National Cheng Kung University
College of Management

Department of Industrial and Information Management

The Exploration for the Competitiveness in Cambodia, Singapore and Taiwan

Adviser: Dr. Chinho Lin
Student: Vichet Sum

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The Exploration for National Competitiveness in Cambodia, Singapore and Taiwan

研究生：Vichet Sum

本論文業經審查及口試合格特此證明

論文考試委員：

指導教授： 林清河

系(所)主管： 王泰裕

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Abstract

There have been fundamental debates of how a country's national competitiveness can be assessed amongst researchers, academicians and practitioners alike. For instance, the diamond model is deployed to measure and determine the competitive advantages leading to overall competitiveness of a nation. The World Economic Forum (WEF) and Institute for Management Development (IMD) have developed variables, indices and methodologies to rank the countries' national competitiveness. The majority of researchers hold the consensus that there is no best model in studying a country's national competitiveness. Due to the extent that there is still no general agreement as to which is the best model or benchmarking in measuring a country's competitiveness, this study employs the proposed Star Model, which has five main constructs namely economic performance, technology development, human resource, management capability, and productivity, to assess the national competitiveness of Cambodia, Singapore and Taiwan, to conduct a comparative assessment between the three countries, and to provide visionary perspectives and suggestions to improve national competitiveness in Cambodia, Singapore and Taiwan. The result shows that Taiwan performs better than Singapore and Cambodia on its national competitiveness, and Cambodia needs to put more efforts to improve its national competitiveness.

Keywords: Cambodia; Singapore; Taiwan; National Competitiveness

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Chapter One
Introduction

1.1 Background Information on Cambodia

Cambodia is located on mainland Southeast Asia between Thailand to the west and north and Vietnam to the east. It shares a land border with Laos in the northeast. Cambodia has a sea coast on the gulf of Thailand. The Dangrek mountain range located in the north and Cardamom Mountains situated in the southwest form natural boundaries. Principal physical features include the Tonle Sap lake and the Mekong and Bassac Rivers. Cambodia remains one of the most heavily forested countries in the region, although deforestation continues at an alarming rate. The official name is Kingdom of Cambodia with the area of 181,035 square kilometers. Phnom Penh is the capital city with the total population of 1.2 million. The central plain drained by the Tonle Sap (Great Lake) and Mekong and Bassac Rivers. Heavy forests are away from the rivers and the lake; mountains in the southwest (Cardamom Mountains) and north (Dangrek Mountains) along the border with Thailand. Climate is tropical monsoon with rainy season from June to October and dry season from November to May.

Cambodian(s) or Khmer is the nationality; Cambodia has a total population of about 12,313,486 estimated in 2003. Average annual population growth rate is 2.5%. The infant mortality rate is 95 /1,000 with life expectancy of 54 years for men and 58 years for women. The ethnic groups are made of Cambodian 90%; Chinese and Vietnamese 5% each; small numbers of hill tribes, Chams, and Burmese. Religions are Theravada Buddhism 95%; Islam; animism; Christian. Khmer is the official language of Cambodia spoken by more than 95 % of the population, including minorities; some French still spoken; English is increasingly popular as a second language. Educational system in Cambodia has no year-compulsory. The enrollment for primary school is 93%; grades 7 to 9, 20%; grades 10 to 12, 7%; and post-secondary is 1.2%. Literacy (total population over 15 that can read and write in 1998) is 67.3% (male 79.5%; female 57.0%).

In spite of recent progress, the Cambodian economy continues to suffer from the legacy of decades of war and internal strife. Per capita income and education levels are low compared with most neighboring countries. Infrastructure remains inadequate. Most rural households depend on agriculture and its related sub-sectors. Manufacturing output is concentrated in the garment-manufacturing sector. This sector started to expand rapidly in the mid-1990s and now employs more than 200,000 workers but faces an uncertain future with the end of textile quotas at the end of 2004. The other main foreign currency earner is tourism. After several years of rapid growth, the tourism sector has slowed in 2002-03, mainly due to SARS-related fears. The service sector is heavily concentrated in trading activities and catering-related services. Cambodia's real GDP grew at 6.3% in 2001 and 4.5% in 2002, with almost all of the growth coming from the garment sector. Inflation was less than 3%, and the national currency, the riel, is relatively stable. The economy is heavily dollarized; the dollar and riel can be used interchangeably. Cambodia remains heavily reliant on foreign assistance --in 2001, 58% of the central government budget depended on donor assistance. Cambodia has had trouble attracting foreign direct investment, due in part to the unreliable legal environment. New FDI levels fell steadily from 1999-2001. In 2002, FDI was a mere $135 million. The economy also has a poor track record in creating jobs in the formal sector, and the challenge will only become more daunting in the future since 40% of the population is under 15 years of age and large numbers will begin to enter the work force over the next 10 years.

The Royal Government of Cambodia (RGC) has established diplomatic relations with most countries, including the United States. The RGC is a member of most major international organizations, including the UN and its specialized agencies. The RGC became a member of ASEAN in 1998. The RGC is a member of most major international organizations, including the United Nations (UN) and its specialized agencies such as the World Bank and International Monetary Fund (IMF). The RGC is an Asian Development Bank (ADB)

member, a member of ASEAN, and the World Trade Organization (WTO). Cambodia adheres to policy of neutrality and non-alignment. It indiscriminately establishes relations with all friendly states worldwide. It conducts policies of mutual understanding, equality, respect, and non-interference in other states' internal affairs. Cambodia would strengthen bilateral friendship and cooperation with its neighbors. Border issues with its neighbors would be resolved through negotiations and peaceful means. Cambodia would establish bilateral and multilateral friendship with regional countries, especially with ASEAN. It wants to contribute to the building of the Southeast Asia as a region of peace, tranquility, and prosperity. When becoming an active member of ASEAN, Cambodia would conduct itself within the principles of the agreements. The Royal Government of Cambodia is very grateful to the international community for their contribution to the peace, democracy and prosperity in Cambodia.

1.2 Background Information on Singapore

Singapore is situated in Southeastern Asia between Malaysia and Indonesia. The official name is Republic of Singapore with the area of 692.7 square kilometers. Singapore itself is a city-state country, and the capital city is of course Singapore. Terrain is made up by lowland, which is gently undulating central plateau, contains water catchment area and nature preserve. The climate is tropical; hot, humid, rainy with two distinct monsoon seasons - Northeastern monsoon from December to March and Southwestern monsoon from June to September; inter-monsoon - frequent afternoon and early evening thunderstorms.

Singaporean is the nationality. Singapore has a total population of 4,608,595 estimated in 2003, and the average annual population growth rate is 3.42%. The infant mortality rate is 3.57 per 1,000 with Life expectancy of 77.46 years for men and 83.6 years for women. The ethnic groups are made of Chinese 76.7%; Malay 14%, Indian 7.9%, and other 1.4%. Religions are Buddhism (Chinese), Islam (Malays), Christianity, Hinduism, Sikhism, Taoism, and Confucianism. Many languages are spoken in Singapore; they are Chinese (official), Malay (official and national), Tamil (official), and English (official).

Literacy (total population over 15 that can read and write in 1998) is 93.2% (male 96.7%; female 89.7%).

Singapore, a highly developed and successful free market economy, enjoys a remarkably open and corruption-free environment, stable prices, and one of the highest per capita GDPs in the world. The economy depends heavily on exports, particularly in electronics and manufacturing. It was hard hit in 2001-2002 by the global recession and the slump in the technology sector. The government hopes to establish a new growth path that will be less vulnerable to the external business cycle than the current export-led model but is unlikely to abandon efforts to establish Singapore as Southeast Asia's financial and high-tech hub.

The government of Singapore has established formal relationship with many countries around the world, and Singapore is a member of most major international organizations.

1.3 Background Information on Taiwan

Taiwan is located in eastern Asia, bordering the East China Sea, Philippine Sea, South China Sea, and Taiwan Strait, north of the Philippines, off the southeastern coast of China. The official name is Republic of China with the area of 35,980 square kilometers. The capital city of Taiwan is Taipei. The eastern two-thirds of Taiwan is mostly rugged mountains; flat to gently rolling plains in the western part. The climate is tropical; marine with rainy season during southwest monsoon (June to August); cloudiness is persistent and extensive all year.

Taiwanese is the nationality, and Taiwan has a total population of 22,603,001 estimated in 2003, and the average annual population growth rate is 0.65%. The infant mortality rate is 12.74 per 1,000 with Life expectancy of 74.12 years for men and 79.88 years for women. The ethnic groups are made of Taiwanese (including Hakka) 84%, mainland Chinese 14%, and aborigine 2%. Religions are mixture of Buddhist, Confucian, and Taoist 93%, Christian 4.5%, and other 2.5%. Languages are spoken in Taiwan are Mandarin Chinese (official), Taiwanese (Min), and Hakka dialects.

Literacy (total population over 15 that can read and write in 1998) is 86% (male 93%; female 79%).

Taiwan independence movement, various business and environmental groups note that debate on Taiwan independence has become acceptable within the mainstream of domestic politics on Taiwan; political liberalization and the increased representation of opposition parties in Taiwan's legislature have opened public debate on the island's national identity; a broad popular consensus has developed that Taiwan currently enjoys de facto independence and - whatever the ultimate outcome regarding reunification or independence - that Taiwan's people must have the deciding voice; advocates of Taiwan independence oppose the stand that the island will eventually unify with mainland China; goals of the Taiwan independence movement include establishing a sovereign nation on Taiwan and entering the UN; other organizations supporting Taiwan independence include the World United Formosans for Independence and the Organization for Taiwan Nation Building,

Although Taiwan does not have official tie with most countries in the world, Taiwan is a member of some major international organizations.

1.4 Research Objectives

In order to uncover the fundamental key factors for the credibility, sustainability and development of national economy, there is a strong need for Cambodia, Singapore and Taiwan to reflect and realize what their competitiveness conditions are like. To do this, actual potentiality of national competitiveness needs to be thoroughly studied and improved in order to respond to the opportunities as well as threats posted by rapid changes of today globally linked economy. Therefore, the following questions need to be addressed in this study:

1. What are the current national competitiveness in Cambodia, Singapore and Taiwan?
2. How can we study the current national competitiveness in Cambodia, Singapore and Taiwan?

3. How does the national competitiveness of Cambodia, Singapore and Taiwan vary from each other?
4. Given the current competitiveness conditions in Cambodia, Singapore and Taiwan, what are the gaps and bottlenecks to national competitiveness that should be improved?
5. What best practices can Cambodia, Singapore and Taiwan learn from each other?

Therefore, it is the primary objective of this study to conduct thorough assessment and analyze the national competitiveness by applying the proposed star model, to conduct comparative assessment of national competitiveness between Cambodia and the two tiger economies namely Singapore and Taiwan, and to investigate ways to improve national competitiveness in these three countries.

The expectation of this study is to provide meaningful implication for researchers, academicians and practitioners to understand the current status of national competitiveness of the above three countries. The results are also useful for the references for government officers to develop relevant policies for the development of national competitiveness. The research objectives are as follows:

Based on the comprehensive literature review, the star model is proposed and applied to determine the national competitiveness in Cambodia, Singapore and Taiwan. Once current national competitiveness in these respected countries is determined, a comparative assessment between these three countries is conducted. Moreover, visionary perspectives and suggestions to improve national competitiveness in these three countries are also presented.

In addition, statistic hard data and soft data, obtained from valid and reliable sources and surveys conducted, are analyzed to determine competitiveness conditions for Cambodia, Singapore, and Taiwan, and how the national competitiveness in these three countries varies from each other. Finally, through the finding of the current competitiveness, gaps and bottlenecks to the national competitiveness conditions in Cambodia, Singapore and Taiwan

will be triggered out. Given the gaps and bottlenecks to national competitiveness, best practices are yet needed to improve the national competitiveness in Cambodia, Singapore and Taiwan. As Aiginger (1998) states, an evaluation of the competitiveness of a nation must be done with respect to its ultimate goal to maximize the well being of itself or of its people.

1.5 Research Flow

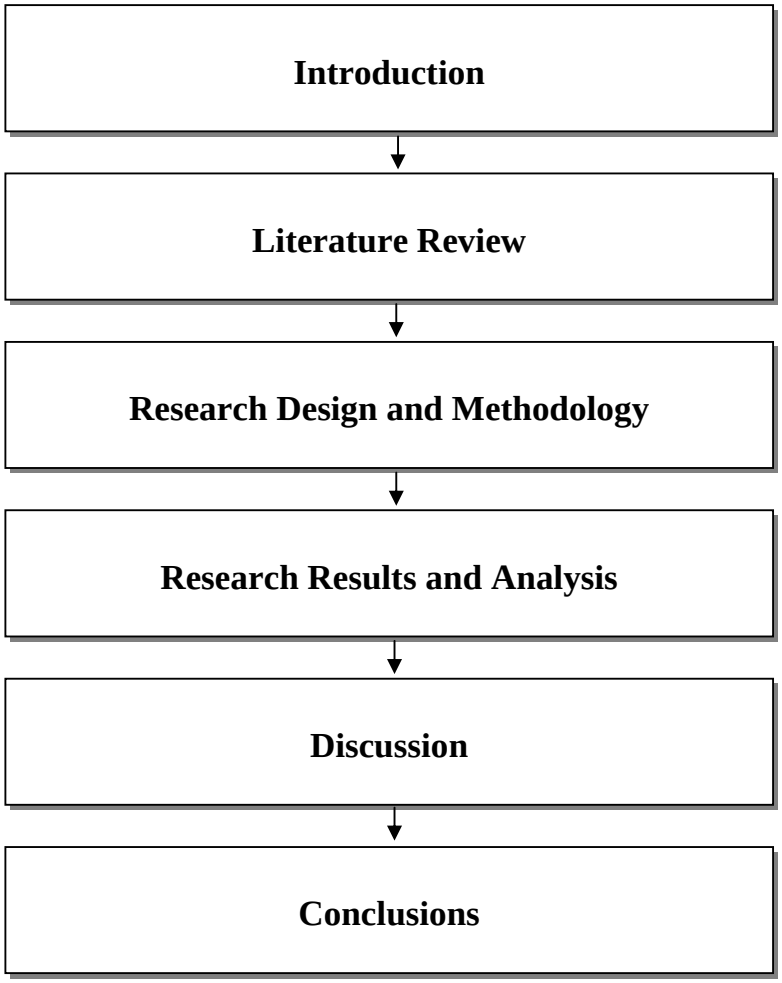


Figure 1.1 Research flow chart

1.6 Research Structure

This study contains six chapters. Chapter One is the introduction section which consists of research background, research objectives, research flow and research structure. Literature review is presented in Chapter Two. In Chapter Three, research design and methodology is discussed. Research framework, research constructs, factors and variables, sampling process and methods of data analysis are comprised in the section of research design and methodology. Chapter Four presents the research result and analysis; this section contains the results of economic performance, technology development, human Resource, management capability, and productivity. The relative importance of underlying factors and overall national competitiveness index among Cambodia, Singapore and Taiwan is presented in this chapter. In Chapter Five, discussion and problems beyond national competitiveness of Cambodia, Singapore and Taiwan are presented. Finally, Chapter Six presents the conclusions and future research directions as well as limitations.

Chapter Two
Literature Review

2.1 Definition of National Competitiveness

There have been several definitions of national competitiveness. For instance, competitiveness is defined by the Organization for Economic Cooperation and Development (OECD) as "the degree to which a country can, under free and fair market conditions, produce goods and services which meet the test of international markets while simultaneously expanding the real incomes of its people of the longer term. In addition, a country's competitiveness is defined by Institute of Management Development (IMD) as the ability of a country to proportionally generate more wealth than its competitors in world markets. Moreover, World Economic Forum (WEF) defines competitiveness as "the set of institutions and economic policies supportive of high rates of economic growth in the medium term. Furthermore, Scott and Lodge (1985) defines national competitiveness as a national's ability to produce, distribute, and service goods in the international economy in competition with goods and services produced in other countries and to do so in a way that earns a rising standard of living. Spance (1998) defines national competitiveness as a country's ability to increase the wealth and welfare of its people and the ability of its companies to gain competitive advantage from technologies and products in the global markets.

However, debates over the definition of national competitiveness are conducted in literature in recent years. Many researchers and economists have indicated that nations do not compete the way that competition occurs among companies – one company's gain is another company's loss. In recent suggestion from the economists, countries benefit from international trade; therefore, national competitiveness should be to compete for providing functions needed for business organizations and agents that are competing in the global platform.

2.2 Measurement of National Competitiveness

Porter (1990) developed a diamond model for analyzing a country's competitiveness. The diamond model consists of four interrelated components -- factor conditions, demand conditions, related and supporting industries, and firm strategy, structure, rivalry -- and two exogenous variables namely government and chance to determine a nation's competitiveness. The model has integrated the important variables into one model for determining a country's competitiveness. Porter's model tries to uncover the reasons why a nation may become the home base for a successful international industrial competitor. Porter also presents a wide range of country and industry examples to demonstrate how a country's national competitive advantages arise. Porter's four determinants and two external variables interact in the framework of competitive advantage whereby a country's international competitiveness depends upon the type and quality of these interactions. Figure 1.1 is Porter's diamond model.

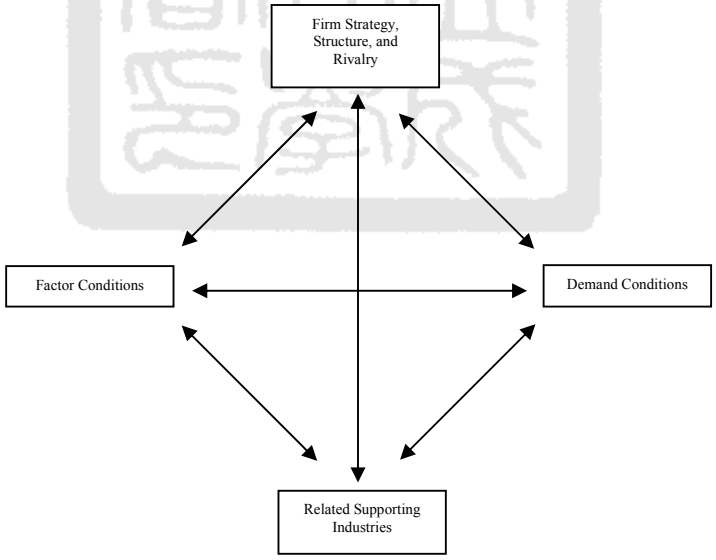


Figure 2.1 Porter's diamond model

In addition, the best-known models for assessing countries' competitiveness are the Global Competitive Reports (GCR) of the World Economic Forum (WEF) and World

Competitiveness Yearbook (WCY) of Institute for Management Development (IMD) published since 1979 and 1989 for GCR and WCY respectively. The WCY investigates the linkage between a country's national environment and the wealth generation process. The WCY evaluates 47 industrialized and emerging economies based on the four factors – economic performance, government efficiency, business efficiency and infrastructure with more than 320 criteria. The WCY presumably concludes that healthy performance in these categories would form a national environment that makes world competitiveness sustainable. The GCR normally scrutinizes the development and determinants of competitiveness based on the employment of two independent indices namely Growth Competitiveness Index (GCI) and the Microeconomic Competitiveness Index (MICI). These two indices present the differences among countries of the prospects of future competitiveness as well as the current degree of competitiveness. The GCI is deprived from three broad categories of variables – technology, public institutions, and the macroeconomic environment -- that drive economic growth in the medium and long-term. The MICI assesses competitiveness at the micro level which is suggested by the MICI to be more important in building a sustainable competitiveness than just good macroeconomic that contains knowledge, technology, physical capital, managerial skills and the quality of the nation's business environment. IMD and WEF's assessment of national competitiveness is to rank the competitiveness of countries, usually developed countries.

2.3 The Challenge of Current Measurement of National Competitiveness

There have been underlying debates over approaches, methodologies, indices and variables constructed to assess a country's competitiveness. Measuring national competitiveness of a country is relatively straightforward; however, measuring the core input factors, or the cause of competitiveness, is distinctively more complex in real terms. Scott and Lodge (1985) posted two fundamental questions concerning the evaluation of national

competitiveness – (1) how and in what dimensions do we measure the competitiveness of a nation? (2) what standards do we use in determining adequacy? They argue that national competitiveness is increasingly dependent on the technology, capital investment and labor skills. In addition, the only meaningful concept proposed by Porter (1990) of competitiveness at national level appears to be national productivity. Given this concept, the principal goal of a nation, therefore, should be to produce a high and rising standard of living for its citizens. The ability to do so depends on the productivity with which a nation's resources are employed. Should productivity be the base to determine a country's national competitiveness, national competitiveness can be assessed objectively by applying the quantitative data. For instance, Ulengin et al. (2002) use objective attributes to evaluate a country's national competitiveness. However, development experts have increasingly recognized that pure economic indicators do not sufficiently indicate a nation's overall welfare and competitiveness level (Dasgupta, 1993). Indicators of choice should thus cover not only economic factors, but social, technological and environmental factors as well. Nevertheless, Narula (1993) challenges that the diamond framework is a static one since Porter fails to recognize the role of technology in the development process. In addition, Gustavsson et al. (1999) finds that technology, together with factor prices and endowments, has a significant effect on competitiveness. Likewise, the impact of national culture on the sources of competitive advantage is given too little attention in Porter's model. Van den Bosch & Van Prooijen (1992) suggest that national culture works through other determinants and do not offer to add it as a fifth determinant, but call for a more explicit treatment for it.

Although Porter's model seems to be acceptable for many academicians and practitioners, Rugman et al. (1993) extends and corrects Porter's single diamond framework by suggesting that Porter's treatment of foreign-owned subsidiaries in smaller countries is incomplete and misleading. He extended Porter's flawed work on Canada in order to relate it correctly to the large literature in international business dealing with two-way flows of foreign direct

investment, parent-subsidiary relationships, and the nature of network activities of multi-national enterprises (MNEs). In addition to Rugman, Moon et al. (1995) confirm the incompletion of Porter's model by proposing the double diamond model. Moon's double diamond model includes the multinational activities as the third variable to the two variables proposed by Porter. Furthermore, in his study published in 1990, Dunning suggests that nations other than the home country may be of crucial importance of an MNE's global competitiveness, which generalized Porter's model. Grant (1991) suggests that owing to lack of clear definitions of each determinant in the diamond model, the diamond model is criticized for its empirical data that have been chosen selectively and interpreted subjectively.

Although GCR and WCY are the existing well-known models for assessing a country's national competitiveness, they have potential shortcomings. For instance, both publications concentrate on more developed countries and overlook least-developed countries (Lall, 2001).

In addition, Lall finds deficiencies of WEF and IMD at several levels. Its definitions are too broad, the approach biased and the methodology flawed. Many qualitative measures are vague, redundant or wrong. It is not easy for an outsider to study these two indices properly. The reports do not provide full details of methodology; moreover, they slip over complex theoretical issues since they aim at non-technical audience. Precisely, it is not clear how the weights of each factor and sub-factor are calculated. The IMD provides the surveyed data the weights of one-third and hard data the weight of two-thirds, and each sub-factor is assumed to be equally important to every country. In addition, the weights presented by the IMD maybe doubtful while comparing developed with developing countries. The GCR may also consists of weight deficiencies. The WEF allocates three-fourth to quantitative data and only one-fourth to the qualitative data obtained from conducting survey. For example, the technology weights of core innovations are twice as important as non-core innovators in the GCI, and the business environment index has been allocated to the weight of two-thirds yet company operations and strategy index are assigned the weight of one-third in the BCI.

Furthermore, many researchers question the validity of the qualitative data obtained from the survey. Qualitative data are collected from top and middle executives that represent a cross-section of the business community in their countries, and it is argued that some bias still can be found in the executive opinion survey. The IMD acknowledges that the subjectivity of those managers' opinion is restricted to the level of their international experience.

Finally, Bellak & Weiss (1993) suggest that there is still no general agreement as to which is the best model or benchmark in measuring a country's competitiveness.

2.4 Evaluation of National Competitiveness: From the Perspective of Least-developed countries

The number of developing countries participating in the global economy is increasing. Although there are existing models for assessing a country's national competitiveness, those models were developed to assess mostly developed economies. Up to this point, the model for assessing a country's national competitiveness of least-developed countries does not exist. Countries with poor governance, lacking extensive national resources have little opportunity to be included in the world competitiveness measurement publications. Consequently, there is a need to pay more attention to the economic development and to establish a comprehensive national competitiveness model to examine the least-developed countries. In order to evaluate national competitiveness from the perspective of least-developed countries, five constructs namely economic performance, technology development, human resource, management capability, and productivity are critically important. To measure each construct, carefully selected factors are employed; for instance, domestic economic information, government efficiency, international trade and finance are employed to measure the construct of economic performance. To measure the construct of technology development, basic infrastructure, information technology, energy status, research and development (R&D), technology management, technology environment and patents and copyrights are proposed. Manpower

utilization, cost of wages and employee benefit, turnover and labor disputes or industrial disputes and union power are developed to measure the construct of human resource. Innovation capability, financial capability, corporate responsibility, managers' competence, culture, intra-industrial integration and international operation are built up in order to measure the construct of management capability. To measure the construct of productivity, productivity in agriculture-related trade, mining industry, manufacturing industry, construction industry, and service industries are proposed.

2.5 Recent Development Status of Cambodia, Singapore and Taiwan

2.5.1 Cambodia: Development Status

With a population of approximately 13.5 million, per capita GDP is around US$280, and this basically categorizes Cambodia as one of the poorest nations in the world. The government started to re-initiate an economic reform program in early 1999 to revitalize the reform measures, which had been disrupted in 1997. In recent years, economic reforms have occurred in various areas such as government administration and the civil service, banking sector restructuring and regulation, forestry conservation, military demobilization and tariff policies. Cambodia's GDP has grown by approximately 6.5% on average over the last decade. Economic growth has been driven in large part by increases in garment production, tourism inflows, agriculture, and construction activity. The agricultural and services sectors both account for about 36% of total GDP, with the remaining 28% generating from industry. In the agricultural sector, rice paddy cultivation dominates, and rice production has steadily increased since the early 1990s〔5〕.

Cambodia's main strengths are those related to tourism industry, low labor costs, and favorable conditions for certain agricultural commodities such as rice. The country also benefits from favorable tariff and quota arrangements with the European Union (EU), under the EU's "Everything But Arms" program, and the US under Normal Trade Relations (NTR)

and the Textile and Garment Agreement (TGA). Additionally, Cambodia also benefits from a liberal investment regime, and a tax system that is both simple and provides low corporate income tax rates (typically 9%).

More importantly, as the first least developed country to become the 147th member of the World Trade Organization (WTO), Cambodia has earned its grace back in the world trading community and has caught a significant attention from the international community. Foreign investors and local investors have applauded the accession of Cambodia into the working framework of the WTO although Cambodia pays a heavy price in order to be admitted in this institution. The Royal Government of Cambodia (RGC) has hoped that the benefits Cambodia is going to obtain from this membership will offset the price it has paid and is going to pay. The RGC hopes to attract more foreign direct investment (FDI), create more jobs and boost exports, thus improving national economy. To this extent, it is a major challenge for Cambodia to generate national competitive advantages to compete with its neighboring countries in the region and in global scale. Furthermore, Cambodia needs to evaluate and improve its national competitiveness in order to facilitate the economic sustainability and development in the long run.

2.5.2 Singapore: Development Status

As one of the oldest member of Association of Southeast Asian Nations (ASEAN) and the star economy in the region, Singapore is blessed with a highly developed and successful free-market economy, a remarkably open and corruption-free business environment. The exports of electronics and manufacturing are the core drives of Singapore's economy. The global recession and the slump in the technology sector in 2001-2002 severely hit Singapore.

The government of Singapore hopes to initiate a new growth roadmap that will make Singapore less vulnerable to the external business cycle than the current export-led strategy. As Singapore eyes to a future increasingly marked by globalization and fast growing economy

in Asia, the country has been working toward the knowledge-based economy and positioning itself as the region's financial and high-tech hub〔5〕.

To the extent that Singapore is working toward knowledge-based economy and positioning itself the as the hub in the region, the assessment of Singapore's national competitiveness conditions is strongly recommended in order to evaluate and trigger out the key successful factors of Singapore's national competitiveness.

2.5.3 Taiwan: Development Status

Taiwan has a dynamic capitalist economy with gradually decreasing guidance of investment and foreign trade by government authorities. In staying in touch with this trend, some large government-owned banks and industrial firms are being privatized. Real growth in GDP has averaged about 8% during the past three decades. Exports have grown even faster and have provided the primary momentum for industrialization. Inflation and unemployment are low; the trade surplus is substantial; and foreign reserves are the world's fourth largest. Agriculture contributes only 3% to GDP, down from 35% in 1952. Traditional labor-intensive industries are steadily being moved offshore and replaced with more capital- and technology-intensive industries. The tightening of labor markets has led to an influx of foreign workers, both legal and illegal. Because of its conservative financial approach and its entrepreneurial strengths, Taiwan suffered little compared with many of its neighbors from the Asian financial crisis. However, the global economic downturn, issues in policy coordination by the administration and bad debts in the banking system, dragged Taiwan into recession in 2001. While Taiwan is a major investor throughout Southeast Asia, China has become the largest destination for investment and has overtaken the US to become Taiwan's largest export market. Output recovered moderately in 2002 in the face of continued global slowdown, fragile consumer confidence, and bad bank loans. Growing economic ties with China are a

dominant long-term factor. Exports to China - mainly parts and equipment for the assembly of goods for export to developed countries - drove Taiwan's economic recovery in 2002〔5〕.

Therefore, Taiwan's ability to weather the Asian regional economic crisis has called for increased attention to lessons learned from its model entrepreneurial behavior and the structure of its small- and medium-sized enterprises (SMEs).

2.6 The Relationship Between Cambodia, Singapore and Taiwan

The Phnom Penh government has officially established formal tie with the government of Singapore. These two countries have been working cooperatively on promotion of diplomacy, trade, and cultural and academic exchanges, and Cambodia and Singapore are the members of ASEAN and WTO. Although Taiwan does not have official tie with Cambodia, many Taiwanese investors have heavily invested in Cambodia, and this makes Taiwan a key investor in Cambodia especially in the textile industry. Singapore and Taiwan are the two of four tiger economies in Asia, and they have been competing to be the financial and hi-tech hubs in Asia. It is interesting to note that Singapore and Cambodia do not recognize and try to establish formal tie with Taiwan due to the extent that they may jeopardize their bilateral- and ASEAN-Sino tie. Nevertheless, these countries now share one common relationship; they are the members of WTO.

Chapter Three
Research Design and Methodology

3.1 Research Framework

The star model consists of five main constructs developed to evaluate the overall national competitiveness of a country as shown below in figure 3.1.

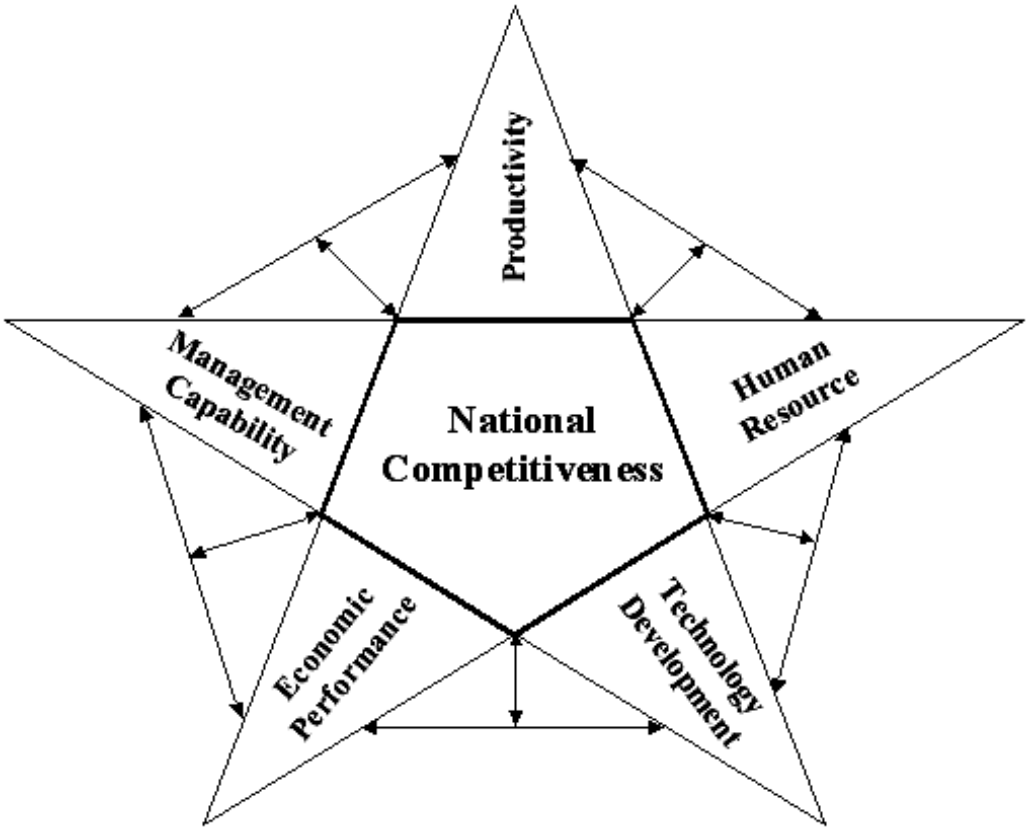


Figure 3.1 The Conceptual Framework of Star Model

The Star Model is mainly extracted from previous studies, including those of the IMD, the WEF and Porter's diamond model. Some measurement items are added to fit the economic condition in Cambodia, Singapore and Taiwan.

