

Research Note

Human Resources Development Initiatives in Singapore : Investing in Sustainable Global Competitiveness

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Human resources are a country's most important asset, and significantly impact its economic development. Indeed, as a small city-state with few other resources, Singapore has both identified and focused on the critical importance of its human resources. Since the country's independence in 1965, Singapore has made significant investments into developing its human capital. Its human resources development strategies have continuously evolved over the past forty years, in conjunction with the changing national economy. Currently, Singapore is known as Asia's most successful country, as within only one generation, it has transformed itself from a very small, developing country into a modern, industrial, and prosperous economy. Therefore, Singapore can be considered a unique case study for studying a successful national strategy of human resources development. However, little study has been undertaken, hence this paper canvasses a collection of research and fieldwork, conducted in 2013, in order to identify the essential features of Singapore's human resources development. Furthermore, the paper attempts to reveal the emerging challenges that Singapore is facing, which include a labor force shortage due to the world's lowest birth rate, combined with a rapidly aging society. This poses the question of whether the current policies related to human resources development are sustainable in a rapidly changing global economy.

Key Words : Human Resources Development, Global Talent Hub, Productivity, Tripartite, Work and Life Integration, Ministry of Manpower, Knowledge-Based Economy, Employability

I. Introduction

It is often said that human capital is a country's most important asset, and significantly impacts its economic development. A well-educated workforce provides a solid foundation for national productivity, and enhances national competitiveness and economic growth. Accordingly, human resources are regarded as a country's most critical resource.

In Singapore, human resources development has always been a core element in national strategic economic plans. Singapore can be considered a successful as well as a unique case study of a national strategy of human capital development. Today, Singapore's reputation as the ideal business and commercial hub in Southeast Asia can be partly attributed to its workforce, which is universally recognized for its extensive level of knowledge, high productivity, and

technical proficiency.

Global World Competitiveness

It has become axiomatic in the twenty-first century that global economic competitiveness rests on the knowledge and skills of the workforce (Brown, 2001). In the 2011 rankings of global competitiveness, Singapore was ranked second, after Switzerland, and before Sweden, Finland, the U.S.A., and Japan, which was the only other Asian country in the top ten (World Economic Forum, 2011). The achievement and maintenance of international competitiveness has been critical for Singapore's economic development, and the government has thus targeted education as a site for further investment. Major world achievements are highlighted in Table 1.

Table 1. Singapore's World Competitiveness Ranking

Indicator	Rank	Top	Source
Labor Market Competitiveness Indices			
Labor Market Competitiveness	1 (50)	Singapore	BERI Report 2011
	1 (144)	Switzerland	GCR, 2012-2013
	1 (58)	Singapore	WCY, 2010
Foreign Talent Attraction			
Asian Expatriates	1 (400)	Singapore	ECA International 2012
Foreign Talents	2 (57)	Switzerland	WCY, 2009
Labor Relations			
Labor Relations	2 (144)	Switzerland	GCR, 2012-2013
	3 (57)	Denmark	WCY, IMD 2009
Higher Education and Continuous Education and Training			
Extent of Staff Training	3 (144)	Switzerland	GCR, 2012-2013
Quality of Math and Science	1 (144)	Finland	GCR, 2012-2013
Quality of Education System	3 (144)	Switzerland	GCR, 2012-2013

Sources: *The Business Environment Risk Intelligence Report (BERI)*; *The Global Competitiveness Report (GCR)*; *The World Competitiveness Yearbook (WCY)*; *Employment Conditions Abroad (ECA) International*.

Despite the importance of workforce development and skill formation for these emerging and established Asian economies, little research has been undertaken upon these topics. This paper will examine the dynamics of human resources development policies and government initiatives in Singapore, and will examine the emerging challenges that this country is facing. One such example is the shortage of labor, which arises due to the low birth rate and the rapidly aging society. This leads to the question of whether the policies related to human resources development are sustainable in such a rapidly changing global economy. It is worth noting that Singapore's experience can offer some useful insights to other countries, including Japan.

