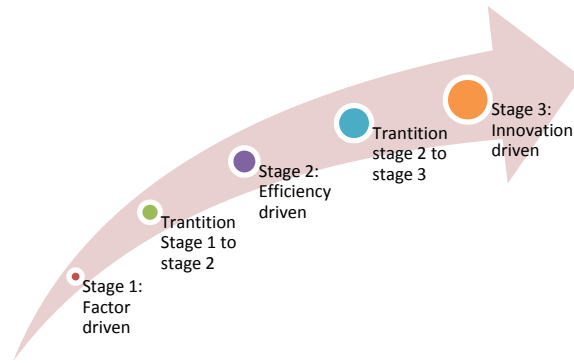


Figure 5. The stage of development

In the ASEAN region, in 2013 Indonesia was in the stage 2 together with Thailand, and East Timor. Singapore and Malaysia are one step ahead. Singapore rank is the second-most competitive economy in the world at 2014. Malaysia is in the transition from stage 2 to stage 3. While other rest countries are lower rank than Indonesia. This does not change in 2014, but the 4. But, Thailand performed significant progress from rank 49 in 2012 to 37 in 2014. Alt ranking does. Indonesia succeeded to step up from rank 45 in 2012 to rank 38 in 2013. Although in 2015 the rank of Indonesia is on rank 34, but Thailand has been higher in the position 31. From the rank of this index, Indonesia has increased competitiveness index (from rank 38, score 4.53 at 2013 to rank 34, score 4.57), but the competitiveness acceleration is slower than other one of certain ASEAN countries for instant Thailand (12% annual, from score 4.54 at 2013 to 4.66 at 2014) as mention before, Philippines (11% annual, from 4.29 at 2013 to 4.4 at 2014), and Vietnam (5% annual, from 4.18 at 2013 to 2.23 at 2014). See table 1 for detail. One that can be traced to find the root problem is the educational aspect. The education aspect data can be found as part of Global Competitiveness Index (Schwab, 2014; Schwab, 2015).

Table 1. Comparison of Global Competitiveness Index

Country	Rank		Score		Acceleration %
	2013	2014	2013	2014	
Indonesia	38	34	4.53	4.57	4.0
Vietnam	70	68	4.18	4.23	5.0
Thailand	37	31	4.54	4.66	12.0
Philippines	59	52	4.29	4.4	11.0

Education is mentioned as part of 12 competitiveness pillars, namely as a pillar of health and basic education, and higher education and training. The 12 pillars of competitiveness are (1) Institutions, (2) Infrastructure, (3) Macroeconomic environment, (4) Health and primary education, (5) Higher education and training, (6) Goods market efficiency, (7) Labor market efficiency, (8) Financial market development, (9) Technological readiness, (10) Market size (11) Business sophistication and (12) Innovation.

In 2014, for health and primary education pillar, Indonesia is at 74 which is higher than one at rank 72 in 2013). Whereas for higher education and training pillar at position 61 (and 52 in 2013). Comparing this ranking with a total ranking of Indonesia (rank 34), it reads education has not contributed optimally to Indonesia's competitiveness. There are other factors that make the growth of Indonesia's competitiveness. Even when it is compared to the position in 2013, Indonesia experienced a decline in both the pillar. The new main supporting system of Indonesian competitiveness is only on market size. This is because Indonesia becomes the potential market for various products. However the big of market size can be as an opportunity for competitiveness especially supported good human resources. The competitiveness position of Indonesia for each pillar at 2014 is shown on Figure 6.

