

EFFECTS OF TECHNOLOGY ABSORPTION AND GOVERNMENT PRIORITIZATION OF ICT ON FOREIGN DIRECT INVESTMENT

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Abstract

Nowadays, ICT has become the fundamental pillar of the knowledge economy. Government have a big proportion to support technology activities by having high priority and concerned. In order to increase economic growth, government can push the business sector to publish the reporting order to attract the investor. The research has taken population from all the countries around the world therefore using purposive sampling technique and only 111 countries that meet the criteria as a sample. The research using secondary data which are Network Readiness Index from World Economic Forum (WEF) and Foreign Direct Investment (FDI) inflows from UNCTAD. The analysis methods in this research are path analysis for testing the hypothesis, descriptive analysis, classical assumption test and good of fitness test for testing the quality of data using AMOS 6 software. Result of this research found that firm-level of technology absorption affects to FDI directly but government prioritization of ICT directly not affects to FDI.

Keywords: *ICT, Investment, FDI, Technology*

INTRODUCTION

Firm-level of technology absorption and government prioritization of ICT are two from many driving factors of ICT. The two driven factors of ICT become important in this sophisticated era. Firm level absorption can increase effective and efficient for the production. Yet, government have a big proportion to support technology activities by them prioritization and concern about it. In order to increasing economic flow, government can push the business sector to publish the report so can attract the investor. Investor can freely and easily access the report that have been changing to digital report. Moreover, can help to assess business and economic conditions.

According to WEF (2013), beside ICT, there is also one other things that is important in order to increase growth of economics and the other thing is Foreign Direct Investment (FDI). FDI is a category of investment that reflects the

objective of establishing a lasting interest by a resident enterprise in one economy (direct investor) in an enterprise (direct investment enterprise) that is resident in an economy other than that of the direct investor. The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise (OECD, 1999). According to Arogyawamy and Koziol (2005) in their research on Poland emerging markets and nations declare technologies absorption and innovation capabilities are intimately dependent upon the government and other societal institutions. It means that corporate technology absorption and other related to it depend on government prioritization of ICT through government regulations and rules.

There is connection between ICT and FDI and the connection can be seen clearly in daily life. As a simple illustration, when a country have better ICT,

at the first time, foreign investor will see that country as a gold. Foreign investor will come and invest in that country. ICT can give impact to FDI flows through increasing productivity across all sectors, facilitating market expansion beyond borders to harvest economies of scale and lowering costs of and facilitating access to services, notably in administration, education, health and banking.

RESEARCH METHODS

The object of this research are countries in around the world which are the countries including Africa, America, Asia, Australia and Europe continents, while the variables in this research are ICT driving factors, with unit observations are firm-level technology absorption and government prioritization of ICT, and foreign direct investment.

The populations in this research are all countries around the world with total are 206 countries and included into Africa, America, Asia, Australia and Europe continents. All countries also listed in United Nations organizations. Using purposive sampling then the total countries to be sample are 111 countries around the world.

The type of data used in this research is a secondary data. The

secondary data used for collected data about ICT's driving factors with the indicator from network readiness index survey by World Economic Forum and data for foreign direct investment from United Nations Conference on Trade and Development (UNCTAD).

The analysis methods in this research are path analysis for testing the hypothesis, descriptive analysis, classical assumption test and good of fitness test for testing the quality of data using AMOS 6 software.

RESULT AND DISCUSSION

By using AMOS Ver. 6.0 software, the goodness of fit results reflected in Table 1.

Based on Table 1, the upper table show that the chi-square is at 5.595. It happens because of the number of samples are not small enough. The RMSEA is at 0.091 and CMIN/DF is at 5.595 is more than cut off value, it means suitability of research model is not good enough. The GFI is at 0.997; CFI is at 0.998 and TLI is at 0.974 is more than cut off value and closer to one, it means suitability of research model is very good. Moreover, AGFI value index is at 0.930, it means suitability of research model is good.

Table 1. Goodness of Fit

Good of fit index	Cut-off value	Model result	Explanation
X ² - Chi-Square		5.595	Expected small value
RMSEA	≤ 0.08	0.091	Not Good Enough
GFI	≥ 0.90	0.997	Very Good
AGFI	≥ 0.90	0.930	Good
CMIN/DF	≤ 3.00	5.595	Not Good Enough
CFI	≥ 0.95	0.998	Very Good
TLI	≥ 0.95	0.974	Very Good

Source: AMOS 6.0 output

Testing of hypothesis performed with Structural Equation Modeling (SEM) using the software AMOS version 6.0. Limit of significance (p) which is used in decision making admissibility hypothesis that is equal to 0.05 or 5%. In another words, hypothesis will be accepted if the significance value (p) obtained less than or equal to 0.05 or 5% ($p \leq 5\%$) (Nur'Ainy, 2010). The analysis were performed to determine the influence of ICT to FDI as seen on Table 2.

Based on the result of path analysis using AMOS software, it is known that hypothesis 1 is accepted because the value of significant (p -value) generated is smaller than the limit, that is equal to 0.05 or 5%. Yet, hypothesis 2 is rejected because the value of significant (p -value) generated is higher than the limit.

Poland as emerging nation, the absorption of existing technologies is at least as important as developing new and innovative technologies (Arogyaswamy and Koziol, 2005). Absorption is a costly learning activity that a firm can employ to integrate and commercialize knowledge and technology that is new to the firm but not new to the world (Goldberg, et al., 2010). Hypothesis 1 show that firm-level of technology absorption has significant affected foreign direct investment. For a multinational company, as a managers, they need to align ICT adoption and the strategic focus of the company more consistently (Moriones and Lopez, 2007). Therefore, technologies absorption and innovation capabilities are intimately depend upon the government and societal institutions. Government and societal permission to absorption technology will help manager to make increase their company level of technology absorption, when the company become attractive it can increase the FDI inflow to the host-country. This result is consistent with Maris (2013) and Goldberg, et al. (2010).