II. Methodology

This paper is composed of personal research notes, created during a 2013 field visit to Singapore. In addition to a review of various relevant literatures and resources, the data is primarily drawn from interviews with professionals and researchers in the area of human resources development. Furthermore, information was used from other published sources, including internet websites, annual reports, news releases, articles, and other publications. Official statistical sources were also used to supplement these primary materials.

III. Perspectives on workforce skills development and human resources development

There is a large body of literature that supports

the strong relationship between investments in human capital and economic growth (e.g. Romer, 1986; Lucas 1988), while trade theories (e.g. the Heckscher-Ohlin model) stress the quality of national human resources as a critical factor in determining comparative advantage (e.g. Wood, 1999). Improving the national skillset is therefore clearly an important policy issue for all countries.

Workforce development approach in Singapore

It is necessary to consider both education and training simultaneously when discussing workforce development. Generally speaking, education mainly takes place in schools, colleges, and universities. A large part of it is general, theoretical, or academic, and thus lays the foundation for later training of a more applied nature. While training generally occurs in the workplace, both on and off the job, generally more vocational, practical and applied training depends on the established needs of the country's labor market. However, in the real world, the distinction between education and training is obscured, and the country's initiatives require one to work on both simultaneously.

In the small city-state of Singapore, the workforce development approach is deliberate and systematic. Kuruvilla points out the following five features, which characterize Singapore's approach to workforce development: (i) government-shaped national human resources policies, tailored to each phase of economic development; (ii) incentives for foreign investors to collaborate with the state on establishing training centers; (iii) introduction of a Skills Development Fund (SDF) scheme, which collects

money from and then redistributes it to employers as skills-training grants; (iv) an education policy that promotes long-term skills development; and (v) facilitation of communication and coordination among government agencies, via a focusing upon a tripartite structure that gives labor, management, and government a place at the table. (Kuruville, 2006).

IV. An overview of the national policy on human resources development in Singapore

Singapore's Ministry of Manpower (MOM) is the key government institution responsible for managing the national policy on human resources development, which is contained in the Manpower 21 Report (MOM, 2003). The policy infrastructure for this development is categorized by two distinct features: (i) a tripartite approach, and (ii) a multi-departmental approach involving all relevant government agencies (Osman-Gani, 2004). This will now be further examined.

Table 2. Singapore Key Indicators 2012

POPULATION	
Total Population ('000) ¹	5,399.2
Resident Population ('000)	3,844.8
Singapore Citizen ('000)	3,313.5
Permanent Residents ('000)	531.2
Sex Ratio ²	968
Total Fertility Rate (per female) ³	1.29%
Life Expectancy at Birth	82.3
Males	79.9
Females	84.5
ENROLMENT IN EDUCATIONAL INSTITUTIONS	
Total Enrolment	679,663
Primary Schools	252,735
Secondary Schools	202,520
Junior Colleges	32,087
Institute of Technical Education	25,370
Polytechnics	85,857
National Institute of Education	4,429
Universities	76,665
Literacy rate	96.40%
LABOR FORCE ('000)	
Total	3,361.8
Residents	2,119.6
Unemployment rate (Seasonally adjusted)	2%
Residents	2.80%

Sources: Comprehensive Labour Force Survey, Ministry of Manpower; Education Statistics Digest 2013, Ministry of Education; *Yearbook of Statistics Singapore, 2013*, Department of Statistics.

1. Comprises Singapore residents, (i.e. Singapore citizens and permanent residents), and non-residents

2. Refer to resident population, Males per 1,000 females

3. Refer to resident population

(i) The Tripartite System

The tripartite relationship ensures that there is agreement regarding the strategies and necessary steps required for national human resources development. Singapore originally had a policy of first training workers, and then retraining them so that they might upgrade to the necessary skills. This

developed due to the economic restructuring in the early 1980s, and was possible with the acceptance and cooperation of the unions (Osman-Gani, 2004). One example is the Manpower 21 Report, as cited above, which was launched in 1998. It was produced by a partnership between the government ministries, unions, and more than 100 participants from the private sector (MOM, 2003). Another important tripar-

tite institution is the Skill Development Fund (SDF), which was founded by the government and guided by a tripartite council. It acted as a mechanism for financing employers to train their workers, and provided a motivation for companies to upgrade their employees' skills. In addition, the National Wages Council (NWC) plays an important role in this tripartite system, which advocates Singapore's human resources development through overseeing the motivational aspects of performance, especially regarding compensation and other elements of wage packages. The recommendations proposed by the NWC have highlighted the significance of training, in order to improve productivity, thus leading to increasing economic development and allowing the country to meet the challenges of a global competition (MOM, 2003).