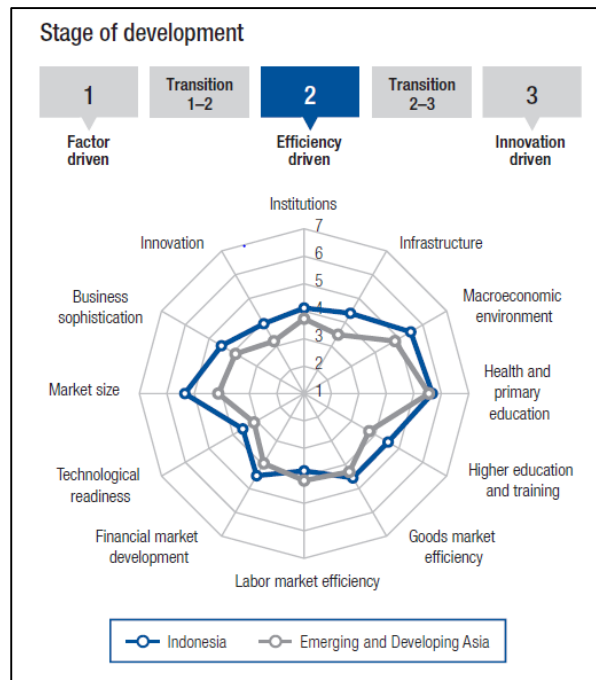


Figure 6. Position of each development pillar of Indonesia (Schwab, 2015)

The role of education for competitiveness can be traced from how to assess the ranking of the two pillars in the educational aspect. Before a detailed analysis, the Figure 6 shows how the growth of Indonesia's competitiveness over time compares to other countries.

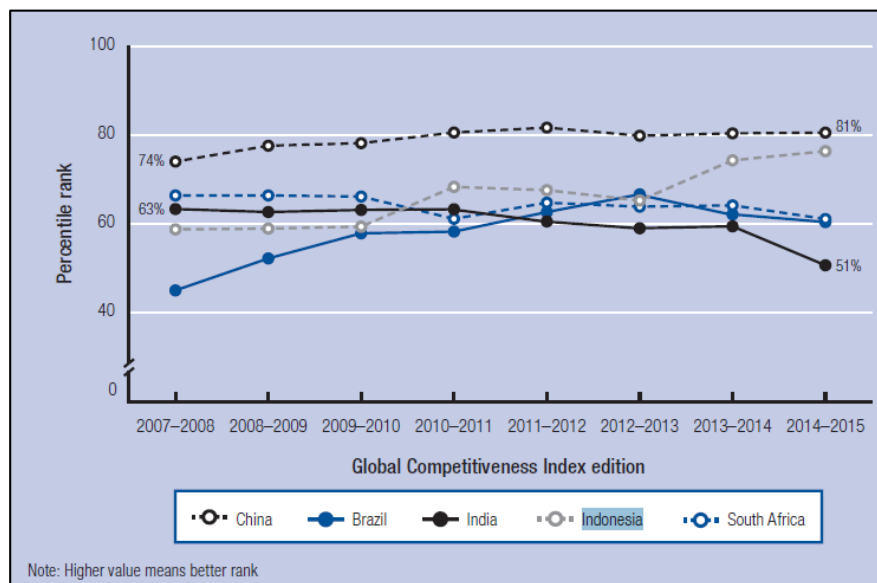


Figure 7. The CGI comparison of Indonesia and other countries (Schwab, 2015)

Since 2007, Indonesia has experienced a good growth of competitiveness. Same as China, Indonesia consistently growing when India, Brazil, South Africa stagnated and tend to decline. This is something positive in the development of human resources. But compared with other ASEAN countries, Indonesia is still less in a growth spurt.

Education as the Key Issue in Competitiveness

The main concern of educational roles in development is on how education can create the human resource that is able to solve problems inhibiting competitiveness. The first alternative to improve a nation's competitiveness is the strategy of improving the quality of education itself. The latest data related to the quality of education in Indonesia is as released by the OECD (2015). There are five Asian countries in the top position, namely Singapore, Hong Kong, Japan, South Korea, and Taiwan (Schleicher, 2015). Indonesia itself is at position 69 of 76 countries surveyed. Indeed, the measure of quality is only measured in terms of outcomes that include mathematics skills, reading and writing, and general competencies of the students from elementary school to 15 years. It is also one of the items on health and primary education pillar in the global competitiveness index. The surprising thing is the development of the quality of education in Vietnam that made the top 12 positions.

Meanwhile, other sectors are also experiencing various problems. Overall, problem issues related to competitiveness seen in Figure 8 taken from GCI Report 2015 (Schwab, 2015). It can be seen that the main problem of Indonesia in building the competitiveness is the problem of corruption. This means that the problem is the mentality or the character of human resources. The education system in Indonesia has not been able to create the generation who has a positive character. While the capability and adequacy of workers in the work (inadequately educated workforces) relatively is not really critical. Good mentality and positive characters of human resources becomes a trigger for competitive activities. Therefore, education for mental development is a top priority.

