

THE GLOBAL COMPETITIVENESS OF THAILAND: AN EMPIRICAL ANALYSIS OF THE ASEAN COMMUNITY

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Abstract: *The current rate of technological expansion and the globalization of markets have made countries to be more competitive for their economic growth and prosperity. The Global Competitiveness Index (GCI) is a measure computed by the World Economic Forum every year since 1979 on the basis of 12 pillars of economic and human growth indicators. 138 world countries are included in the GCI 2016-17 and these countries accounts for 98% of the world GDP. Thailand is the third major economy among the ASEAN community and it is classified as 'Efficiency Driven Economy' according to its score in GCI 2016-17. This study investigates the factors in which Thailand has greater strength and more weakness when compared with the other ASEAN countries based on the GCI indicators. Accordingly Thailand seems to be comparatively weak in Innovation and Institutional factors but strong in Macroeconomic environment factors, Health and Primary Education measures, and in Market Size. The study concludes that if the economic and human development policies are formulated looking into these strengths and weakness, the country can become an 'Innovation driven economy' within a short span of time.*

Keywords: ASEAN, Competitiveness, GDP, GCI, Thailand

1. INTRODUCTION

The World Economic Forum has been computing and publishing the Global Competitiveness Index (GCI) every year since 1979 based on consistent definition of concepts and using scientific methods of data collection from countries all over the world from where reliable data are made available. The world countries are ranked on the basis of the Global Competitiveness Index and this is widely recognized as an indicator of growth and development of world economies. The GCI has got 12 pillars for its calculation of index and these are further sub-categorized under 3 heads, viz., A) Basic Requirements Sub-index, B) Efficiency Enhancers Sub-index, and C) Innovation and Sophistication Factors Sub-index. The 12 pillars are measured on the basis of standardized indicators of each pillar, and in total 114 indicators are included in the computation of Global Competitiveness Index (Figure 1).