(ii) The Multi-departmental Approach

Singapore employs a multi-departmental approach to its national policies for human resources development. The Ministry of Manpower Report outlines Singapore's human capital agenda, which is intended to enable citizens to be competent in the 21st century and in the new, knowledge-based economy.

Following the economic downturn that occurred after September 11, 2001, the Singapore government established the Workforce Development Agency (WDA) in 2003. This organization was created to lead, drive and champion employee development, thus enhancing the employability and competitiveness of Singapore's workforce.¹

Working within MOM's policy framework for building the nation's human resources capability, the WDA is concerned with training human resources managers and practitioners, and especially with helping organizations to develop talent and leadership capabilities. The WDA has subsequently expanded its continuing education and training (CET) infrastructure. According to the 2008 CET Master Plan, nearly fifty percent of Singapore's resident workforce will have at least a diploma qualification by 2020 (MOM, 2012).

Singapore's initiatives in workforce training and development are dependent on the government, but also can only materialize through a range of tripartite and cooperative ventures. A complex process of interacting institutions identifies and delivers educational and vocational training, and it is apparent that the effort to transform Singapore into a knowledge-based economy is a concerted one, but is not confined to any single approach.

V. Singapore's education system

Successful human resources development outcomes can be realized by achieving both national education systems, and by increasing technical and vocational education. Singapore's education system is integrally linked to its human resource development strategy (Osman-Gani, 2004). This section will outline a review of the historical development of the educational system in Singapore.

When Singapore became an independent nation in 1965, it was a small, low-income tropical island with few natural resources, rapid population growth, and recurring conflict between the ethnic and religious groups comprising its population (Stewart, 2012). At that time, Singapore had no compulsory education, and as little care was paid to the quality of education or to educational standards, large numbers of students dropped out of school. In contrast, Singapore's students are now consistently high performers on international assessments.

It is worth noting, however, that the current Singapore education system and its high performance did not emerge fully-formed, but rather developed along with the economic situation. These changes are categorized in three development stages, as summarized below.

(i) 1959-1978: "Survival Phase"

During this period, schools were built rapidly, and people were widely recruited to staff them. Furthermore, established schools run by different ethnic groups, such as Chinese, Malaysians and Indians, and comprised of different mixes of religious groups, were merged into a single Singaporean educational system. A bilingual policy was also introduced, so that all children would learn both their own language and English. However, due to the lack of concern for quality, large numbers of students still dropped out, and standards were low. Nonetheless, due to these reforms, as well as the subsequent rapidly growing school population, emphasis was placed mainly upon solving the quantitative problem of expanding Singapore's primary and secondary education. At later stages of economic and educational reform, the government realized that they needed to transition into a highly-skill economy. As a result, in the late 1960s, more resources were committed to the training of vocational, technical and professional workers.

¹ For more details, see, <http://www.wda.gov.sg/>

(ii) 1978-1996: “Efficiency Phase”

In 1979, having successfully completed the first phase of industrialization and achieving full employment, the Ministry of Education undertook a thorough review of education. This led to the *Report on the Ministry of Education*, known as the Goh Report (1979), and the new education system was thus introduced at the school level. In this new system, it was proposed that students would take six years of primary education, with a significant focus on math, science, and English. This would be followed by four years of secondary education, during which students would be channeled into arts, commerce, science, and technical streams. Subsequently, students would take the comprehensive British based GCE “O” Level examinations, which would qualify them for junior college, and then the GCE “A” Levels, which would allow students to qualify for university. These reforms helped the country to move away from a one-size-fits-all approach to schooling, and created multiple pathways for students in order to reduce the dropout rate, to improve the quality of education, and to produce the more technically skilled labor force needed for achieving the new national economic goals (Stewart, 2012). In addition, a newly introduced tracking system reduced the student dropout rate, and raised the level of passes on the English O-level examinations. The students who did not pass the GCE “O” levels and GCE “A” level examinations were channeled into the vocational training scheme.