As Porter has strongly confirmed productivity as the base for determining a country's competitiveness, productivity, therefore, becomes one of the constructs in the Star Model.

However, productivity alone is not sufficient in determining the country's national competitiveness.

Moreover, many researchers in the literature review put a significant emphasis on the technology, and technology is also employed by WEF for assessing a country's competitiveness. As a result, the construct of technology development deems important and is included in the Star Model for determining a country's national competitiveness.

Additionally, IMD has included educated workforce in the evaluation a country's national competitiveness, and WEF also employs the term labor in its assessment of a country's national competitiveness. Thereafter, human resource is quite important in assessing a country's national competitivenessas, so it is employed by the Star Model as another construct.

Management capability is another construct in the star model due to the extent that both WEF and IMD have employed similar concept in assessing a country's competitiveness. WEF has used the term management, yet IMD has applied the term internationalization of management.

Finally, it is obvious to state that in order to evaluate a country's national competitiveness, the economic performance of that particular country needs to be studied. Therefore, the construct of economic performance is developed in the Star Model.

In order to measure the constructs in the star model, each construct contains factors and items that take into account both qualitative and quantitative perspectives. In addition, the five constructs employed in the Star Model are assigned with relatively equal weights in assessing a country's national competitiveness. According to aforementioned rationale, it is reasonable to assert that the Star Model, which contains economic performance, technology development, human resource, management capability and productivity, is adequate in assessing a country's national competitiveness especially in the case of Cambodia.

3.2 Research Constructs, Factors, and Variables

As shown in figure 3, five constructs namely economic performance, technology development, human resource, management capability, and productivity are constructed.

Four factors including domestic economic information, government efficiency, international trade and finance are employed to measure the construct of economic performance. To measure the construct of technology development, seven factories including basic infrastructure, information technology, energy status, research and development (R&D), technology management, technology environment and patents and copyrights are proposed. Five factors namely manpower utilization, cost of wages and employee benefit, turnover and labor disputes or industrial disputes and union power are developed to measure the construct of human resource. Seven factors, innovation capability, financial capability, corporate responsibility, managers' competence, culture, intra-industrial integration and international operation are built up in order to measure the construct of management capability. To measure the construct of productivity, five factors are proposed: they are productivity in agriculture-related trade, mining industry, manufacturing industry, construction industry, and service industries. There are 27 factors in total to evaluate the national competitiveness in Cambodia, Singapore and Taiwan. In addition, extensive 132 items in total are developed to measure all the factors of the five constructs. Thirty-six items are employed to measure economic performance. To measure technology development, twenty-one items are developed. Twenty-eight items are developed to measure human resource. There are twenty-two items for measuring management capability. Twenty-five items are for employed to measure productivity.

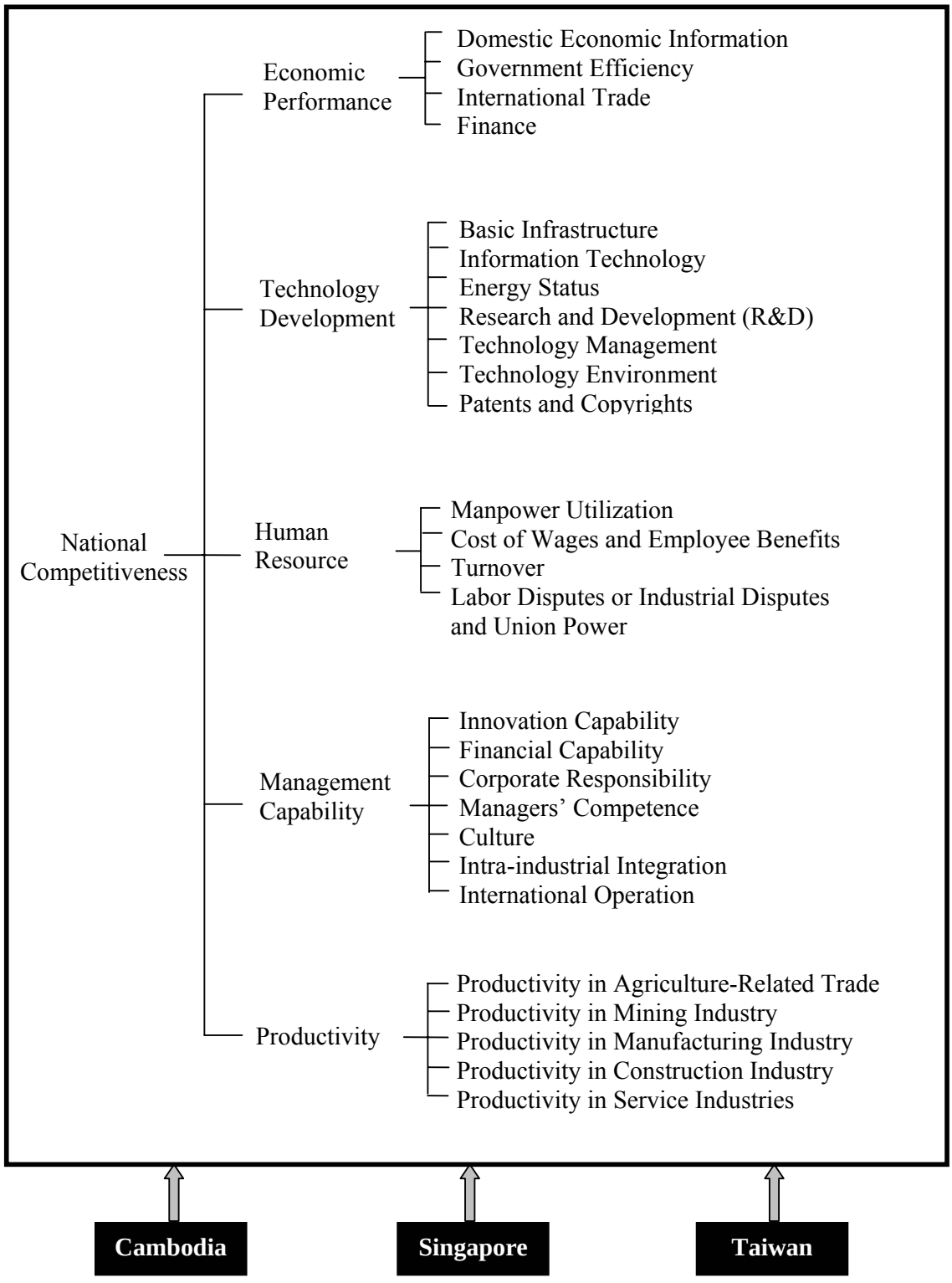


Figure 3.2: The comprehensive framework of Star Model

3.3 Sampling Process

In order to obtain response from reliable resources, experts from Cambodia, Singapore and Taiwan were selected to have their comments on the soft data on the national competitiveness of the three countries. A joint research sponsored by the National Science Council of the Republic of China was established and all relevant data were obtained through the researchers in National Cheng Kung University in Taiwan, Royal University of Law and Economics in Cambodia, and Nanyang Technological University in Singapore and other governmental institutions and valid sources. For the sampling unit in each of the above three countries, fifty experts were randomly selected – 25 experts from the industry sector, 15 experts from the governmental sector, and 10 other experts from the academic sector. The data collection period started from late 2001.

The questionnaires for the soft data (see appendices for more details) were developed based on the Delphi method to collect the soft data from governmental officials, academicians and business people in Cambodia, Singapore and Taiwan. The questionnaires were sent to the respondents to indicate the extent of their agreement on each of the items on a ten-point scale (1 = strongly disagree and 10 = strongly agree) for the constructs of economic performance, technology, human resource and management capability.

3.4 Methods of Data Analysis

To compare each item of the hard data between Cambodia, Singapore and Taiwan, the mean, calculated based on the hard data from 1999, 2000 and 2001, is used. In the case of soft data, the original data (1-10 point scale) is applied to compare each item of the soft data between Cambodia, Singapore and Taiwan.

In order to compare the factors, constructs and overall national competitiveness between Cambodia, Singapore and Taiwan, the following methods are applied.

First of all, the experts from Cambodia, Singapore and Taiwan respectively were asked to identify the relative importance of factors that constitute in the economic performance, technology development, human resource, and management capability and productivity constructs, and the experts were also asked to identify the relative importance of each construct. It is proposed that the total factor weight for each construct be summed up to 100%, and the total construct weight of national competitiveness for each country, when summed up, is equal to 100%.

To compare the factors in each construct of national competitiveness of Cambodia, Singapore and Taiwan, each factor index in each construct needs to be determined. To calculate each factor index, each item of hard data (the mean of each item of hard data from 1999, 2000 and 2001 of Cambodia, Singapore and Taiwan) needs to be standardized to 1-10 point scale to match the scale of the soft data. Therefore, in order to standardize each item of the hard data (the mean of each item of hard data from 1999, 2000 and 2001) of Cambodia, Singapore and Taiwan, the data transformation formula was designed as follows:

10 * (country value – sample minimum) / (sample maximum – sample minimum)

At this point, each factor index can be determined; it is determined by calculating the average index of the underlying indices (the underlying indices can be both the indices of hard data and soft data) of all items that constitute each factor. When each factor index is determined, construct index can be determined; each construct index is deprived from the summation of each factor index times each factor weight. The overall index of national competitiveness of each country is deprived from the summation of each construct index times each construct weight. The composited measurement model for overall national competitiveness is shown in the formula below.

$$NC = W_1 \sum_{i=1}^{n} EP_i + W_2 \sum_{i=1}^{n} TD_i + W_3 \sum_{i=1}^{n} HR_i + W_4 \sum_{i=1}^{n} MC_i + W_5 \sum_{i=1}^{n} PR_i$$

Whereas

NC is the national competitiveness of the specific country

W1 is the weight of EP; EP is the estimation of "economic performance"

W2 is the weight of TD; TD is the estimation of "technology development"

W3 is the weight of HR; HR is the estimation of "human resource"

W4 is the weight of MC; MC is the estimation of "management capability"

W5 is the weight of PR; PR is the estimation of the dimension "productivity"

W1-W5 are the relative weight thats calculated based on the evaluation of the opinions of expects.

Chapter Four
Research Results and Analysis

Research results are divided into six sections. The first section presents the result of economic performance of Cambodia, Singapore and Taiwan and relative importance of underlying factors of economic performance of each country. The second section presents the results of technology development of Cambodia, Singapore and Taiwan and the factor weight of technology development. The results of human resource of Cambodia, Singapore and Taiwan and the factors, which are relatively important of each country's human resource, are presented in the third section. In the fourth section, the result of management capability and the factor weight of relative importance of management capability are discussed, and the fifth section presents the results of productivity each country and the factor weight of relative importance of productivity in Cambodia, Singapore and Taiwan.

Finally, the relative importance of underlying factors and competitiveness index among Cambodia, Singapore and Taiwan are presented.

4.1 Economic Performance

Table 4.1 shows the results of Cambodia, Singapore and Taiwan's economic performance over the three periods starting from 1999 to 2001; the comparison is based on the mean of the data from 1999 to 2001. Taiwan outperforms Singapore and Cambodia in term of gross domestic product with the total value of US$293 billion compared to US$86.4 billion for Singapore and only US$3.5 billion for Cambodia. Cambodia performs the worst in this respect. However, Cambodia achieves higher growth of GDP (5.53%) than Singapore (4.93%) and Taiwan (3.03%). Singapore has higher unemployment rate (4.13%) compared to Cambodia (1.63%) and Taiwan (3.49%), yet Cambodia's unemployment rate is the lowest among the three countries. Singapore, however, has the higher GDP per capita (US$22500)

than those in Taiwan (US$13200) and Cambodia (US$261), and Cambodia's GDP per capita is the lowest. Although Cambodia has the lowest GDP per capita, the growth rate of GDP per capita (2.93%) in Cambodia is the highest compared to those of Singapore (-0.1%) and Taiwan (1.31%). Singapore performs better than Taiwan and Cambodia on its gross capital formation with the rate of the 2.8% compared to 21.3% and 15.1% for Taiwan and Cambodia respectively. Likewise, Singapore has the higher rate of gross domestic savings (47.9%) in comparison to Taiwan (25.5%) and Cambodia (9.32%). Cambodia performs the best in the growth of agricultural, industrial and service production with the rate of 1.2%, 21.2% and 5.27% respectively compared to Taiwan (0.6%, 1.47%, 4%) and Singapore (-1.5%, 2.17%, 4.9%).

Taiwan's government generates higher revenue and spends more than Singapore and Cambodia's at the rate of 19.4% for revenue and 25.1% for expenditure. However, Singapore's government budget balance (1.33%) is better than those of Taiwan's (-5.7%) and Cambodia's (-5.8%). In terms of degree of political stability, effectiveness of government policy implementation, adequacy of legal framework in promoting the country competitiveness, degree of compliance with respect to the legal requirements for conducting, and adaptiveness of government policies to charges in the economic environment, Singapore performs much better than Taiwan and Cambodia.

In comparison to Singapore, Taiwan's export value is US$155 billion, and it is relatively higher than Singapore with US$125 billion of total export value, yet Cambodia has the lowest export value, only US$1.54 billion. In addition, Taiwan imports more than Singapore and Cambodia; its import value reaches US$140 billion compared to Singapore (US$US130 billion) and Cambodia (US$1.69 billion). Interestingly, Cambodia achieves a higher export growth rate at 17.5% compared to Singapore (11.5%) and Taiwan (4.99%). Taiwan's import growth rate at 2.31% is much lower than those of Cambodia (12.2%) and Singapore (14.4%). Cambodia's balance of trade is -US$2.3 billion, which is the worst compared to Singapore's

Table 4.1 The research results of economic performance of Cambodia, Singapore and Taiwan

Economic Performance		Cambodia				Singapore				Taiwan			
Factors	**Items**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**
Domestic Economic information	●Gross Domestic Product (GDP) (US$ b)	3.3[a]	3.35[a]	3.4[a]	**3.35**	84.1[d]	92.3[d]	82.9[d]	**86.4**	288[k]	309[k]	282[k]	**293**
	●Growth of GDP (%)	5.7[a]	6.4[a]	4.5[a]	**5.53**	6.9[d]	9.9[d]	-2[d]	**4.93**	5.42[k]	5.86[k]	-2.2[k]	**3.03**
	●Unemployment rate (%)*	0.6[a]	2.5[a]	1.8[a]	**1.63**	4.6[c]	4.4[c]	3.4[c]	**4.13**	2.92[k]	2.99[k]	4.57[k]	**3.49**
	●GDP per capita ('000 US$)	0.264[a]	0.261[a]	0.259[a]	**0.261**	21.8[g]	25.6[g]	20.2[g]	**22.5**	13.1[k]	14.0[k]	12.6[k]	**13.2**
	●Growth of GDP per capita (%)	3.1[a]	3.7[a]	2[a]	**2.93**	-2.7[d]	8.19[d]	-5.7[d]	**-0.1**	6.89[k]	6.64[k]	-9.6[k]	**1.31**
	●Gross capital formation as a % of GDP (%)	14.4[a]	15.1[a]	15.9[a]	**15.1**	31.1[d]	31.3[d]	24.1[d]	**28.8**	23.4[k]	22.9[k]	17.6[k]	**21.3**
	●Gross domestic savings as a % of GDP (%)	6.7[a]	9.81[a]	11.4[a]	**9.32**	50.6[d]	48.4[h]	44.8[d]	**47.9**	26.3[m]	25.8[m]	24.3[m]	**25.5**
	●Growth of agricultural production (%)	0	-0.3[a]	3.9[a]	**1.2**	-1.5[d]	-1.5[h]	-1.6[d]	**-1.5**	2.73[m]	1.15[m]	-2.1[m]	**0.6**
	●Growth of industrial production (%)	13.2[a]	34.6[a]	15.5[a]	**21.1**	6.5[d]	10.2[h]	-10[d]	**2.17**	4.66[m]	5.71[m]	-6[m]	**1.47**
	●Growth of service production (%)	7.1[a]	5.8[a]	2.9[a]	**5.27**	4.7[d]	8[h]	2[d]	**4.9**	5.97[m]	6.13[m]	-0.1[m]	**4**
Government Efficiency	●Government revenue as a % of GDP (%)	11.6[a]	11.6[a]	12.4[a]	**11.9**	18.3[d]	19.5[d]	19.7[d]	**19.1**	20[m]	19.8[m]	18.3[m]	**19.4**
	●Government expenditure as a % of GDP (%)	16.7[a]	18.1[a]	18.4[a]	**17.7**	17.8[d]	17.5[d]	18.1[d]	**17.8**	26[m]	24.3[m]	25[m]	**25.1**
	●Gov. budget balance as a % of GDP (%)	-5.2[a]	-6.4[a]	-5.9[a]	**-5.8**	0.5[d]	1.9[d]	1.6[d]	**1.33**	-6[m]	-4.5[m]	-6.7[m]	**-5.7**
	○Degree of political stability				**4.38**				**8.28**				**6.18**
	○Effectiveness of government policy implementation				**4.4**				**8.08**				**5.69**
	○Adequacy of legal framework in promoting the country competitiveness				**4.14**				**7.66**				**6.46**
	○Degree of compliance with respect to the legal requirements for conducting				**4.56**				**7.84**				**6.19**
	○Adaptiveness of government policies to charges in the economic environment				**4.44**				**7.3**				**6.56**
International Trade	●Exports of goods and services (US$ b)	1.25[a]	1.65[a]	1.73[a]	**1.54**	118[e]	139[g]	119[e]	**125**	139[m]	168[m]	14[m]	**150**
	●Imports of goods and services (US$ b)	1.52[a]	1.72[a]	1.82[a]	**1.69**	106[e]	128[g]	106[e]	**113**	131[m]	161[m]	127[m]	**140**
	●Growth of exports of goods and services (%)	13.1[a]	33.2[a]	6.21[a]	**17.5**	5.78[e]	20.1[g]	8.46[e]	**11.5**	8.91[m]	21[m]	-15[m]	**4.99**
	●Growth of imports of goods and services (%)	14.3[a]	14.7[a]	7.5[a]	**12.2**	10.4[e]	22.2[g]	10.6[e]	**14.4**	5.09[m]	22.9[m]	-21[m]	**2.31**
	●Balance of trade (US$ b)	-2.75[a]	-2.63[a]	-1.40[a]	**-2.26**	11.4[e]	11.4[g]	12.5[e]	**11.8**	7.89[m]	7.04[m]	15.9[m]	**10.3**
	●Balance of current account (US$ b)	-2.59[a]	-2.57[a]	-2.22[a]	**-2.46**	16.4[e]	21.8[g]	17.2[e]	**18.5**	8.38[p]	8.9[p]	17.9[p]	**11.7**
	●Balance of trade/GDP (%)	8.34[a]	7.84[a]	6.5[a]	**7.56**	13.6[e]	12.4[g]	15[e]	**13.7**	2.74[m]	2.28[m]	5.64[m]	**3.55**
	●Degree of openness (%)	71.6[a]	84.8[a]	86.9[a]	**81.1**	266[e]	289[g]	271[e]	**275**	93.9[m]	107[m]	95.8[m]	**98.7**
	○Adequacy of facilities provided by the government to access foreign markets				**4.81**				**8.2**				**6.77**
Finance	●Rate of inflation (implicit GDP deflator) (%)	3.7[a]	-4.6[a]	-2.8[a]	**-1.2**	-4.8[e]	1.35[g]	-1.9[e]	**-1.8**	-1.4[k]	-1.7[k]	0.57[k]	**-0.9**
	●Annual average lending rates (%)	17.3[b]	17.4[b]	16.2[b]	**17**	5.41[i]	5.19[i]	5.16[i]	**5.25**	7.7[m]	7.7[m]	7.6[m]	**7.67**
	●Reserves including gold (US$ b)	0.248[a]	0.307[a]	0.44[a]	**0.3**	76.9[e]	80.1[g]	75.6[e]	**77.5**	106[m]	107[m]	122[m]	**112**
	●Conversion rate (US$ - RM)	3,814[a]	3,859[a]	3924[a]	**3866**	1.67[e]	1.73	1.85[e]	**1.75**	31.4[n]	33[n]	35[n]	**33.1**
	●Total debt outstanding & disbursed (US$ b)	2.26[b]	2.26[b]	2.25[b]	**2.26**	75.5[e]	14.2[h]	79.4[e]	**56.4**	38.6[k]	34.8[k]	35.9[k]	**36.4**
	●Total debt service/exports (%)	11.1[b]	8.5[b]	3.3[b]	**7.63**	1.6[e]	1.9[h]	1.5[e]	**1.67**	0.01[n]	0	0.01[n]	**0.01**
	●FDI, net inflows in reporting country (US$ b)	0.143[b]	0.112[b]	0.113[b]	**1.23**	3.18[e]	2.1[j]	3.27[e]	**2.85**	-1.5[o]	-1.8[o]	-1.4[o]	**-1.5**
	○Feasibility to access financial market				**4.49**				**7.32**				**7.31**
	○Soundness of central bank policy on the country's economic development				**4.66**				**7.72**				**7.19**

Note: "●" and "○" indicate the measured (hard) data and the survey (soft) data, respectively.
'*' indicates the adverse items.
Mean indicates the mean value from 1999 to 2001
Sources:
a. National Institute of Statistic, Cambodia
b. http://www.imf.org/external/pubs/ft/scr/2003/cr0359.pdf.
c. http://www.mom.gov.sg/manpower/manrs/iftab.htm

d. http://www.mof.gov.sg/budget/budget_2001/gov_exp/index.html#
e. http://www.mti.gov.sg/public/EDA/frm_EDA_ESurvey.asp?sid=44
f. http://www.mti.gov.sg/public/PDF/CMT/EDA_2002Q3_Annual.pdf?sid=43&cid=118
g. http://www.aseansec.org/macroeconomic/selected.htm.
h. http://www.adb.org/Documents/Books/Key_Indicators/2001/SIN.pdf
i. http://www.singstat.gov.sg/kdystats/keystats.html#
j. http://r0.unctad.org/wir/contents/wir02_dl.htm
k.Taiwan Statistical Data Book 2002, Council for Economic Planning and Development, R.O.C.
l. Statistical Yearbook of The Republic of China 2001, Directorate-General of Budget, Accounting and Statistics Executive Yuan, R.O.C.
m. Quarterly National Economic Trends, Taiwan Area, The Republic of China, Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R.O.C.
n. Balance of Payments Quarterly, Taiwan District, Republic of China, Economic Research Department Central Bank of China, R.O.C.
o. http://r0.unctad.org/wir/contents/wir02content.en.htm
p. http://www.moea.gov.tw/ ~meco/stat/four/g-4.htm.

(US$14 billion) and Taiwan's (US$10.3 billion). Singapore performs better than Taiwan and Cambodia in term of its balance current account (Singapore: US$18.5 billion, Cambodia: -US$2.46 billion and Taiwan: US$11.7 billion), degree of openness (Singapore: 275%, Cambodia: 81.1% and Taiwan: 98.7%), and adequacy of facilities provided by the government to access foreign markets (Singapore: 8.2%, Cambodia: 4.81% and Taiwan: 6.77%).

Taiwan has higher rate of inflation compared to Cambodia and Singapore; -1.2%, -1.8% and -0.9% are the inflation rates for Cambodia, Singapore and Taiwan respectively. Cambodia's annual lending interest rate is 17%, which significantly high compared to the interest rate charged in Singapore (5.25%) and Taiwan (7.67%). Taiwan's total value of reserves reaches US$122 billion; it is remarkably higher than Cambodia (US$300 million) and Singapore (US$77.5 billion). Singaporean dollar (US$1 = S$17.5) has greater value than Khmer Riel (US$1 = R3866) and Taiwanese dollar (US$1 = NT$33.1). Singapore has the total debt outstanding of US$56.4 billion, which is the highest compared to Taiwan (US$36.4 billion) and Cambodia (US$2.26 billion). At the same time, Singapore manages to attract more foreign direct investments; the FDI figure is US$2.85 billion compared to -US$1.5 billion and US$120 million for Taiwan and Cambodia respectively. Finally, Cambodia performs the worst in terms of feasibility to access financial market and soundness of central bank policy on the country's economic development.

Table 4.2 shows the relative importance of the underlying factors in the economic performance of Cambodia, Singapore and Taiwan. In the case of Cambodia, domestic economy has the share of 27.20%; government efficiency makes up 26.10%; international trade constitutes 26.20% and Finance comprises 20.52%. In Cambodia, opinions of how important the underlying factors in the economic performance vary amongst the governmental officials, academicians and business people. For instance, the academician puts the emphasis on the international trade should Cambodia wants to be competitive in its economic performance. From the government's perspective, government efficiency is the most important factor for the competitiveness of national economy. However, the business people think that domestic economy is the most important factor if Cambodia wants to be more competitive in its economic performance.

For Singapore, 25.7% is allocated to domestic economy; 23.37% is assigned to government efficiency; 25.33% is the share of international trade; and the remaining 26.23% is for Finance. The governmental officials and business people in Singapore believe that the financial sector is the key factor for the competitiveness of economic performance. However, from the academicians' perspective, international trade is the most important factor should Singapore want to be more competitive in its economic performance.

In the case of Taiwan, domestic economy makes up 26.10%; government efficiency's share is 23.30%; international trade constitutes 26.40% and Finance takes up the remaining 24.20%. Taiwanese academicians and business people are confident that international trade is the key factor for the competitiveness of Taiwan's competitiveness in its economic performance. Nevertheless, the governmental officials put the emphasis on domestic economy.

In conclusion, domestic economy and international trade are the key factors for the competitiveness of Cambodia's economic performance. Financial sector appears to be the key factor for Singapore's competitiveness in its economy, and international trade is the

second most important factor in this respect. For Taiwan to be competitive in its economic performance, international trade and domestic economy are the key factors.

Table 4.2 The relative importance of the underlying factors of economic performance of Cambodia, Singapore and Taiwan

Countries (from 1999 to 2001)	Economic Performance			
	Factor Weight (Relative Importance)			
	Domestic Economy	Government Efficiency	International Trade	Finance
Cambodia (Average)	27.20%	26.10%	26.20%	20.50%
Academicians' Opinion (Average)	25.30%	25.60%	27.80%	21.30%
Business people's Opinion (Average)	32.20%	24.50%	24.80%	18.50%
Government Officials' Opinion (Average)	27.30%	30.30%	21.90%	20.50%
Singapore (Average)	25.07%	23.37%	25.33%	26.23%
Academicians' Opinion (Average)	25.50%	23.30%	26.00%	25.20%
Business people's Opinion (Average)	25.40%	21.30%	26.00%	27.30%
Government Officials' Opinion (Average)	24.30%	25.50%	24.00%	26.20%
Taiwan (Average)	26.10%	23.30%	26.40%	24.20%
Academicians' Opinion (Average)	25.30%	24.30%	26.20%	24.20%
Business people's Opinion (Average)	26.30%	21.20%	27.50%	25.00%
Government Officials' Opinion (Average)	26.30%	23.50%	25.00%	25.20%

4.2 Technology Development

The indicators of technology development in Cambodia, Singapore and Taiwan are shown in Table 4.3. The paved roads and railway density of the network in Cambodia is higher than those in Taiwan and Singapore; the density of the network in Cambodia is 193 km and 3.3 km for paved roads and railway respectively. Cambodia has the total number of passengers carried by airlines of 245000, which is the significantly higher that Taiwan (33500) and Singapore (19500). However, the electricity cost in Cambodia is much higher than in Singapore and Taiwan; the charge is US$0.33, US$0.07 and US$0.06 per kilo-watt hour for Cambodia, Singapore and Taiwan respectively. The level of investment in telecommunication in Taiwan is higher than those in Singapore and Cambodia; it is at the rate of 9.01% of GDP.

470 out of 1000 people in Singapore have personal computers; this figure is the highest compared to Cambodia only 1.4 per 1000 people and Taiwan 330 per 1000. Likewise,

Singapore also has the highest number of servers connected to the Internet per 1000 people; the rate is 325, which is remarkably high compared to Taiwan only 48.5 and Cambodia only 0.03 per 1000 people. The number of people accessing Internet in Singapore (336 per 1000 people) is also higher compared to those in Taiwan (293 per 1000 people) and Cambodia (0.5 per 1000 people). Compared to Singapore and Cambodia, Taiwan has the highest bandwidth connected to abroad; the rate is 3336 MBps, 3141 MBps and 4.17 MBps for Taiwan, Singapore and Cambodia respectively. The number of main telephone lines per 1000 inhabitants Taiwan is 585, which in the highest among the three countries, yet Cambodia has the lowest usage rate of main telephone lines; the rate is only 2.4 per 1000. In addition, Taiwan has the highest the number of cellular/mobile telephone subscribed per 1000 inhabitants; the rate is 708 compared to Singapore (548) and Cambodia (11.2). The international telephone costs in peak time to USA (US$/per 3 minutes) in Cambodia is US$4.7, which is the highest among the three countries.

Total indigenous energy consumption (percentage of total requirements in tons of oil equivalent) is 94.3, 92.7 and 7.18 for Cambodia, Singapore and Taiwan respectively; the Cambodia has the highest energy consumption in this regard. Energy imports as a percentage of merchandise exports in Singapore reaches 10.8%, which is the highest compared to Taiwan only 8.38% and Cambodia 0.001%

The degree of technological cooperation between companies, technology transfer between universities and companies in Singapore is higher compared to Cambodia and Taiwan. Moreover, the extent that lack of sufficient financial resources does not constraint technological development in Singapore is also higher compared to Cambodia and Taiwan. The level of legal support of development and application of technology in Taiwan is higher than those in Singapore and Cambodia. The extent that basic research does enhance long-term economic and technological development in Taiwan is relatively higher compared to Singapore and much higher compared to Cambodia. Young people in Singapore show higher

interest to science and technology than those in Taiwan and Cambodia. The enforcement level of patent and copyright protection is higher in Singapore compared to Taiwan and Cambodia.

Table 4.3 The research results of technology development of Cambodia, Singapore and Taiwan

Technology Development		Cambodia				Singapore				Taiwan			
Factors	**Items**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**
Basic Infrastructure	●The paved roads density of the network (km)	190[j]	193[j]	196[j]	**193**	4.6[b]	4.76[b]	4.52[b]	**4.63**[b]	0.99[b]	1[b]	1.02[b]	**1**
	●The railroads density of the network (km)	3.3[j]	3.3[j]	3.3[j]	**3.3**	0	0.13[b]	0.06 [b]	**0.06**[b]	0.03[b]	0.03[b]	0.03[b]	**0.03**
	●The numbers air transportation passengers carried by airliners (thousand)	0.263[a]	0.247[a]	0.225[a]	**245**	15.3[b]	16.7[b]	26.6[b]	**19.5**[b]	28206[b]	26335[b]	25379[b]	**33.5**
	●The electricity cost for industrial clients (US$/per kwh (kilo-watt hour)	0.5[f]	0.25[f]	0.25[f]	**0.33**	0.07[b]	0.06[b]	0.08[b]	**0.07**	0.06[b]	0.06[b]	0.06[b]	**0.06**
Information Technology	●The percentage of investment in telecommunication to GDP (%)	2.6[g]	2.7[g]	3[g]	**2.77**	0.51[d]	0.53[d]	1.1[d]	**0.71**	9.8[b]	11.4[b]	5.82[b]	**9.01**
	●The number of computers per 1,000 people (Unit/per 1,000 people)	1.1[c]	1.1[c]	2[c]	**1.4**	391[b]	440[b]	580[b]	**470**	260[b]	336[b]	394[b]	**330**
	●The number of servers connected to Internet per 1,000 people in your country (unit/per 1,000 people)	0.02[c]	0.04[c]	0.05[c]	**0.03**	240[b]	324[c]	412[c]	**325**	20[b]	49.2[c]	76.4[c]	**48.5**
	●The number of people accessing Internet per 1,000 people	0.3[c]	0.5[c]	0.7[c]	**0.5**	240[b]	299[c]	469[c]	**336**	214[b]	314[b]	352[b]	**293**
	●The bandwidth of your country connected to abroad MBps	3[c]	3.5[c]	6[c]	**4.17**	622[b]	800[b]	8000[b]	**3141**	646[b]	2135[b]	7228[b]	**3336**
	●The number of main telephone lines per 1,000 inhabitants	2.3[c]	2.4[c]	2.5[c]	**2.4**	484[d]	477[c]	472[c]	**478**	570[b]	598[b]	588[b]	**585**
	●The number of cellular/mobile telephone subscribed per 1,000 inhabitants (Per 1,000 people)	7[c]	10[c]	16.6[c]	**11.2**	372[d]	583[c]	688[c]	**548**	494[b]	750[b]	881[b]	**708**
	●The international telephone costs in peak time to USA (US$/per 3 minutes)	4.5[h]	4.6[h]	5[h]	**4.7**	0.83[b]	1.66[b]	0.66[b]	**1.05**	1.6[b]	1.66[b]	1.56[b]	**1.61**
Energy Status	●Total indigenous energy consumption (percentage of total requirements in tons of oil equivalent)	90[e]	95[e]	98[e]	**94.3**	88.9[b]	92.6[b]	96.7[b]	**92.7**	14.5[b]	3.7[b]	3.33[b]	**7.18**
	●Energy imports as a percentage of merchandise exports (%)	0.001[a]	0.001[a]	0.001[a]	0.001	8.79[d]	11.7[d]	12[d]	**10.8**	8[b]	8.05[b]	9.1[b]	**8.38**
Technology Management	○Technological cooperation between Companies				**3.77**				**7.09**				**7.03**
	○Technology transfer between universities and companies				**4.04**				**6.8**				**6.67**
	○Lack of sufficient financial resources does not constraint technological development				**4.36**				**5.15**				**3.73**
	○Development and application of technology is supported by the legal environment				**4.11**				**7.96**				**7.97**
Technology Environment	○Basic research does enhance long-term economic and technological development				**5.4**				**7.48**				**7.8**
	○Science and technology arouses the interest of youth				**5.06**				**7.22**				**8**
	○Patent and copyright protection is enforced in your country				**5.9**				**7.33**				**6.37**

Note: "●" and "○" indicate the measured (hard) data and the survey (soft) data, respectively.
Mean indicates the mean value from 1999 to 2001
Sources:
a. http://www.cia.gov/cia/publications/factbook/geos/cb.html
b. World competitiveness yearbook 2002
c. http://www.itu.int/ITU-D/ict/statictics
d. Chinese Economic Research institution

e. http://www.adb.org/Documents/Books/Key_Indicators/2003/pdf/CAM.pdf
f. http://www.winrockindia.org/wedo1crep.htm
g. The Cambodia Investment Board (from EXIM Bank web site)
h. http://www.mptc.gov.kh/
i. http://www.unctad.org/en/docs/ldc01stat_cam.en.pdf

Table 4.4 shows the relative importance of the underlying factors in the technology development in Cambodia, Singapore and Taiwan. In the respect of the relative importance of the underlying factors of technology development in Cambodia, basic structure constitutes 19.66%; 17.76% is for information technology; 12.63% is shared by energy status, 14.57% is allocated to technology management; 15.35% is assigned to research and development; 12.11% is the share of technology environment and the remaining 7.92% is for patents and copyrights.