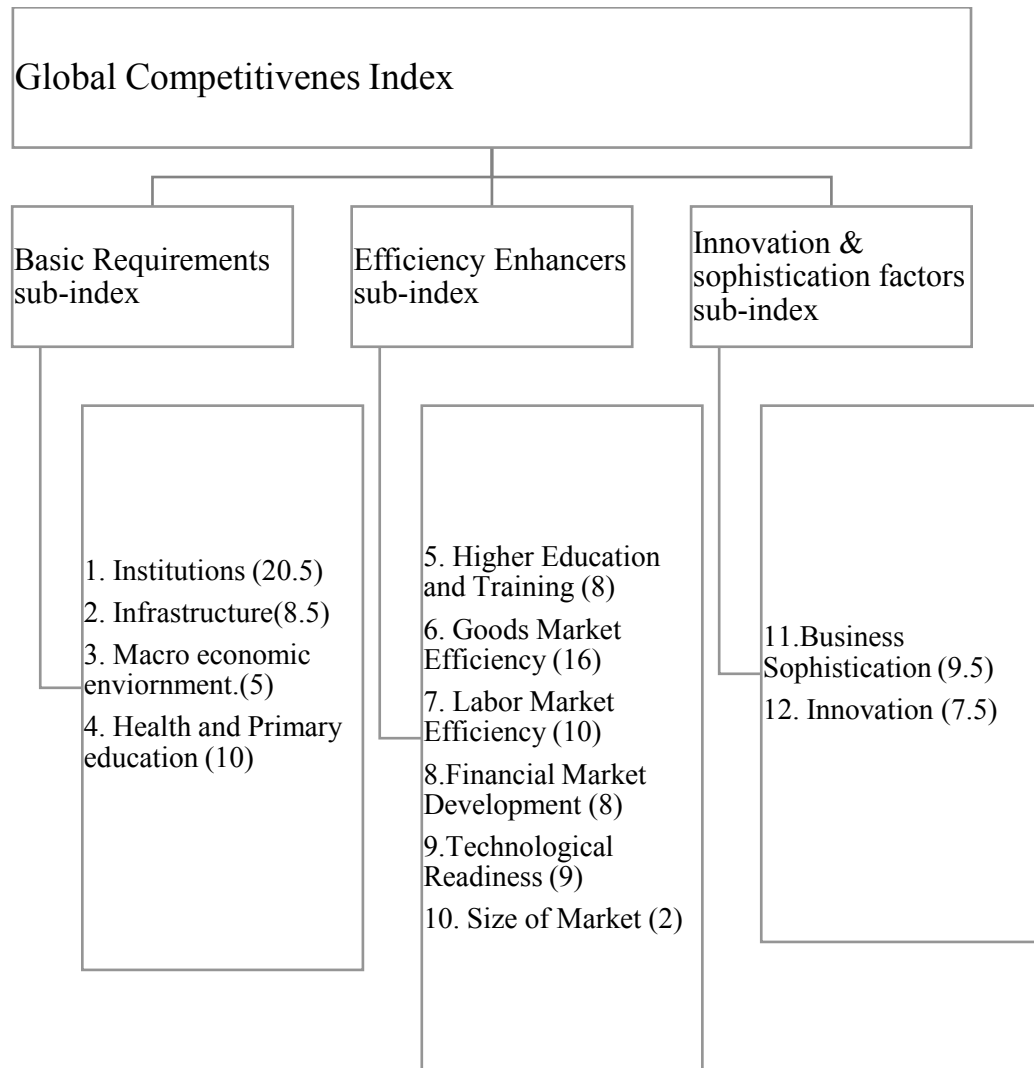


Figure 1- Twelve Pillars of Global Competitiveness Index (Number of indicators of each pillar in parentheses)

The Association of Southeast Asian Nations, or ASEAN, was established on 8 August, 1967 in Bangkok, Thailand and its founder members were Indonesia, Malaysia, Singapore, Philippines and Thailand. Later on joined Brunei (1984), Vietnam (1995), Lao PDR (1997), Myanmar (1997) and Cambodia (1999), making up today a body of 10 member states. One of the main aims of the ASEAN declaration is acceleration of economic growth, social progress and cultural development in the region through joint endeavours in the spirit of equality and partnership. At the 9th ASEAN Summit in 2003, the ASEAN leaders resolved that an ASEAN Community shall be established. The ASEAN Community is comprised of 3 pillars, namely, the ASEAN Political-Security Community, ASEAN Economic Community, and ASEAN Socio-Cultural Community.

The GCI 2016-17 is the basis for this analysis and the investigator has made use of other secondary data too for the interpretation of the results. But in this empirical analysis Myanmar

could not be included due to non-availability of its data in the GCI 2016-17. Therefore, only 9 countries of ASEAN are covered under this study.

The main objective of this study is to determine the competitiveness of Thailand based on the GCI indicators when compared with other countries in the region. The GCI score is on a 7 point scale where 1 is the least desirable and 7 the most desirable score of development. This 1-7 scale is used throughout all computations of the indicators in the GCI and the ranking of countries starts with the highest scoring country in the first place and the least scoring country in the last.

2. LITERATURE REVIEW

Thomas L. Friedman (2016) in his latest book 'Thank You For Being Late' says that we are in the 'age of accelerations'. He clearly identified and deeply investigated about the 3 Ms that has been continuously caused for the major changes globally. These are the Moore's Law, the Market, and the Mother Nature. According to the Moore's Law the digital technology in terms of speed, storage, and analytical capability doubles at every 2 years but the cost would remain almost same or sometimes less. The Moore's Law has made the technological growth in production, research and development, space technology, biotechnology, information technology, energy etc at an exponential rate, which is the unique and unprecedented feature of the 21st century. Life is changed when everything is connected. Experts estimate that the Internet of Things (IoT) will consists of almost 50 billion objects by 2020 (Evans 2011). Secondly, the Market, that means the globalization is now exploding because the world is more interconnected than ever before. 'The digital flows are so rich and powerful so that we are living in a world where flow will prevail and topple any obstacles in the way' (Friedman 2016). 'We are moving from a long period of history in which *stocks* were the measure of wealth and the driver of growth to a world in which the most relevant source of comparative advantage will be how rich and numerous are the *flows* passing through your country and community and how well trained your citizen-workers are to take advantage of them' (John Hagel III et.al 2009). This phenomenon is termed as 'The Big Shift' according to John Hagel III et. al. The rapid technological change and the exploding globalization have caused irreparable and long lasting damage to the Mother Nature. The consequences are numerous in an accelerating pace which results in global warming, deforestation, ocean acidification and mass biodiversity extinction.