However, the sudden 1985 recession revealed Singapore’s vulnerability to the global economic situation. Recommendations made in *The Subsequent Report of the Economic Committee: The Singapore Economy - New Directions* (Ministry of Trade and Industry, 1986) recommended upgrading the education level of the workforce, and in the 1990s, emphasized shifting towards creativity and thinking skills (Osman-Gani, 2004).

As a result of these reforms, Singapore led the world in math and science TIMSS scores by 1995.² One major focus during this period was on the production of technically trained people at all levels. In order to bring technical education into line with

the requirement for higher, value-added production skills, in 1992 the government established a post-secondary Institute for Technical Education (ITE), which provides technical training and regulates apprentice training. Today, ITE’s facilities and equipment are comparable to a modern high-tech university, and close working relationships with industries in each sector keep it current with changing demands and new technologies. As a result, the image and attractiveness of vocational education greatly improved, and a strong market demand for ITE graduates has emerged.

(iii) 1990s – present: “Global Knowledge Phase”

Since the 1990s, the government has recreated its education policy in order to focus on increasing creativity, innovation, and research. This was attempted through changes to the structure of examinations, as well as more project-based methods of evaluation, more research and term papers, and other methods designed to encourage students to “think outside the box” (Stewart, 2012). “The thinking skills program,”³ launched by the Prime Minister in 1997, was designed to address the perception that Singapore graduates are analytically sound, but lack creativity, as based on feedback from industry. Furthermore, the reforms were also deemed necessary to meet Singapore’s goal of becoming a regional research and development center, as it sought to counter the expected future shortage of scientists and engineers.

Singapore is now regarded as a major global success story, due to the manner in which it created a world-class economy. This was stimulated by a world-class education system, and enacted through a steady sequence of quality improvements, well-considered policy decisions, and a careful implementation process.

However, government’s effort to improve the education system remains a high priority for nation policy, especially in order to achieve sustainable economic growth. In the coming years, the Ministry of Education is seeking to redesign and improve many elements of education, including the curriculum and assessment systems, teacher development, and

2 TIMSS (Trends in International Mathematics and Science Study) has measured trends in mathematics and science achievement at the fourth and eighth grades, and has been conducted on a regular four-year cycle since 1995. Participating countries use TIMSS in various ways to explore educational issues, including monitoring system-level achievement trends in a global context, establishing achievement goals and standards for educational improvement, stimulating curriculum reform, and improving teaching and learning through research and analysis of the data. See timssandpirls.bc.edu for further details.

3 This vision aims to develop creative thinking skills, a lifelong passion for learning and nationalistic commitment in the young (Tan, C. 2006). Since 2003, the government has also focused on nurturing a spirit of Innovation and Enterprise (I&E) among students and staff. In 2004, Teach Less, Learn More (TLLM) was introduced to improve the quality of interaction between teachers and students, and equip students with the knowledge, skills and values. Teaching will be focused on developing understanding, critical thinking and the ability to ask questions and seek solutions.

the development of Singapore as an education hub. In line with this effort, in 1999, the National Trade Union Congress (NTUC), the labor organization, also proposed 10-year plan of Productivity Action 21 (ProAct 21), a program that aims for Singapore to become a knowledge-based economy deriving its competitive edge from productivity by focusing on people, business and innovation.⁴ Therefore, the culture of continuous learning is being operationalized through different public agencies, as well as through both government and labor organizations.

VI. Global Talent Strategy

Talent is the heart of competitiveness and innovation in today's globally connected economy. Countries that have mastered the internal development of skills, and lowered the entry barriers for foreign talent are more successful in creating vivacious and sustainable economies.