In the case of Singapore, basic structure makes up 16.33%; information technology constitutes 15.63%; energy status shares 12.57%; technology management is 14.66%; research and development takes up 13.61%; technology environment has the share of 15.83% and patents and copyrights is 11.32%.

For Taiwan, 13.79% is distributed to basic structure; 14.41% is allocated to information technology; 11.85% is for energy status, 15.54% is the share of technology management; 14.59% is for research and development; 15.38% is assigned to technology environment and 14.44% is finally allocated to patents and copyrights.

Furthermore, academicians and governmental officials in Cambodia agree that basic infrastructure plays the most important role in technology development, yet the business people in Cambodia value information technology the most. Likewise, Singaporean business people and governmental officers believe that basic infrastructure plays a more important role in technology development. However, Singaporean academicians see technology management as the key to the competitiveness of technology development in the country. In the case of Taiwan, opinions of what is the most important in the competitiveness of technology development vary. For instance, it is technology management that plays a key role from the

governmental officials' perspective, yet business people place more emphasis on technology environment. However, from the academicians' viewpoint, information technology is the most important factor for the competitiveness of technology development in the nation.

In conclusion, the key factors for technology development in Cambodia lie on basic infrastructure and information technology. For Singapore, the competitiveness of its technology development depends on basic infrastructure and technology environment. In the case of Taiwan, technology management and technology environment are the key factors for competitiveness in its technology development.

Table 4.4 The relative importance of the underlying factors of technology development of Cambodia, Singapore and Taiwan

Category – Technology Development							
Countries (from 1999 to 2001)	Category Weight (Relative Importance)						
	BI	IT	ES	TM	R&D	TE	PC
Cambodia (Average)	19.66%	17.76%	12.63%	14.57%	15.35%	12.11%	7.92%
Academicians' Opinion (Average)	19.15%	15.47%	13.86%	15.81%	14.73%	12.47%	8.51%
Business people's Opinion (Average)	18.21%	19.56%	11.97%	14.83%	16.20%	10.94%	8.29%
Government Officials' Opinion (Average)	22.28%	16.41%	12.87%	13.34%	14.40%	13.74%	6.96%
Singapore (Average)	16.33%	15.63%	12.57%	14.66%	13.61%	15.83%	11.37%
Academicians' Opinion (Average)	15.14%	15.28%	12.74%	15.88%	14.80%	14.40%	11.76%
Business people's Opinion (Average)	16.54%	16.04%	13.05%	15.37%	13.07%	15.10%	10.83%
Government Officials' Opinion (Average)	17.16%	15.28%	11.47%	11.97%	13.29%	18.89%	11.94%
Taiwan (Average)	13.79%	14.41%	11.85%	15.54%	14.59%	15.38%	14.44%
Academicians' Opinion (Average)	14.62%	15.43%	12.91%	14.64%	14.17%	14.45%	13.78%
Business people's Opinion (Average)	13.35%	14.81%	11.85%	14.90%	14.56%	15.50%	15.03%
Government Officials' Opinion (Average)	13.52%	12.90%	10.80%	17.22%	15.10%	16.06%	14.40%

4.3 Human Resource

Table 4.5 shows the results of Cambodia, Singapore and Taiwan's human resource over the three periods starting from 1999 to 2001; the comparison is based on the mean of the data from 1999 to 2001. The labor participation rate in Singapore is 66.2%, which is higher compared to Cambodia (62.5%) and Taiwan (57.5%). The weekly working hour in Cambodia is longer than Singapore and Taiwan; there are 48, 46.7 and 44.4 hours respectively for Cambodia, Singapore and Taiwan. In Singapore, ratio of skilled labor among total

employment (43.5%) is remarkably higher than Cambodia (17.3%) and Taiwan (27.7%). Cambodia has the highest illiteracy rate (36.1%) compared to Singapore (7.37%) and Taiwan (4.38%). At the same time, the elementary school enrollment ratio in Cambodia is relatively higher than Singapore and Taiwan; it is 101%, 96% and 99.3% respectively. Compared to Singapore and Cambodia, Taiwan has the highest ratio of secondary school enrollment; 92.6%, 92%, and 19.3% are the ratios for Taiwan, Singapore and Cambodia respectively. Higher education enrollment ratio in Singapore is 39% compared to Taiwan, 38.9% and Cambodia, 7.94%. Singapore has the highest ratio in this regard. Elementary school pupil teacher ratio (53.6 students per teacher) in Cambodia is the highest compared to Singapore (25 students per teacher) and Taiwan (24.2 students per teacher), and so does the secondary school pupil teacher ratio. However, the higher education pupil teacher ratio in Taiwan is the highest; the ratios are 9.3, 13.3 and 20.6 students per lecturer for Cambodia, Singapore and Taiwan respectively. The ratios of college students who major in technology are 1.94%, 65% and 53.4% respectively for Cambodia, Singapore and Taiwan; Singapore has the highest ratio in this regard. Nevertheless, the return rate for higher education students who study technology abroad is the highest for Taiwan compared to Cambodia and Singapore.

Singapore has the highest rate compared to Cambodia and Taiwan in terms of average wage rate (Singapore: US$1678, Taiwan: US$1223, Cambodia: US$40) and average wage inflation (Singapore: 3.8%, Taiwan: 0.02%, Cambodia: 0.03%). However, Taiwan has the highest rate compared to Cambodia and Singapore in terms of average living cost (Taiwan: US$529, Singapore: US$511, Cambodia: US$70), average skilled labor/technician wage rate (Singapore: US$1179, Taiwan: US$1409, Cambodia: US$53.5), average experiences for skilled workers (Singapore: 15.4 years, Taiwan: 16.4 years, Cambodia: 3 years), and benefit of employees. Cambodia, however, has highest rate compared to Singapore and Taiwan in terms of average tenure for all workers (Singapore: 8.1 years, Taiwan: 8.3 years, Cambodia: 10 years).

The level of recruitment and training cost is higher in Singapore than in Cambodia and Taiwan. The severance payment in Taiwan is relatively higher than Cambodia and Singapore.

Singapore has zero industrial disputes compared to Taiwan (8262) and Cambodia (46). Average working day lost in Taiwan (458 days) is much higher than Cambodia (21 days) and Singapore (0). In Singapore, the enforcement degree of labor legislation, the coverage level of labor legislation, the union affect on wage rates, and he level of labor's existing power on foreign companies are the highest compared to Cambodia and Taiwan.

Table 4.6 shows the relative importance of the underlying factors in the human resource in Cambodia, Singapore and Taiwan. There are four main factors in human resource sector; they are manpower utilization (MU), cost of wages and employment benefit (CWEB), turnover (T), and labor disputes or industrial disputes and union Power (LDIDUP). For human resource sector in Cambodia, MU takes up 29.35%; CWEB shares 24.90%; T makes up 23.15 percent, and the remaining 22.60% is allocated to LDIDUP. In the case of Singapore, 31.63% is assigned to MU; 29.65% is the share of CWEB; 18.90% is distributed to T and 19.82% is the remaining allocation to LDIDUP.

For Taiwan, MU, CWEB, T, LDIDUP have the share of 27.66%, 27.18%, 21.87% and 23.39% respectively.

Academicians, business people and governmental officials from Cambodia, Singapore and Taiwan have the mutual consensus that manpower utilization is the most important factor, and cost of wages and employment benefit is agreed by the majority as the second most important factor for the competitiveness of human resource.

Table 4.5 The research results of human resource of Cambodia, Singapore and Taiwan

Human Resource		Cambodia				Singapore				Taiwan			
Factors	**Items**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**
Manpower Utilization	●Labor force participation rate (%)	45[a]	78.4[a]	64[a]	**62.5**	64.7[f]	68.6[f]	65.4[f]	**66.2**	57.9[m]	57.3[m]	57.2[m]	**57.5**
	●Weekly working hours	48[a]	48[a]	48[a]	**48**	46.9[g]	47.1[g]	46.2[g]	**46.7**	45.1[m]	45.2[m]	43[m]	**44.4**
	●Ratio of skilled labor among total employment (%)	16[a]	18[a]	18[a]	**17.3**	42[g]	43.5[g]	45[g]	**43.5**	27.6[m]	27.5[m]	28.1[m]	**27.7**
	●Illiteracy ratio (%)	36.3[b]	38[b]	34[b]	**36.1**	7.8[h]	7.5[h]	6.8[h]	**7.37**	4.73[k]	4.21[k]	4.21[k]	**4.38**
	●Elementary school enrollment ratio (%)	100[c]	101[c]	101[c]	**101**	96[h]	96[h]	96[h]	**96**	99.5[k]	99.7[k]	98.7[k]	**99.3**
	●Secondary school enrollment ratio (%)	17[d]	19[d]	22[d]	**19.3**	92[i]	92[i]	92[i]	**92**	92.6[k]	92.2[k]	92.9[k]	**92.6**
	●Higher education enrollment ratio (%)	0.27[d]	22.6[d]	0.94[d]	**7.94**	39[i]	39[i]	39[i]	**39**	35.4[k]	38.7[k]	42.5[k]	**38.9**
	●Elementary school pupil teacher ratio (Number of students per teacher)	50.6[d]	53.3[d]	56.8[d]	**53.6**	25[h]	25[h]	25[h]	**25**	35.4[k]	18.6[k]	18.6[k]	**24.2**
	●Secondary school pupil teacher ratio (Number of students per teacher)	47.8[c]	45.7[c]	16.4[c]	**36.6**	19[h]	19[h]	20[h]	**19.3**	19.5[k]	17.1[k]	19[k]	**18.5**
	●Higher education pupil teacher ratio (Number of students per lecturer)	4.71[d]	10.6[d]	12.7[d]	**9.35**	13.7[j]	13.4[j]	13.3[j]	**13.5**	19.1[k]	26.5[k]	16.2[k]	**20.6**
	●The ratio of college students who major in technology(%)	2.25[d]	2.51[d]	1.05[d]	**1.94**	65[j]	65[j]	65[j]	**65**	54.2[k]	53.4[k]	52.5[k]	**53.4**
	●The return rate for higher education students who study technology abroad (%)	1.65[d]	6.41[d]	2.25[d]	**3.44**	16.3[j]	25.2[j]	18.1[j]	**19.9**	18.3[m]	33.9[m]	20.8[m]	**24.3**
Cost of Wages and Employment Benefit	●Average wage rate	40[e]	40[e]	40[e]	**40**	1590[g]	1710[g]	1735[g]	**1678**	1202[m]	1234[m]	1234[m]	**1223**
	●Average wage inflation	0.02[e]	0.05[e]	0.01[e]	**0.03**	2.6[g]	7.5[g]	1.3[g]	**3.8**	0	0.02[m]	0.03[m]	**0.02**
	●Average cost of living	70[e]	70[e]	70[e]	**70**	750[h]	765[h]	768[h]	**511**	689[m]	449[m]	450[m]	**529**
	●Average skilled labor/technician wage rate	50[e]	60[e]	50.6[e]	**53.5**	1200[j]	1168[j]	1168[j]	**1179**	1343[m]	1457[m]	1428[m]	**1409**
	●Average experiences for skilled workers	3[e]	3[e]	3[e]	**3**	15[g]	15.5[g]	15.6[g]	**15.4**	16[m]	16.4[m]	16.6[m]	**16.4**
	●Average tenure for all workers	10[e]	10[e]	10[e]	**10**	8[g]	8.1[g]	8.2[g]	**8.1**	8.25[m]	8.33[m]	8.33[m]	**8.3**
	○The benefit level of employees				**4.2**				**4.84**				**4.92**
Turnover	○The level of recruitment cost*				**4.46**				**4.84**				**4.47**
	○The level of training cost*				**4.86**				**4.9**				**4.63**
	○The level of severance payment *				**4.8**				**4.92**				**4.98**
Labor Disputes or Industrial Disputes and Union Power	●Number of disputes*	76[e]	35[e]	27[e]	**46**	0	0	0	**0**	5806[l]	8026[l]	10955[l]	**8262**
	●Working days lost*	15[e]	24[e]	24[e]	**21**	0	0	0	**0**	1375[l]	0	0	**458**
	○The enforcement degree of labor legislation				**5.71**				**5.48**				**5.18**
	○The coverage level of labor legislation				**5.2**				**5.34**				**5.22**
	○The union affect on wage rates				**5.31**				**5.82**				**5.06**
	○The level of labor's existing power on foreign companies				**5.49**				**5.26**				**4.84**

Note: "●" and "○" indicate the measured (hard) data and the survey (soft) data, respectively.
'*' indicates the adverse items.
Mean indicates the mean value from 1999 to 2001
Sources:
a. SOA'O Economic Development Plan
b. Report the Assessment of the Functional Levels of the Adult Population in Cambodia
c. Education Management Information System, Ministry of Education, Youth and Sport 1999-2000
d. Education Statistics Indicators 1999-2000, Ministry of Education, Youth and Sport
e. Department of Finance, Ministry of Education, Youth and Sport
f. http://www.singstat.gov.sg/keystats/hist/labour.html
g. http://www.gov.sg/mom/manpower/manrs/statlf.html
h. http://www.singstat.gov.sg/keystats/annual/yos/yos112.pdf
i. http://wwwl.moe.edu.sg/esd/index.htm
j. http://www.gov.sg/mom/manpower/manp/pdf/complete.pdf
k. http://www.moe.gov.tw
l. http://163.29.140.81/html/htm/98010.htm
m. http://www.stat.gov.tw

Table 4.6 The relative importance of the underlying factors of human resource of Cambodia, Singapore and Taiwan

Human Resource				
Countries (from 1999 to 2001)	Factor Weight (Relative Importance)			
	Manpower Utilization	COWAEB	Turnover	LDOIDAUP
Cambodia (Average)	29.35%	24.90%	23.15%	22.60%
Academicians' Opinion (Average)	27.95%	25.00%	22.65%	24.40%
Business people's Opinion (Average)	30.35%	25.35%	25.38%	18.92%
Government Officials' Opinion (Average)	31.87%	23.80%	24.33%	20.00%
Singapore (Average)	31.63%	29.65%	18.90%	19.82%
Academicians' Opinion (Average)	31.08%	29.08%	18.55%	21.29%
Business people's Opinion (Average)	31.78%	28.25%	19.02%	20.95%
Government Officials' Opinion (Average)	31.78%	31.35%	18.91%	17.96%
Taiwan (Average)	27.66%	27.18%	21.87%	23.29%
Academicians' Opinion (Average)	27.50%	28.85%	19.84%	23.81%
Business people's Opinion (Average)	28.53%	26.85%	23.20%	21.42%
Government Officials' Opinion (Average)	27.38%	25.39%	23.53%	23.70%

4.4 Management Capability

Table 4.7 shows the results of Cambodia, Singapore and Taiwan's management capability over the three periods starting from 1999 to 2001; the comparison is based on the mean of the data from 1999 to 2001. Price/quality ratio of products in Taiwan is higher than in Singapore and Cambodia.

In addition, the level of prestige to company managers by the public in Taiwan is higher than in Singapore and Cambodia. The level of capability of corporate boards to prevent improper practices in corporate affairs, the level of capability to generate shareholder value, and the level of social responsibility that managers would like to take are higher in Singapore compared to Taiwan and Cambodia.

Similarly, the level of availability of competent senior managers in the labor market, the level of competence of domestic managers when comparing with the multi-national corporate (MNC) expatriates, the level of harmony of labor relations, the level of enterprise identity recognized by the employees, and the level of priority to engage in employee training are higher in Singapore compared to Taiwan and Cambodia.

The level of emphasis placed on customer satisfactions is higher in Singapore compared to Taiwan and Cambodia. However, the level of entrepreneurship of corporate managers in Taiwan is significantly higher compared to Singapore and Taiwan. Not only does Taiwan have higher level of entrepreneurship of corporate managers, but it has higher level of risk taking orientation of CEOs of the small and medial enterprises also. Once again, the level of ethical practices adopted in companies and the level of the practice in tax evasion are higher in Singapore compared to Taiwan and Cambodia.

In comparison to Singapore and Cambodia, the level of integration in supplier-manufacturer relations and the level of vertical integration between upstream firms and downstream firms are the highest in Taiwan. However, the level of integration in manufacturer-channel relations is higher in Singapore compared to Taiwan and Cambodia.

The level of experiences for managers in international business operations is the highest for Singapore compared to Taiwan and Cambodia, yet Taiwan has the highest level of management competence for managers in global operations among the three countries. Therefore, the export value in Taiwan reaches US$150 billion compared to Singapore, US$125 billion and Cambodia only US$1.25 billion, yet Singapore manages to attract more foreign direct investments (Singapore: US$2.85 billion, Taiwan: -US$1.5 billion and US$1.22 billion).

Table 4.8 shows the relative importance of the underlying factors in the management capability in Cambodia, Singapore and Taiwan. For Cambodia, innovation capacity makes up 11.89%; financial capacity is 15.78%; corporate responsibility shares 13.37%; management competence constitutes 14.49%; culture has the share of 18.62%; intra-industrial integration takes up 11.08% and international operation is composed of the remaining 14.77%.

Academicians and business people in Cambodia perceive financial capability as the most important factor in management capability, and international operation and culture are the second most important factors from the academicians and business people's perspective

respectively. However, culture is perceived to be the most important factor in management capability from the governmental officials' perspective, and international operation is the second most important factor.

In the case of Singapore, innovation capacity constitutes 15.38%; financial capacity makes up 17.67%; corporate responsibility shares 12.43%; management competence has the share of 14.74%; culture has the share of 10.78%; intra-industrial integration's share is 13.52% and international operation is the remaining 15.48%.

Academicians in Singapore think that innovation and financial capabilities are the most important factors in management capability, yet business people consider financial capability and international operation are the most important factors. Governmental officials' opinion confirms the academician's viewpoint that innovation capability is the most important factor, and they think that management competence is the second important factor.

Taiwan's management capability has the following factor weights: Innovation capacity is 14.75%; financial capacity takes up 14.52%; corporate responsibility makes 14.13%; management competence comprises 14.46%; culture constitutes 13.33%; intra-industrial integration is allocated with 14.05% and remaining 14.76% is assigned to international operation. The Taiwanese academicians' opinion shows that international operation and intra-industrial integration are the most important factors in management capability; however, business people think that innovation and financial capability are the most import factors. The governmental officials perceive management competence and international operation as the most important factors in management capability.

In conclusion, culture and financial capability are the most important factors in Cambodia's management capability. In the case of Singapore, financial capability and

Table 4.7 The research results of management capability of Cambodia, Singapore and Taiwan

Management Capability		Cambodia				Singapore				Taiwan			
Factors	**Items**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**
Innovation Capability	○Price/quality ratio of products*				**4.5**				**7.28**				**7.68**
Corporate Responsibility	○Prestige to company managers				**5.41**				**7.28**				**7.58**
	○Corporate boards				**3.92**				**8.32**				**6.21**
	○Shareholder value				**3.62**				**7.64**				**7.16**
	○Social responsibility				**4.6**				**6.72**				**6.39**
Management Competence	○Availability of senior managers				**4.47**				**7.84**				**7.37**
	○Competence level				**3.96**				**7.44**				**7.11**
	○Labor relations				**4.61**				**7.76**				**6.68**
	○Recognition to enterprise identity				**4.8**				**7**				**6.42**
	○Employee training				**4.42**				**7.72**				**6.63**
Culture	○Customer orientation				**5.02**				**7.64**				**7.63**
	○Entrepreneurship				**4.78**				**6.24**				**8.26**
	○Orientation for risk taking				**4.94**				**6**				**7.89**
	○Tax evasion*				**4.94**				**5.68**				**2.95**
	○Ethical practices				**5.2**				**7.52**				**6.74**
Intra-industrial Integration	○Integration in supplier-manufacturer				**6.92**				**7.72**				**7.84**
	○Integration in manufacturer-channel				**4.29**				**7.44**				**7.74**
	○Vertical integration				**4.35**				**7.6**				**8.16**
International Operation	○International experience				**4.19**				**7.84**				**7.58**
	○Competence for global operations				**4.23**				**7.76**				**7.84**
	●Export Value (US$ billion)	1.25	1.65	1.72	**1.54**	118	139	119	**125**	139	168	143	**150**
	●Foreign direct investment (FDI), (US$ billion)	1.43	1.11	1.13	**1.22**	3.18	2.1	3.27	**2.85**	-1.5	-1.8	-1.4	**-1.5**

Note: "●" and "○" indicate the measured (hard) data and the survey (soft) data, respectively.
'*' indicates the adverse items.
Mean indicates the mean value from 1999 to 2001

Table 4.8 The relative importance of the underlying factors of management capability of Cambodia, Singapore and Taiwan

Management Capability							
Countries (from 1999 to 2001)	**Factor Weight (Relative Importance)**						
	IC	**FC**	**CR**	**MC**	**Culture**	**II**	**IO**
Cambodia (Average)	11.89%	15.78%	13.37%	14.49%	18.62%	11.08%	14.77%
Academicians' Opinion (Average)	10.50%	18.50%	16.00%	10.90%	14.00%	11.50%	18.60%
Business people's Opinion (Average)	13.38%	15.53%	13.17%	14.17%	18.31%	10.85%	14.59%
Government Officials' Opinion (Average)	10.45%	14.65%	13.36%	14.14%	21.60%	10.91%	14.89%
Singapore (Average)	15.38%	17.67%	12.43%	14.74%	10.78%	13.52%	15.48%
Academicians' Opinion (Average)	16.46%	17.04%	13.40%	14.55%	11.91%	11.83%	14.81%
Business people's Opinion (Average)	14.88%	18.19%	11.85%	14.72%	10.32%	14.43%	15.61%
Government Officials' Opinion (Average)	15.25%	13.55%	14.40%	16.93%	14.45%	12.71%	12.71%
Taiwan (Average)	14.75%	14.52%	14.13%	14.46%	13.33%	14.05%	14.76%
Academicians' Opinion (Average)	14.58%	14.35%	13.58%	14.73%	12.73%	14.78%	15.25%
Business people's Opinion (Average)	15.07%	14.98%	14.87%	14.12%	13.42%	13.39%	14.15%
Government Officials' Opinion (Average)	14.16%	13.53%	13.21%	14.84%	14.44%	14.12%	15.70%

international operation are the key factors in the management capability. Finally, international operation and innovation capacity are the key factors for the competitiveness of management capability in Taiwan.

4.5 Productivity

Table 4.9 shows the results of Cambodia, Singapore and Taiwan's productivity over the three periods starting from 1999 to 2001; the comparison is based on the mean of the data from 1999 to 2001. For gross domestic product, Taiwan performs much better than Singapore and Cambodia; the figures are US$293 dollar, 86.4 dollar and US$3.35 billion for Taiwan, Singapore and Cambodia respectively. Likewise, in comparison to Singapore and Cambodia, Taiwan has the highest number of people employed. The figure shows 9429000, 5365000, and 200900 employees for Taiwan, Cambodia and Singapore respectively. Singapore, nevertheless, has the highest annual GDP per employee compared to Taiwan and Cambodia; annual GDP per employee for Singapore is US$43900, US$31100 for Taiwan, and only US$650 for Cambodia. Once again, the average remuneration per employee per year in Singapore is higher that those in Taiwan and Cambodia (Singapore: US$20700, Taiwan: US$15100, Cambodia: US$640). Nonetheless, Taiwan manages to have higher gross capital formation compared to Singapore and Cambodia. Taiwan's gross capital formation is US$61.4 billion; US$25.5 is gross capital formation of Singapore and US$500 million is Cambodia's.

Production in agricultural industry in Cambodia constitutes 41.3% of total GDP compared to Taiwan only 2.16% and Singapore only 0.05%. This sector employs more labors compared to Taiwan and Singapore. However, the average remuneration in this sector per employee per year is US$300, which is very low compared to Singapore (US$3700) and Taiwan (US$6850). Gross capital formation by this sector is US$640 million for Taiwan, US$224 million for Cambodia, and US$25.4 million for Singapore.

In Taiwan, 0.43% of total GDP is the production of mining industry, and mining industry's production in Cambodia constitutes 0.1% of total GDP; Singapore's production in mining industry makes up only 00.5% of total GDP. However, more people are employed in the mining industry in Cambodia, yet the average remuneration in this sector is very low compared to Taiwan and Singapore. Taiwanese mine workers earn the most among the three countries (Taiwan: US$15700, Singapore: US$3700, Cambodia: US$540). Once again, gross capital formation in this sector in Taiwan is US$48.4 million, which is the highest compared to Singapore (US$18.8 million) and Cambodia (US$860000).

Production of manufacturing industry in Cambodia is 16.6% of total GDP compared to Taiwan (25.7%) and Singapore (25%), and average remuneration in this sector in Cambodia is also very low compared to Taiwan and Singapore; the figure shows that people employed in manufacturing industry earn only US$520 in Cambodia, US$26000 in Singapore, and US$13900 in Taiwan. Taiwan employs more people than Singapore and Cambodia in this industry, and the gross capital formation in this industry in Taiwan is US$23.6 billion, which is the highest compared to Singapore (US$10.7 billion) and Cambodia (US$100 million).

Production in construction industry in Cambodia is 4.13% of total GDP; production of this industry in Singapore is 6.78% and 3.34% is the production of this sector in Taiwan. People hired in this industry in Singapore earn the most compared those in Taiwan and Cambodia (Singapore: US$27600, Taiwan: US$13900, Cambodia: US$580), and this industry in Taiwan employs more labors than those in Singapore and Cambodia. Moreover, Singapore has higher gross of capital formation in this industry; the total value is US$13.2 billion compared to Taiwan (US$400 million) and Cambodia (US$40 million).

Finally, the production of service industry in Taiwan covers 63.9% of total GDP,; Singapore is 62% and Cambodia is 32.7%. Once again, people employed in the service industry in Singapore (US$21200) earn more that those in Taiwan (US$16100) and Cambodia (US$630). In Taiwan, gross capital formation in this sector is also higher than Singapore and

Cambodia; the total gross capital formation of this industry in Taiwan is US$17.8 billion compared to Singapore, US$2.77 billion and Cambodia, US$22 million. The number of people employed in this industry is also higher in Taiwan compared to Singapore and Cambodia.

Table 4.9 The research results of productivity of Cambodia, Singapore and Taiwan

Productivity		Cambodia				Singapore				Taiwan			
Factors	**Items**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**	1999	2000	2001	**Mean**
Nation	●GDP(US$ billion)	3.3	3.35	3.4	**3.35**	84.1	92.3	82.9	**86.4**	288	309	282	**293**
	●Number of employees('000)	5519	5275	5300	**5365**	1886	2095	2047	**2009**	9385	9491	9383	**9420**
	●GDP/employee/year('000 US$)	0.6	0.63	0.65	**0.63**	43.8	43.7	44.2	**43.9**	30.7	32.6	30	**31.1**
	●Average remuneration/employee/yr ('000 US$)	0.6	0.72	0.61	**0.64**	19.9	21.3	21	**20.7**	15.6	15.2	14.4	**15.1**
	●Gross capital formation(US$ billion)	0.46	0.44	0.61	**0.5**	27.2	28.9	20.5	**25.5**	69.2	67.1	48.1	**61.4**
Agriculture-Related Trade	●Percentage of GDP in this sector(%)	43.7	40.5	39.6	**41.3**	0.05	0.05	0.05	**0.05**	2.63	1.98	1.88	**2.16**
	●Average remuneration in this sector/employee/yr('000US$)	0.29	0.3	0.31	**0.3**	3.89	3.89	3.31	**3.7**	7.29	6.85	6.41	**6.85**
	●Number of labors in this sector('000)	4213	3889	3157	**3753**	18	19.1	19.7	**18.9**	774	738	706	**739**
	●Gross capital formation by this sector (US$ **million**)	220	225	227	**224**	24.9	25.3	26	**25.4**	924	499	498	**640**
Mining Industry	●Percentage of GDP in this sector(%)	0.1	0.1	0.1	**0.1**	0.05	0.05	0.05	**0.05**	0.51	0.4	0.39	**0.43**
	●Average remuneration in this sector/employee/yr('000 US$)	0.54	0.53	0.54	**0.54**	3.89	3.89	3.31	**3.7**	16.1	15.8	15.3	**15.7**
	●Number of labors in this sector('000)	5.5	5.4	6.2	**5.7**	1	1	1	**1**	11	10	9	**10**
	●Gross capital formation by this sector (US$ **million**)	0.97	0.91	0.7	**0.86**	8.6	29.3	27	**18.8**	46.7	56.4	42	**48.4**
Manufacturing Industry	●Percentage of GDP in this sector(%)	12.9	17.4	19.4	**16.6**	24.6	26.8	23.4	**25**	27.3	25	24.7	**25.7**
	●Average remuneration in this sector/employee/yr('000 US$)	0.48	0.54	0.55	**0.52**	19.8	21.1	20.9	**20.6**	14.4	14.1	13.1	**13.9**
	●Number of labors in this sector('000)	259	367	370	**332**	396	421	384	**400**	2417	2467	2356	**2413**
	●Gross capital formation by this sector (US$ billion)	0.09	0.1	0.12	**0.1**	9.86	12.3	9.85	**10.7**	26.3	28.7	15.9	**23.6**
Construction Industry	●Percentage of GDP in this sector(%)	4.1	4.1	4.2	**4.13**	7.99	6.22	6.13	**6.78**	3.96	3.23	2.82	**3.34**
	●Average remuneration in this sector/employee/yr('000 US$)	0.58	0.57	0.58	**0.58**	26.7	28	28	27.6	14.5	14.1	12.9	**13.9**
	●Number of labors in this sector('000)	157	150	155	**154**	131	132	125	**129**	463	447	412	**441**
	●Gross capital formation by this sector (US$ billion)	0.03	0.04	0.05	**0.04**	13.3	13.5	12.7	**13.2**	9.24	2.33	1.63	**0.44**
Service Industry	●Percentage of GDP in this sector(%)	33.1	33.6	31.5	**32.7**	61.9	61.9	64.6	**62.8**	65	62	64.7	**63.9**
	●Average remuneration in this sector/employee/yr('000 US$)	0.6	0.63	0.65	**0.63**	20.3	21.8	21.4	**21.2**	16.6	16.1	15.4	**16.1**
	●Number of labors in this sector('000)	632	640	645	**639**	1341	1422	1518	**1427**	5151	5254	5333	**5246**
	●Gross capital formation by this sector (US$ billion)	0.22	0.22	0.23	**0.22**	3.4	1.99	2.93	**2.77**	21.4	17.9	14.2	**17.8**

Table 4.10 The relative importance of the underlying factors of productivity of Cambodia, Singapore and Taiwan

Productivity					
Countries (from 1999 to 2001)	Factor Weight (Relative Importance)				
	Agriculture-Related Trade	Mining	Manufacturing	Construction	Services
Cambodia (Average)	30.00%	14.00%	20.00%	16.00%	20.00%
Academicians' Opinion (Average)	35.00%	9.00%	20.00%	15.00%	21.00%
Business people's Opinion (Average)	26.00%	15.00%	22.00%	17.00%	20.00%
Government Officials' Opinion (Average)	29.00%	16.00%	20.00%	17.00%	18.00%
Singapore (Average)	4.00%	1.00%	35.00%	18.00%	42.00%
Academicians' Opinion (Average)	4.00%	1.00%	36.00%	19.00%	40.00%
Business people's Opinion (Average)	4.00%	2.00%	33.00%	17.00%	44.00%
Government Officials' Opinion (Average)	5.00%	1.00%	36.00%	19.00%	39.00%
Taiwan (Average)	17.00%	16.00%	24.00%	19.00%	24.00%
Academicians' Opinion (Average)	18.00%	16.00%	23.00%	19.00%	24.00%
Business people's Opinion (Average)	16.00%	15.00%	24.00%	20.00%	25.00%
Government Officials' Opinion (Average)	18.00%	12.00%	26.00%	18.00%	26.00%

Table 4.10 shows the relative importance of the underlying sub-categories of productivity in Cambodia, Singapore and Taiwan. In Cambodia, academicians, business people and governmental officials agree that agricultural productivity is the highest, and productivity in the service sector is the second highest.

