

The role of private sector in human capital and skill development in Thailand

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Abstract

In Thailand, the government has traditionally been the main service provider of education and skill development as part of basic social welfare. Since the government has limited resources and many other responsibilities such as healthcare and physical infrastructure development, human capital in Thailand has been facing various limitations. Among them are the low scores in mathematics and science measured by international tests, and unsatisfactory feedback from employers. In order to improve the situation, the government needs support from other sectors, particularly the private sector which is the key stakeholder in human resource development. This paper presents experiences of the private sector in human capital and skill development in Thailand. It focuses on two case studies: Learn Education, a social enterprise offering educational software, and dual vocational program, a combination of vocational education and apprenticeship. A policy recommendation to promote the role of private sector is to set up an intermediary that will help collaborate between parties and scale up the impact.

1. Introduction

Education which is the key foundation of human capital and skill development in Thailand has been facing various limitations. In 2008, a study by the World Bank found that one of the reasons why industries in Thailand had low investment in innovation was the availability of capable workers.³ This signals the problem in both quality and quantity of human resource in

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³ World Bank, “Thailand Investment Climate Assessment Update,”

<http://documents.worldbank.org/curated/en/268141468120847586/pdf/442480ESW0P1061C0disclosed071281091.pdf> (accessed on 14 July 2018).

the country. Polpirul and Rukumnuaykit (2014) found that employers in industrial sector were unsatisfied with four skills of workers namely English (95%), information technology (85%), mathematics (60%), and creativity (52%).⁴ It could be said that these are all cognitive skills that should be acquired during school years. This suggests the problem in the quality of education in the country. Furthermore, there is a problem of skill mismatch, both in horizontal (graduated from one field but employed in another field) and vertical (employed in a position requiring degree/ qualification lower than one possesses).

Education in Thailand can be divided into five stages, starting from kindergarten which takes three years (age 3 to 6 years old). Primary school takes six years (age 7 to 12), followed by three years of junior high school (age 12 to 15). Afterwards, students can choose between high school and vocational training, both of which take another three years. Then they may go to university or two years higher vocational certificates programs. Compulsory education starts from primary to junior high school, while basic education covers from primary school to high school. This is according to the Constitution which stipulates that the government must provide at least 12 years of free basic education, which is overseen by the Office of the Basic Education Commission (OBEC).

Improving the quality of education and training may seem to be an obvious solution to the problem of education quality; however, this cannot be left to the government alone. Although the government has traditionally been the main provider of education services, it has many other responsibilities such as healthcare, economic, and infrastructure development. Moreover, as the modern economy has become more and more complex and fragmented, the government is unable to possess accurate information about skill configuration demanded by employers. As an employer of workers, the private sector knows better than anyone which skills are needed. Often, businesses can offer innovative answers to social problems as they tend to be more flexible and specialized than the government. Therefore, the private sector should be encouraged to take part in the development of the national human resource.

This paper presents the experience of the private sector in human resource and skill development in Thailand with two cases, LearnEducation and dual vocational program. The presentation of this paper is divided into four sections. This section provides introduction to the paper. Section 2 presents the case of LearnEducation, a social enterprise that helps solving problems in basic education by offering e-learning in schools. Section 3 presents the case of dual vocational program which is a combination of vocational education and apprenticeship. The last section concludes and provides policy recommendations to promote the role of the private sector in human resource and skill development.

⁴ Polpirul P, Rukumnuaykit P., “ทุนมนุษย์กับผลิตภาพแรงงานในภาคอุตสาหกรรมไทย [Human capital and labor productivity in the Thai industry],” http://beyond.library.tu.ac.th/cdm/ref/collection/trf_or_th/id/30750 (accessed on 14 July 2018).

2. LearnEducation: social enterprise with solution to education

This section is divided into two topics. It starts with overall problems in basic education in Thailand, then present how LearnEducation helps solving such problems.

2.1 Problems in basic education

As previously mentioned, all Thai citizens are entitled to 12 years of free basic education. The OBEC is in charge of implementing this policy, both in terms of access to education and quality of education. However, there exist some limitations in both areas.