Singapore's positive approach to establishing a talent hub is best reflected by its open and liberal immigration policy, which is designed to attract entrepreneurs and working professionals from all over the world. Singapore is now looking at building a "vibrant talent ecosystem,"⁵ and has therefore launched the Leadership Initiative for Building Networks and Knowledge (LINK). By creating a cluster of business schools, human resources consultancies, and corporate universities, LINK aims to transform Singapore into a regional center for developing talent and leadership training. Integral to LINK is the newly launched Human Capital Leadership Institute (HCLI),⁶ which will engage and collaborate with companies, in order to help them address their pan-Asian leadership development and talent management needs. According to Mr. Gan Kim Yong from the Minister of Manpower, "Top local talents will want to remain in Singapore and global talents will want to come here because we have the best educational infrastructures to help them develop their leadership competencies and further their careers. Global companies will also invest and set up operations in

Singapore because of the availability of a deep talent pool."⁷

Today, Singapore's reputation as the ideal business and commercial hub in Southeast Asia can be partly attributed to its workforce, which is universally recognized for its extensive knowledge, high productivity, and technical proficiency. It is widely recognized that the availability of a competent workforce leads to a better business climate, as well as a stronger economy. Therefore, developing human capital is an economic imperative for Singapore, which is why it continues to invest heavily in nurturing a strong national talent base.

INSEAD world competitiveness ranking

In partnership with Singapore's Human Capital Leadership Institute and Adecco, INSEAD has created the first ranking of 103 countries, based on their ability to attract and develop talent.⁸ This index shows that European and other rich countries mostly occupy the top ten slots, but with the notable addition of Singapore and the United States. Furthermore, a wide gap is found on the ranking between prosperous and low-income countries.

Analysis of the top-ranked 20 countries in the index shows that countries need two skillsets, namely, global knowledge and vocational skills, in order to build a cutting edge, knowledge-based society. In some cases, this combination relies on strong educational traditions, while in others it is the result of immigration policies.

The country ranked first is Switzerland. What keeps this country at the top of the list is its strength in both vocational and global knowledge skills, in addition to its strengths across the entire scale of indicators. At the same time, Switzerland has two local specificities, namely, a substantial apprenticeship program, and a system where workers can move back and forth between the classroom and workplace.

This index ranking reflects three distinct types of situation and groups within the leading countries being studied. The first group includes those countries

4 Another 10 year strategic plan, SME 21, released in 2000, is aimed at building the capabilities of SMEs so as to enhance their contribution to Singapore's competitiveness and economic growth. Launched in March 2001, Retail 21 is a 10-year strategic plan that sets out the new strategies for growth and expansion of the retail sector in Singapore.

5 The Straits Times, 16th Jan 2014; Prime Minister Lee Hsien Loong's speech at the opening of Lucas film's new office.

6 Established in 2010—with the Ministry of Manpower, the Singapore Economic Development Board, and the Singapore Management University as strategic partners—the Institute offers the unique ability to bring together the best-in-class faculty, thought leadership, and insights on understanding Asia, successfully doing business in Asia, and the implications of these factors upon leadership and human capital strategies for Asia. See: <http://www.hcli.org>.

7 Speech by Mr. Gan Kim Yong, Minister for Manpower at the "Singapore – the Global Talent and Leadership Development Hub for Asia" at the Official Opening Ceremony of the Human Capital Leadership Institute, 10 May 2010.

8 INSEAD's Global Talent Competitiveness Index (GTCI) allows policy makers, business leaders, and other stakeholders to evaluate progress on a continuous basis, and facilitates public-private dialogue around innovation policies.

and city-states in the top ten that employ a strategy emphasizing talent recruitment. These countries include the second-ranked Singapore, followed by Denmark, some Nordic countries, Luxembourg, the Netherlands, and the United Kingdom. Many of these countries, especially in Europe, have a long history of fostering strong educational systems. The second group includes large industrial countries clustered further down in the top twenty. These have a well-established tradition of immigration for attracting talent, and include the United States, Canada, and Australia. Finally, the third group includes mainly emerging countries that still need talent to build infrastructure, develop their economies, and improve GDP growth. These countries include Montenegro and Malaysia. This ranking is especially due to their focus upon the skills that their neighbors lack, and on the development of the human capital still in particular demand.

VII. Discussion

Human resources are a country's the most valuable asset, and have a direct impact on a country's competitiveness. This paper has examined Singapore's national human resources development policy. Singapore has a long history of fostering strong educational systems, and of developing a policy emphasizing the development of talent. It is apparent that Singapore has established a worldwide reputation, based on a successful education system that develops global talent. However, I would like to inquire whether the existing human resources development system in Singapore is sufficient for meeting the new goals required by the rapidly changing global environment.