Singaporean academicians, governmental officials and business people agree that the service and manufacturing industries in Singapore yield the highest productivity.

The opinion from Taiwanese academicians, governmental officials and business people shows the result as those in Singapore that service and manufacturing industries generate higher productivity.

4.6 The relative importance of underlying factors and competitiveness index among Cambodia, Singapore and Taiwan

Table 4.11 indicates the relative importance of underlying factors and competitiveness index among Cambodia, Singapore and Taiwan's national competitiveness respectively. Human resource (24.37%) is the first priority for Cambodia's national competitiveness; therefore, it receives the highest rate. Economic performance (21.66%) is the second most

important factor in this respect, and it receives the second highest rate. Moreover, for Cambodia's national competitiveness, management capability (19.69%) appears to be more important than technology development (17.84%) and productivity (16.41%).

Economic performance (20.89%) and management capability (20.89%) are the key factors for Singapore's national competitiveness, so they obtain the highest rate. Technology development (20.86%) is the second most important factor the competitiveness of Singapore followed by productivity (19.39%) and human resource (17.97%).

Nevertheless, Taiwan's ability to be more efficient in its production is the core competence for Taiwan. Therefore, productivity (22.63%) is the key factor for Taiwan's national competitiveness; as a result, it gets the highest rate. In addition, management capability (20.31%) plays the second most important role in this regard. Technology development (19.49%) tends to be more important than human resource (19.02) and economic performance (18.55%).

In comparison of national competitiveness between Cambodia, Singapore and Taiwan, Singapore performs better than Taiwan and Cambodia in term of economic performance; Table 4.11 indicates that Singapore's economic performance index is 6.7, which is higher than 5.3 of Taiwan and 4.3 of Cambodia. Cambodia performs the worst in this regard.

In the respect of technology development, Singapore performs relative better than Taiwan and Cambodia; the index is 5.1, 4.5 and 3.6 for Singapore, Taiwan and Cambodia respectively. In addition, Singapore manages to have a better performance than Taiwan and Cambodia in term of human resource. Singapore's human resource index is 7.5; 6.1 is Taiwan's human resource index; and 4.8 is Cambodia's. For management capability construct, Singapore has relative better management capability than Taiwan; Cambodia performs the worst in this respect. Singapore's management capability index is 6.2, and Taiwan's index is 6.1, yet Cambodia's management capability index is only 3.7. Taiwan has

remarkably outperforms Singapore and Cambodia in term of productivity; Taiwan's productivity index reaches 8.1 compared to Singapore 5.5 and Cambodia only 3.1.

Overall, Taiwan's national competitiveness is better than Singapore and Cambodia's; Taiwan's national competitiveness index is 5.2, which is higher than Singapore, 5.1 and Cambodia, 3.4. Cambodia has the lowest national competitiveness among the three countries.

Table 4.11: The relative importance of underlying factors and competitiveness index among Cambodia, Singapore and Taiwan.

National Competitiveness (1999 - 2001)		Cambodia					Singapore					Taiwan				
Constructs	Factors	Factor Index	Factor Weight	Construct Index	Construct Weight	Overall Index	Factor Index	Factor Weight	Construct Index	Construct Weight	Overall Index	Factor Index	Factor Weight	Construct Index	Construct Weight	Overall Index
Economic Performance	Domestic Economy	6.1	27.20%	4.6	21.66%	3.4	4.9	25.40%	6.7	20.89%	5.1	5.4	25.70%	5.3	18.55%	5.2
	Government Efficiency	4.4	26.10%				7.2	24.40%				6.2	23.30%			
	International Trade	3.5	26.20%				8.7	26.00%				5.5	26.40%			
	Finance	3.7	20.50%				5.5	26.57%				4.5	24.70%			
Technology Development	Basic Infrastructure	6.5	19.66%	3.6	17.84%		2.5	16.33%	5.1	20.86%		5	13.79%	4.5	19.49%	
	Information Technology	1.6	17.76%				7.2	15.63%				7.5	14.41%			
	Energy Status	5	12.63%				9.9	12.57%				4.2	11.85%			
	Research Development (R&D)		14.57%					14.66%					15.54%			
	Technology Management	4	15.35%				6.7	13.61%				6.3	14.59%			
	Technology Environment	5.4	12.11%				7.3	15.83%				7.3	15.38%			
	Patents and Copyrights		7.92%					11.37%					14.44%			
Human Resource	Manpower Utilization	6.1	29.31%	4.8	24.37%		8.1	31.63%	7.5	17.97%		8.6	27.66%	6.1	19.02%	
	Cost of Wages and Employee Benefits	2.5	24.91%				9.2	29.65%				5.9	27.18%			
	Turnover	4.7	23.10%				4.8	18.90%				4.6	21.87%			
	Labor Disputes or Industrial Disputes and Union Power	5.8	22.56%				6.9	19.82%				5.2	23.29%			
Management Capability	Innovation Capability	4.5	11.89%	3.7	19.69%		7.2	15.38%	6.2	20.89%		7.6	14.75%	6.1	20.31%	
	Financial Capability		15.78%				17.67	15.38%					14.52%			
	Corporate Responsibility	4.3	13.37%				7.4	12.43%				6.8	14.13%			
	Managers' Competence	4.4	14.49%				7.5	14.74%				6.8	14.46%			
	Culture	4.9	18.62%				6.6	10.78%				6.6	13.33%			
	Intra-industrial Integration	5.1	11.04%				7.5	13.52%				7.9	14.05%			
	International Operation	2.8	14.77%				7.6	15.48%				6.4	14.76%			
Productivity	Agriculture-Related Trade	5.9	29.00%	3.1	16.41%		1.4	4.00%	5.5	19.39%		5.6	17.00%	8.1	22.63%	
	Mining Industry	2.1	14.00%				2	1.00%				10	14.00%			
	Manufacturing Industry	2	20.00%				6	33.00%				9.1	24.00%			
	Construction Industry	2.6	16.00%				5.8	17.00%				7.4	19.00%			
	Service Industry	1.6	19.00%				6	42.00%				9.3	24.00%			

Note:
The factor index is deprived from the average of original soft data based on 1-10 point scale and the standardization of hard data to the scale of 1 – 10 points of all the items that constitute each factor.
The construct index is deprived from the summation of each factor index time each factor weight.
The overall index is deprived from the summation of each construct index time each construct weight.

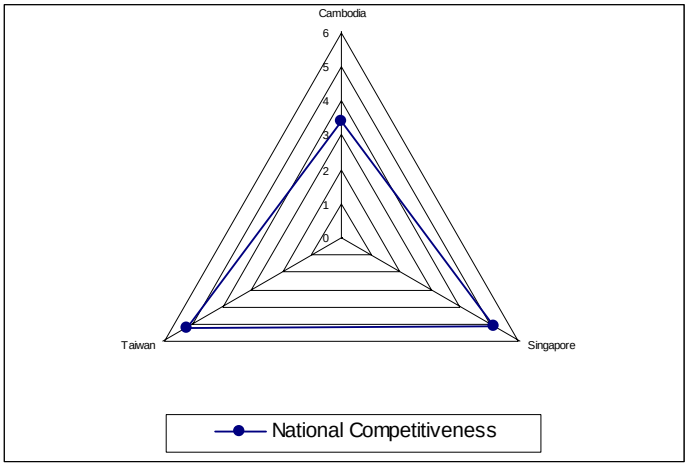
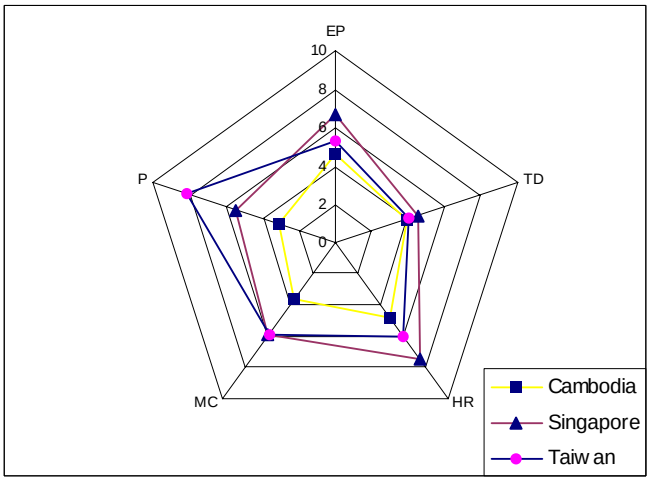
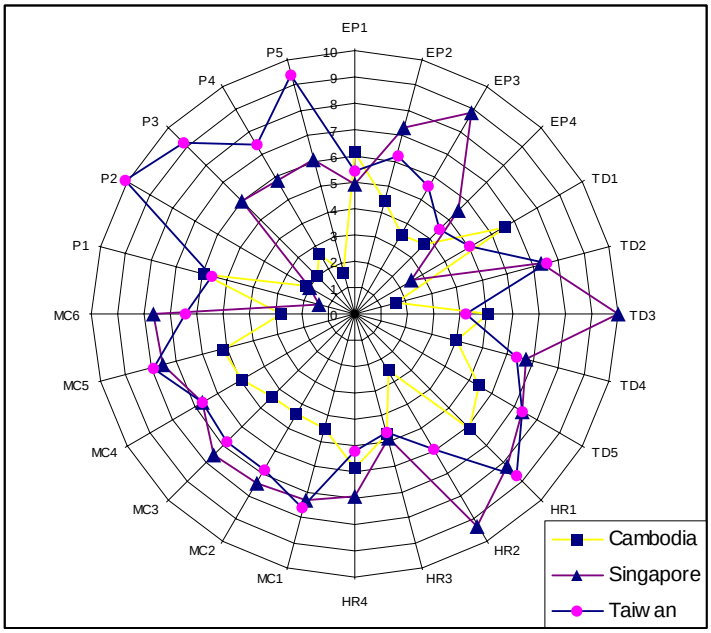


Figure 4.1 The overall national competitiveness between Cambodia, Singapore and Taiwan



Note:
EP: Economic Performance
TD: Technology Development
HR: Human Resource
MC: Management Capability
P: Productivity

Figure 4.2 The national competitiveness constructs between Cambodia, Singapore and Taiwan



Note:
EP: Economic Performance
EP1: Domestic Economic Information
EP2: Government Efficiency
EP3: International Trade
EP4: Finance
TD: Technology Development
TD1: Basic Infrastructure
TD2: Information Technology
TD3: Energy Status
TD4: Technology Management
TD5: Technology Environment
HR: Human Resource
HR1: Manpower Utilization
HR2: Employees' Competitiveness
HR3: Turnover
HR4: Labor Disputes or Industrial Disputes and Union Power
MC: Management Capability
MC1: Innovation Capability
MC2: Corporate Responsibility
MC3: Managers' Competence
MC4: Culture
MC5: Intra-industrial Integration
MC6: International Operation
P: Productivity
P1: Agriculture-related Trade
P2: Mining Industry
P3: Manufacturing Industry
P4: Construction Industry
P5: Service Industries

Figure 4.3 The national competitiveness factors between Cambodia, Singapore and Taiwan

Chapter Five
Discussion

5.1 Discussion

Deprived from this study, the emphasis of Cambodia's national competitiveness is mainly placed on human resource (24.37%), economic performance (21.66%), management capability (19.69%), technology development (17.84%) and productivity (16.41%), and human resource appears to be the prioritized issue for Cambodia's national competitiveness.

Singapore's national competitiveness is mainly generated from management capability (20.89%), economic performance (20.89%), technology development (20.86%), productivity (19.39%) and human resource (17.97%), and economic performance and management capability are the most important factors for Singapore's national competitiveness.

Taiwan's national competitiveness is basically dependent on productivity (22.63%), management capability (20.31%), technology development (19.49%), human resource (19.02%) and economic performance (18.55%), and productivity and management capability have significant contribution in Taiwan's national competitiveness.

Singapore's economic performance has the index of 6.7, which is higher than 5.3 of Taiwan and 4.3 of Cambodia. Cambodia performs the worst in this regard. Likewise, in the respect of technology development, Singapore tends to perform relative better than Taiwan and Cambodia; the index is 5.1, 4.5 and 3.6 for Singapore, Taiwan and Cambodia respectively. In addition, Singapore manages to have a better performance than Taiwan and Cambodia in term of human resource. Singapore's human resource index is 7.5; 6.1 is Taiwan's human resource index; and 4.8 is Cambodia's. For management capability construct, Singapore performs better than Taiwan and Cambodia; Cambodia performs the worst in this respect. Singapore's management capability index is 6.2, and Taiwan's index is 6.1, yet Cambodia's management capability index is only 3.7. Taiwan has remarkably outperforms Singapore and

Cambodia in term of productivity; Taiwan's productivity index reaches 8.1 compared to Singapore 5.5 and Cambodia only 3.1.

The results show that Cambodia performs the worst in its economic performance compared to Singapore and Taiwan, and this is resulted from the failure of Cambodian government to achieve efficiency in its operations. Government's operation is inefficient due to the extent that government employees' know-how and operational technologies are still limited. Moreover, the performance of Cambodia's international trade is still limited and this makes the economy weak; this is because of the social and political instability that makes the investment environment risky and lack of experience and learning curves. Likewise, the finance performance does not exhibit fruitful outcomes either, and it obviously is the bottleneck to economic performance; insufficient sources of income, weak legal system, international debts and government's restriction on financial investment weaken financial performance in Cambodia. In addition, Cambodia's domestic economy is not strong enough to boost the economic performance due to the extent that consumer demand is somewhat low given low income. Concerning government efficiency, international trade and finance, Singapore performs the best and Taiwan comes second, yet Taiwan performs the best in its domestic economy.

In the prospect of technology development, Cambodia has the worst performance among the three countries because the information technology in Cambodia is very weak, and this is because only a small margin of total population has access to computers and Internet. Moreover, the quality of training and education of information technology at various vocational training centers and higher educational institutions remains skeptical. Furthermore, research and development (R&D) is very limited in Cambodia because of lack of human capital and essential fund to conduct research and development, and technology management is incompatible for technology development. The issues of copyrights and intellectual

properties basically slow down technology development in Cambodia. Nevertheless, basic infrastructure and technology environment are compatible for technology development in Cambodia. Singapore performs the best in technology management and environment, yet Taiwan performs the best on research and development.

In the respect of human resource, Cambodia does not perform very well either compared to Singapore and Taiwan. Manpower utilization in Cambodia is still limited due to the extent that 43% of total population is under 15 years old, and to some extent the lack of required skills and education leaves people unemployed. Cambodia performs the worst on the cost of wages and employee benefits because of limited educated workforce and the status of Cambodia as one of the least-developed countries; therefore, wages and employee benefits are very low, yet turnover rate in Cambodia is higher than Taiwan and lower than Singapore. To the extent that people try to find new jobs and opportunities and early termination of investment projects force people to quit their current jobs. Cambodia performs better than Taiwan and worse than Singapore in terms of labor disputes or industrial disputes and union power due to the existing union power and governmental initiation in requiring firms to meet working and labor standards. For human resource, Singapore performs the best in this regard except manpower utilization, which is led by Taiwan.

For management capability, Cambodia is weak in its management capability compared to Singapore and Taiwan. Innovation capability is very limited in Cambodia, and so is corporate responsibility. In Cambodia, the issue of most firms' operation is to generate higher profit, and the issues are not basically about the environmental protection, consumers' health and labor safety; as a result, the level of corporate responsibility in Cambodia is low. Due to the lack of educated workforce, human capital especially poor quality of training and education, and insufficient experience curve, Cambodian managers' competence is very limited. The intra-industrial integration reaches a certain level, yet it is still very low in

Cambodia, and the level of international operation is very low due to the extent that Cambodia lacks of human capital and experience curve to operate internationally. In this regard, Singapore performs better than Taiwan and Cambodia except intra-industrial integration; Taiwan performs the best on intra-industrial integration.

In the regard of productivity, Cambodia performs the best on its agricultural–related trade due to the extent that Cambodia is an agriculture-based country. Due to its rich natural resources, Cambodia performs better than Singapore and worse than Taiwan on its mining industry. Although there is a significant increase of investment in manufacturing industry particularly the garment industry, Cambodia cannot manage to perform better than Singapore and Taiwan due to lacks of essential skills among the workers. In addition, Cambodia performs the worst on construction industry due to the lack of engineers, budget and investment. Likewise, Cambodia has the worst performance on service industry. In the respect of productivity, Taiwan manages to remarkably outperform Singapore and Cambodia.

To sum up, Singapore performs relative better than Taiwan and Cambodia in terms of economic performance, technology development, human resource and management capability. However, Taiwan outperforms Singapore and Cambodia in term of productivity. Overall, Taiwan's national competitiveness is better than Singapore and Cambodia's; Taiwan's national competitiveness index is 5.2, which is higher than Singapore, 5.1 and Cambodia, 3.4. Cambodia has the weakest national competitiveness among the three countries.

In order to improve national competitiveness in Cambodia, economic performance, technology development, human resource, management capability and productivity needs to be addressed and improved.

For economic performance, Cambodia needs to improve its government efficiency, international trade and finance. Government efficiency can be improved through training and empowering of government employees to understand the objectives and goals of the government and to acquire necessary know-how for the operational processes. Due to this

extent, the Cambodian government has worked cooperatively across ministries and departments to offer training workshops to its employees and sending them to attend training workshops abroad. Cambodia's international trade needs to be improved; the government of Cambodia has put a lot of efforts in trying to establish bi- and multi-lateral free trade agreements with other countries and regionally and globally. Being a member of ASEAN and WTO obviously demonstrates these efforts. However, the key issue is to ensure social and political stability in the country. Financial performance in Cambodian needs to be improved as well. Cambodia generates its incomes from four main sources – international aid, exports of textiles, tariff, and tourism. Although international aid is not a sustainable source of income, it plays a very important role, at least at the moment, in funding prioritized development projects such as education, infrastructure etc. Nevertheless, international donors are skeptical about how funds are managed for financing those projects. To this extent, the government should improve the legal system and make sure those funds are used for financing urgent development projects and do not fall in the hand of any particular individual who uses those funds for their personal interests. The main exports are textile products in Cambodia. Cambodia cannot mainly be dependent on the export of textile products alone; the government should find other alternative products to export in order to boost the export volumes and income. Tourism industry is very good industry for investment in Cambodia at the moment. Cambodia is the home to the Great Angkor Wat Temple, which is the hot spot for tourist attraction in the country. Nevertheless, there are other places and activities for tourists to visit and do in Cambodia, and the government should put more efforts in developing more tourist attractions and creational activities in the countries such regional and international events to attract more tourists. At the meantime, security needs to be assured and this is surely the job of the Cambodian government.

For technology development, imported second-hand computers become very cheap and affordable, this trend has offered many Cambodian people access to the computers and

Internet. However, training people to become adequate of information technology is still a challenging issue. Cambodia lacks a great of technological know-how, so it is difficult to use local knowledge to train people in the respect of technology management. The Cambodian government should try to address this issue by putting the emphasis on the quality of training and education of information technology. At the same time, the government of Cambodia should invite more technical assistance from its donors to empower and train Cambodians to develop, improve and manage technological know-how. Another issue that needs to be addressed is copyrights and intellectual properties. The Cambodian government should try to apply and enforce the laws and regulations imposed on copyrights and intellectual properties.

For human resource in Cambodia, a basic constraint to development in Cambodia is the low level of education, particularly basic education, and high rates of adult illiteracy in rural areas. Although there have been important improvements in recent years, the efficiency of basic education remains low. Cambodia needs to accelerate its human sector by placing the emphasis on the quality of training and education. To ensure the quality, having sufficient qualified trainers and educators and appropriate incentive and compensation for trainers and educators is the key issue. To this extent, the royal government of Cambodia should have an urgent engineering of the compensation system for teachers, trainers and educators. In addition, having more Cambodian students educated in developed counties such as the United States of America, European countries, Japan etc. in the fields of technology and management serves as another alternative for the development of human resource. In this respect, it is the Cambodian government's task to maintain and establish strong tie with those developed nations. The government of Cambodia should encourage local and international firms to put more efforts on training and development of Cambodian employees and managers. Human resource is critically important since Cambodia has become the member of the World Trade Organization; this indicates that Cambodia is going to compete in global arena. By applying its locally limited knowledge to compete globally, it is not efficient and effective for its

competitiveness. Thus, having more people educated abroad is crucially helpful. Due to the extent that Cambodia is a resource-based economy, it is vital for Cambodia to be able to manage its resources efficiently and effectively.

To boost its economy, Cambodia needs to have better management capability of its resources, which is mainly generated from human resource sector. Provided that human resource is progressing, it is like that management capability can be better off. However, management schools in Cambodia need to design appropriate curriculums and assure quality in order to help cultivate future competent managers today, and management schools in Cambodia should be able to offer courses that help students focus on global and regional issues alike. Furthermore, inviting foreign experts and consultants to empower and train the current Cambodian managers to be more innovative and competitive can be helpful in this respect. Another alternative is to benchmark the best practices concerning the issues of management theories from other countries and implement them in Cambodian context.

To be productive and efficient is not an easy task to be addressed overnight, yet best practices concerning issues and especially technological know-how of operational and manufacturing processes can be benchmarked from other countries. Alternatively, business schools in Cambodia should be able to develop courses that provide students knowledge and skills regarding operational and manufacturing processes.

Its export-led economy, which is mainly dependent on its electronic and IT products, has put Singapore in a vulnerable position; for instance, the slow down of technology industry in 2001 demonstrated such a pattern of economy. Since Singapore's national competitiveness is based on its management capability, upgrading its human resource and capacity building are quite important in the long run. Singapore should not depend heavily on the export of its technological products; it should seek for other alternatives for its economic growth. For example, Singapore has a strong financial sector; this is likely the other eminent enhancement

of its economic competitiveness. Alternatively, Singapore can also market its services to other Southeast Asian countries given the regional prosperity〔5〕.

Singapore has taken the investment-driven strategy of economic development to an extraordinary level of prosperity. However, the limits of the investment-driven strategy are becoming apparent. For instance, wages in Singapore are already higher than other locations competing for investment-driven activities; labor force participation is near its upper limit; capital/labor ratios are at or near U.S. levels; moreover, China is fundamentally altering patterns of FDI, and the competitive landscape and progress in growing and globalizing indigenous companies is slow. Singapore encounters some enduring and emerging microeconomic weaknesses; consequently, it is vital to improve the efficiency of domestic industries, strengthen domestic competition and anti-trust policy, improve the capabilities of the education system and create an explicit strategy to mobilize older and underemployed citizens. In Singapore, government ownership is still high despite recent partial privatizations. Government ownership places constraints on company strategy, and limits competition in the affected sectors. In addition, outward investments by government-linked companies are viewed with suspicion in many countries and are likely to be politicized. Government guidance in the form of financial incentives and approval requirements draws management to focus more on the government than on the market. Government's role must shift to improving the business environment and less involvement in the competitive process. Furthermore, making the transition to an innovation-driven economy is quite crucial, and the challenges are to upgrade Singapore's scientific, technological and knowledge creation capacity and to create advanced demand conditions. Singapore's economic growth and prosperity can be greatly enhanced by healthy neighboring economies. Singapore will inevitably suffer if it is amid countries that are not prospering and its productivity can be enhanced by regional coordination〔23〕.

Based on its capitalism and investment-based model, Taiwan's national competitiveness is tied to its ability to be very productive and efficient. Nevertheless, Taiwan should not undermine its economic performance. Taiwan also needs to focus on its economic performance because of the global economic downturn, and strong economic tie with China is critically important for its economic model. It is also the confirmation of Porter's speech about Taiwan's economic model when he came to Taiwan in 2001. Porter stresses that Taiwan needs to shift from its investment-based model to innovation-based one, and that Taiwan should not focus on its technology industry alone. Nonetheless, the continuity of being productive is absolutely important for Taiwan's economic competitiveness. Interestingly, should Taiwan manage to obtain its national identity, it is good for Taiwan's long-term national competitiveness. Taiwanese culture of entrepreneurship, risk-taking in line with its management capability and a large pool of vibrant human resource, Taiwan's national competitiveness is very solid.

Nevertheless, Taiwan needs to address some chronic weaknesses. Improving physical infrastructure, upgrade domestic financial markets, increasing transparency, openness and legal accountability and boosting the efficiency of domestic industries are critically important for Taiwan's national competitiveness. In addition, there is an immediate need for Taiwan to make transition to a true innovation-driven economy. The emphasis needs to be placed on transforming company strategies, upgrading Taiwan's scientific and technological capacity, Upgrading the quality of human capital, creating advanced demand conditions, encouraging private sector-led cluster development, widening the base of cluster in the economy and shifting the role of government. Roles of the government should be to establish a stable and predictable macroeconomic, political, and legal environment, to improve the availability, quality, and efficiency of general purpose inputs, infrastructure, and institutions, to set overall rules and incentives governing competition that encourage productivity growth, to facilitate cluster development and upgrading, and to create an explicit, ongoing process of economic

change and competitive upgrading which informs citizens and mobilizes the private sector, government at all levels, educational and other institutions, and civil society.

Finally, the economic relationship with China will inevitably be important due to the extent that Taiwan and China have common language, strong historical ties, strong personal ties through family relationships and migration and substantial economic presence of Taiwanese companies in China. Taiwan's goal should be to create a mutually beneficial relationship that supports Taiwan's higher standard of living. Furthermore, for the foreseeable future, Taiwan should offer a better R&D infrastructure and more conducive environment for innovation than China, so Taiwan can play this role combined with manufacturing activities located on the mainland and provide a competitive advantage to the region. Taiwan can develop its professional services for China's export industries. In terms of education, Taiwan can improve its management education capabilities to educate the business leaders of the region; Taiwan can build on its science and technology base to become the center of science education in the region.〔22〕.

5.2 Problems Beyond National Competitiveness of Cambodia, Singapore and Taiwan

Poverty – poverty, social and political instability and various black-market activities basically undermine Cambodian's national competitiveness and wellbeing. Cambodia ranks 121st out of 162 countries in the 2001 Human Development Report. Approximately 36% of Cambodia's population falls below the poverty line. The rural population has substantially lower social indicators than the urban population and poverty is widely distributed through out the country. Given that over 75% of Cambodians depend on agriculture for livelihood and that more than 90% of the poor live in rural households, measures to strengthen the rural economy are critical in this regard. This will require significant investment in rural infrastructure, such as irrigation systems and rural roads, and agricultural support services to enhance urban-rural linkages and improve agricultural productivity. Strengthening

agricultural institutions and removing inefficiencies in the agricultural market are vital; for instance, women bear much of the burden of work in rural Cambodia and yet they often do not benefit fully from their labor. Consequently, achieving an improvement in the rights of rural women, including guarantees of their legal rights to land, productive inputs and credit need to be addressed.

The country's forests, lakes and rivers are the direct source of livelihoods for millions of Cambodians. However, Cambodia's natural resource base is under increasing pressure due to high population growth and weak environmental stewardship. Key environmental problems such as flooding, deforestation, and increasing levels of water pollution need to be immediately addressed. Given this matter, promotion of public-private partnerships and community participation in environmental management to enhance the sustainable use of natural resources are essential〔2〕.

Social and political instability – Social and political instability causes Cambodia a tremendous price. Sequent civil wars in the past two decades took lives of most educated workforce together with social disorders scared the investors away from the country.

Corruption -- corruption imposes lots of costs on business. Cambodia is a society that seems to accept standards of financial practice that would be unacceptable to the majority of other societies. In Cambodia, the practice of paying bribes is so common and obvious that people will discuss it, almost with an implicit acceptance that this is how Khmer society is. In 1998, the Center for Social Development (CSD) conducted the first ever National Survey on Public Attitudes Towards Corruption, and asked adults from 22 different occupations, ranging from Members of Parliament and the Council of Ministers to farmers and fishermen, what they perceived corruption and how it might be stopped. According to the Corruption Survey, although 84% of the 1,513 people agreed that corruption is the norm in Cambodia, and the great majority of 91% believed that it had harmed the nation, and 98% wished it to be stopped as soon as possible. Generally, the younger generation showed a significant lack of

comprehension and concern for corruption. The teenagers' perception is that they give lower priority to fighting high-profile corruption and have less conviction that corruption hurts the national economy or reduces people's confidence in government. This is not a good trend at all since teenagers constitute 43 percent of the population in Cambodia. In contrast, civil servants have a tendency to a better understanding of corruption's consequences; however, they are much more accepting of everyday corruption. For instance, government employees are much more likely to think that corruption 'greases the wheel' and that most businesses pay bribes〔32〕.

Drug -- drug issue has been a major obstacle to social development and well being in Cambodian society. Teenagers become the victims in this respect. Hundreds of kilograms of heroin pass through Cambodia every year from Burma via Laos, and the quantity has been increasing. According to an internal Cambodian police report, local production of methamphetamines is now also taking place in western Cambodia, near the Thai border, and in the capital Phnom Penh itself. Stockpiles are stored in a string of newly opened casinos in the border towns of Poipet and Koh Kong, the report says, and, according to the UNDCP, the casinos are also used to launder drug money, this charge has also been supported by reports from the U.S. State Department. Methamphetamine is increasingly used by young people and those working in labor-intensive industries. Furthermore, the steady fall in the street price of methamphetamine in Cambodia to around US$1.00 per tablet is a further indication that substantial quantities of the drug are penetrating a market that is unaware of its dangerous consequences. Linked to the increasing occurrence of drug abuse in Cambodia is the danger of an increase in transmission of HIV/AIDS through intravenous drug use (IDU) and in particular through unsafe sexual practices whilst under the influence of illicit drugs〔29〕.

Women and Children Trafficking -- in Cambodia, women, men and children are trafficked for sexual exploitation or forced labor. Often Cambodians who cross over into Thailand, frequently as illegal migrants, and are forced into labor or prostitution. Cambodian

children are trafficked into Thailand and forced to work as street beggars, and Vietnamese women and girls are trafficked into Cambodia for prostitution, as are Cambodian women and girls internally. Poipet, located in western Cambodia close to the Cambodia-Thailand border, is a hot spot for trafficking incidences. In addition, Phnom Penh is an attraction for young women and girls from the provinces. The long years of war and chaos in Cambodia destroyed many of the traditional networks of family and communities that used to take care of orphaned children or those in abusive situations. With nowhere else to turn, many girls flee to Phnom Penh in hope of a better life. When they arrive in bus and taxi stations, would-be traffickers prey on them〔12〕.

Intellectual Properties and Copyrights -- the 1992 Land Law provides a framework for real property security and a system for recording titles and ownership, but its effectiveness is limited because the majority of property owners have no documentation to prove their ownership. As for intellectual property rights, protection is based on articles contained in the 1992 United Nation Transitional Authority of Cambodia (UNTAC) Criminal Code. Cambodia acceded to the Paris Convention in 1998 and it is making progress on legislation and it has drafted trademark, copyright and patent laws. With no trademark law enforced in Cambodia, owners of trademarks are unable to seek relief in court. Until the law is passed, complaints go to the Ministry of Commerce, which has responsibility for registering trademarks, but does not have clear legal authority to conduct enforcement activities〔33〕.

Responsibility for copyrights is split between the Ministry of Culture (phonograms, CDs, and other recordings) and the Ministry of Information (printed materials). The Ministry of Culture prepared a draft copyright law in 1998, which is under review. Since Cambodia has a very small industrial base, and infringement on patents and industrial designs is not yet commercially significant, the Ministry of Industry has prepared a draft of a comprehensive law on the protection of patents and industrial designs〔33〕.

Cambodia's legal system does not protect private property effectively. Cambodia's court system is weak. Judges, who have been trained either for a short period in Cambodia or under other systems of law, have little access to the published Cambodian law. Judges are inexperienced and courts are understaffed. The local and foreign business communities have reported frequent problems with inconsistent judicial rulings as well as outright corruption〔33〕.