According to Peter F. Drucker (1969) today's economy can be called 'Knowledge-Human Economy'. In the agrarian economy, the asset was land, in the industrial economy, it was the physical assets, and in the services economy it was intangible assets, such as methods, designs, software, and patents. In today's knowledge-human economy there would be greater reliance on human capital- talent, skills, tacit know-how, empathy and creativity. We need to focus on a growth model based on investment in human capital. Our educational institutions and labor market must adapt that model. Schwab (2016) says that the first industrial revolution was a replacement of human power by machine which spanned from about 1760s through 1840s and brought about mechanization of cotton spinning, invention of steam power, and railroads. It's followed by mass production, assembly lines and electrification during the period ended in 1960s. The Third Industrial Revolution started with computer, automation, internet, personal computer and so on from 1960s till the beginning of the 21st century. And, today, it's the age of the Fourth Industrial Revolution which is characterized by the fusion of technologies, that is, the

convergence of the physical, digital and biological spheres. To sum up it is the rate of technological change in five areas, viz., bio, robo, info, nano, and energy (BRINE for short). It poses legal, ethical, social, operational, and strategic opportunities and challenges that no individual or organization or nation can address alone. (Friedman, 2016). Padmanand and Kurian (2009), says that globally, the contribution of domestic manufacturing base, as well as of manufactured-export to a country's economic growth is evident, underpinned by appropriate macro-economic fundamentals.

3. METHODOLOGY

The methodology used in this study is collection of secondary data from different published sources and the data are analyzed based on the objectives of the study. Graphs and diagrams are used for the representation of data and simple statistical methods like ratios, time series analysis etc are used for data analysis and interpretation.

The GCI 2016-17 is a study of 138 world countries depending on data availability. The combined output of the economies covered in the GCI accounts for 98% of world GDP.

4. DATA ANALYSIS

Figure 2 given below shows the different stages in which these countries are classified according to their competitiveness based on GCI sub-indexes.

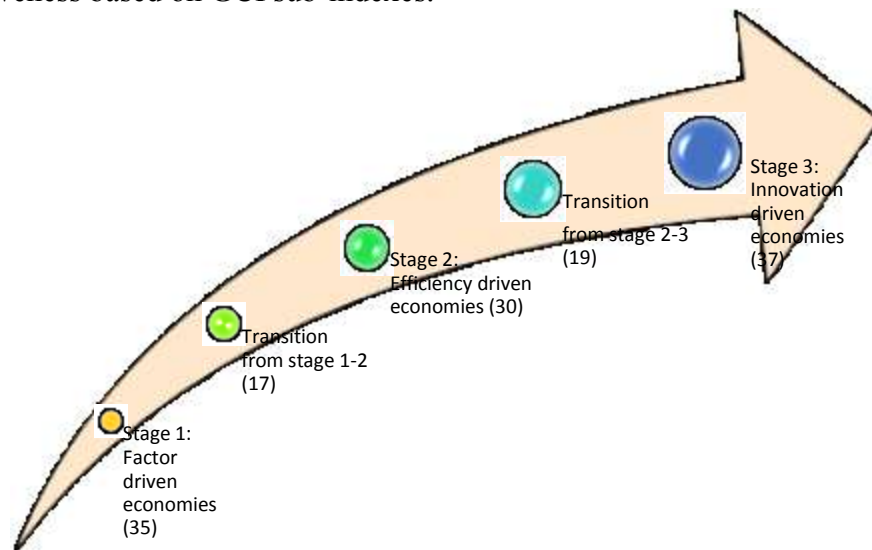


Figure 2- Classification of 138 countries in GCI 2016-17 based on Key factors (number of countries in parentheses)

Table 1- Weights and Income Threshold for sub-index and stages of development

Threshold	Stage 1 Factor driven	Transition from stage 1 to 2	Stage 2 Efficiency driven	Transition from stage 2 to 3	Stage 3 Innovation driven
GDP per capita (US \$)	< 2000	2000-2999	3000-8999	9000-17000	>17,000
Weight for basic	60%	40-60%	40%	20-40%	20%

requirement					
Weight for efficiency enhancers	35%	35-50%	50%	50%	50%
Weight for innovation factors	5%	5-10%	10%	10-30%	30%

Source: The Global Competitiveness Report 2016-17

Based on the well-known economic theory of stages of economic development, the GCI assumes that, in the first stage the country is factor driven and country’s competence based on their factor endowments- primarily unskilled labor and natural resources (Michel Porter’s theory is adapted). The Sub-index weights and income threshold for stages of development is given in Table 1.

For maintaining competitiveness in the first stage countries must have well functioning public and private institutions (I pillar), a well developed infrastructure (II pillar), a stable macroeconomic environment (III pillar), and a healthy workforce that has received at least the basic education (IV pillar). Countries move from stage 1 to 2 when they become more competitive and productive. Competitiveness will increase productivity and wages and also the quality of products. When countries move to efficiency driven stage, production efficiency will increase which in turn does increase the wage and does not increase price. At this stage competitiveness is driven by higher education and training (V pillar), efficient goods market (VI pillar), well functioning labor market (VII pillar), developed financial market (VIII pillar), the ability to adapt the existing technologies (IX), and a larger domestic and foreign market (X pillar). Finally, as countries move to the Innovation driven stage, there would be higher wages associated with higher standard of living and businesses would be able to compete only when they use the most sophisticated production process (XI pillar) and by innovating new ones (XII pillar).