In 2013, I conducted a field visit to Singapore to collect updated data regarding human resources development trends, to understand new challenges, and to interview some professionals in the area of human resources development. A summary of my main discussions with HR professionals is provided below.

Singapore Human Resources Institute (SHRI)

SHRI is the only not-for-profit professional HR body in Singapore, representing over three thousand human resources professionals. Founded in 1965, SHRI is committed to promulgating and maintain-

ing high standards of professionalism in human resources management and development. I met with the Director, and Senior Researchers at SHRI. The following issues were discussed as key aspects of human resources development initiatives in Singapore.

A. Work-life integration and flexible working

The Director of SHRI stressed that a substantial amount of potential female workforce is identified in Singapore, while Singapore is simultaneously facing a labor shortage. It is therefore essential that the government take immediate action to attract these potential females to join the workforce. The female participation in the labor force in Singapore has risen significantly over the years; however, it is still lower than that in many developed countries.⁹

The recent research shows that 77% of females who were interested in working preferred part-time jobs. The most commonly cited reasons holding women back from joining the workforce were the lack of suitable jobs near their homes (45%), the limited availability of part-time working arrangements (40%), and their own lack of required qualifications or skills (35%).¹⁰ The survey reveals that, in order to attract females to join the workforce, the government must accelerate its initiatives to encompass flexible working arrangements, establish a re-training scheme, and provide childcare support. During our meeting, SHRI staff emphasized that Singapore seeks to achieve the concept of "work-life integration," which integrates (rather than balances), diverse lifestyles, interests, and way of thinking into the work environment.

B. Productivity

During our discussions, the word "productivity" was frequently stressed. In order to maintain international competitiveness, Singapore places a heavy emphasis on increasing labor productivity, while the Ministry of Manpower oversees initiatives designed to enhance productivity.

The National Productivity and Continuing Education Council (NPCEC) engages in initiatives within this productivity-focused frame of reference. This organization was formed in 2010 to promote national efforts to improve skills and promote enterprise productivity, and to develop a comprehensive system

⁹ As referred in earlier section, Singapore established world reputation in quality of education, labor relations, and workforce education and training in various international records, nonetheless, it is worth highlighting that in international ranking survey (i.e. GCR 2012-2013) Singaporean female participation in labor force is ranked 80th among 144 countries.

¹⁰ "Women Returning to Work," Ministry of Labor, Research and Statistics Department Singapore, 1995.

for continuing education and training.¹¹ Along with representatives from the government, the business community, and the labor movement, the NPCEC oversees the work of the different government agencies and promotes close collaboration between the business sector, workers and unions, and the public sector.

C. Population policy

The country's population is rapidly aging, while its total fertility rate of 1.2 children per family is one of the lowest in the world. This shrinking and simultaneously aging population not only foreshadows slower economic growth in the near future, but also draws attention to some key concerns.

In 2010, Singapore's government released the Population White Paper, amidst strong public reactions. This response should be understood in terms of Singaporeans' current experience of their quality of life. Fundamental issues relating to the purpose, priorities and perceptions of population policies have been addressed, and two primary challenges are especially relevant. The first is the anxiety over national identity. According to the White Paper, Singaporean nationals form the core of their society and the heart of their nation. It is essential to retain this strong Singaporean core, in order to maintain a strong and cohesive society. However, Singaporeans will comprise only 3.8 million of the projected 6.9 million citizens, or about half of the total population, as detailed in the report. If one out of every two people in Singapore were a foreigner, local identities and values would evolve and change at such an accelerated rate that core Singaporeans could come to experience strong anxiety and insecurity.

Another related issue is the state policy that is required to maintain the country's ethnic balance. While Singapore's government continues to work hard to ensure that ethnic diversity is valued and social cohesion encouraged, its planning organizations should consider developing a multicultural social cohesion policy, which would be fully integrated into the country's strategic planning processes.

Finally, during our meeting, the SHRI Director mentioned that Singapore is particularly interested in studying Japan's experience of a rapidly aging society, as it offers useful insights that are also applicable to Singapore.