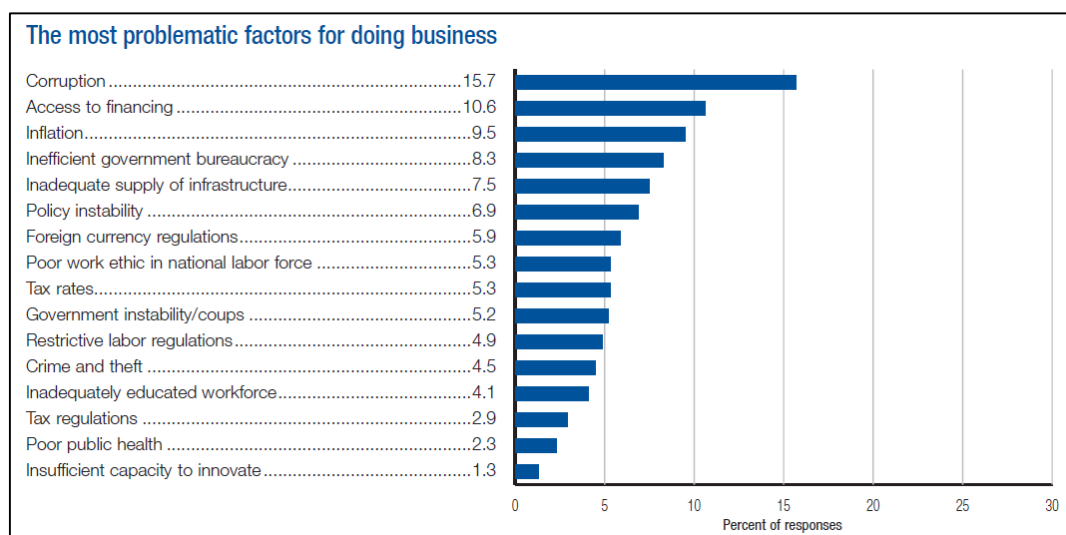


Figure 8. The most problematic problem of Indonesia (Schwab, 2015)

Considering the various explanations above, the real role of education still needs to be enhanced to improve the nation's competitiveness. It will be real if only the human resources as the prime mover of human civilization also in a good quality. The most important thing for the quality of human resources in Indonesia is the attention or focus on building characters or mentality; especially to eradicate corruption as the biggest problems in building competitiveness.

The issues on the educational sector to support competition and competitiveness are stressed by national and international level because of significant financial, political, technological and demographic changes (Cretan et al., 2015; Feyen & van Hoof, 2015; Geo-Jaja & Zajda, 2015). With regards to the problems of competitiveness, the prime factor in international competitiveness is human resource quality as explained by Figure 9. To achieve qualified human resources means to improve the quality of education. The preceding data has explained the problems of education occur in elementary school, secondary school and tertiary school. The improving education quality will propel the social and environment sustainability that increasingly effecting the economic policy decision. It can impact on economic performance.

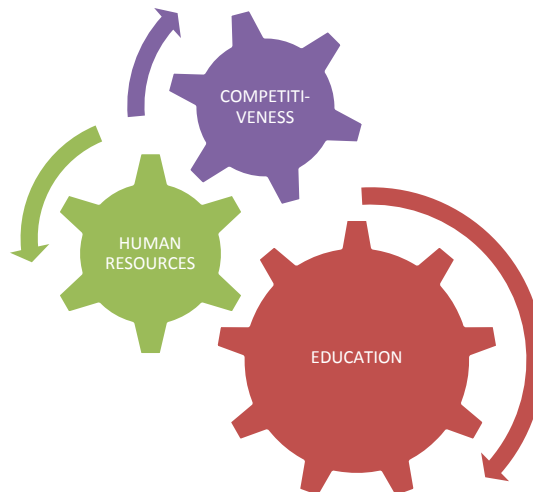


Figure 9. Education is Prime mover of competitiveness

The main problems arousing are: the quality of school management, quality of research and training, the quality of the education system, and also the higher education participation rate is still low. These four main things that need to be improved in education before it can move to other sectors. The international outlook on education can be studied to seek the education reform pattern. This situation of the lack of education quality in Indonesia to support nation competitiveness is relatively same to the one in other country's experience (Tamayo, 2015).