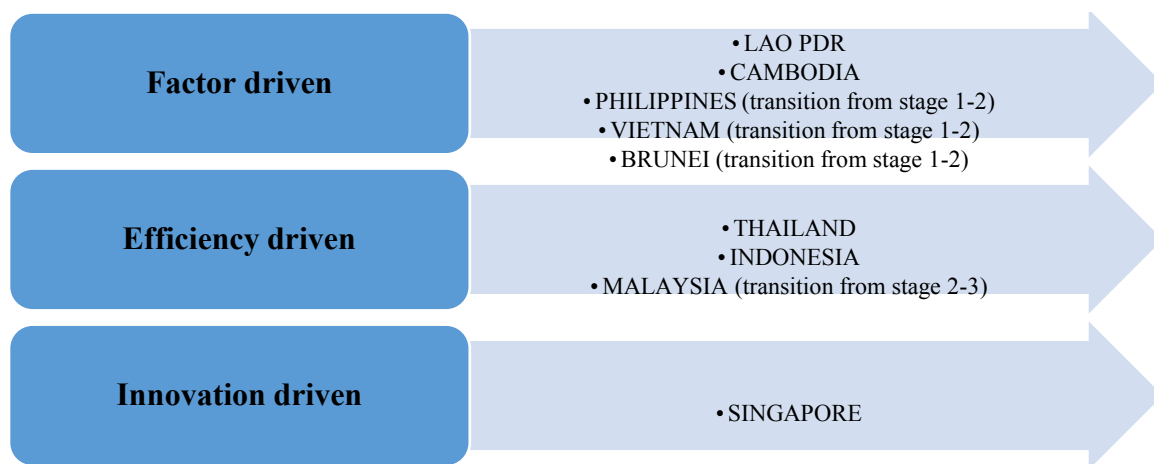


Figure 3- Classification of ASEAN countries based on GCI 2016-17

Only 9 out of 10 countries among the ASEAN community could be considered due to the exclusion of Myanmar from the computation of GCI 2016-17. Of these 3 countries (Philippines, Vietnam and Brunei) are in the transition from stage 1 to 2 and Malaysia in transition from stage 2 to 3. Singapore is one of the most developed countries among the world countries and it is the only Innovation driven economy in the ASEAN. All Innovation driven economies are developed

countries and their technological development and system models can be followed by other countries which are in the lower stages of growth.

The global competitiveness is defined in terms of the set of institutions, policies, and factors that determine the level of productivity of an economy which in turn results in the prosperity of the country. The GCI score ranges from 1 to 7 where 1 for the least development and 7 the maximum score of development. The countries are ranked on the basis of score secured by each country placing maximum score in the first rank to the least score in the last rank. Accordingly the ranking and score of the 9 ASEAN countries are represented in Figure 4, where Singapore with the maximum score of 5.72 in the 2nd place of 138 world countries, Thailand in 34th rank with a score of 4.64, and Lao PDR in the 93rd position with a score of 3.93. The ASEAN countries under study are arranged in the order of their ranking where we can see a wide gap between the developed countries and least developed country like Vietnam, Cambodia and Lao PDR.