The National University of Singapore (NUS)

During my stay in Singapore, I also had the chance to visit the National University of Singapore (NUS),¹² a leading global university and a center for higher education in Asia. I conducted an interview with the Director of NUS's Career Center, and we discussed graduate employment trends in Singapore. The interview was very profitable for understanding the trend of graduate recruitment and the youth labor market in Singapore.

Enhance graduates' employability as a vital for economic growth

Graduate recruitment is regarded a key resource of the labor force in both Japan and Singapore. The many published reports on international competitiveness have all stressed that our economic future rests on the intensive development of knowledge, graduates, senior management talent, as well as on the emphasis of competitiveness. Employability as a commodity is closely linked to a government policy in which graduates represent a valuable resource in the increasingly knowledge-based economy.

Singapore's government policy to enhance the employability of graduates is part of a wider strategy of extending the country's skills base. This approach is associated with human capital theories of innovation and economic performance. Growth in the stock of human capital is essential for economic growth, and hence the government's agenda is driven by their desire to stem any productivity shortfall. The higher education system is therefore being directed to place a greater emphasis on the employability of graduates (Jackson, 1999; Knight & Yorke, 2000).

During our meeting, the Director of NUS's Career Center pointed out the weakness of Singaporean graduates. Particularly, while regarded as Asian "elites," NUS graduate students are nonetheless lacking in interpersonal skills, communication skills, creativity, and flexible thinking skills. The Director mentioned that industries often call to this weakness. Therefore, developing these "soft skills" is a challenging faced by universities, and internship requirements have been introduced in order to provide the workforce that is needed for industries. In order to survive in a worldwide competition, recruiting, and

11 Since its formation, the Council has developed strategies to improve national productivity, with the aim of achieving a productivity growth of two to three per cent per annum over the next ten years.

12 The National University of Singapore (NUS) is Singapore's flagship university, and offers a global approach to education and research, with a focus on Asian perspectives and expertise. Its 16 faculties and schools are spread across 3 campus located in Singapore. In total, over 37,000 students from 100 countries study at the university.

creating global talent is vital for a company's success in the global economy. Therefore, many companies and organizations are introducing various schemes to assess graduates during the hiring process, such as the Assessment Center.¹³

as older industrialized economies, such as Japan, the former's experience may offer some useful insights, which can be applied to these other countries.

VIII. Concluding remarks

This paper has examined Singapore's human resources development policies and initiatives, and has reviewed the national education system as well as the mechanisms of workforce development. Overall, it is apparent that Singapore has a long-term commitment to improving its national education system. It also demonstrates a positive approach to ensuring that its workforce is equipped with the skills required for coping with changes in the global economy, to which the country is highly vulnerable. These two factors are the fundamentals of Singapore's human resources development policy. In seeking to achieve these aims, the long-term qualitative initiatives have been just as significant as the quantitative ones. Indeed, one study has shown that these factors are historically and organizationally complex, but simultaneously flexible, and thus, subject to frequent changes, adaptations, and additions (Benson, J. 2013).

However, this paper also reveals some critical challenges that Singapore is facing. Singapore is a small city-state that is always vulnerable to the rapidly changing global environment, as well as to a constant labor shortage. Therefore, the declining birth rate, the aging society, and the dependence upon a foreign workforce present major challenges.

Because Singapore is composed of many diverse people with different cultural and social backgrounds, it is imperative that the country finds a way to establish a national identity and a strong sense of cohesion among its people. This would create a strong base to ensure that Singaporeans acquire the right skills and knowledge as well as to attract the foreigners who would help to establish Singapore as a world talent hub.

In order to maintain its world-class competitiveness and the commitment of its government, Singapore needs to make continuous efforts in developing its national education system. It also needs to encourage and maintain its tripartite system, which is essential for encouraging workforce development, and investing in and nurturing a strong talent base.

Finally, as Singapore is facing similar challenges

¹³ It is a process comprises of a series of tasks and activities that are structured around a one-, to three-day period to assess whether candidates have the skills required for a job and the future potential the organization is looking for. Assessment centers typically comprise of both individual tasks (e.g. psychometric tests, presentations, written exercises, role plays and tests) and group tasks (e.g. group exercises, business case studies) and social events such as dinner or lunch with prospective colleagues.

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