Ansell (2015) mentioned in his article that education is important for the nation development; but the global institutions have a role to influence. Control over and through education therefore is very important. One of the strategies to improve education competitiveness is to re-evaluate the performance of education funding from the government. As the result at the previous section, Indonesia has unequal education quality throughout all provinces. The strategy on the increasing funding and its control at the lower education quality would affect the total sum of education enhancement. The experience on the education funding in some countries in Europe were examined by Cretan et al. (2015) and van der Wende (2015) that it can be used as a benchmark.

Other country will implement different strategy; but all these strategies can be examined to be implemented in Indonesia. Knight (2015) stated that internationalization that lead to competitiveness brings benefits as well as risks for certain condition as mentioned in her opinion on five myths and five truths of the internationalization. Globalization and internationalization are different but linked. It can be said that to reach the benefit, a major of investment of human and financial resources from individual faculty members, department is required.

Improving quality of education sectors on every aspect will encourage the better social transformation. There (2015) referring the global competitiveness index concept (Schwab, 2015; 2014) explained on how to maintain the sustainable competitiveness showing the role education as part of the competitiveness indicators. The study of the education and social transformation in Europe showed that the adoption of the good education has been a major engine to strengthen the role of education in social and economic development. Some of the notion is the importance for the further efforts of countries to translate this strategy to the coherent and effective national policies (Halaz, 2015; Lane, 2015; Desjardins, 2015). This strategy corresponds to the result of the education transform in Asia reported by Mok (2015) that globalization and the pressing demands of a knowledge economy led to a series of educational reforms. Vice versa, the higher quality education will drive the better sustainable competitiveness as experienced in many countries for example in Russia (Kovaleva et al., 2015), Europe (Petrakis et al., 2015; Halasz, 2015), Korea (Green, 2015), Japan (Wilkinson, 2015), and Singapore (Reyes, 2015).

Conclusion

It is inevitable that education has a strategic role for improving the quality of the human resources. The most important to produce the good human resources is how to betterment the education system as a

whole. The main problem on education in Indonesia is in the low focus on the development of mentality or character. While the analysis of competitiveness problems Indonesia is known that the main problem in competitiveness is the high level of corruption in the country. This is a problem of mentality. Two of the twelve pillars of competitiveness of a country are related to education. One of them is the improvement of basic education. From many countries experiences, the education quality has important role to the sustainable nation competitiveness. The most root problem in Indonesia's competitiveness is the high of corruption that should be encountered by the education reform and social transformation. The government policy to ensure the well distributed funding for education throughout all provinces will reduce the gap and lack of human development.

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References

- Ansell, N. (2015). Shaping global education: international agendas and governmental power. *International Development Planning Review*, 37(1), 7-16.
- Bhawsar, P., & Chattopadhyay, U. (2015). Competitiveness: review, reflections and directions. *Global Business Review*, 16(4), 665-679.
- BPS. (2015). *Dependency Ratio menurut Provinsi, 2010-2035*[Dependency Ratio by Province, 2010-2035]. Retrieved on 5 January 2015 from <http://www.bps.go.id/linkTabelStatis/view/id/1275>.
- Cabinet Secretary of Indonesia. (2015). *122 Daerah Ini Ditetapkan Pemerintah Sebagai Daerah Tertinggal 2015 – 2019* [122 Districts are considered as underdeveloped area by Indonesian Government 2015-2019]. Retrieved on 7 January 2015 from <http://setkab.go.id/122-daerah-ini-ditetapkan-pemerintah-sebagai-daerah-tertinggal-2015-2019/>.
- Cretan, G. C., & Gherghina, R. (2015).Funding Higher Education in a few EU Countries: Implications for Competition and Competitiveness in Higher Education. *Journal of Knowledge Management, Economics and Information Technology*, 1, 1-22.
- Desjardins, R. (2015). The Precarious Role of Education in Identity and Value Formation Processes: the shift from state to market forces. *European Journal of Education*, 50(2), 134-146.
- Feyen, J., & Van Hoof, H. B. (2015). An analysis of the relationship between higher education performance and socio-economic and technological indicators: The Latin American case study. *Maskana*, 4(2).
- Geo-JaJa, M. A., & Zajda, J. (2015). Globalization and the future of education in Africa. In *Second International Handbook on Globalization, Education and Policy Research* (pp. 287-307). Springer Netherlands.
- Green, C. (2015). Internationalization, deregulation and the expansion of higher education in Korea: An historical overview. *International Journal of Higher Education*, 4(3), p1.
- Halász, G. (2015). Education and Social Transformation in Central and Eastern Europe. *European Journal of Education*, 50(3), 350-371.
- Kemristekdikti. (2015). *Peraturan Menteri No 13 Year 2015 Tentang Rencana Strategis Kementerian Riset, Teknologi, dan Pendidikan Tinggi Tahun 2015-2019* [Ministry Regulation on Strategic Planning of Research, Technology, and Higher Education Ministry 2015-2019].Retrieved on 14 January 2015 from <http://sindiker.dikti.go.id/dok/permendikbud/Permenristekdikti13-2015RenstraKemenristekdikti2015-19Lengkap.pdf>.
- Knight, J. (2015). Internationalization: A decade of changes and challenges. *International Higher Education*, (50).