Because of the compulsory education and free 12-year basic education policy, access to education in Thailand is quite high, especially during primary school years, which has a ratio of students to population of 100%, before dropping to 88% in junior high, 72.7% in high school, and 56.3% in university.⁵ This is not surprising since primary school years take half of the compulsory education period. One of the reasons behind 12% (approximately 300,000 people) decrease in junior high school enrollment, despite the compulsory education, is probably the availability of schools that offer program higher than primary level. In 2015, there were 31,955 schools in Thailand that offer primary education while only 11,615 offer junior high school program.⁶ The limited availability of schools prevents access to education especially among disadvantaged population who live far away and cannot afford to commute to schools.

Quality of education can be measured by international assessment such as Trends in International Mathematics and Science Study (TIMSS) and Programme for International Students Assessment (PISA), as well as a national test like Ordinary National Educational Test (O-Net).⁷ Figure 1 shows that the average PISA and TIMSS scores in mathematics for Thailand from 1991 to 2015 have not much improved. It is also found that Thai students scored below the median in TIMSS, which is set at 500, in both mathematics and science. This is similar to the

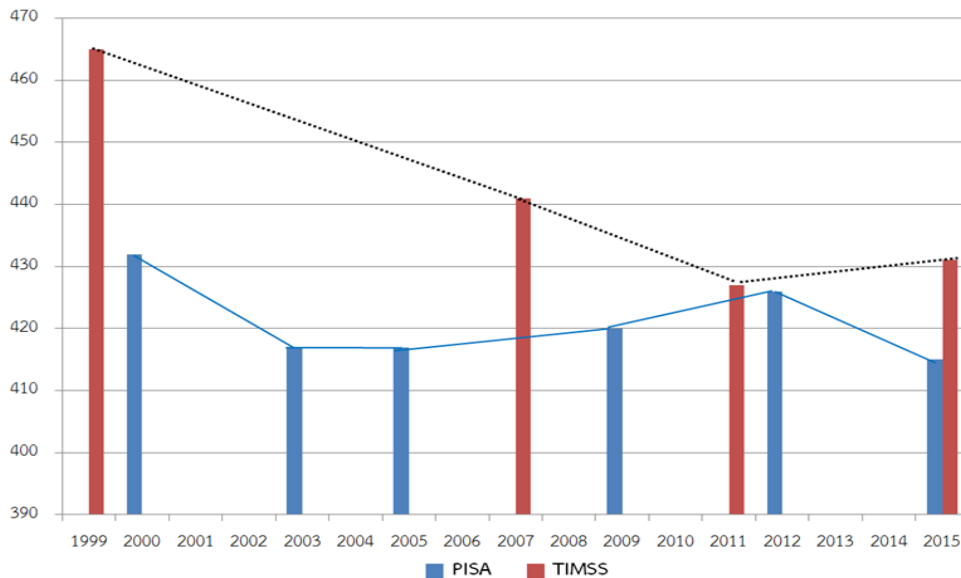
⁵ Office of the Education Council, Ministry of Education, “สถิติการศึกษาของประเทศไทย ปีการศึกษา 2557-2558 [Education statistics of Thailand 2014-2015],” <http://backoffice.onec.go.th/uploads/Book/1497-file.pdf> (accessed on 15 July 2018).

⁶ Ibid.

⁷ Started in 1995, TIMSS has assessed mathematics and science achievement every four years, at the fourth and eighth grades, in more than 60 countries. PISA measures 15-year-old school pupils' scholastic performance on mathematics, science, and reading every three years. Countries are allowed to combine PISA with complementary national tests. O-Net is Thailand's national test in eight subjects for Year 6, 9, and 12 students.