Underground Businesses -- the one-kilometer long gambling strip in Poipet with its well-watered and immaculately manicured lawns, luxury hotels, air-conditioned shopping centers, massage parlors and brothels, has seven casinos, with an eighth under construction. This is in sharp contrast to the squalor outside the casino gates, with heaps of uncollected garbage along the dirt road and the numerous shanties all over.

The opening of the country since 1992, with international observers, UN soldiers, managers and consultants, brought new problems to the country. Consumer desires were aroused which few were able to satisfy given their persistent poverty. Prostitution has been largely increased and with it the rate of HIV-infection. According to realistic assessments, Phnom Penh alone has 15 000 prostitutes, one-third of them have been brought in from China and Vietnam. A third are below the age of 18 and half are HIV-positive〔26〕.

Together with prostitution there has also been an increase of trafficking in humans, although the abduction of children for prostitution in Cambodia can be punished with prison sentences of up to 20 years. Cases are increasingly frequent in which poor families sell their daughters to people promising to provide them with good jobs in the city. But this is rarely done due to a lack of scruples, but rather out of ignorance and necessity.

Illegal Imports of Expired Products -- some foreign companies have dumped their expired products in Cambodian markets. Due to the consumers' unawareness of expired products and to the extent that they can pay bribes to shut up the officials, local importers are

motivated to import expired products with the offer of attractive price from those foreign companies. The products usually include pesticides, cigarettes, soft drink, and medicines, etc.

Illegal Fishing and Lodging -- Cambodia is also an exporter of fish, both fresh and salty water fish. The Great Lake, locally known as Ton Le Sab, provides a rich resource of fish. However, illegal fishing has a huge impact on fish productivity.

Although much of Cambodia's black market activity occurs in labor and pirated intellectual property, illegal logging is widespread despite some attempt to crack down on the problem; according to the Economist Intelligence Unit (1998), 'officially, the contribution of forestry to GDP was 2.7% in 1998, but this is almost certainly an underestimate because of widespread illegal logging.' Smuggling continues to be extensive, particularly over the Thai border〔33〕.

Sweatshops -- factory conditions in Cambodia are being scrutinized. Press reports tell of managers beating workers and denying them toilet breaks. For instance, employees at a garment factory in Takhmau district north of Phnom Penh complained of receiving electric shocks from their sewing machines but were ordered to keep working. These garment factory workers work more hours yet earn very little. Child labor also takes place in some factories 〔3, 27〕.

The Impact of Black Economy on National Competitiveness -- poverty, together with an implicit culture of corruption, have forced a significant number of Cambodians to do virtually anything just to survive in this dark reality and the pressure of black economy. In other words, they have now become parts and affected by black economy.

Likewise, the black economy does have a remarkable impact on national competitiveness in a number of ways. First of all, there are investment opportunities such as investing in natural resources, agricultural cultivation, and other services like hotels, resorts, restaurants etc. The Royal Government of Cambodia has regulated and offered incentives to investors to invest in other areas so that jobs can be created. However, it can be argued that

because of red tape and corruption in general, it appears to be expensive to conduct businesses in the country in real terms although cheap labor is available.

There are debates concerning the accession of Cambodia into the WTO working framework that foreign companies will take this opportunity to penetrate Cambodian markets given that they do not have to pay for import tariffs and other incentives offered by the Royal Government of Cambodia (RGC). The main concern is that the implicit culture of corruption will cost foreign companies a tremendous price; as a result, foreign firms may feel reluctant to penetrate Cambodian markets although they do not have to pay import tariffs, yet they are confronted by import red tapes.

Intellectual properties and copyrights are also the key issues for black economy, and these are the weaknesses of Cambodia's national competitiveness. Foreign companies incur a great amount of cost due to the violation of intellectual properties and copyrights in the country.

Drug and women and children trafficking are the obvious factor that undermines Cambodia's competitiveness in terms of manpower utilization and social welfare in the long run. Children are the bamboo shoots of a society; however, children in Cambodia, overwhelmed by poverty, do not have proper access to education let alone the quality of teachers. Teenagers are addicted to drugs and commit crime. At the meantime, Cambodian young women are being attracted, pushed and pulled into sex industry by poverty.

Though Cambodian young women are facing with sweatshops, they are happy to be working in the garment factories rather than the brothels. In this respect, sweatshops are better off for Cambodian ladies whose families live under poverty line, and it helps create thousands of jobs for them.

Deforestation, result from illegal lodging in recent decades, has caused Cambodian agriculture a tremendous price and that is flood. 80 per cent of Cambodians is farmers who basically survive through substantial cultivation, and most of them, who live in flooded areas,

have suffered a great deal from flood since they cannot plant. In some provincial areas throughout Cambodia are very difficult to cultivate in dry season because of the hot weather. To sum up, deforestation makes farmers suffer and decreases agricultural productivity. Furthermore, provided that Cambodia farmers use imported pesticides, the agricultural productivity is not much different. The kind of productivity generated from applying imported and/or expired pesticides is offset by the extent that pesticides erode the soil and damage farmers' health, and it may gradually destroy the essential ecosystem.

One of black economic activities, transnational gambling is perceived by the Royal Government of Cambodia (RGC) to be an engine and a temporary alternative for economic growth to the extent that it creates more jobs and generates capital inflow.

In short, although black economy is not a desired alternative for economic growth, many countries, not only Cambodia, have been engaged in black economy for their economic growth. Black economy is temporary time of economic development. In particular, because of poverty and an implicit culture of corruption, Cambodians and their government, to some extent, tend to failure to hold back the black economy.

In Singapore, underground economy primarily takes place in the form of mis-reporting the income statements (businesses or individuals understate their actual income in order to void tax, and have been operating) and underground loan-shark businesses. In some cases, statistical underground (omissions due to deficiencies in data collection) occurs. Furthermore, illegal productive activities (e.g. illegal drug related activities, unlicensed practice of professional services (e.g. medicine) and illegal prostitution exist in Singapore also. Smuggling and black market activity in pirated intellectual property happen in Singapore as well. More interestingly, Singapore's economic linkage with Burma is one of the most vital factors for the survival of Burma's military regime; both the Burmese generals and drug lords

have been able to take advantage of Singapore's liberal banking laws and money laundering opportunities〔15, 17〕.

Organized crime's (gambling, prostitution, drug-trafficking and human-smuggling, construction contracts and politics) involvement in politics is an endemic problem that is steadily eroding society Taiwan. Over 60 percent of Taiwan's 43 crime organizations have publicly elected officials (source: Chen Tong-shen, National Taiwan University sociology professor). Precisely, those organized crimes so called black gold pose a threat to competitive efforts in Taiwan. For instance, gangsters and their relatives successfully carried out the strong-arm blackmail tactics; this included threatening the government over bidding on public construction projects, thereby illegally winning contracts, and by running for office themselves to extend their political influence. This evidence indicates that Taiwan's business environment is controlled by those officials who have strong tie with organized crimes, and this basically jeopardizes fair competition. Obviously, corruption has been taking place in Taiwan. Today in Taiwan, the judiciary's biggest problems are corruption associated with `black gold' (that is, organized crime), slow decision making and lack of training to handle complex commercial or technological cases〔5, 16〕.

Chapter Six
Conclusions

6.1 Management Implications

This study employs the proposed Star Model, which has 5 constructs (economic performance, technology development, human resource, management capability, and productivity), 27 factors and 132 items, drawn from thorough literature review of national competitiveness issues to assess and conduct a comparative assessment of national competitiveness of Cambodia, Singapore and Taiwan.

Contrasting with Porter's diamond model (the model which assesses the national competitiveness based on factor conditions, demand condition, related and supporting industries, and firm strategy, structure, and rivalry) and those developed by World Economic Forum (WEF) and Management Institute of Development (MID) for assessing and ranking countries' national competitiveness, the Star Model is yet to serve as another breakthrough model for the assessment a country's national competitiveness. In addition, the Star Model can be employed to conduct comparative assessment between countries' national competitiveness of both developed and developing nations. The Star Model is also able to differentiate the relative importance of factors that constitute the overall national competitiveness of each country. In other words, by applying the Star Model, it is feasible to determine on what ground a country's national competitiveness is based on.

More importantly, the Star Model offers a thorough and reliable assessment of national competitiveness in both developed and developing countries since it technically combines the quantitative and qualitative data to conduct such an assessment. As a result, academicians, business people, and governmental officials can apply the Star Model should they want to learn about their and other countries' national competitiveness. Based on these points, this study is different from the previous studies.

In addition, this study provides meaningful implication for researchers, academicians and practitioners to understand the current status of national competitiveness of Cambodia, Singapore and Taiwan. The results are also useful for the references for government officers to develop relevant policies for the development of national competitiveness and for local and foreign investors as well as businessmen to locate investment projects in these three countries.

The results show that Taiwan's national competitiveness is better than Singapore and Cambodia's; Taiwan's national competitiveness index is 5.2, which is higher than Singapore, 5.1 and Cambodia, 3.4. Cambodia has the lowest national competitiveness among the three countries. Therefore, Cambodia needs to put more efforts to improve its economic performance, technology development, human resource, management capability, and productivity. Singapore and especially Cambodia needs to learn how to be productive and efficient and should strive to have similar culture like Taiwan in the context of national competitiveness. It can be argued that being entrepreneurial and innovative is the core competence in today every changing market place. Singapore and Taiwan should help Cambodia develop its human resource, and Cambodia should be granted access to managerial and technological know-how of Singapore and Taiwan. More direct investments from Singapore and Taiwan in Cambodia are highly appreciated.

Investment opportunities in Cambodia currently exist in industries such as commercial agriculture and agro-processing, tourism, garments and other light manufacturing, infrastructure development (with loans and other resources) and services such as education (technical skills) and health care. Up to this point, the inflow of FDI in agriculture is marginal compared with that in the other sectors, only 5% of the total. Agriculture, forestry and fisheries contribute about 43% of GDP and provide direct employment to nearly 80% of the labor force and since 85% of the population lives in rural communities and 75% of the poor are farmers, the performance of the agriculture sector remains critical for achieving sustained

growth, poverty reduction and rural development, agricultural development has substantial potential for more FDI.

Cambodia has a considerable advantage in tourism development provided its location in South-East Asia, where tourism is booming. Moreover, it has a unique historical heritage and an unpolluted natural setting. The Angkor Temple complex is one of the most significant heritage sites in the world and can be developed further as an international tourist destination. However, the government of Cambodia are putting more efforts to develop new tourist sites; for instance, other than the Angkor Temple complex, the rural landscape is also an important attraction, particularly the Mekong River, the Tonle Sap Lake and the beaches in Sihanoukville and Kompot provinces. Phnom Penh, with its French-influenced atmosphere, has its own charm, which can be enhanced by renovating buildings and streets. Recent decisions by the government, with the support of airlines and tourism-related businesses, have created economic incentives for local and foreign investors to build hotels, establish tour and travel agencies, open a variety of restaurants, and bring modern transport to Cambodia. The open-skies policy has encouraged regional airlines to fly directly to Siem Reap and allowed the magnificent temples of Angkor Wat to become accessible to a much broader range of tourists.

Thus far, the single most important exporting industry has been ready-made garments. With the accession of Cambodia to the WTO, the forthcoming end of the Multifibre Arrangement (MFA) at the end of 2004 will not necessarily hurt the industry, as its long experience and low wages can keep it competitive. Infrastructure and construction are very promising business opportunities in Cambodia after decades of war and political strife.

In order to attract more investments, incentives are granted by the government of Cambodia in the following fields: agriculture and agro-processing industries; environmental protection; export-oriented industries; industries that create substantial employment; investments in special promotion zones (SPZs); physical infrastructure and energy; pioneer

and/or high-technology industries; provincial and rural development; tourism and related industries. Furthermore, the government of Cambodia should improve the legislative process, developing a legal framework for the private sector, meeting private-sector needs for the arbitration of commercial disputes, and enhancing the integrity of the judiciary; improve revenue collection by strengthening the Tax and Customs Departments, undertaking a comprehensive reform of investment incentives and ensuring the integrity of the budgetary process; enhance productivity and motivation, reinforcing transparency and participation, and ensure a close link between administrative and financial decentralization, and developing human resources at the sub-national level; and set ethical standards, enacting special anti-corruption legislation, enforcing the sub-decree on public procurement and strengthening enforcement and scrutiny. The Government recognizes that without credible action in these areas, the basic virtues of good governance will not take hold in Cambodia. Much has been achieved but much still remains to be done.

6.2 Future Directions and Limitations

This study uses the hard data from 1999 to 2001, so the national competitiveness of Cambodia, Singapore and Taiwan, to this extent, may not be analyzed to the utmost accuracy. One future direction is to conduct similar study by using the latest data available. To this end, it is recommended that the Star Model be employed to assess national competitiveness of all countries around the world -- developed, developing and least developing nations. The Star Model analyzes competitiveness from the national level, yet maybe it could be applied to measure competitiveness among cities or territories in a particular nation and from the firm's level; consequently, the future research in this respect is also suggested. Some limitations exist in this study; for instance, the hard data used in this study are from 1999 to 2001, which are not up-to-date. The respondents of our survey may not have solid knowledge concerning the actual situations in the other countries, and this may cause the bias in their judgment.

References:

[1] Aiginger, K. (1998). A framework for evaluating the dynamic competitiveness of countries. *Structural Change and Economic Dynamics*, 9,159 – 88.

[2] Asian Development Bank (2002). Poverty Reduction Partnership Agreement. Retrieved Apr 25,2004, from the World Wide Web: http://www.adb.org/Documents/Poverty/pa_cam.pdf

[3] Balko, R. Backgrounders: Sweatshops and Globalization. Retrieved Jan 1,2004, from the World Wide Web:http://www.aworldconnected.org/article.php/525.html

[4] Bellak C., & Weiss A. (1993). The Austrian Diamond. *Management International Review*, *Special Issue, 2,*109-18.

[5] Bertil L. (2004). A Black Force in Taiwan. *Far Eastern Economic Review.* Retrieved May 30,2004, from the World Wide Web: http:// www.asiapacificms.com/articles/taiwan_black_force

[6] Central Intelligence Agency (2003). The World Fact Book. Retrieved Dec18, 2003, from the World Wide Web: http://www.cia.gov/cia/publications/factbook/index.html

[7] Dasgupta, P. (1993). An inquiry into well-being and destitution. New York, NY: Oxford University Press.

[8] Dunning, J. H. (1990). Dunning on Porter, Paper to the Annual Meetings of the Academy of International Business. Toronto. Mimeo.

[9] Ulengin, F., Ulengin, B., & Onsel, S. (2002). A power-based measurement approach to specify macroeconomic competitiveness of countries. *Socio-Economic Planning Sciences, 36,* 203 – 226.

[10] Grant, R.M. 1991. The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review, 33*, 3, 114-135

[11] Gustavsson, P., Hanson P., & Lundberg L. (1999). Technology, resource endowments and international competitiveness. *European Economic Review, 43,* 1501 – 30.

[12] Human Rights Task Force on Cambodia (2001) Cambodia: Prostitution and Sex Trafficking: A Growing Threat to the Human Rights of Women and Children in Cambodia Asian Human rights Commission. Retrieved Jan 1,2004, from the World Wide Web: http://www.ahrchk.net/hrsolid/mainfile.php/1996vol06no04/219/

[13] IMD (2000). World competitiveness yearbook. International Institute of Management Development, Lausanne.

[14] Lall, S. (2001). Competitive indices and developing countries: An economic evaluation and world of the global competitiveness report. *World Development, 29,* 9,1501 – 1525.

[15] Leslie, K., & Dennis, B. (1998). The Burma-Singapore axis: Globalizing the heroin trade. *Covertaction Quarterly*. Retrieved May 30,2004, from the World Wide Web: http://www.bigbiz.com/~coban/Drug-Connections/burma-singapore.html

[16] Lin, C. (1999). Former justice minister decries `black gold' ways. Taipie Times. Retrieved May 30,2004, from the World Wide Web: http://www. taipeitimes.com/chnews/1999/12/22/story/0000016093

[17] Lydia, L. L. S., & Neo, P. C. (2004). Measuring the non-observed economy, presented at the OECD/UNESCAP/ADB workshop on assessing and improving statistical quality at Bangkok, Thailand. (May 11-14, 2004). Retrieved May 30,2004, from the World Wide Web: http://www.unescap.org/stat/meet/wnoe/waisq_singapore.pdf

[18] Moon, H.C., Rugman, A.A., & Verbeke, A. (1995). The generalized double diamond approach to international competitiveness. In A. Rugman, J. Van Den Broeck & A. Verbeke (Eds.), Research in global strategic management: Beyond the diamond. *Greenwich, CT: JAI Press,* 5, 97–114.

[19] Narula, R. (1993). Technology, international business and Porter's 'diamond': synthesizing a dynamic competitive development model [special issue]. *Management International Review, 2,* 33, 85 – 107.

[20] Porter, M. E. (1990). The competitive advantage of nations. New York: Free Press.

[21] Porter, M. E., Sachs, J.D., Warner, A.M., Cornelius, P. K., Levinson, Mr., & Schwab, K. (Eds.). (2000). The global competitiveness report New York: Oxford University Press for World Economic Forum.

[22] Porter, M. E. (2001). The Competitive advantage of Taiwan. Taipei: Commonwealth Speech

[23] Porter, M. E. (2002). Singapore Competitiveness. Singapore: IIR Leading Minds Conference

[24] Rugman, A.A., & Verbeke, A. (1993). Foreign subsidiaries and multinational strategic management: An extension and correction of Porter's single Diamond Framework. *Management International Review, Special Issue,* 2, 71 – 84.

[25] Scott, B.R, & Lodge G.C. (eds). (1985). US Competitiveness in the World Economy. Boston: Harvard Business School Press.

[26] Sophirom, K. (2003). It's gambling time again, but locals still in poverty. Retrieved Jan 1,2004, from the World Wide Web: http://www.ipsnews.net/mekong/stories/gambling.html

[27] Spaeth, A. (2000). Hell no, we won't sew: Globalization be damned. In sweatshops across Asia, workers demand better pay and conditions. *Time Asia*,156 (1). Retrieved Jan 1,2004, from the World Wide Web: http://www.time.com/time/asia/magazine/2000/0710/cambodia.sweatshops.html

[28] Spence, A.M., & Hazard, H.A. 1998. International Competitiveness. Ballinger, Cambridge, MA.

[29] United Nations Office on Drugs and Crime (UNODC), Summary report on 2002 illicit drug situation in Cambodia (AD/CMB/01/F14)

[30] United Nations and International Charmber of Commerce (2003). An investment guide to Cambodia: Opportunities and conditions. Retrieved Apr 24,2004, from the World Wide Web: http://www.embassy.org/cambodia/invest/investmentguide.pdf

[31] Van den Bosch F., & Van Prooijen A.A. (1992). The competitive advantage of European nations: the impact of national culture — a missing element in Porter's analysis? *Eurpean Management Journal,10,* 2, 173–7.

[32] Vannath C. (1999). Anti-corruption activities: Case of Cambodia (working with reform willing government), presented at the formal annual TI general membership meeting at Durban, South Africa.(Oct 8,1999). Retrieved Jan 1,2004, from the World Wide Web: http://www.transparency.org/iacc/9th_iacc/papers/day2/ws9/dnld/d2ws9_cvannath.pdf

[33] 2003 Index of Economic Freedom (Chapter 6: page 127 – 128). Retrieved Jan 1,2004, from the World Wide Web: http://cf.heritage.org/index2004test/country2.cfm?id=Cambodia

[34] http://www.adb.org/Cambodia/default.asp

[35] http://www.cambodiainvestment.gov.kh

[36] http://www.cdc-crdb.gov.kh

[37] http://www.cia.gov

[38] http://www.gov.sg

[39] http://www.gov.tw

[40] http://www.imf.org/external/country/KHM/index.htm

[41] http://www.moc.gov.kh

[42] http://www.moea.gov.tw

[43] http://www.moeys.gov.kh

[44] http://www.mef.gov.kh

[45] http://www.nis.gov.kh

[46] http://www.singstat.gov.sg

[47] http://www.un.org.kh/undp/index.html

[48] http://www.unescap.org

[49] http://www.unesco.org

[50] http://www.unpan.org/asia.asp

[51] http://www.worldbank.org/kh

Appendices

(Questionnaires for Data Collection and Surveys)

Economic Performance
Cambodia, Singapore and Taiwan (Year 1999)

The following data of your country are required for further analysis on economic performance of the Southeast Asian countries. Please kindly provide us the data, the abbreviated source(s) of each datum, and the complete reference. You may insert footnotes for due explanations.

A. Key Economic Information
   1. The gross domestic product (GDP) is ____ in US$ billions.
   2. The growth rate of GDP is ____%.
   3. The unemployment rate is ____ %
   4. The GDP per capita is ____ in US$.
   5. The growth rate of GDP per capita is ____.
   6. The gross capital formation as a percentage of GDP is ____ %.
   7. The gross domestic savings as a percentage of GDP is ____%.
   8. The growth of agricultural production is ____%.
   9. The growth of industrial production is ____%.
   10. The growth of service production is ____%.

B. Government Efficiency
   1. The government revenue as a percentage of GDP is ____%.
   2. The government expenditure as a percentage of GDP is ____%.
   3. The government fiscal balance as a percentage of GDP is ____%.

C. Trade Account Balance
   1. The exports of goods and services is ____ in US$ millions.
   2. The imports of goods and services is ____ in US$ millions.
   3. The growth of exports of goods and services is _____%.
   4. The growth of imports of goods and services is _____%.
   5. The balance of trade is ____ in US$ millions.
   6. The current account balance is ____ in US$ millions.
   7. The balance of trade/GDP is ____%.
   8. The degree of openness = (exports + imports)/GDP is _____%.

D. Finance
   1. The rate of inflation (in terms of implicit GDP deflator) is ____%.
   2. The interest rate on 3-month time deposits is ____% per annum.
   3. The reserves including gold is ____ in US$ millions.
   4. The conversion rate (year end exchange rate, local/US$) is ____.
   5. The total debt outstanding and disbursed is ____ in US$ millions.
   6. The ratio of total debt service to exports is _____%.
   7. The net inflows of foreign direct investment is ____ in US$ millions.

Economic Performance
Cambodia, Singapore and Taiwan (Year 2000)

The following data of your country are required for further analysis on economic performance of the Southeast Asian countries. Please kindly provide us the data, the abbreviated source(s) of each datum, and the complete reference. You may insert footnotes for due explanations.

A. Key Economic Information

1. The gross domestic product (GDP) is ____ in US$ billions.
2. The growth rate of GDP is ____%.
3. The unemployment rate is ____ %
4. The GDP per capita is in US$.
5. The growth rate of GDP per capita is .
6. The gross capital formation as a percentage of GDP is ____ %.
7. The gross domestic savings as a percentage of GDP is %.
8. The growth of agricultural production is %.
9. The growth of industrial production is %.
10. The growth of service production is %.

B. Government Efficiency

1. The government revenue as a percentage of GDP is %.
2. The government expenditure as a percentage of GDP is %.
3. The government fiscal balance as a percentage of GDP is %.

C. Trade Account Balance

1. The exports of goods and services is ____ in US$ millions.
2. The imports of goods and services is ____ in US$ millions.
3. The growth of exports of goods and services is _____%.
4. The growth of imports of goods and services is _____%.
5. The balance of trade is ____ in US$ millions.
6. The current account balance is ____ in US$ millions.
7. The balance of trade/GDP is ____%.
8. The degree of openness = (exports + imports)/GDP is _____%.

D. Finance

1. The rate of inflation (in terms of implicit GDP deflator) is ____%.
2. The interest rate on 3-month time deposits is ____% per annum.
3. The reserves including gold is ____ in US$ millions.
4. The conversion rate (year end exchange rate, local/US$) is ____.
5. The total debt outstanding and disbursed is ____ in US$ millions.
6. The ratio of total debt service to exports is _____%.
7. The net inflows of foreign direct investment is ____ in US$ millions.

Economic Performance
Cambodia, Singapore and Taiwan (Year 2001)

The following data of your country are required for further analysis on economic performance of the Southeast Asian countries. Please kindly provide us the data, the abbreviated source(s) of each datum, and the complete reference. You may insert footnotes for due explanations.

A. Key Economic Information

1. The gross domestic product (GDP) is ____ in US$ billions.
2. The growth rate of GDP is ____%.
3. The unemployment rate is ____ %
4. The GDP per capita is ____ in US$.
5. The growth rate of GDP per capita is ____.
6. The gross capital formation as a percentage of GDP is ____ %.
7. The gross domestic savings as a percentage of GDP is ____%.
8. The growth of agricultural production is ____%.
9. The growth of industrial production is ____%.
10. The growth of service production is ____%.

B. Government Efficiency

1. The government revenue as a percentage of GDP is ____%.
2. The government expenditure as a percentage of GDP is %.
3. The government fiscal balance as a percentage of GDP is ___%.

C. Trade Account Balance

1. The exports of goods and services is ____ in US$ millions.
2. The imports of goods and services is ____ in US$ millions.
3. The growth of exports of goods and services is _____%.
4. The growth of imports of goods and services is _____%.
5. The balance of trade is ____ in US$ millions.
6. The current account balance is ____ in US$ millions.
7. The balance of trade/GDP is ____%.
8. The degree of openness = (exports + imports)/GDP is _____%.

D. Finance

1. The rate of inflation (in terms of implicit GDP deflator) is ____%.
2. The interest rate on 3-month time deposits is ____% per annum.
3. The reserves including gold is ____ in US$ millions.
4. The conversion rate (year end exchange rate, local/US$) is ____.
5. The total debt outstanding and disbursed is in US$ millions.
6. The ratio of total debt service to exports is %.
7. The net inflows of foreign direct investment is in US$ millions.

Survey of the Relative Importance for Economic Performance
Cambodia, Singapore and Taiwan

Please kindly refer to the attached framework and evaluate the degree of relative importance of the following four sub-categories for the nationwide economic performance according to your understandings of the country. Based on a scale of 0 to 100, the more important the sub-category is, the higher point the sub-category has.

1. Domestic Economic Information _____

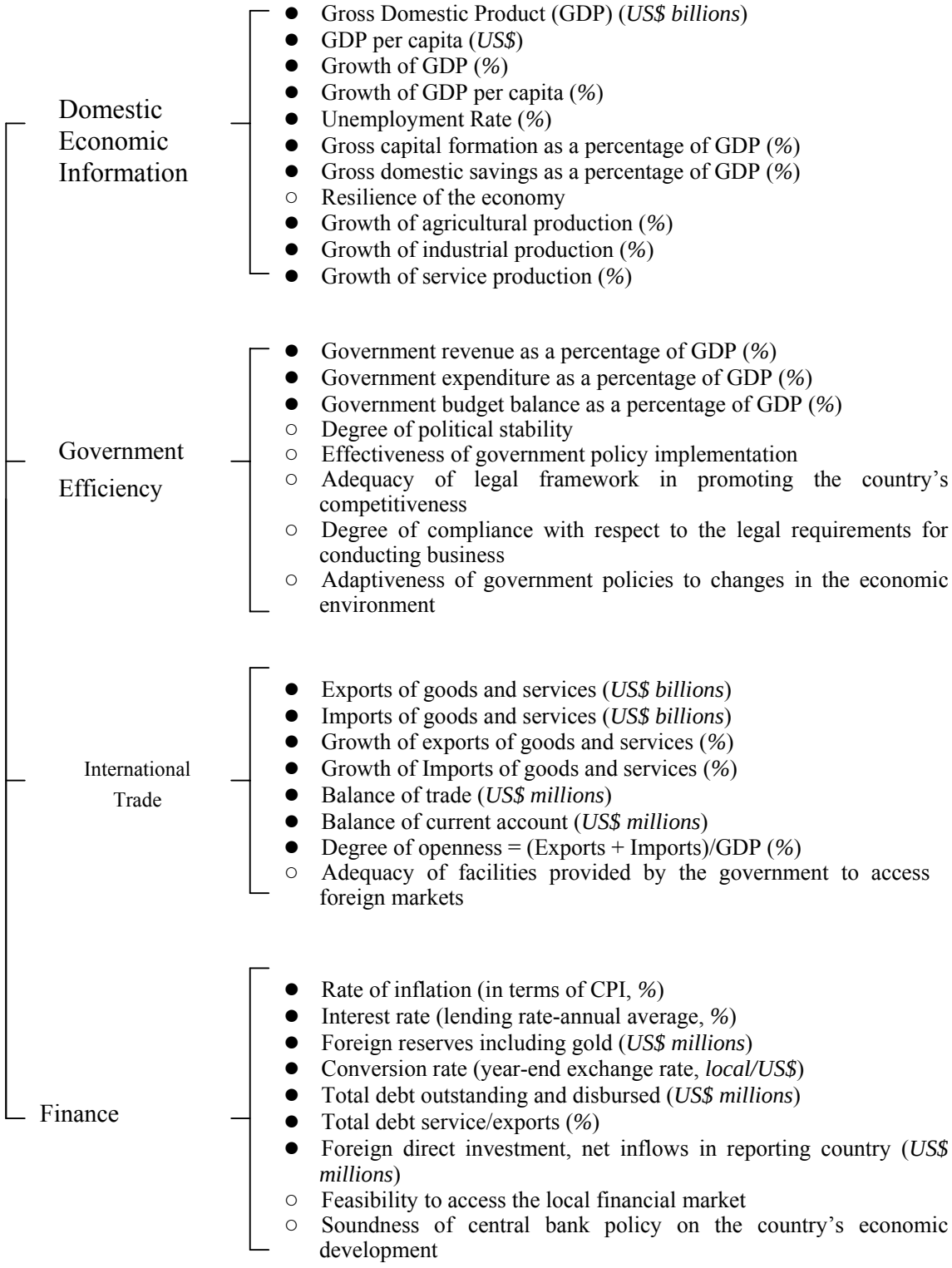
2. Government Efficiency _____

3. International Trade _____

4. Finance _____

0 ~100%

Economic Performance

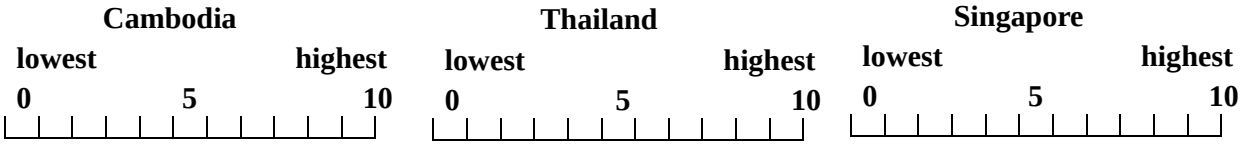


Note: "●" and "○" indicate the measured (hard) data and the survey (soft) data, respectively.

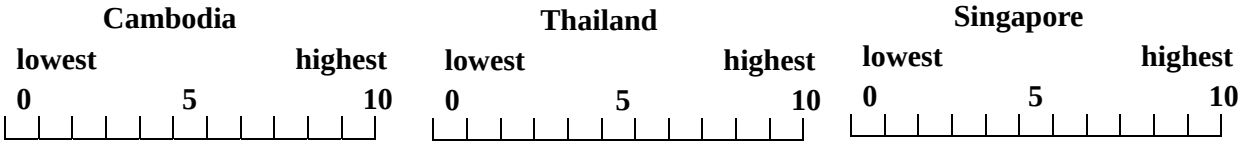
Economic Performance — Cambodia

For each of the following question that you answer for Cambodia, please also give your opinions for the other two countries. In the right-hand side of each question, please kindly check appropriate boxes for these two countries, respectively, ranking from the lowest ("0") to the highest ("10"), according to the best of your knowledge about their economic performance in the past one year.

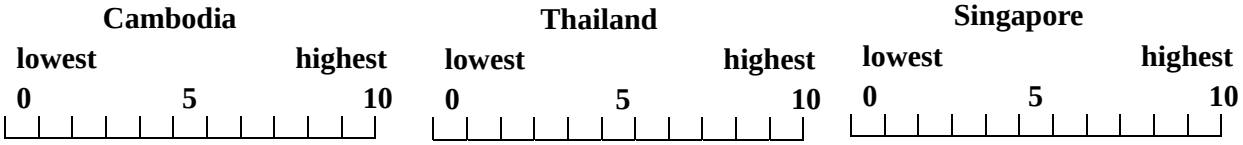
1. How do you rate the degree of resilience of the economy?



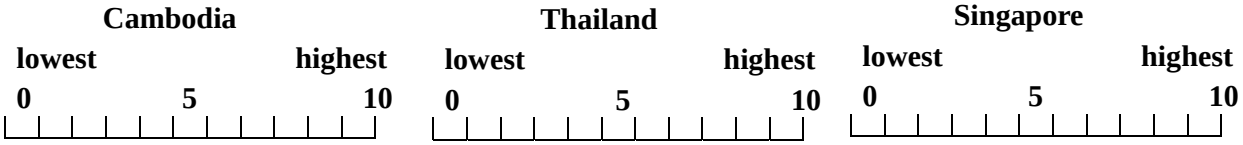
2. How do you rate the degree of political stability in the local economy?