Moreover, government have legality to make rules and policies in country,

included policy about information and communication technology. Hypothesis 5 is rejected and its similar result with Maris (2013), it declares inflows of FDI in host country has not affected by government prioritization of ICT. In South Africa, there is Independent Communication Authority of South Africa (ICASA), which help Minister of Communication make rules about ICT and the prioritization of it. The government not have prioritization of ICT then the rules become useless and its impact very strong. Its influence FDI activities in South Africa (Ayogu and Bayat, 2010). Some of investor believe that ICT a crucial part of economic growth to increase the effective and efficiency company. When the government not support and not supply the infrastructure it will make investor to rethink again to invest in the host country.

There are eight country which are having good average for all top ten chart. There are Iceland, United Kingdom, United States, United Arab Emirates, Switzerland, Singapore, Hong Kong SAR and Norway. Iceland have a good position and mostly listed in top ten chart for each section because the global competitiveness index for Iceland have a good score. The higher education and training for employee can create better skill and smart employee. When the country have better employee the labor, goods and financial markets become more efficient. Moreover, institutions like government and company can have efficient and effective activities, it can increase the infrastructure of the country. Infrastructure also influence the technological readiness of the country because country can supply the infrastructure for absorption of technology. In the end it can make business more sophisticated and of course can increase the innovation and availability of latest technology in the Iceland.

Table 2. Hypothesis Test Results

Hypothesis	Variable	Results (P)
1	FDI \leftarrow Firm-level absorp	.014
2	FDI \leftarrow GovICT	.064

Source: AMOS Secondary Data Processed.

There are unique case and phenomenon in the world, Malta is one of them. Malta's government have big proportion on ICT for their country, it indicate that Malta should be more sophisticated than other but it not happen in Malta. The problem of Malta is because inefficient government bureaucracy, inadequate supply of infrastructure, tax rate and inadequately educated workforce (WEF, 2008; 2009; 2010; 2011; 2012). Malta's case show not only need government prioritization of ICT to make the country sophisticated but also other part of economic section or pillar should support it. When government support ICT only in policy or rules but not in bureaucracy and not supply in infrastructure it means nothing to make ICT in Malta better and sophisticated.

In the first half of 2008 developing countries weathered the global financial crisis better than developed countries, as their financial systems were less closely interlinked with the hard-hit banking systems of the United States and Europe. Their economic growth remained robust, supported by rising commodity prices. From global economic crisis, it also can be seen capacity of ICT to drive growth and innovation should not be overlooked. ICT can help the foreign investor by got the reliable data and symmetric information over the corporate, firm, organization or even the government. Since ICT can play a critical role not only in facilitating countries' recovery but also in sustaining national competitiveness in the medium to long term. Information and communication technologies (ICT) is an ever-important enabler of renewed and sustainable growth in such a context. Its

unique function as a key element of infrastructure for efficient industries and a critical productivity enhancer is crucial for sustaining recovery and laying the foundations for economies that are competitive in the long term.

Besides supporting economic sustainability, ICT can play a leading role in fostering environmental and social sustainability both within its own sector and as an industry-wide enabling infrastructure. Not only is the ICT industry increasingly adopting measures and strategies to reduce the sector's energy footprint, but it is also developing innovative solutions to diminish other sectors' energy consumption and improve overall sustainability across industries. In 2010, Encouraging signs of recovery have appeared in early 2010 in many countries across the world, spearheaded by emerging markets such as China and India, which achieved healthy GDP growth rates in 2009 (WEF, 2010). As far as social sustainability is concerned, ICT enables greater access to basic services by all segments of society and improves the ways these basic services (e.g., education, finance, and healthcare) are provided to citizens. In addition, it offers to all of us revolutionary and more comprehensive communication channels and innovative ways of interacting and networking (WEF, 2010; 2011).

Fluctuating of ICT and FDI around the country in the world because affected of many problems, yet in their country or affect from global economic conditions. According to Global Competitiveness Report which is published by WEF in year 2008 to 2013, the most problematic factor for each country for doing business

are: 1) foreign currency; 2) government instability; 3) inflation; 4) inadequate supply of infrastructure; 5) inadequately educated workforce; 6) corruption; 7) policy instability; 8) tax rate; 9) access to financing; 10) inefficient government bureaucracy; 11) poor work ethic in national labor force and 12) restrictive labor regulations.

CONCLUSION

This research advanced our understanding about the role of information and communication technology's driving factors and role of corporate governance as intervening variable that will affect foreign direct investment in the world. Firm-level of technology absorption does affects directly on foreign direct investment. Thus, it can be concluded that every enhancement in firm-level of technology absorption can attract FDI inflows. Government prioritization of ICT does not affects directly on foreign direct investment. Thus, no matter how much the government have prioritization of ICT in one country, it cannot increase/decrease FDI inflows.

Moreover, according to this research there are several issues that corporate, government and public should concern in order to increasing economic growth and inflows. Those are: 1) foreign currency; 2) government instability; 3) inflation; 4) inadequate supply of infrastructure; 5) inadequately educated workforce; 6) corruption; 7) policy instability; 8) tax rate; 9) access to financing; 10) inefficient government bureaucracy; 11) poor work ethic in national labor force and 12) restrictive labor regulations.

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