- Kovaleva, N. I., Valeyeva, N. S., Avilova, N. L., Kharisova, G. M., Khayrutdinov, R. R., Khairullina, E. R., & Shaikhislamov, A. K. (2015). Recommended Practices for Improving the Competitiveness of the Russian Education Services Market under the Conditions of the International Educational Integration. *Review of European Studies*, 7(4), 1.
- KPDT. (2014). 183 Kabupaten Tertinggal di Indonesia [*183 underdeveloped districts in Indonesia*]. Retrieved on 25 April 2015 from <http://www.kemenegpdt.go.id/hal/300027/183-kab-daerah-tertinggal>.
- Lane, J. E. (2015). Higher education internationalization: Why governments care. In *New perspectives on internationalization and competitiveness* (pp. 17-30). Springer International Publishing.
- Mok, K. H. (2015). Higher education transformations for global competitiveness: Policy responses, social consequences and impact on the academic profession in Asia. *Higher Education Policy*, 28(1), 1-15.
- OECD. (2015). *Data: Indonesia*. Retrieved on 10 January 2015 from <https://data.oecd.org/indonesia.htm#profile-education>.
- Petrakis, P. E., Kostis, P. C., & Valsamis, D. G. (2015). Innovation and competitiveness: Culture as a long-term strategic instrument during the European Great Recession. *Journal of Business Research*, 68(7), 1436-1438.
- Reyes, V. (2015). A critique of knowledge-based economies: A case study of Singapore education stakeholders. *International Journal of Educational Reform*, 24(2), 136-159.
- Schleicher, A. (2015). *Education at a Glance 2015*. Retrieved on 19 December, 2015, from OECD: <http://www.slideshare.net/OECD/education-at-a-glance-2015-global-launch>.
- Schwab, K. (2014). *The Global Competitiveness Report 2013–2014: Full Data Edition*. Retrieved on 19 December 2015 from the World Economic Forum: <http://www.weforum.org/reports/global-competitiveness-report-2013-2014>.
- Schwab, K. (2015). *The Global Competitiveness Report 2014–2015: Full Data Edition*. Retrieved on 19 December 2015 from the World Economic Forum: <http://www.weforum.org/reports/global-competitiveness-report-2014-2015>.
- Tamayo, A. (2015). Measuring ASEAN Competitiveness: A Mankiw-Romer-Weil (MRW) Model. Available at SSRN 2563395.
- Thore, S., & Tarverdyan, R. (2016). The sustainable competitiveness of nations. *Technological Forecasting and Social Change*, 106, 108-114.
- UNDP. (2015). *Human Development Report 2015*. Retrieved on 13 November 2015 from http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/IDN.pdf.
- van der Wende, M. (2015). Europe's agenda on global competition. *International Higher Education*, (49).
- Wilkinson, D. A. R. R. E. L. L. (2015). Educational Reforms and Development in Japan: Language and Culture Education for Global Competitiveness. *International Journal of Higher Education Management (IJHEM)*. Vol, 1(2), 1-11.