3. How do you rate the effectiveness of government policy implementation?

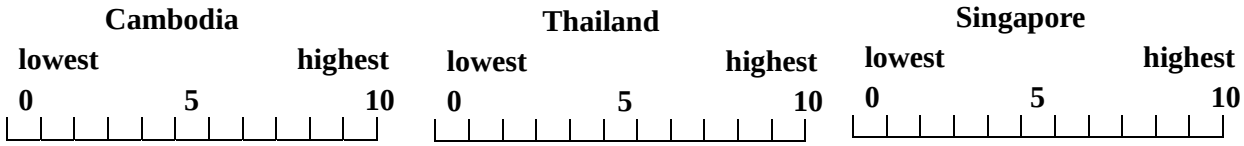


4. How do you rate the adequacy of legal framework in promoting the country's competitiveness?

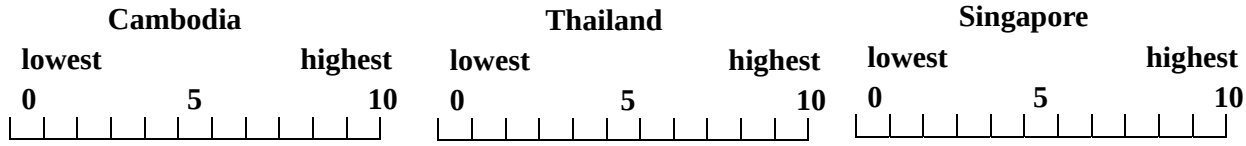


5. How do you rate the degree of compliance with regard to the legal requirements for conducting business ?

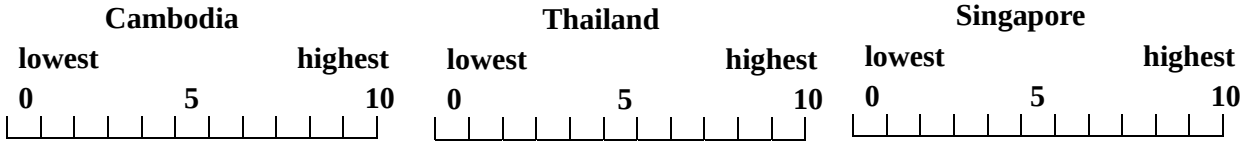
6. How do you rate the adaptiveness of government policies to changes in the economic environment?



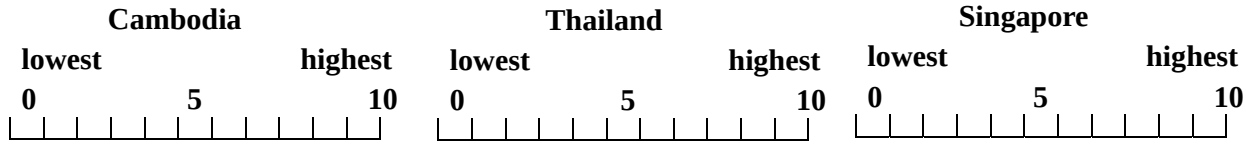
7. How do you rate the adequacy of facilities provided by the government that are necessary for companies to access foreign markets?



8. How do you rate the feasibility to access the local financial market?



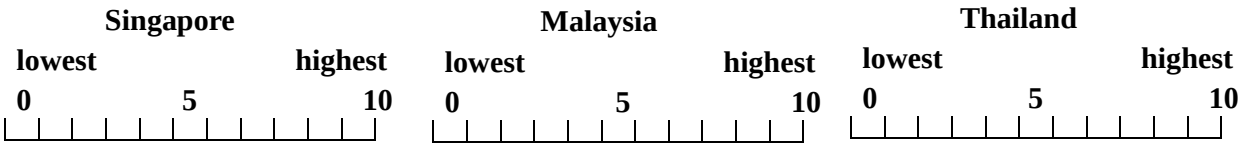
9. How do you rate the soundness of central bank policy on the country's economic development?



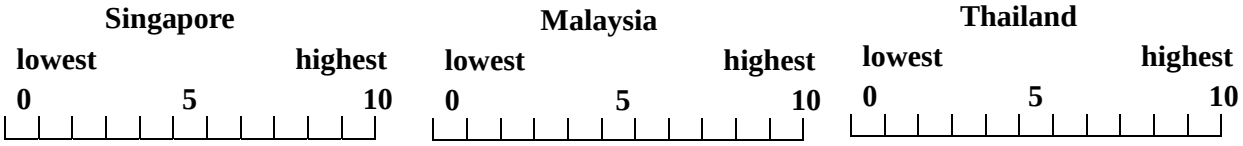
Economic Performance — Singapore

For each of the following question that you answer for Singapore, please also give your opinions for the other two countries. In the right-hand side of each question, please kindly check appropriate boxes for these two countries, respectively, ranking from the lowest ("0") to the highest ("10"), according to the best of your knowledge about their economic performance in the past one year.

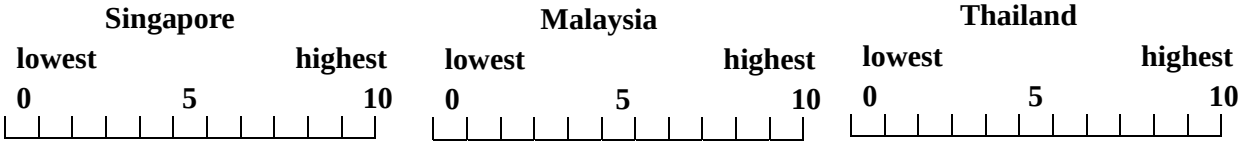
1. How do you rate the degree of resilience of the economy?



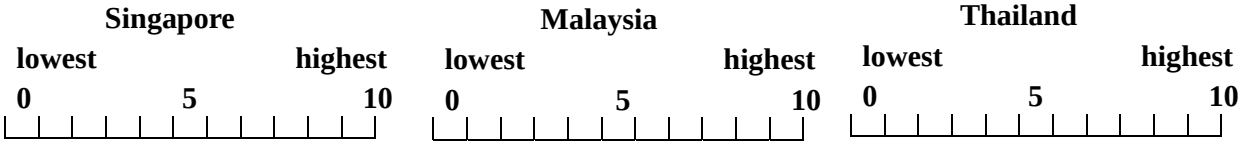
2. How do you rate the degree of political stability in the local economy?



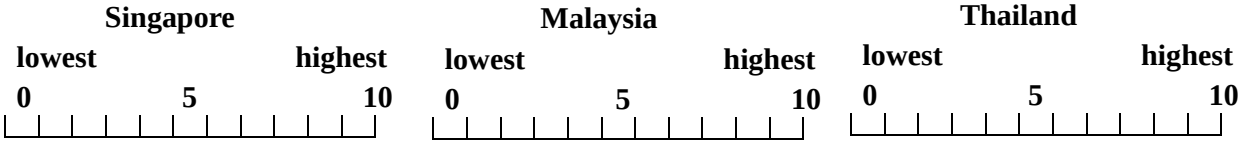
3. How do you rate the effectiveness of government policy implementation?



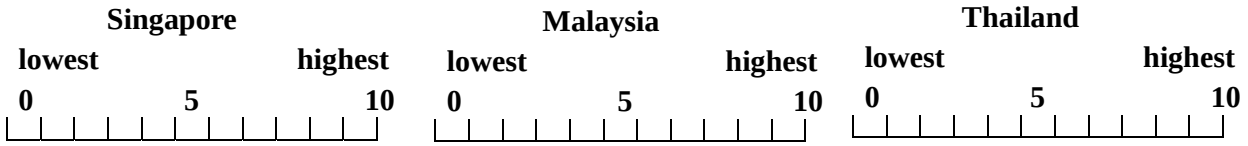
4. How do you rate the adequacy of legal framework in promoting the country's competitiveness?



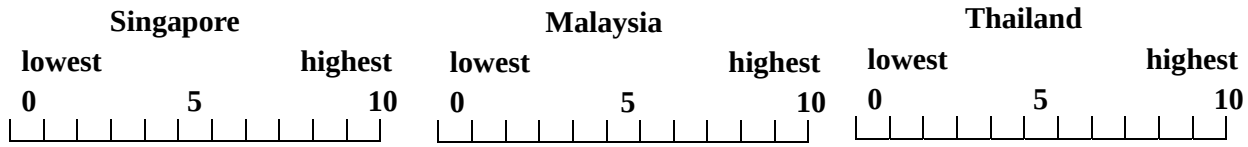
5. How do you rate the degree of compliance with regard to the legal requirements for conducting business ?



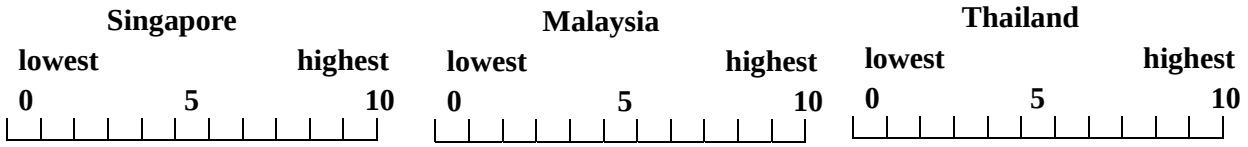
6. How do you rate the adaptiveness of government policies to changes in the economic environment?



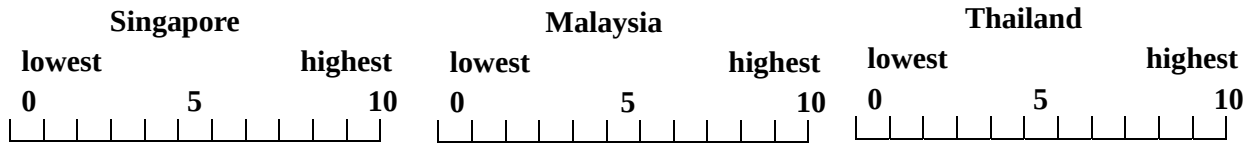
7. How do you rate the adequacy of facilities provided by the government that are necessary for companies to access foreign markets?



8. How do you rate the feasibility to access the local financial market?



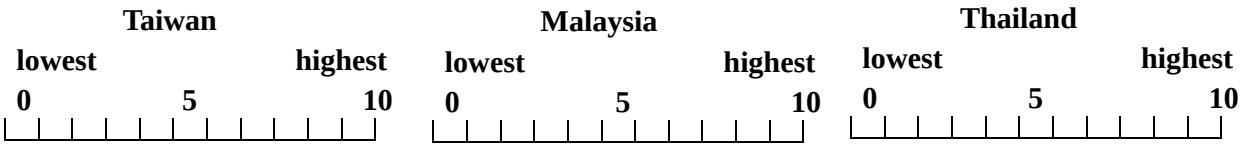
9. How do you rate the soundness of central bank policy on the country's economic development?



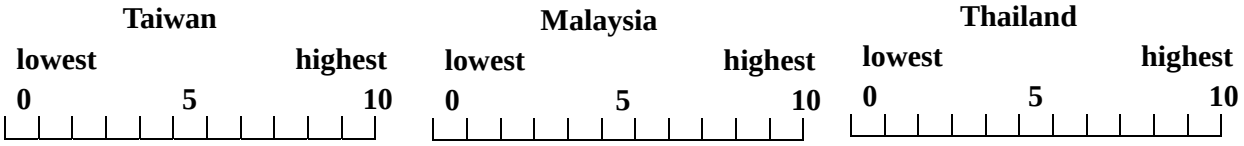
Economic Performance — Taiwan

For each of the following question that you answer for Taiwan, please also give your opinions for the other two countries. In the right-hand side of each question, please kindly check appropriate boxes for these two countries, respectively, ranking from the lowest ("0") to the highest ("10"), according to the best of your knowledge about their economic performance in the past one year.

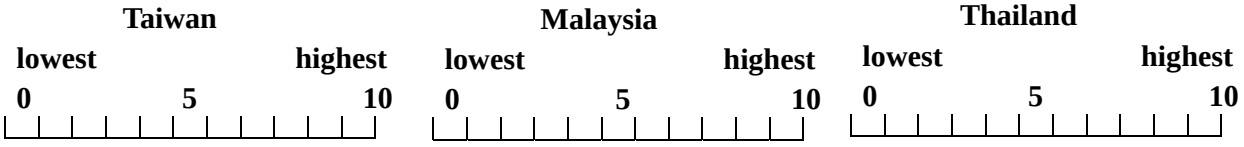
1. How do you rate the degree of resilience of the economy?



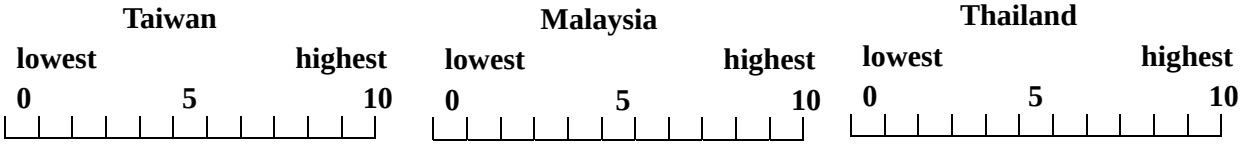
2. How do you rate the degree of political stability in the local economy?



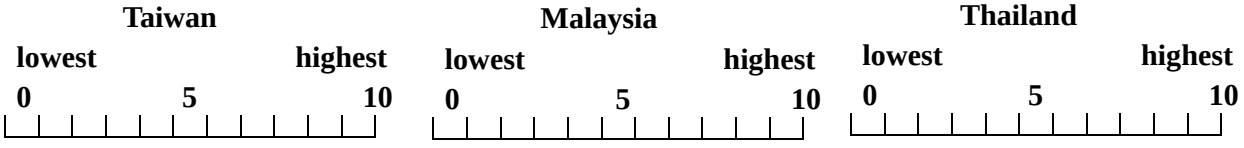
3. How do you rate the effectiveness of government policy implementation?



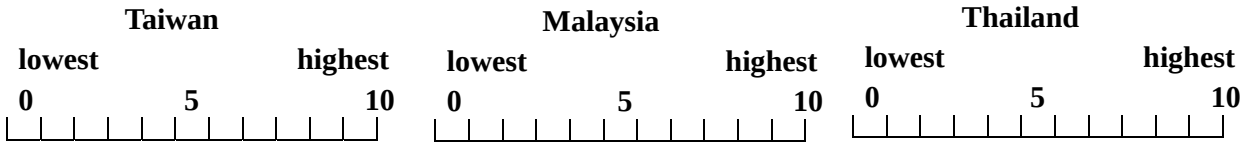
4. How do you rate the adequacy of legal framework in promoting the country's competitiveness?



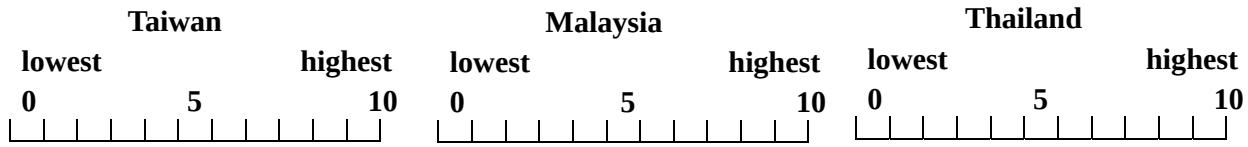
5. How do you rate the degree of compliance with regard to the legal requirements for conducting business ?



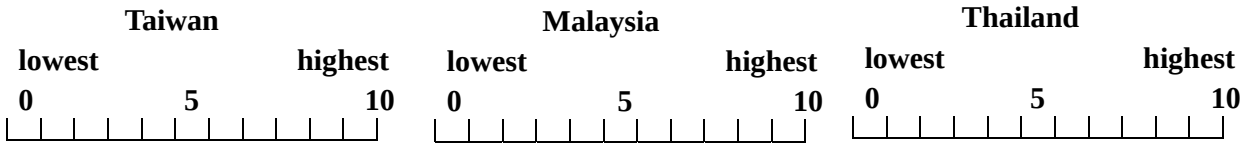
6. How do you rate the adaptiveness of government policies to changes in the economic environment?



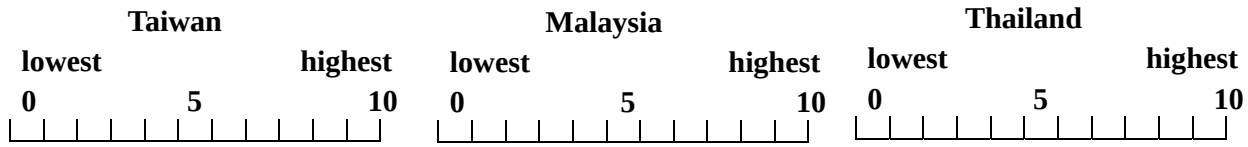
7. How do you rate the adequacy of facilities provided by the government that are necessary for companies to access foreign markets?



8. How do you rate the feasibility to access the local financial market?



9. How do you rate the soundness of central bank policy on the country's economic development?



Technology Development
Cambodia, Singapore and Taiwan (1999)

The following data are required for further analysis of technology development.
Please kindly provide us the following data in year 1999.

A、 Basic infrastructure

1. The paved roads density of the network in your country?

   _____(Km / Km^2)

   (Source: _____)
2. The railroads density of the network in your country?

   _____(Km / Km^2)

   (Source: _____)
3. The numbers of times that air transportation passengers carried by airliners in your country? _____(thousands of times)

   (Source: _____)
4. The electricity cost for industrial clients?

   _____ US$ / per kwh(kilo-watt hour)

   (Source: _____)

B、Information technology

1. What is the percentage of investment in telecommunication to GDP in your country?

   _____%

   (Source: _____)
2. What is the number of computers per 1,000 people in your country?

   _____unit / per 1,000 people

   (Source: _____)
3. What is the number of servers connected to Internet per 1,000 people in your country?

   _____unit / per 1,000 people

   (Source: _____)
4. What is the number of people accessing Internet per 1,000 people?

   _____people / per 1,000 people

   (Source: _____)
5. What is the bandwidth of your country connected to abroad?

   _____MB(1,000,000 bits/second)

(Source: _____)

6. What is the number of main telephone lines per 1,000 inhabitants in your country?

_____lines / per 1,000 people

(Source: _____)

7. What is the number of cellular/mobile telephone subscribed per 1,000 inhabitants in your country?

_____users / per 1,000 people

(Source: _____)

8. What is the international telephone costs in peak time from your country to USA?

_____US$ / per 3 minutes

(Source: _____)

C、Energy Status

1. Total indigenous energy consumption in your country (percentage of total requirements in tons of oil equivalent)？

_____%

(Source: _____)

2. Energy imports as a percentage of merchandise exports in your country？

_____%

(Source: _____)

Technology Development
Cambodia, Singapore and Taiwan (2000)

The following data are required for further analysis of technology development.
Please kindly provide us the following data in year 2000.

A、 Basic infrastructure

1. The paved roads density of the network in your country?

   _____(Km / Km^2)

   (Source: _____)
2. The railroads density of the network in your country?

   _____(Km / Km^2)

   (Source: _____)
3. The numbers of times that air transportation passengers carried by airliners in your country? _____(thousands of times)

   (Source: _____)
4. The electricity cost for industrial clients?

   _____ US$ / per kwh(kilo-watt hour)

   (Source: _____)

B、Information technology

1. What is the percentage of investment in telecommunication to GDP in your country?_____%

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2. What is the number of computers per 1,000 people in your country?

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_____unit / per 1,000 people

(Source: _____)

4. What is the number of people accessing Internet per 1,000 people?

   _____people / per 1,000 people

   (Source: _____)

5. What is the bandwidth of your country connected to abroad?

   _____MB(1,000,000 bits/second)

   (Source: _____)

6. What is the number of main telephone lines per 1,000 inhabitants in your country?

   _____lines / per 1,000 people

   (Source: _____)

7. What is the number of cellular/mobile telephone subscribed per 1,000 inhabitants in your country?

   _____users / per 1,000 people

   (Source: _____)

8. What is the international telephone costs in peak time from your country to USA?

   _____US$ / per 3 minutes

   (Source: _____)

C、Energy Status

1. Total indigenous energy consumption in your country (percentage of total requirements in tons of oil equivalent)？

   _____%

   (Source: _____)

2. Energy imports as a percentage of merchandise exports in your country？

   _____%

   (Source: _____)

Technology Development
Cambodia, Singapore and Taiwan (2001)

The following data are required for further analysis of technology development.
Please kindly provide us the following data in year 2001.

A、 Basic infrastructure

1. The paved roads density of the network in your country?

   _____(Km / Km^2)

   (Source: _____)
2. The railroads density of the network in your country?

   _____(Km / Km^2)

   (Source: _____)
3. The numbers of times that air transportation passengers carried by airliners in your country? _____(thousands of times)

   (Source: _____)
4. The electricity cost for industrial clients?

   _____ US$ / per kwh(kilo-watt hour)

   (Source: _____)

B、Information technology

1. What is the percentage of investment in telecommunication to GDP in your country?_____%

   (Source: _____)
2. What is the number of computers per 1,000 people in your country?

   _____unit / per 1,000 people

   (Source: _____)
3. What is the number of servers connected to Internet per 1,000 people in your country?

   _____unit / per 1,000 people

   (Source: _____)
4. What is the number of people accessing Internet per 1,000 people?

   _____people / per 1,000 people

   (Source: _____)
5. What is the bandwidth of your country connected to abroad?

   _____MB(1,000,000 bits/second)

   (Source: _____)

6. What is the number of main telephone lines per 1,000 inhabitants in your country?

   _____lines / per 1,000 people

   (Source: _____)
7. What is the number of cellular/mobile telephone subscribed per 1,000 inhabitants in your country?

   _____users / per 1,000 people

   (Source: _____)
8. What is the international telephone costs in peak time from your country to USA?

   _____US$ / per 3 minutes

   (Source: _____)

C、Energy Status

1. Total indigenous energy consumption in your country (percentage of total requirements in tons of oil equivalent) ?

   _____%

   (Source: _____)

2. Energy imports as a percentage of merchandise exports in your country ?

   _____%

   (Source: _____)

Survey of the Relative Importance for Technology Development Cambodia, Singapore and Taiwan

Please kindly refer to the attached framework and evaluate the degree of relative importance of the following seven sub-categories for the nationwide technology development to the understandings of your country. The assessment is based on a 100-point system. The more important the sub-category is, the higher point the sub-category has. The highest point is 100.

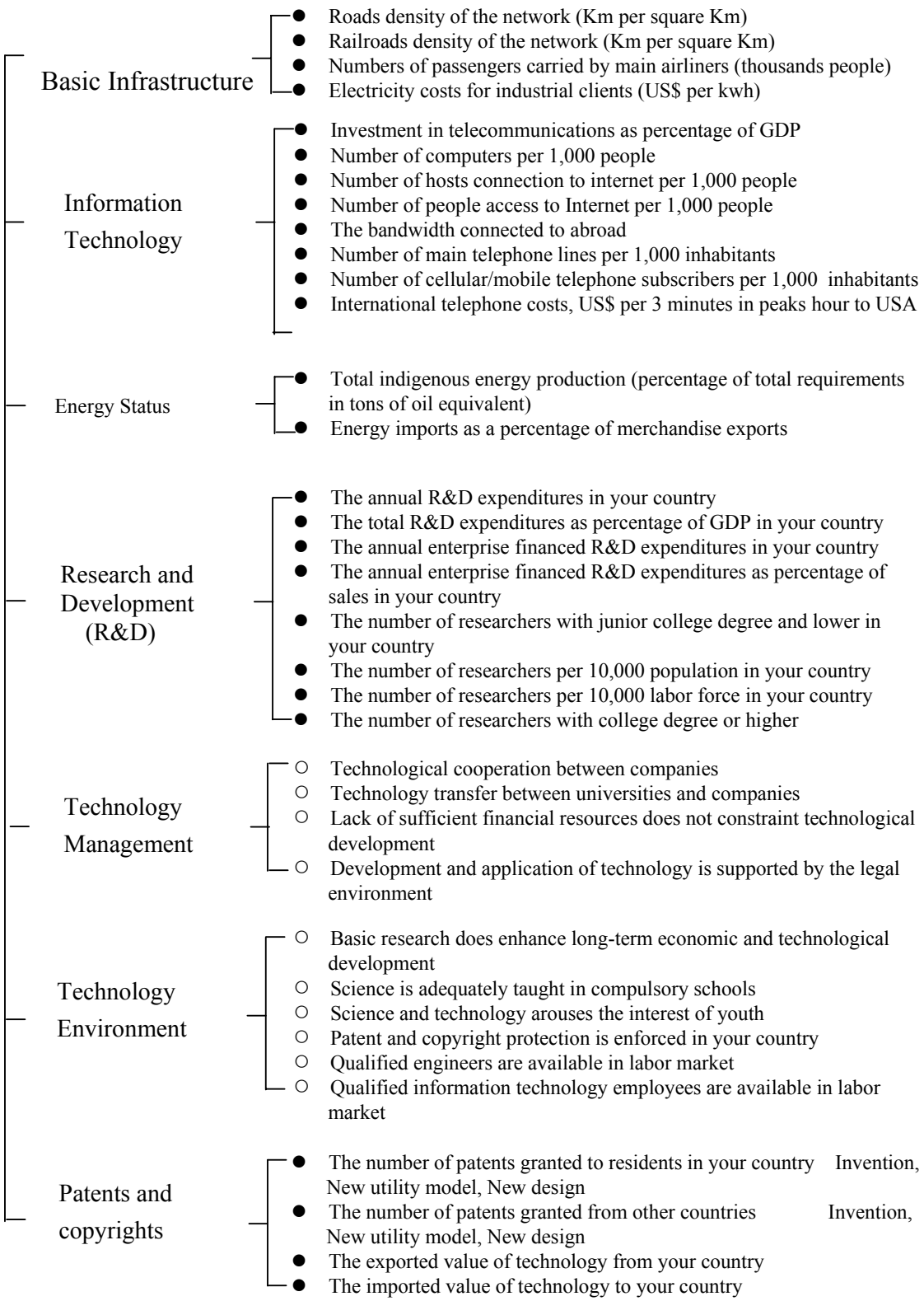
1. Basic Infrastructure _____

2. Information Technology _____

3. Energy Status

4.	Research and Development (R&D)	
5.	Technology Management	
6.	Technology Environment	
7.	Patents and Copyrights	
		0 ~ 100%

Technology Development



Note: "●" and "○" indicate the measured (hard) data and the survey (soft) data, respectively.

Technology Development — Cambodia

For each of the following question that you answer for Cambodia, please also give your opinions for the other two countries. In the right-hand side of each question, please kindly check appropriate boxes for each country, respectively, ranking from the lowest ("0") to the highest ("10"), according to the best of your knowledge about their respective economic performance in the past one year.

1. How do you rate the technological cooperation (ex : Technology transfer, royalty, licensing, sharing resources, consulting service, …) between companies?

Cambodia			Thailand			Singapore		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10
☐	☐	☐	☐	☐	☐	☐	☐	☐

2. How do you rate the technological cooperation (ex : Technology transfer, royalty, licensing, sharing resources, consulting service, …) between companies and universities?

Cambodia			Thailand			Singapore		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10
☐	☐	☐	☐	☐	☐	☐	☐	☐

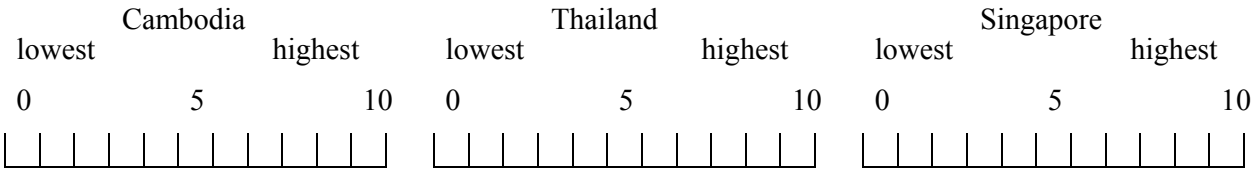
3. How do you rate the technological cooperation (ex : Technology transfer, royalty, licensing, sharing resources, consulting service, …) between companies and government research institutes?

Cambodia			Thailand			Singapore		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10
☐	☐	☐	☐	☐	☐	☐	☐	☐

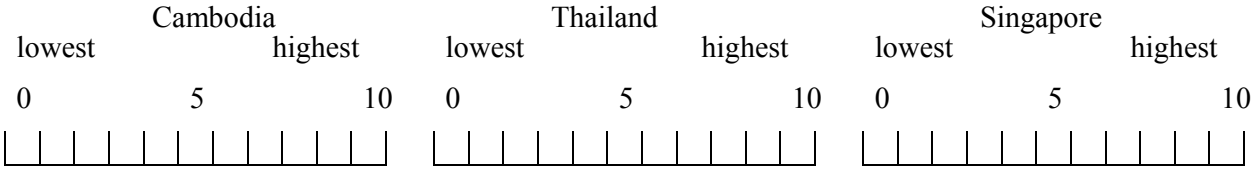
4. How do you rate the technology transfer between universities and companies?

Cambodia			Thailand			Singapore		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10
☐	☐	☐	☐	☐	☐	☐	☐	☐

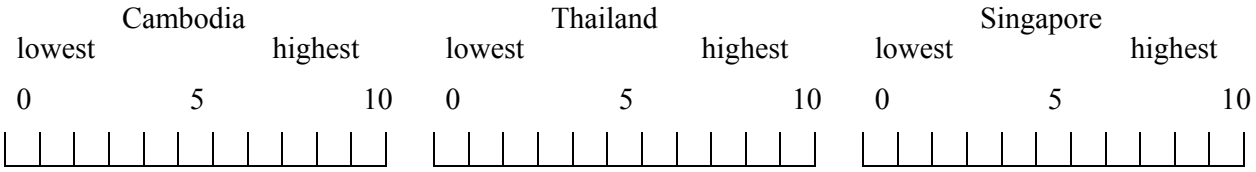
5. How serious does the lack of sufficient financial resources constrain the technological development in the country?



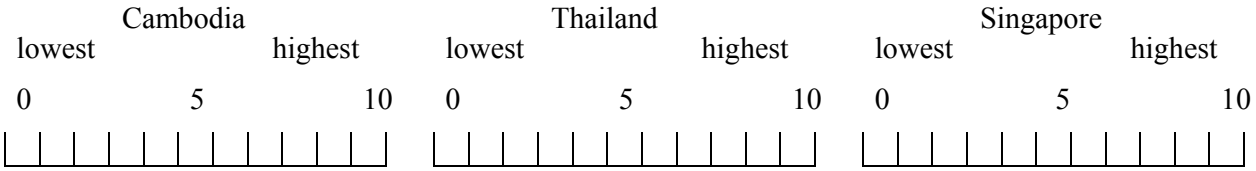
6. How strongly does basic research enhance technological development?



7. Do you think students prefer Science and Technology as college major ?



8. How do you rate the adequacy that patent and copyright protection is enforced in the country?



Technology Development — Singapore

For each of the following question that you answer for Singapore, please also give your opinions for the other two countries. In the right-hand side of each question, please kindly check appropriate boxes for each country, respectively, ranking from the lowest ("0") to the highest ("10"), according to the best of your knowledge about their respective economic performance in the past one year.

1. How do you rate the technological cooperation (ex : Technology transfer, royalty, licensing, sharing resources, consulting service, …) between companies?

Singapore			Malaysia			Thailand		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10
☐	☐	☐	☐	☐	☐	☐	☐	☐

2. How do you rate the technological cooperation (ex : Technology transfer, royalty, licensing, sharing resources, consulting service, …) between companies and universities?

Singapore			Malaysia			Thailand		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10
☐	☐	☐	☐	☐	☐	☐	☐	☐

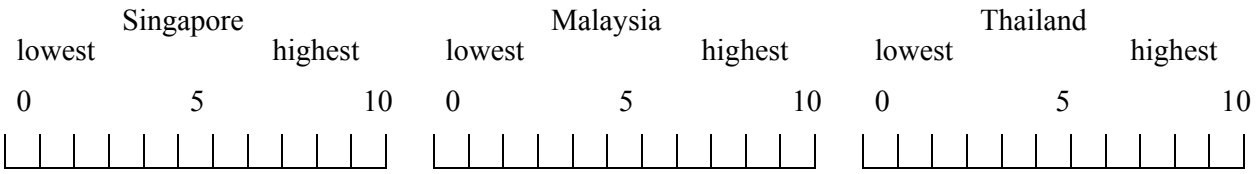
3. How do you rate the technological cooperation (ex : Technology transfer, royalty, licensing, sharing resources, consulting service, …) between companies and government research institutes?

Singapore			Malaysia			Thailand		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10
☐	☐	☐	☐	☐	☐	☐	☐	☐

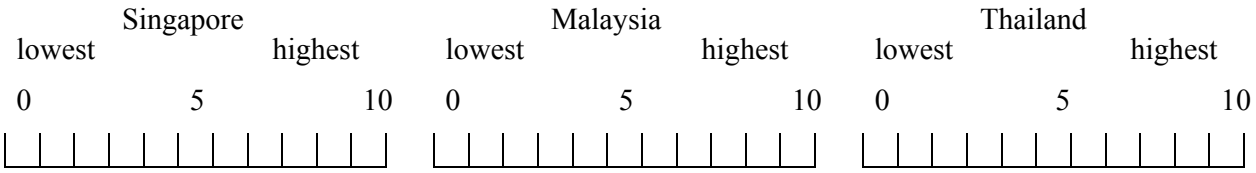
4. How do you rate the technology transfer between universities and companies?