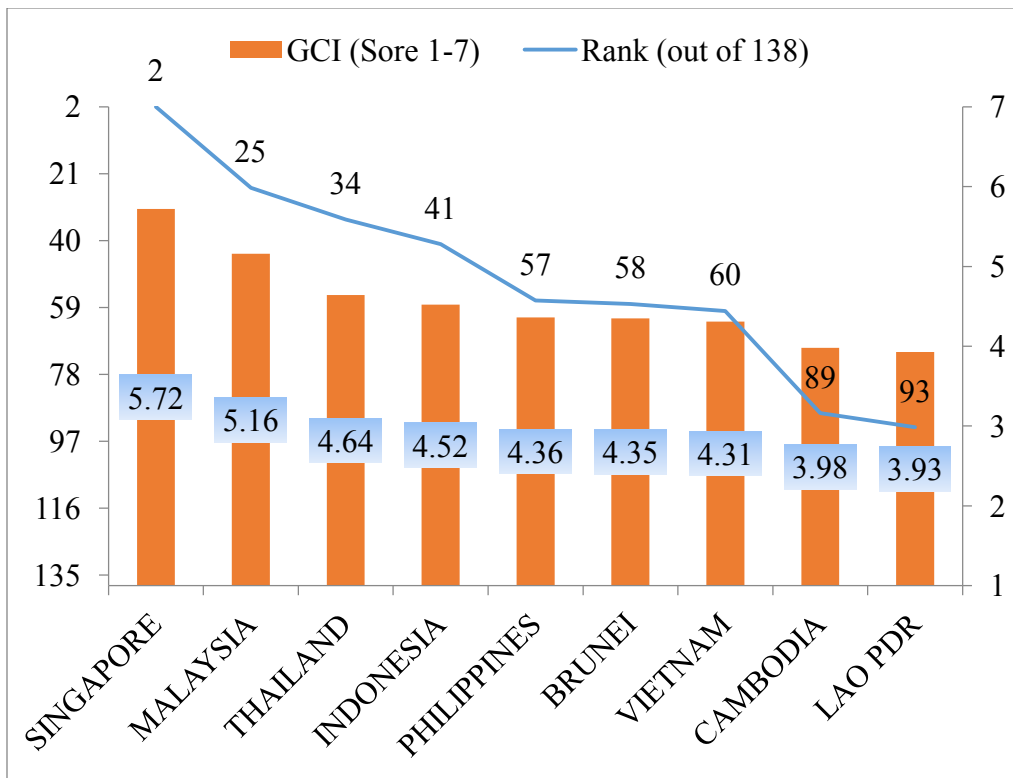


Figure 4- Global Competitiveness Index & Rank 2016-17 of ASEAN

This study is mainly to make a comparison between Thailand and other developed countries in the group, namely, Malaysia and Singapore. The GCI score of the 12 pillars of Thailand with Singapore and with Malaysia are represented in Figure 5 and Figure 6 respectively. Thailand has got a competitive strength over Singapore and Malaysia in the matter of Market size which is shown in detail in Table 2

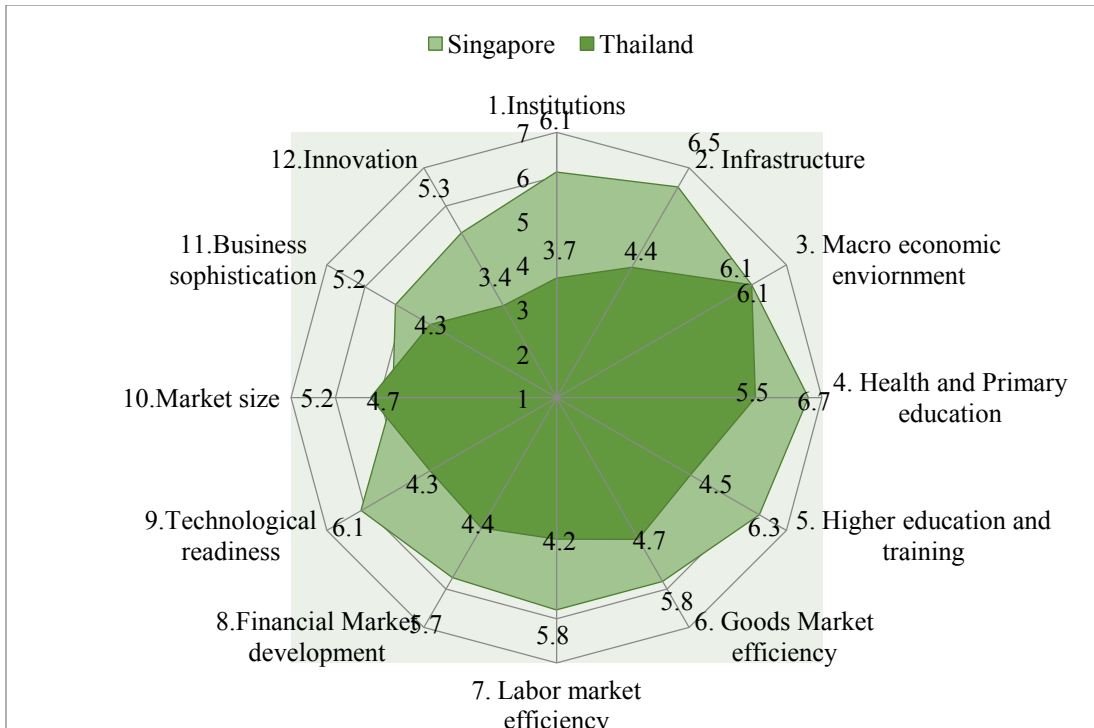


Figure 5- A comparison of Singapore and Thailand: GCI 2016-17- Score (1-7) of 12 pillars

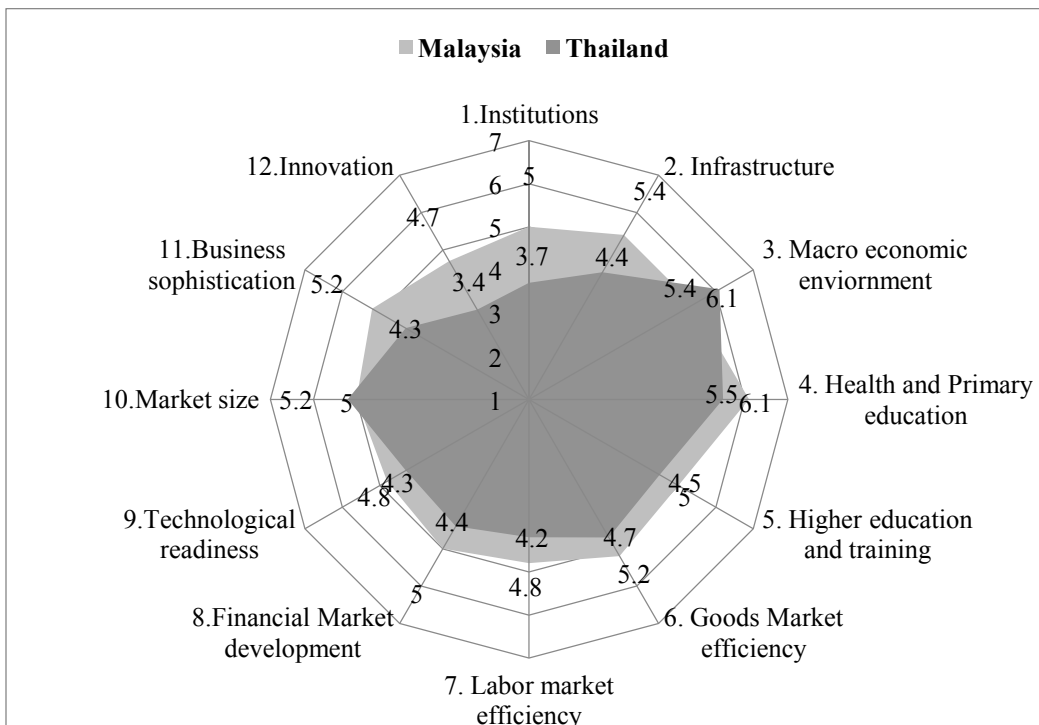


Figure 6- A comparison of Malaysia and Thailand: GCI 2016-17 - Score (1-7) of 12 pillars

Table 2 : Detailed Market Size Index of the 3 top countries among ASEAN

Factors	Thailand	Malaysia	Singapore
Market size (X pillar) score	5.2	5.0	4.7
Domestic Market size score	5.0	4.7	4.3
Foreign Market size score	6.0	5.9	6.0
GDP (PPP US\$ bn.)	1108.1	815.6	471.9
Exports % GDP	69.5	79.2	167.3

Source: The Global Competitiveness Report 2016-17

From the above figures (5 and 6), it is clear that Thailand is comparatively poor in its score on Innovations, Institutions, Labor Market Efficiency, Technological Readiness and Business Sophistication. These indexes are to be read in connection with the executive summary of the GCI Report 2016-17, regarding the most problematic factors for doing business. Accordingly, government instability, inefficient government bureaucracy, corruption, policy instability, insufficient capacity to innovate, and inadequately educated work force are the 6 most important problematic factors drawing back the country in Innovation and Business sophistication.