Singapore			Malaysia			Thailand		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10
☐	☐	☐	☐	☐	☐	☐	☐	☐

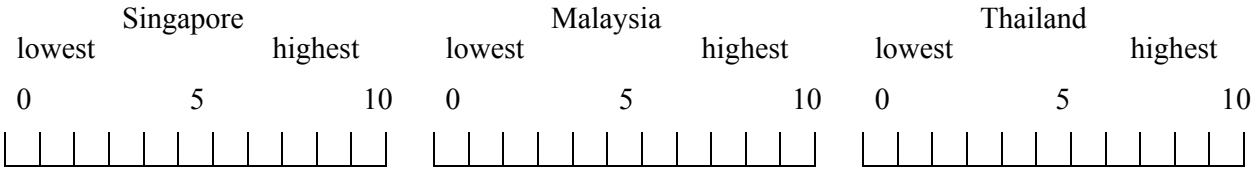
5. How serious does the lack of sufficient financial resources constrain the technological development in the country?



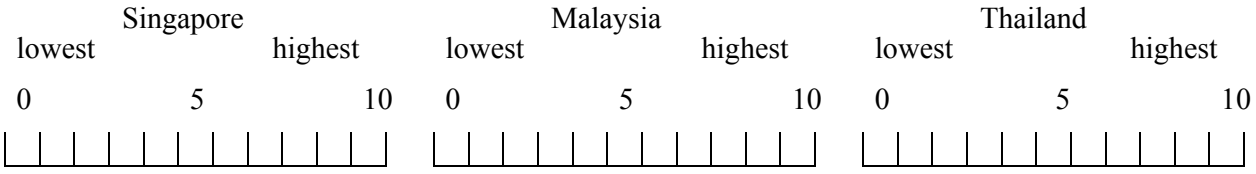
6. How strongly does basic research enhance technological development?



7. Do you think students prefer Science and Technology as college major ?



8. How do you rate the adequacy that patent and copyright protection is enforced in the country?



Technology Development — Taiwan

For each of the following question that you answer for Taiwan, please also give your opinions for the other two countries. In the right-hand side of each question, please kindly check appropriate boxes for each country, respectively, ranking from the lowest ("0") to the highest ("10"), according to the best of your knowledge about their respective economic performance in the past one year.

1. How do you rate the technological cooperation (ex : Technology transfer, royalty, licensing, sharing resources, consulting service, …) between companies?

Taiwan			Malaysia			Thailand		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10

2. How do you rate the technological cooperation (ex : Technology transfer, royalty, licensing, sharing resources, consulting service, …) between companies and universities?

Taiwan			Malaysia			Thailand		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10

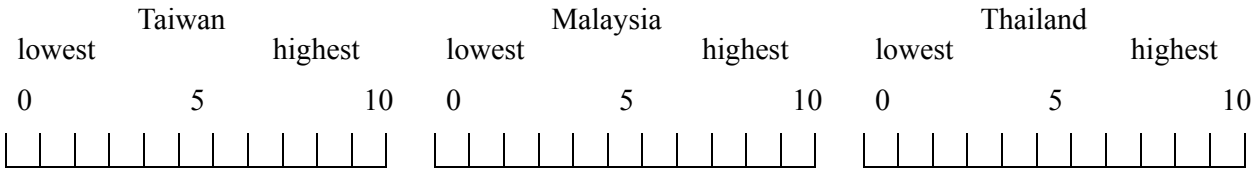
3. How do you rate the technological cooperation (ex : Technology transfer, royalty, licensing, sharing resources, consulting service, …) between companies and government research institutes?

Taiwan			Malaysia			Thailand		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10

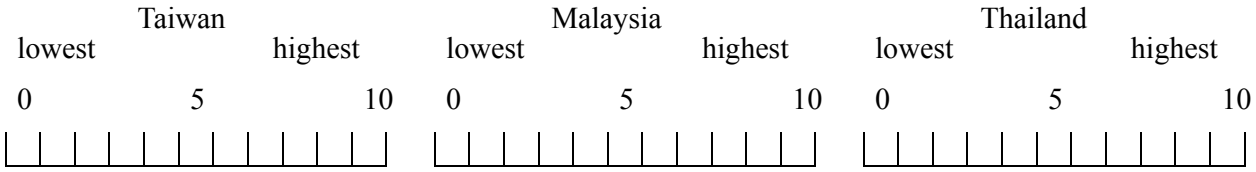
4. How do you rate the technology transfer between universities and companies?

Taiwan			Malaysia			Thailand		
lowest		highest	lowest		highest	lowest		highest
0	5	10	0	5	10	0	5	10

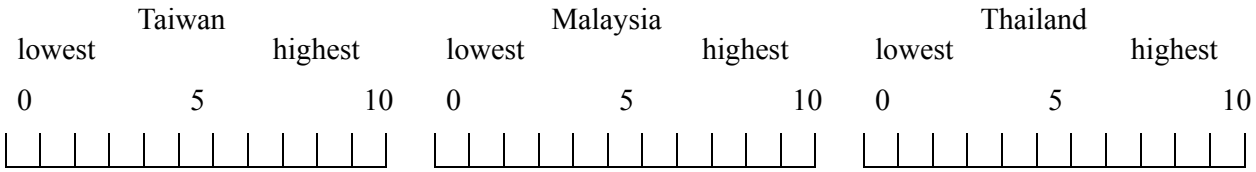
5. How serious does the lack of sufficient financial resources constrain the technological development in the country?



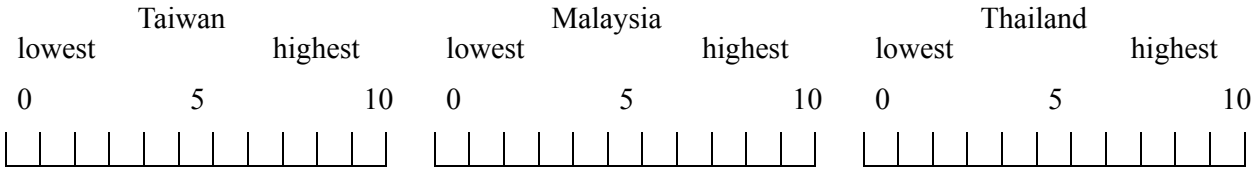
6. How strongly does basic research enhance technological development?



7. Do you think students prefer Science and Technology as college major ?



8. How do you rate the adequacy that patent and copyright protection is enforced in the country?



Human Resource
Cambodia, Singapore and Taiwan (1999)

The following data are required for further analysis of human resource. Please kindly provide us the following data available in 1999.

1. Labor force participation rate, LFPR _____ %[1]

   (Labor force ages over 15 / Total population ages over 15)

   Source: _____

2. Weekly working hours _____ (Hours)

   Source: _____

3. The ratio of skilled labor among total employment _____ %

   (Skilled labor / Total employment ages over 15)

   Source: _____

4. Illiteracy ratio _____ %

   (Illiteracy population age over 15 / Total population ages over 15)

   Source: _____

5. Gross elementary school enrollment ratio _____ %[2]

   (Total elementary students / Total population ages 6-12)

   Source: _____

6. Gross secondary school enrollment ratio _____ %

   (Total secondary students / Total population ages 13-18)

   Source: _____

7. Gross higher education enrollment ratio _____ %

   (Total Higher education students / Total population ages 19-22)

   Source: _____

8. Elementary school pupil teacher ratio _____ (pupils per teacher)

   Source: _____

[1] The Labor force participation rate means that the labor force divided by the entire population age 16 and over. The labor force refers to all those over 15 years of age who are either employed, actively seeking work, or awaiting recall from a layoff.

[2] Gross Elementary school enrollment ratio means, total elementary students divided by the entire population of their age should be elementary students. The Gross Secondary and Higher education enrollment ratio have the similar definitions.

9. Secondary school pupil teacher ratio _____ (pupils per teacher)

   Source: _____

10. Higher education pupil teacher ratio _____ (pupils per teacher)

    Source: _____

11. The ratio of college students who major in technology _____ %

    (College Student majoring in technology / Total population of college students)

    Source: _____

12. The return rate for higher education students who study technology abroad_____ %

    (The population of returning higher education students who study technology aboard / Total population of higher education students who study aboard)

    Source: _____

13. Average wage rates _____ (USD$)

    Source: _____

14. Average wage inflation _____ (USD$)

    Source: _____

15. Average cost of living _____ (USD$)

    Source: _____

16. Average skilled labor/technician wage rates _____ (USD$)

    Source: _____

17. Average experiences for skilled workers _____ (Years)

    Source: _____

18. Average tenure for all workers_____ (Years)

    Source: _____

19. Numbers of disputes _____ (times/year)

    Source: _____

20. Working days lost _____ (days/year)

    Source: _____

Human Resource
Cambodia, Singapore and Taiwan (2000)

The following data are required for further analysis of human resource. Please kindly provide us the following data available in 2000.

8. Labor force participation rate, LFPR _____ %[1]

   (Labor force ages over 15 / Total population ages over 15)

   Source: _____

9. Weekly working hours _____ (Hours)

   Source: _____

10. The ratio of skilled labor among total employment _____ %

    (Skilled labor / Total employment ages over 15)

    Source: _____

11. Illiteracy ratio ____ %

    (Illiteracy population age over 15 / Total population ages over 15)

    Source: _____

12. Gross elementary school enrollment ratio _____ %[2]

    (Total elementary students / Total population ages 6-12)

    Source: _____

13. Gross secondary school enrollment ratio _____ %

    (Total secondary students / Total population ages 13-18)

    Source: _____

14. Gross higher education enrollment ratio _____ %

    (Total Higher education students / Total population ages 19-22)

    Source: _____

8. Elementary school pupil teacher ratio _____ (pupils per teacher)

   Source: _____

[1] The Labor force participation rate means that the labor force divided by the entire population age 16 and over. The labor force refers to all those over 15 years of age who are either employed, actively seeking work, or awaiting recall from a layoff.

[2] Gross Elementary school enrollment ratio means, total elementary students divided by the entire population of their age should be elementary students. The Gross Secondary and Higher education enrollment ratio have the similar definitions.

9. Secondary school pupil teacher ratio _____ (pupils per teacher)

   Source: _____

10. Higher education pupil teacher ratio _____ (pupils per teacher)

    Source: _____

11. The ratio of college students who major in technology _____ %

    (College Student majoring in technology / Total population of college students)

    Source: _____

16. The return rate for higher education students who study technology abroad_____ %

    (The population of returning higher education students who study technology aboard / Total population of higher education students who study aboard)

    Source: _____

17. Average wage rates _____ (USD$)

    Source: _____

18. Average wage inflation _____ (USD$)

    Source: _____

19. Average cost of living _____ (USD$)

    Source: _____

16. Average skilled labor/technician wage rates _____ (USD$)

    Source: _____

17. Average experiences for skilled workers _____ (Years)

    Source: _____

18. Average tenure for all workers_____ (Years)

    Source: _____

19. Numbers of disputes _____ (times/year)

    Source: _____

20. Working days lost _____ (days/year)

    Source: _____

Human Resource
Cambodia, Singapore and Taiwan (2001)

The following data are required for further analysis of human resource. Please kindly provide us the following data available in 2001.

15. Labor force participation rate, LFPR _____ %[1]

    (Labor force ages over 15 / Total population ages over 15)

    Source: _____

16. Weekly working hours _____ (Hours)

    Source: _____

17. The ratio of skilled labor among total employment _____ %

    (Skilled labor / Total employment ages over 15)

    Source: _____

18. Illiteracy ratio ____ %

    (Illiteracy population age over 15 / Total population ages over 15)

    Source: _____

19. Gross elementary school enrollment ratio _____ %[2]

    (Total elementary students / Total population ages 6-12)

    Source: _____

20. Gross secondary school enrollment ratio _____ %

    (Total secondary students / Total population ages 13-18)

    Source: _____

21. Gross higher education enrollment ratio _____ %

    (Total Higher education students / Total population ages 19-22)

    Source: _____

8. Elementary school pupil teacher ratio _____ (pupils per teacher)

    Source: _____

[1] The Labor force participation rate means that the labor force divided by the entire population age 16 and over. The labor force refers to all those over 15 years of age who are either employed, actively seeking work, or awaiting recall from a layoff.

[2] Gross Elementary school enrollment ratio means, total elementary students divided by the entire population of their age should be elementary students. The Gross Secondary and Higher education enrollment ratio have the similar definitions.

9. Secondary school pupil teacher ratio _____ (pupils per teacher)

   Source: _____

10. Higher education pupil teacher ratio _____ (pupils per teacher)

    Source: _____

11. The ratio of college students who major in technology _____ %

    (College Student majoring in technology / Total population of college students)

    Source: _____

20. The return rate for higher education students who study technology abroad_____ %

    (The population of returning higher education students who study technology aboard / Total population of higher education students who study aboard)

    Source: _____

21. Average wage rates _____ (USD$)

    Source: _____

22. Average wage inflation _____ (USD$)

    Source: _____

23. Average cost of living _____ (USD$)

    Source: _____

16. Average skilled labor/technician wage rates _____ (USD$)

    Source: _____

17. Average experiences for skilled workers _____ (Years)

    Source: _____

18. Average tenure for all workers_____ (Years)

    Source: _____

19. Numbers of disputes _____ (times/year)

    Source: _____

20. Working days lost _____ (days/year)

    Source: _____

Survey of the Relative Importance for Human Resource
Cambodia, Singapore and Taiwan

Please kindly refer to the attached framework and evaluate the degree of relative importance of the following four sub-categories for the nationwide human resource according to your understandings of the country. Based on a scale of 0 to 100, the more important the sub-category is, the higher point the sub-category has.

A、Domestic Economic Information Manpower Utilization _____

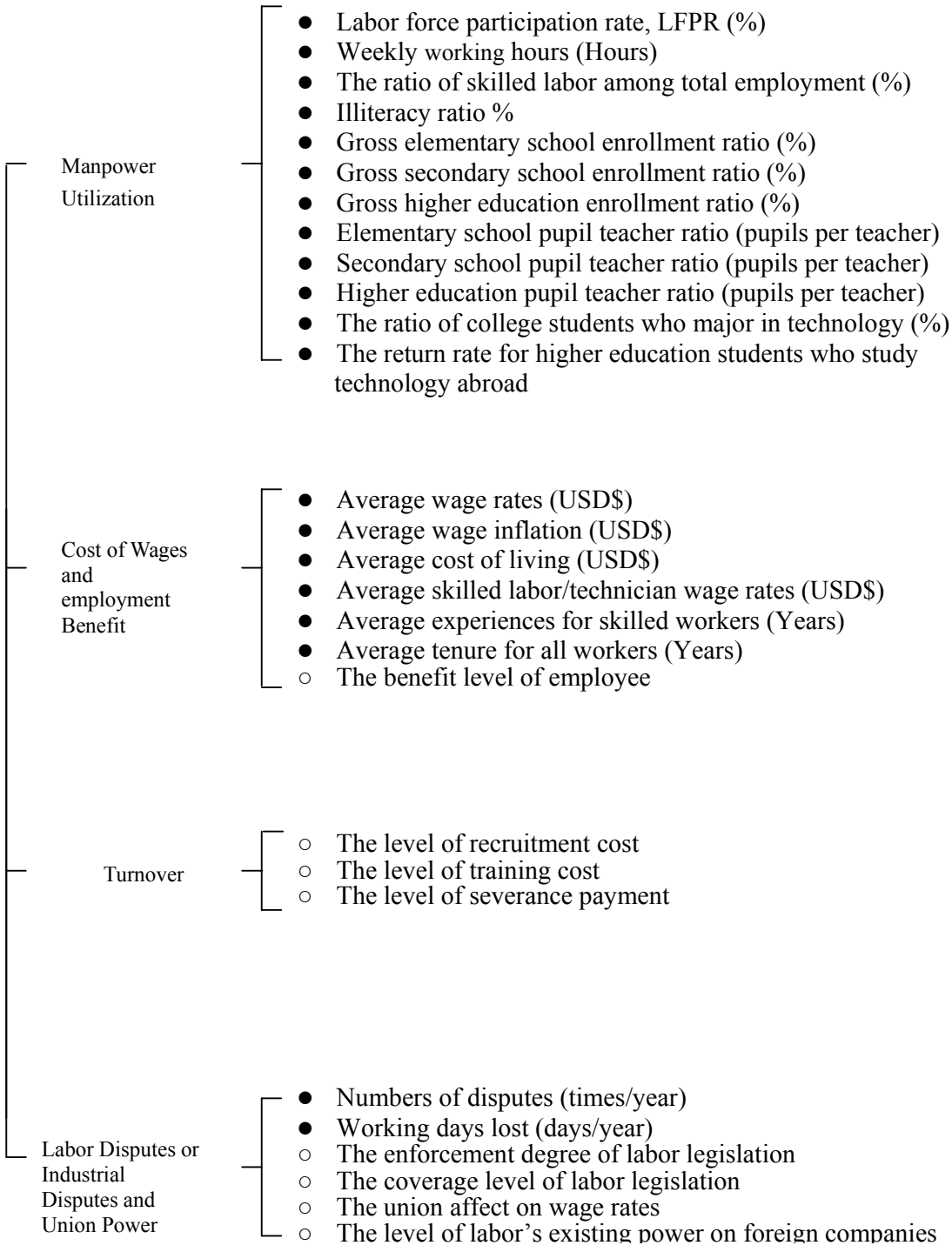
B、Wages and Employment Benefit _____

C、Turnover _____

D、Labor Disputes or Industrial Disputes and Union Power _____

0 ~100%

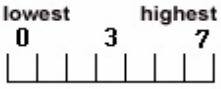
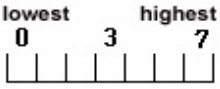
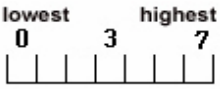
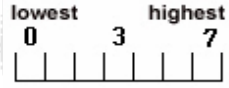
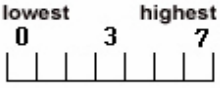
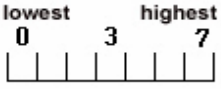
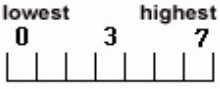
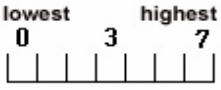
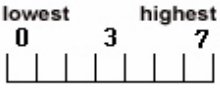
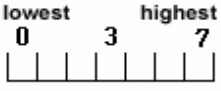
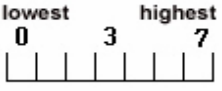
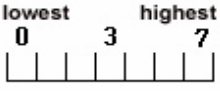
Human Resource



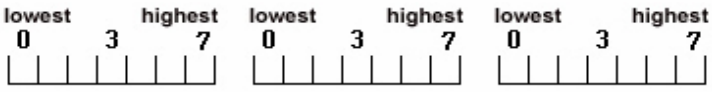
Note: "●" and "○" indicate the measured (hard) data and the survey (soft) data, respectively.

Human Resource (Cambodia)

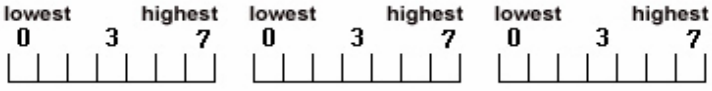
On the right-hand side of each statement, please kindly check in (e.g. 0 | | | 3 | ✓ | | 7) the appropriate box ranking from the lowest ("0") to the highest ("7") for (Country I) and (Country II) according to the best of your knowledge about their human resource.

	Cambodia	Thailand	Singapore
1. The benefit level of employee (Higher level implies higher labor cost)			
2. The level of recruitment cost (Higher implies higher labor standards and labor cost)			
3. The level of training cost (Higher level implies higher labor cost)			
4. The level of severance payment (Higher level implies higher revenue cost)			
5. The enforcement degree of labor legislation* (Higher implies higher labor standards and labor cost)			
6. The coverage level of labor legislation (Higher implies higher labor standards and labor cost)			

7. The union affect on wage rates (Higher level implies higher power of the union to affect the wage)



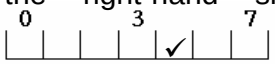
8. The level of labor's existing power** on foreign companies (Higher level implies higher labor cost)



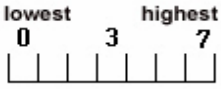
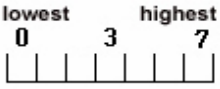
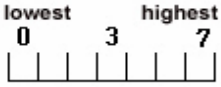
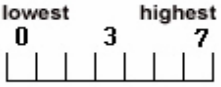
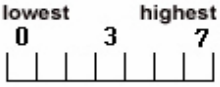
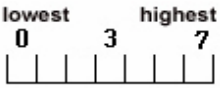
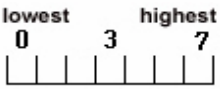
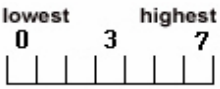
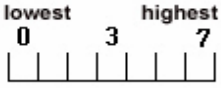
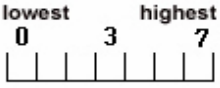
* The enforcement degree of labor legislation implies that the labor law will be seriously enforced to raise the difficulties of running business or/and increase of labor cost. The highest-level means the worst situation.

** The higher level of labor's/workers' power means that labor/workers will demand more income and benefits

Human Resource (Singapore)

On the right-hand side of each statement, please kindly check in (e.g. 

) the appropriate box ranking from the lowest ("0") to the highest ("7") for (Country I) and (Country II) according to the best of your knowledge about their human resource.

	Singapore	Malaysia	Thailand
1. The benefit level of employee (Higher level implies higher labor cost)			
2. The level of recruitment cost (Higher implies higher labor standards and labor cost)			
3. The level of training cost (Higher level implies higher labor cost)			
4. The level of severance payment (Higher level implies higher revenue cost)			
5. The enforcement degree of labor legislation* (Higher implies higher labor standards and labor cost)			
6. The coverage level of labor legislation (Higher implies higher labor standards and labor cost)			

7. The union affect on wage rates (Higher level implies higher power of the union to affect the wage)

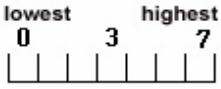
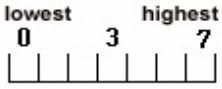
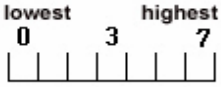
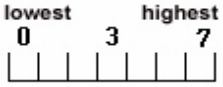
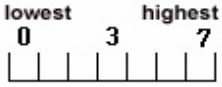
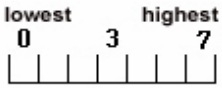
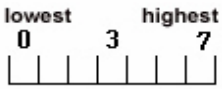
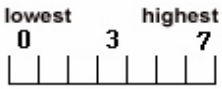
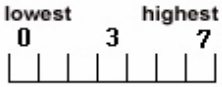
8. The level of labor's existing power** on foreign companies (Higher level implies higher labor cost)

* The enforcement degree of labor legislation implies that the labor law will be seriously enforced to raise the difficulties of running business or/and increase of labor cost. The highest-level means the worst situation.

** The higher level of labor's/workers' power means that labor/workers will demand more income and benefits

Human Resource (Taiwan)

On the right-hand side of each statement, please kindly check in (e.g. 0 | | | 3 | ✓ | | 7) the appropriate box ranking from the lowest ("0") to the highest ("7") for (Country I) and (Country II) according to the best of your knowledge about their human resource.

	Taiwan	Malaysia	Thailand
1. The benefit level of employee (Higher level implies higher labor cost)			
2. The level of recruitment cost (Higher implies higher labor standards and labor cost)			
3. The level of training cost (Higher level implies higher labor cost)			
4. The level of severance payment (Higher level implies higher revenue cost)			
5. The enforcement degree of labor legislation* (Higher implies higher labor standards and labor cost)			
6. The coverage level of labor legislation (Higher implies higher labor standards and labor cost)			

7. The union affect on wage rates (Higher level implies higher power of the union to affect the wage)

8. The level of labor's existing power** on foreign companies (Higher level implies higher labor cost)

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** The higher level of labor's/workers' power means that labor/workers will demand more income and benefits

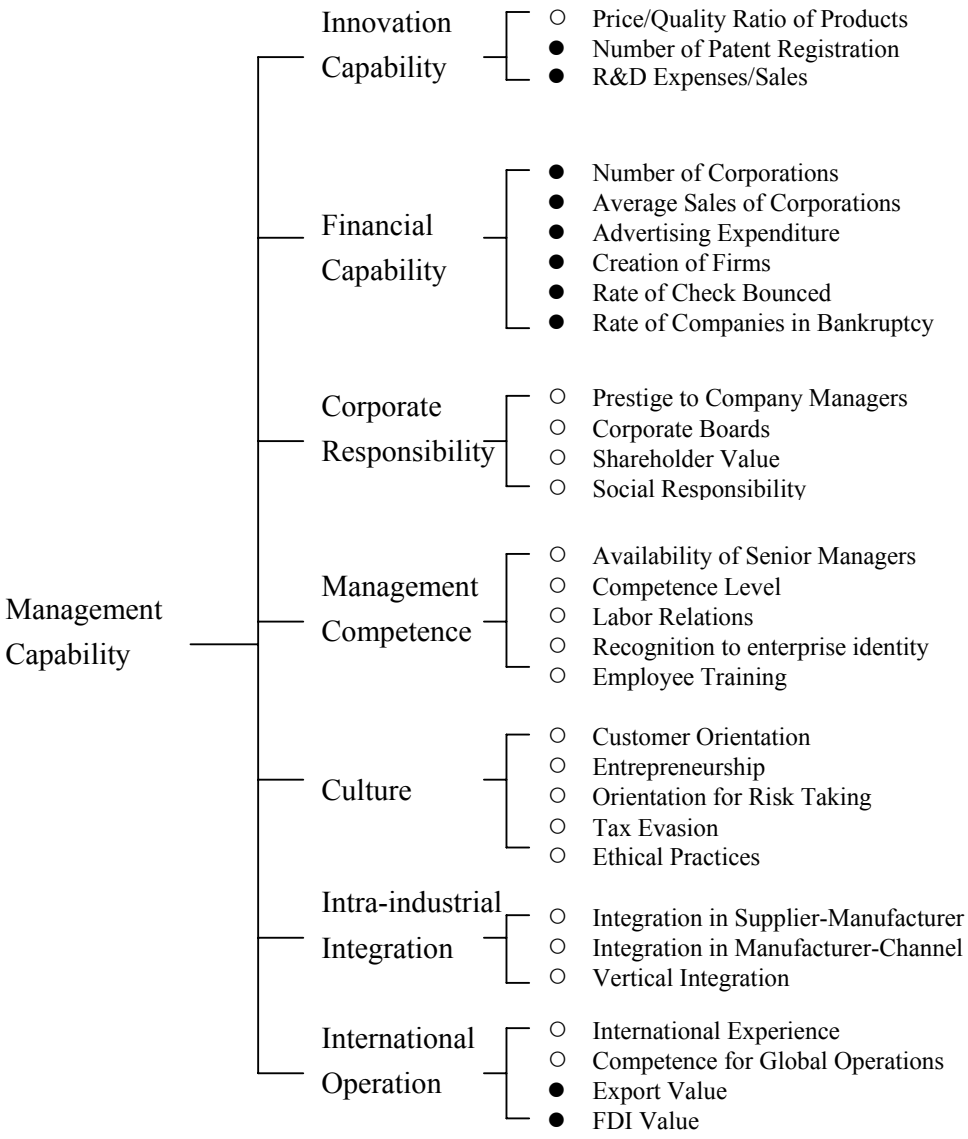
Survey of the Relative Importance for Management Capability
Cambodia, Singapore and Taiwan

Please kindly refer to the attached framework and evaluate the degree of relative importance of the following seven sub-categories for the nationwide management capability according to your understandings of the country. The assessment is based on a 100-point system. The more important the sub-category is, the higher point the sub-category has. The highest point is 100.

1. Innovation Capability _____
2. Financial Capability _____
3. Corporate Responsibility _____
4. Management Competence _____
5. Culture _____
6. Intra-industrial Integration _____
7. International Operation _____

0 ~100%

Management Capability

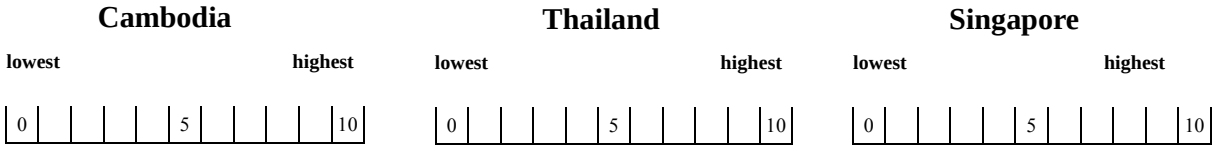


Note: "●" and "○" indicate the measured (hard) data and the survey (soft) data, respectively.

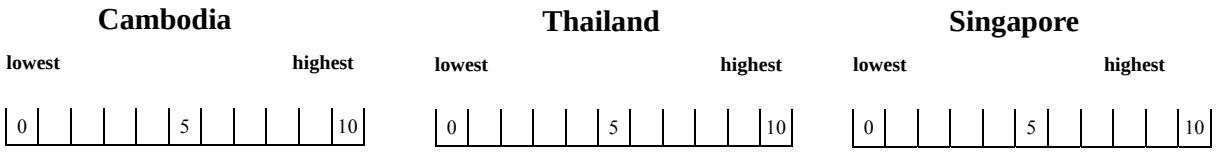
Management Capability — Cambodia

For each of the following questions that you answer for Cambodia, please also give your opinions for Thailand and Singapore. In each question, please kindly check appropriate boxes for these three countries, respectively, ranking from the lowest ("0") to the highest ("10"), according to the best of your knowledge about their management capability in the past one year.

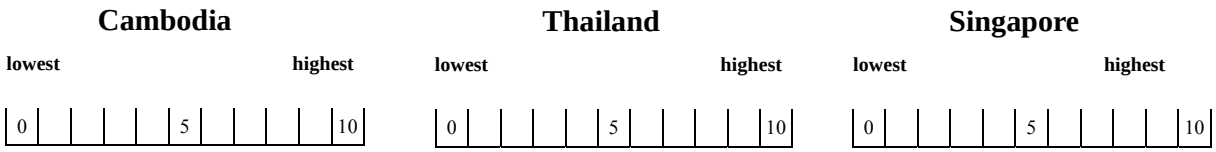
1. The level of price/quality ratio of domestic products comparing with imports?



2. The level of prestige to company managers by the public?

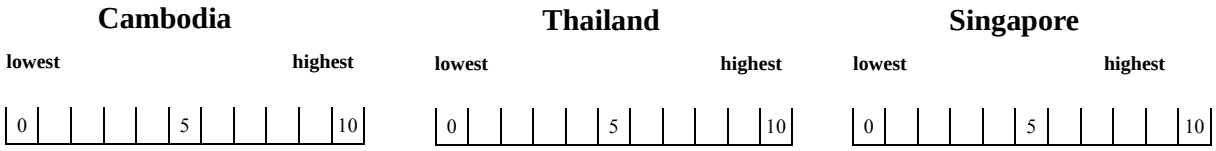


3. The level of capability of corporate boards to prevent improper practices in corporate affairs?



4. The level of capability to generate shareholder value?

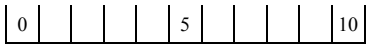
5. The level of social responsibility that managers would like to take?