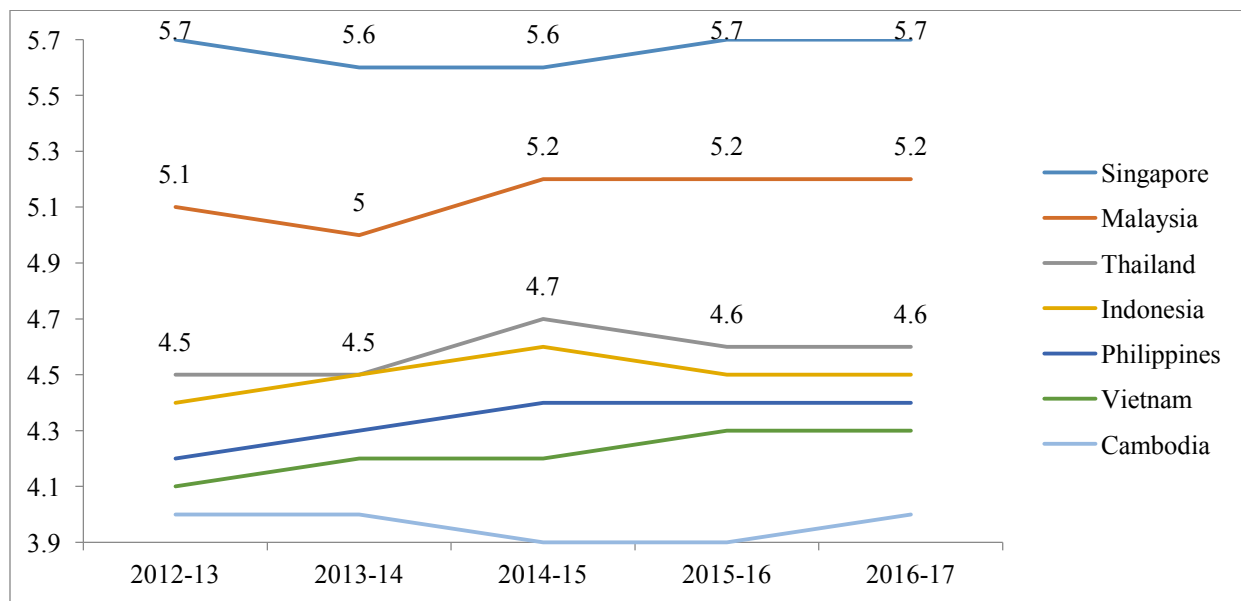


Figure 7-Trend of GCI in 7 major economies of ASEAN over 5 years (score 1-7)

The trend of GCI over 5 years from 2012-13 to 2016-17 is given in Figure 7 above which shows that all the 7 economies are maintaining different levels at an almost steady rate of index throughout this period without great ups and downs. The range is 5.6-5.7 for Singapore, 5-5.2 for Malaysia, and 4.5-4.7 for Thailand. The trend of Innovation and Business sophistication sub-index is an indicator to move towards Innovation driven economy. Here (see figure 8) Thailand is in the 5th place over the 5 years, where Indonesia is much ahead and Philippines is little above. The score range of Thailand is 3.7-3.9 throughout this period whereas that of Indonesia is 4-4.2. This is a matter of concern for the policy makers of Thailand to make the country an Innovation driven economy.

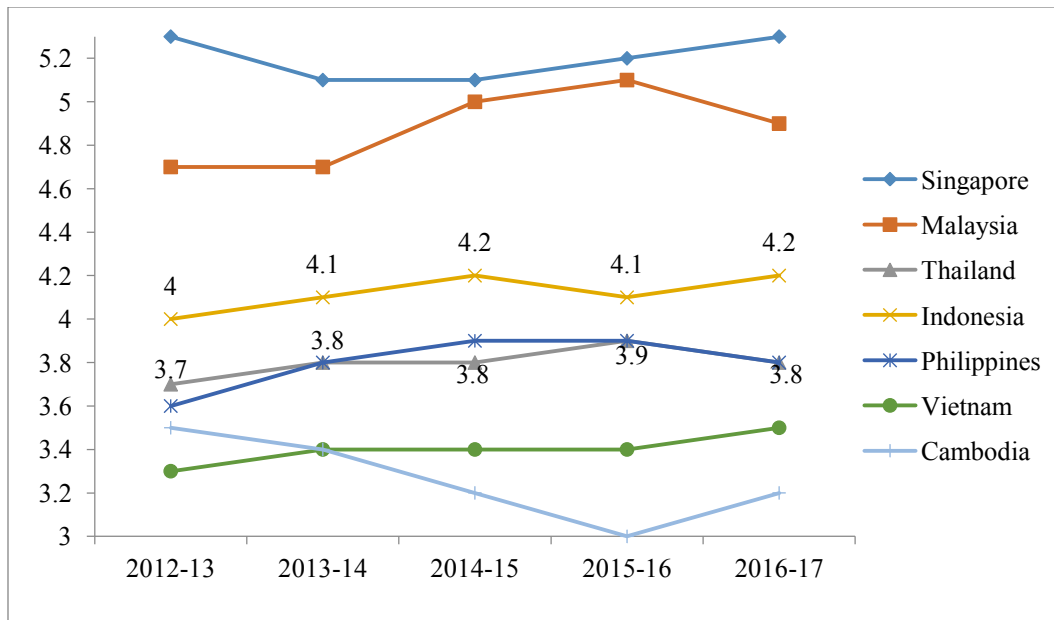


Figure 8- Trend of Innovation sub-index of 7 major economies of ASEAN over 5 years (score 1-7)

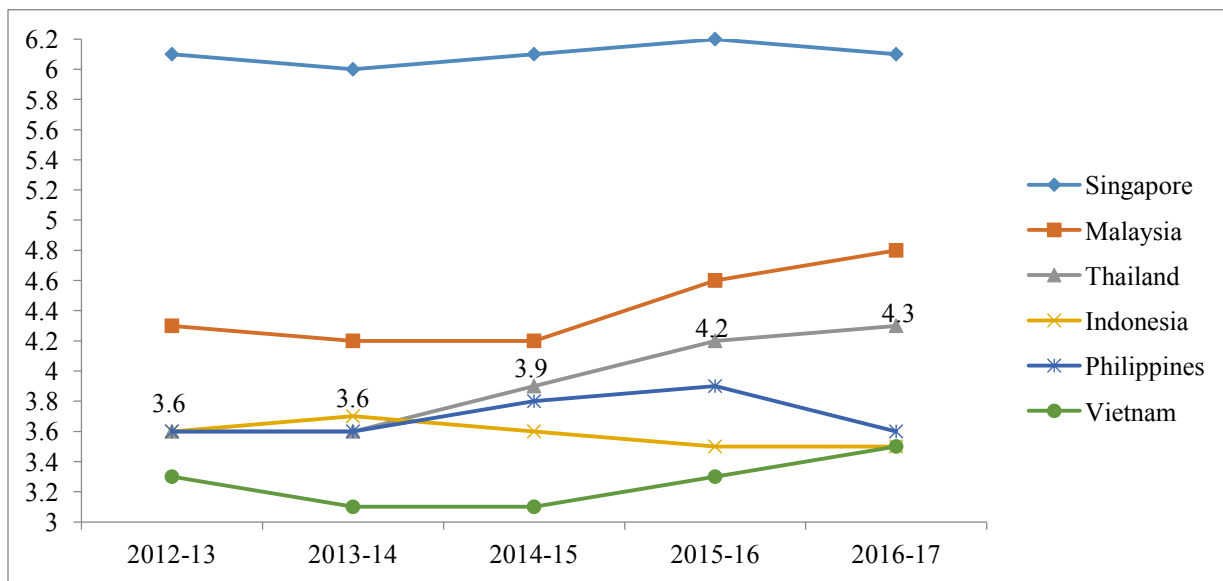


Figure 9- Trend of Technological Readiness Index of 7 major economies of ASEAN over 5 years (score 1-7)

The technological readiness pillar (IX) has been improving to a remarkable rate during the last 5 years, that is, from 3.6 in 2012-13 to 4.3 in 2016-17. This is a very good sign that the country is adopting new and modern technology in industry and service sector in this era of fourth industrial revolution. However, the internet users are only 39.3% of the population, and the fixed broadband internet subscription is only 9.2 per 100 population. These are the two lowest indicators among the 7 indications to measure the technological readiness in the GCI 2016-17. In addition to that the innovation capacity of an economy depends on the amount spent

on Research and Development in the country. In that respect Thailand is lagging far behind when compared to other countries in the ASEAN (Table 3). The country has to spend more on research and development to make it innovative. Now the government of Thailand is spending less than half percent of its GDP on R&D whereas the same figures for Malaysia and Singapore are more than 1% and 2% respectively.

Table 3: GCI Score (1-7) on Research and Development in 2016-17 ASEAN (4 nations)

Indicators	Thailand	Indonesia	Singapore	Malaysia
Company spending on R&D	3.6	4.4	5.0	5.2
University-Industry collaboration in R&D	3.8	4.4	5.5	5.2
Govt. procurement of Adv. Tech products	3.3	4.3	4.9	5.0

Source: The Global Competitiveness Report 2016-17

5. CONCLUSION

It is evident from the above analysis that the Institutions in Thailand are to be strengthened to make it dynamic according to the changing needs in technology, in market, and in the mother nature of the 21st century. Innovations cannot take place without competent people and effective institutions. In this context the people are to be educated and trained continuously to develop an innovative mind in their respective field of operation. Singapore and Malaysia are countries where highest importance is given for human resource development to make their economy resourceful, competent and innovative. The technological advancement and adaption is possible only through institutions which show readiness for change. This is the key to move an economy from factor driven to efficiency driven and to an innovative driven economy. The country has to spend more on Research and Development and there must be strong link between Universities and Industries. The Universities must be research oriented and they must be supported to become centers of excellence. The market factors are quite favorable to Thailand when compared with other ASEAN nations, so it is in the right geographical location to reap the benefits of increasing technological expansion and globalization of markets.

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