6. The level of availability of competent senior managers in the labor market?

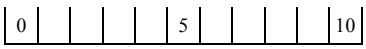
Cambodia

lowest highest



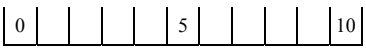
Thailand

lowest highest



Singapore

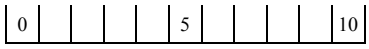
lowest highest



7. The level of competence of domestic managers when comparing with the MNC expatriates?

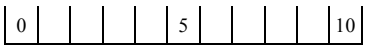
Cambodia

lowest highest



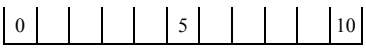
Thailand

lowest highest



Singapore

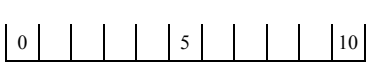
lowest highest



8. The level of harmony of labor relations?

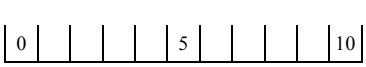
Cambodia

lowest highest



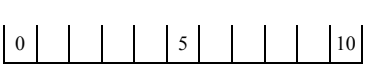
Thailand

lowest highest



Singapore

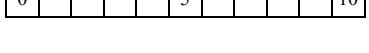
lowest highest



9. The level of enterprise identity recognized by the employees?

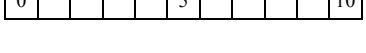
Cambodia

lowest highest



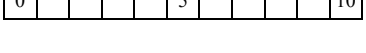
Thailand

lowest highest



Singapore

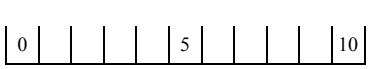
lowest highest



10. The level of priority to engage in employee training?

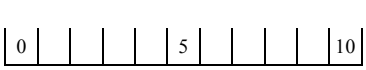
Cambodia

lowest highest



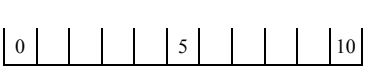
Thailand

lowest highest



Singapore

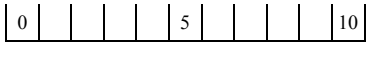
lowest highest



11. The level of emphasis on customer satisfactions?

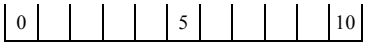
Cambodia

lowest highest



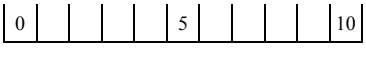
Thailand

lowest highest



Singapore

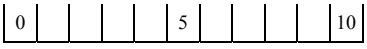
lowest highest



12. The level of entrepreneurship of corporate managers?

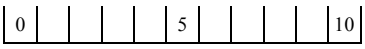
Cambodia

lowest highest



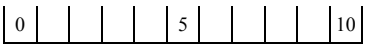
Thailand

lowest highest



Singapore

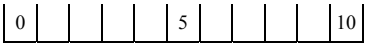
lowest highest



13. The level of risk taking orientation of CEOs of the small and medial enterprises?

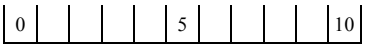
Cambodia

lowest highest



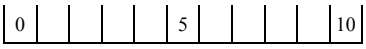
Thailand

lowest highest



Singapore

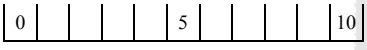
lowest highest



14. The level of ethical practices adopted in companies?

Cambodia

lowest highest

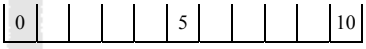


Thailand

lowest highest

Singapore

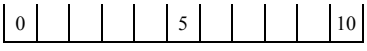
lowest highest



15. The level of the practice in tax evasion?

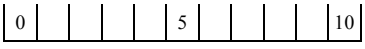
Cambodia

lowest highest



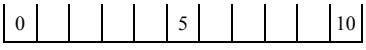
Thailand

lowest highest



Singapore

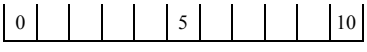
lowest highest



16. The level of the practice in bribing?

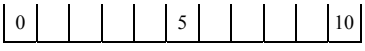
Cambodia

lowest highest



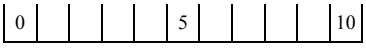
Thailand

lowest highest



Singapore

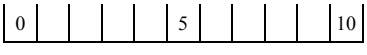
lowest highest



17. The level of integration in supplier-manufacturer relations?

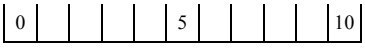
Cambodia

lowest highest



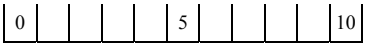
Thailand

lowest highest



Singapore

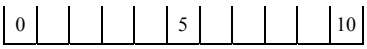
lowest highest



18. The level of integration in manufacturer-channel relations?

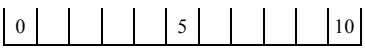
Cambodia

lowest highest



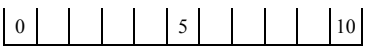
Thailand

lowest highest



Singapore

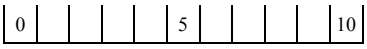
lowest highest



19. The level of vertical integration between upstream firms and downstream firms?

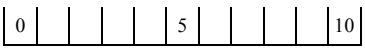
Cambodia

lowest highest



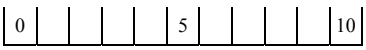
Thailand

lowest highest



Singapore

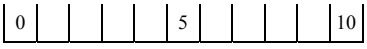
lowest highest



20. The level of experiences for managers in international business operations?

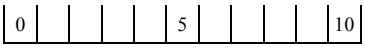
Cambodia

lowest highest



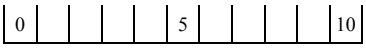
Thailand

lowest highest



Singapore

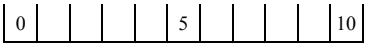
lowest highest



21. The level of management competence for managers in global operations?

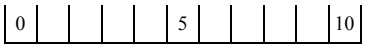
Cambodia

lowest highest



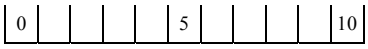
Thailand

lowest highest



Singapore

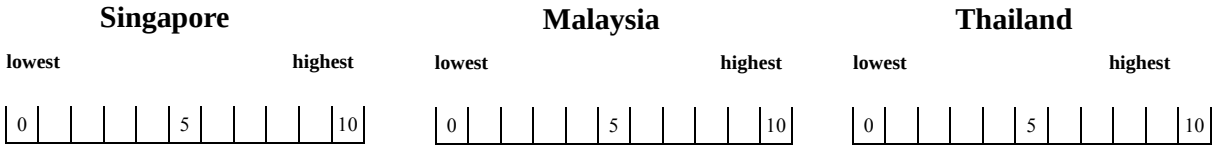
lowest highest



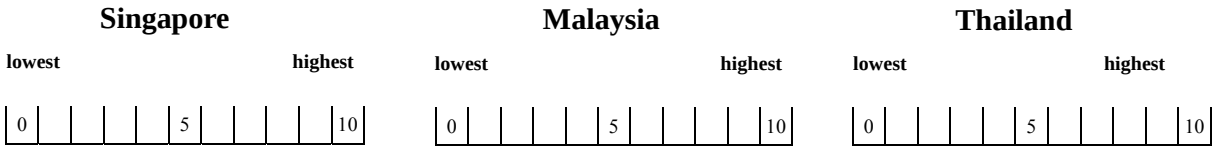
Management Capability — Singapore

For each of the following questions that you answer for Singapore, please also give your opinions for Thailand and Singapore. In each question, please kindly check appropriate boxes for these three countries, respectively, ranking from the lowest ("0") to the highest ("10"), according to the best of your knowledge about their management capability in the past one year.

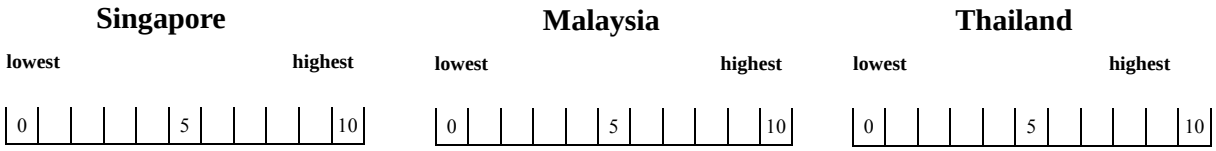
1. The level of price/quality ratio of domestic products comparing with imports?



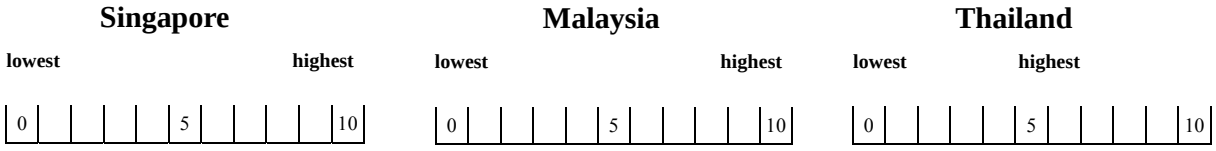
2. The level of prestige to company managers by the public?



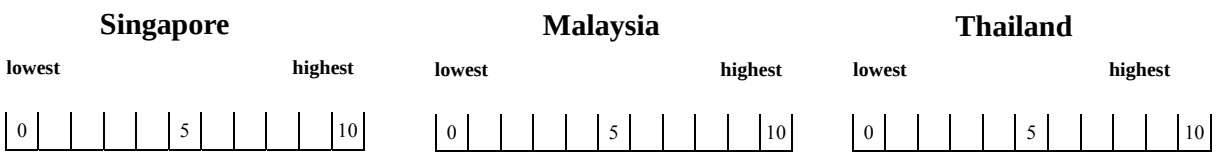
3. The level of capability of corporate boards to prevent improper practices in corporate affairs?



4. The level of capability to generate shareholder value?



5. The level of social responsibility that managers would like to take?



6. The level of availability of competent senior managers in the labor market?

Singapore	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

7. The level of competence of domestic managers when comparing with the MNC expatriates?

Singapore	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

8. The level of harmony of labor relations?

Singapore	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

9. The level of enterprise identity recognized by the employees?

Singapore	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

10. The level of priority to engage in employee training?

Singapore	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

11. The level of emphasis on customer satisfactions?

Singapore	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

12. The level of entrepreneurship of corporate managers?

Singapore	Malaysia	Thailand
lowest ... highest	lowest ... highest	lowest ... highest
0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10

13. The level of risk taking orientation of CEOs of the small and medial enterprises?

Singapore	Malaysia	Thailand
lowest ... highest	lowest ... highest	lowest ... highest
0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10

14. The level of ethical practices adopted in companies?

Singapore	Malaysia	Thailand
lowest ... highest	lowest ... highest	lowest ... highest
0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10

15. The level of the practice in tax evasion?

Singapore	Malaysia	Thailand
lowest ... highest	lowest ... highest	lowest ... highest
0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10

16. The level of the practice in bribing?

Singapore	Malaysia	Thailand
lowest ... highest	lowest ... highest	lowest ... highest
0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10

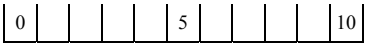
17. The level of integration in supplier-manufacturer relations?

Singapore	Malaysia	Thailand
lowest ... highest	lowest ... highest	lowest ... highest
0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10	0 | | | | 5 | | | | 10

18. The level of integration in manufacturer-channel relations?

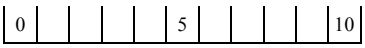
Singapore

lowest highest



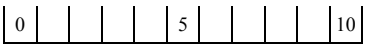
Malaysia

lowest highest



Thailand

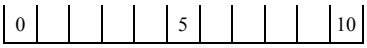
lowest highest



19. The level of vertical integration between upstream firms and downstream firms?

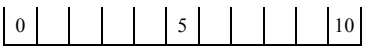
Singapore

lowest highest



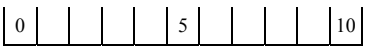
Malaysia

lowest highest



Thailand

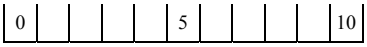
lowest highest



20. The level of experiences for managers in international business operations?

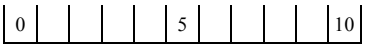
Singapore

lowest highest



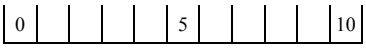
Malaysia

lowest highest



Thailand

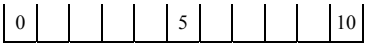
lowest highest



21. The level of management competence for managers in global operations?

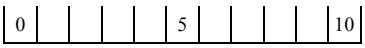
Singapore

lowest highest



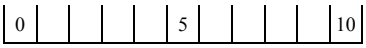
Malaysia

lowest highest



Thailand

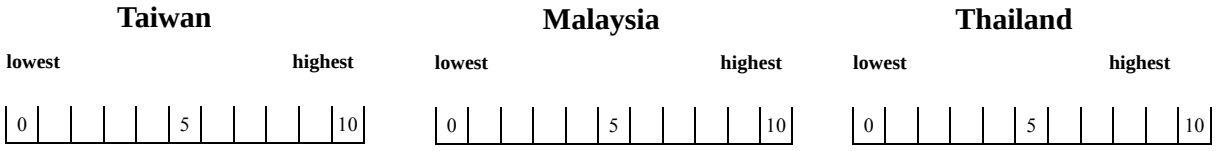
lowest highest



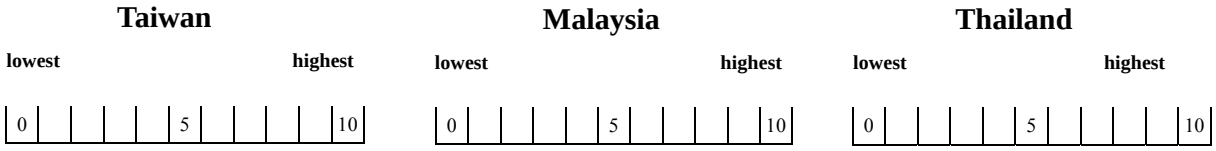
Management Capability — Taiwan

For each of the following questions that you answer for Taiwan, please also give your opinions for Thailand and Singapore. In each question, please kindly check appropriate boxes for these three countries, respectively, ranking from the lowest ("0") to the highest ("10"), according to the best of your knowledge about their management capability in the past one year.

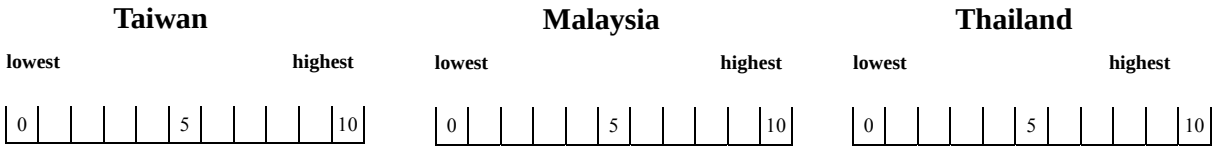
1. The level of price/quality ratio of domestic products comparing with imports?



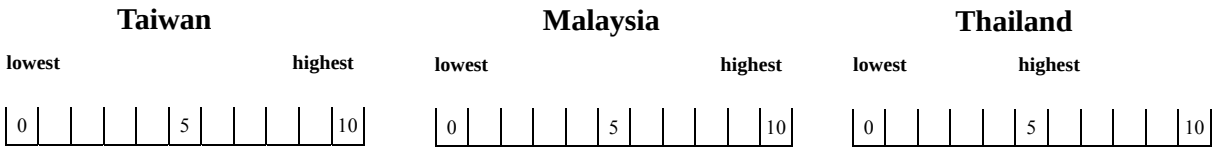
2. The level of prestige to company managers by the public?



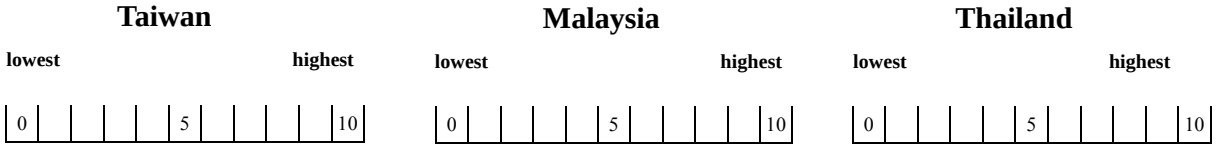
3. The level of capability of corporate boards to prevent improper practices in corporate affairs?



4. **The level of capability to generate shareholder value?**



5. The level of social responsibility that managers would like to take?



6. The level of availability of competent senior managers in the labor market?

Taiwan	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

7. The level of competence of domestic managers when comparing with the MNC expatriates?

Taiwan	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

8. The level of harmony of labor relations?

Taiwan	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

9. The level of enterprise identity recognized by the employees?

Taiwan	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

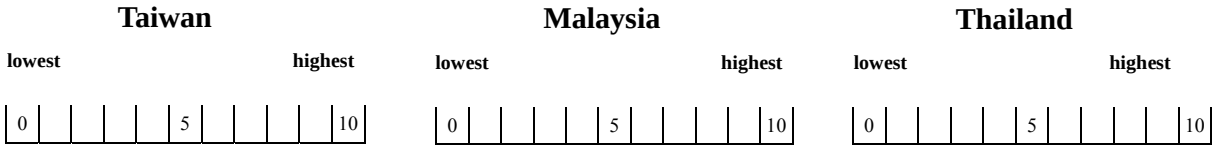
10. The level of priority to engage in employee training?

Taiwan	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

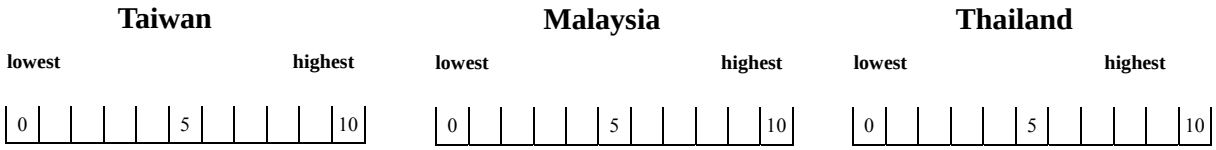
11. The level of emphasis on customer satisfactions?

Taiwan	Malaysia	Thailand
lowest highest	lowest highest	lowest highest
0 5 10	0 5 10	0 5 10

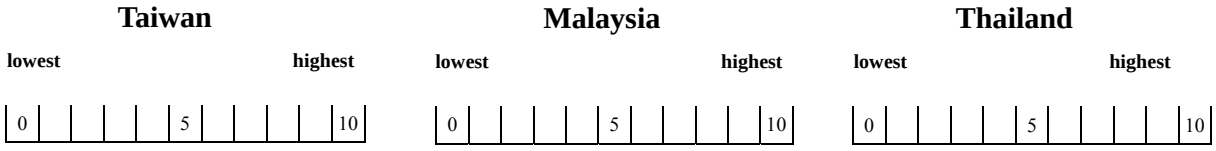
12. The level of entrepreneurship of corporate managers?



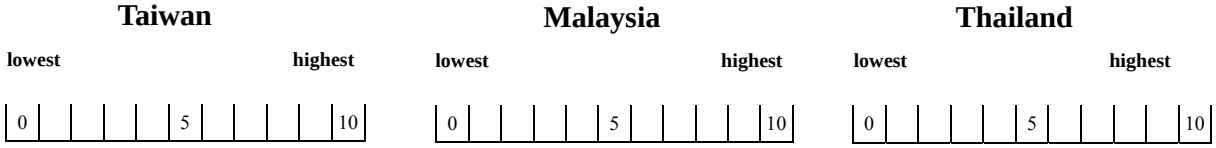
13. The level of risk taking orientation of CEOs of the small and medial enterprises?



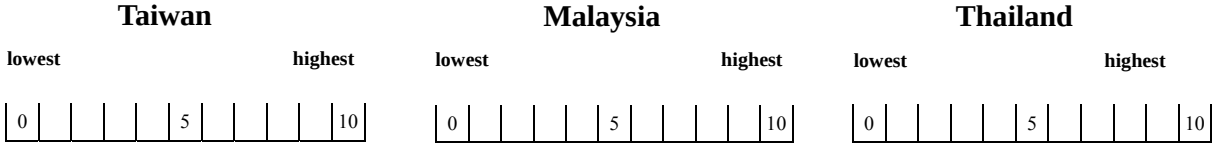
14. The level of ethical practices adopted in companies?



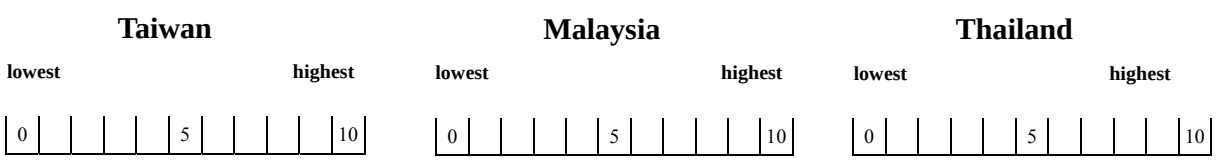
15. The level of the practice in tax evasion?



16. The level of the practice in bribing?



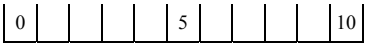
17. The level of integration in supplier-manufacturer relations?



18. The level of integration in manufacturer-channel relations?

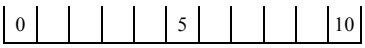
Taiwan

lowest highest



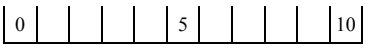
Malaysia

lowest highest



Thailand

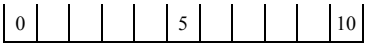
lowest highest



19. The level of vertical integration between upstream firms and downstream firms?

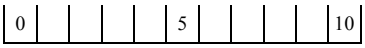
Taiwan

lowest highest



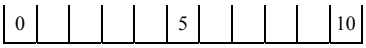
Malaysia

lowest highest



Thailand

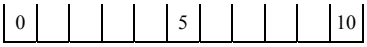
lowest highest



20. The level of experiences for managers in international business operations?

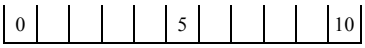
Taiwan

lowest highest



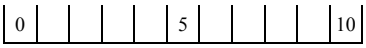
Malaysia

lowest highest



Thailand

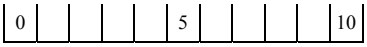
lowest highest



21. The level of management competence for managers in global operations?

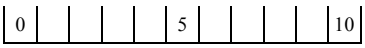
Taiwan

lowest highest



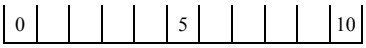
Malaysia

lowest highest



Thailand

lowest highest



Survey of the Relative Importance for Productivity
Cambodia, Singapore and Taiwan

Please kindly refer to the attached framework and evaluate the degree of relative importance of the following six sub-categories for the nationwide productivity according to your understandings of the country. The assessment is based on a 100-point system (0-100). The more important the sub-category is, the higher point the sub-category has. The highest point of each category is 100.

1. Productivity in Agriculture-Related Trade _____

2. Productivity in Mining Industry _____

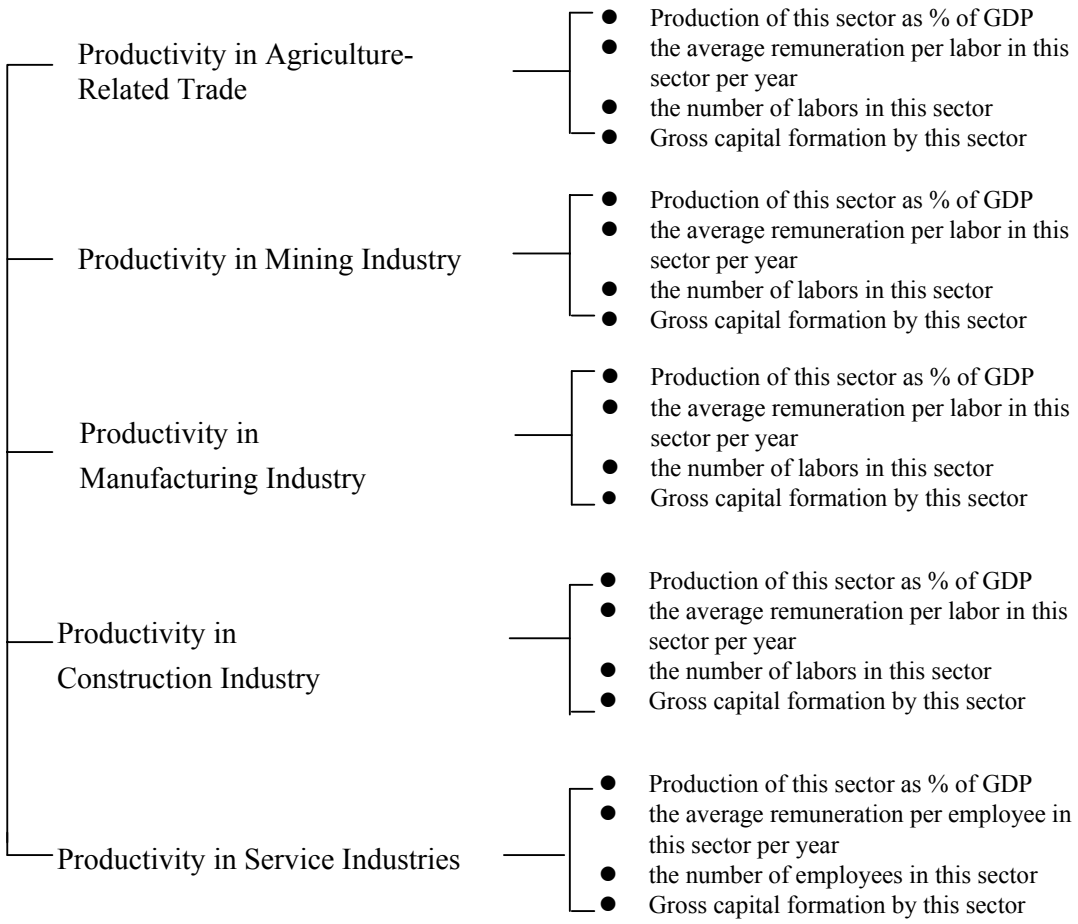
3. Productivity in Manufacturing Industry _____

4. Productivity in Construction Industry _____

5. Productivity in Service Industries _____

0 ~100%

Productivity



Productivity
Cambodia, Singapore and Taiwan (Year 1999)

The following data of your country are required for determining the productivities of the Southeast Asian countries. Please kindly provide us the data, the abbreviated source(s) of each datum, and the complete reference. You may insert footnotes for due explanations.

A、 Nation

1. GDP _____in US$ millions (Source: _____)
2. GDP per employee per year _____ in US$

   (Source: _____)
3. The average remuneration[2] per employee per year _____ in US$

   (Source: _____)
4. Gross capital formation (or DDI + FDI)[1] _____in US$ millions

   (Source: _____)

B、 Agriculture-Related Trade （including agriculture, forestry, fishery, and pasturage）

1. Production of this sector as % of GDP _____%

   (Source: _____)
2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)
3. The number of labors in this sector _____thousands people

   (Source: _____)
4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

C、 Mining Industry （including coal, oil, metal, and natural gas）

1. Production of this sector as % of GDP _____%

   (Source: _____)
2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)
3. The number of labors in this sector _____thousands people

   (Source: _____)
4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

D、 Manufacturing Industry (including information Technology Industry)

1. Production of this sector as % of GDP _____%

   (Source: _____)

2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)

3. The number of labors in this sector _____thousands people

   (Source: _____)

4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

E、 Construction Industry

1. Production of this sector as % of GDP _____%

   (Source: _____)

2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)

3. The number of labors in this sector _____thousands people

   (Source: _____)

4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

F、 Service Industries[3]

1. Production of this sector as % of GDP _____%

   (Source: _____)

2. The average remuneration[2] per employee in this sector per year_____in US$

   (Source: _____)

3. The number of employees in this sector _____thousands people

   (Source: _____)

4. Gross capital formation by this sector (or DDI + FDI)[1]_____in US$ millions (Source: _____)

Note:
1.

(a) Use either DDI + FDI or GCF for each sector, depending on which one is available for your country. (DDI: Domestic Direct Investment; FDI: Foreign Direct Investment)

(b) Provide an approximate value for some sectors based on GCF (aggregate data for all sectors) and other sources, if some data cannot be obtained. However, such approximations should be noted in the subsequent analyses and comparisons. No matter which one is used, please give the sufficient descriptions for the data in the end of questionnaire.

2. According to the conclusions in the Forum, the following statement should be noticed, "Use data as made available in the different countries (salaries, wages, other benefits, etc.), but be conscious to specify the definition (by country) in the final report/paper."

3. Also using the conclusions in the Forum, the production of Service Industries as % of GDP will be 100% - (% of GDP from Agriculture-Related Trade + % of GDP from Mining Industry + % of GDP from Manufacturing Industry + % of GDP from Construction Industry) Such a conclusion is also applied to the other variables (such as remuneration, Gross capital formation (or DDI + FDI)) in the Service Industries.

4. *You may need to list the sources you referred to or your comments below.*

Productivity
Cambodia, Singapore and Taiwan (Year 2000)

The following data of your country are required for determining the productivities of the Southeast Asian countries. Please kindly provide us the data, the abbreviated source(s) of each datum, and the complete reference. You may insert footnotes for due explanations.

A、 Nation

1. GDP _____in US$ millions (Source: _____)
2. GDP per employee per year _____ in US$

   (Source: _____)
3. The average remuneration[2] per employee per year _____ in US$

   (Source: _____)
4. Gross capital formation (or DDI + FDI)[1] _____in US$ millions

   (Source: _____)

B、 Agriculture-Related Trade （including agriculture, forestry, fishery, and pasturage）

1. Production of this sector as % of GDP _____%

   (Source: _____)
2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)
3. The number of labors in this sector _____thousands people

   (Source: _____)
4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

C、 Mining Industry （including coal, oil, metal, and natural gas）

1. Production of this sector as % of GDP _____%

   (Source: _____)
2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)
3. The number of labors in this sector _____thousands people

   (Source: _____)
4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

D、 Manufacturing Industry (including information Technology Industry)

1. Production of this sector as % of GDP _____%

(Source: _____)

2. The average remuneration[2] per labor in this sector per year_____in US$

(Source: _____)

3. The number of labors in this sector _____thousands people

(Source: _____)

4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

E、 Construction Industry

1. Production of this sector as % of GDP _____%

(Source: _____)

2. The average remuneration[2] per labor in this sector per year_____in US$

(Source: _____)

3. The number of labors in this sector _____thousands people

(Source: _____)

4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

F、 Service Industries[3]

1. Production of this sector as % of GDP _____%

(Source: _____)

2. The average remuneration[2] per employee in this sector per year_____in US$

(Source: _____)

3. The number of employees in this sector _____thousands people

(Source: _____)

4. Gross capital formation by this sector (or DDI + FDI)[1]_____in US$ millions (Source: _____)

Note:
1.

(a) Use either DDI + FDI or GCF for each sector, depending on which one is available for your country. (DDI: Domestic Direct Investment; FDI: Foreign Direct

Investment)

(b) Provide an approximate value for some sectors based on GCF (aggregate data for all sectors) and other sources, if some data cannot be obtained. However, such approximations should be noted in the subsequent analyses and comparisons. No matter which one is used, please give the sufficient descriptions for the data in the end of questionnaire.

2. According to the conclusions in the Forum, the following statement should be noticed, "Use data as made available in the different countries (salaries, wages, other benefits, etc.), but be conscious to specify the definition (by country) in the final report/paper."

3. Also using the conclusions in the Forum, the production of Service Industries as % of GDP will be 100% - (% of GDP from Agriculture-Related Trade + % of GDP from Mining Industry + % of GDP from Manufacturing Industry + % of GDP from Construction Industry) Such a conclusion is also applied to the other variables (such as remuneration, Gross capital formation (or DDI + FDI)) in the Service Industries.

4. *You may need to list the sources you referred to or your comments below.*

Productivity
Cambodia, Singapore and Taiwan (Year 2001)

The following data of your country are required for determining the productivities of the Southeast Asian countries. Please kindly provide us the data, the abbreviated source(s) of each datum, and the complete reference. You may insert footnotes for due explanations.

A、 Nation

1. GDP _____in US$ millions (Source: _____)
2. GDP per employee per year _____ in US$

   (Source: _____)
3. The average remuneration[2] per employee per year _____ in US$

   (Source: _____)
4. Gross capital formation (or DDI + FDI)[1] _____in US$ millions

   (Source: _____)

B、 Agriculture-Related Trade （including agriculture, forestry, fishery, and pasturage）

1. Production of this sector as % of GDP _____%

   (Source: _____)
2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)
3. The number of labors in this sector _____thousands people

   (Source: _____)
4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

C、 Mining Industry （including coal, oil, metal, and natural gas）

1. Production of this sector as % of GDP _____%

   (Source: _____)
2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)
3. The number of labors in this sector _____thousands people

   (Source: _____)
4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

D、 Manufacturing Industry (including information Technology Industry)

1. Production of this sector as % of GDP _____%

   (Source: _____)

2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)

3. The number of labors in this sector _____thousands people

   (Source: _____)

4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

E、 Construction Industry

1. Production of this sector as % of GDP _____%

   (Source: _____)

2. The average remuneration[2] per labor in this sector per year_____in US$

   (Source: _____)

3. The number of labors in this sector _____thousands people

   (Source: _____)

4. Gross capital formation by this sector (or DDI + FDI)[1] _____in US$ millions (Source: _____)

F、 Service Industries[3]

1. Production of this sector as % of GDP _____%

   (Source: _____)

2. The average remuneration[2] per employee in this sector per year_____in US$

   (Source: _____)

3. The number of employees in this sector _____thousands people

   (Source: _____)

4. Gross capital formation by this sector (or DDI + FDI)[1]_____in US$ millions (Source: _____)

Note:
1.

(a) Use either DDI + FDI or GCF for each sector, depending on which one is available for your country. (DDI: Domestic Direct Investment; FDI: Foreign Direct Investment)

(b) Provide an approximate value for some sectors based on GCF (aggregate data for all sectors) and other sources, if some data cannot be obtained. However, such approximations should be noted in the subsequent analyses and comparisons. No matter which one is used, please give the sufficient descriptions for the data in the end of questionnaire.

2. According to the conclusions in the Forum, the following statement should be noticed, "Use data as made available in the different countries (salaries, wages, other benefits, etc.), but be conscious to specify the definition (by country) in the final report/paper."

3. Also using the conclusions in the Forum, the production of Service Industries as % of GDP will be 100% - (% of GDP from Agriculture-Related Trade + % of GDP from Mining Industry + % of GDP from Manufacturing Industry + % of GDP from Construction Industry) Such a conclusion is also applied to the other variables (such as remuneration, Gross capital formation (or DDI + FDI)) in the Service Industries.

4. *You may need to list the sources you referred to or your comments below.*

Survey of the Relative Importance for National Competitiveness – Cambodia, Singapore and Taiwan

Please kindly refer to the attached framework and evaluate the degree of relative importance of the following five categories for the national competitiveness according to your understandings of the country. Based on a scale of 0 to 100, the more important the category is, the higher point the category has.

1. Economic Performance _____

2. Technology Development _____

3. Human Resource _____

4. Management Capability _____

5. Productivity _____

0 ~100%

National Competitiveness