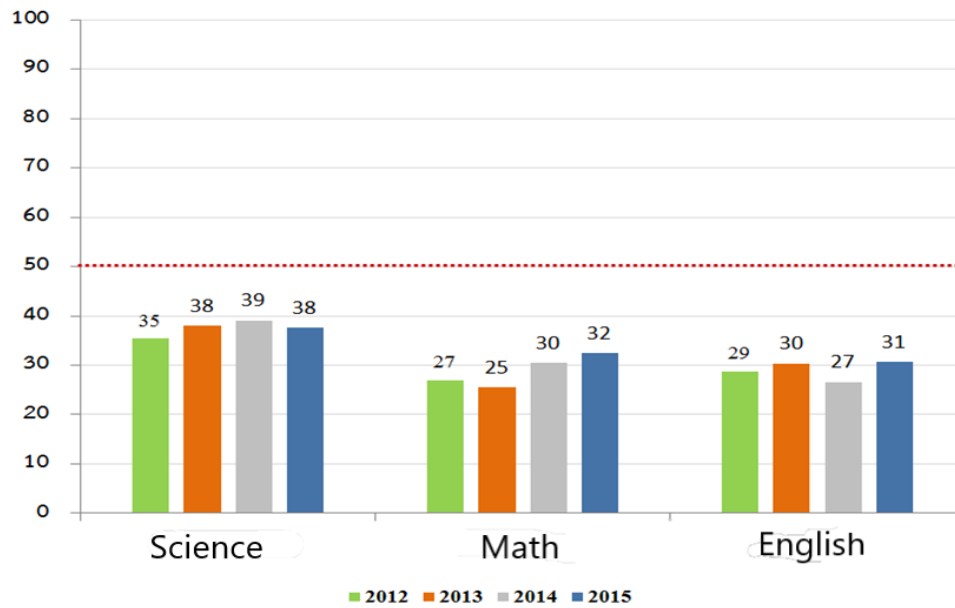
results of Year 9 students in O-Net, in which the average scores in mathematics, science, and English language have never reached 50 (see Figure 2). Considering its severity, the problem of education quality in Thailand should not and cannot be left to OBEC to solve alone.

Figure 1 Mathematics scores of Thai students in TIMSS and PISA, 1991-2015



Source: Trends in International Mathematics and Science Study (TIMSS), and Programme for International Students Assessment (PISA)

Figure 2 Average O-Net scores in mathematics, science, and English language, 2012-2015



Source: National Institute of Educational Testing Service (NIETS)

2.2 Learn Education

LearnEducation is a social enterprise that aims to improve education in Thailand by using an innovative approach in e-learning. The company offers teaching software for mathematics and science subjects that students can learn in a one-on-one style with computer in schools. The content is fully-integrated into school’s curriculum and is in line with the national guideline. Real-time assessment is also provided in the form of pre-tests and post-tests, so students and teachers can get immediate feedbacks. Other services include training for teachers before using the software, one-on-one coaching, as well as other support such as planning lessons and group conference to discuss ideas and new techniques.

Adopting LearnEducation model means changing the role of the teacher from teaching in front of the class which is difficult to pay sufficient attention to all students who each have a different speed of learning, to coaching individual students who do not fully understand the subject after learning with computers by using the real-time feedback from the software. Students can also concentrate more as they have less chance to talk to each other or be interrupted during class. They can also repeat the lessons if needed and learn on their own pace.

The O-Net results among schools that adopted LearnEducation service have increased impressively. The Sahavith school, which is the first school that integrated this approach has seen its students’ scores rose from -13.37 below the national average score in science and -3.68 in mathematics in 2010, to 28.43 above the national average in science and 14.78 in mathematics in 2015 (see Figure 3). Other schools show similar results, which warrants the effectiveness of this approach.

Figure 3 Results of schools with LearnEducation service



Source: LearnEducation, <https://www.learneducation.co.th/results/>

LearnEducation helps to improve the problems in basic education in both access to education and quality of education. In terms of access to education, providing educational software with appropriate content that aligns with national standards should facilitate schools' operation and thus may increase the number of schools that offer higher-than-primary education. Furthermore, as a social enterprise, LearnEducation collects fees from schools all over Thailand that use its service (100 schools in 2016) and spend some of the profit to provide free computers and software to disadvantaged schools in rural areas.

The company won Social Enterprise Awards from the Thai Social Enterprise Office (TSEO) in 2014, the Social Venture Challenge Asia, and the Edtech Excellence Award in 2015. It aims to reach 3,000 schools in the next five years and has plan to expand in Asia.

Despite the success, the social enterprise encounters a limitation. It can be seen that in the list of schools that adopted the LearnEducation approach are mostly private schools. This may be because private schools have more flexibility in terms of curriculum management and tuition fee setting, which may need to increase after including the cost of LearnEducation services. Public schools wanting to use LearnEducation may need to find extra funding to cover the service fee since their budgets from the government would not be sufficient. Asking for more budget from the government may not be possible, considering the constraint resources and other responsibilities the government is bearing. These two points suggest that the social enterprise might have difficulty scaling up nationwide, or reaching majority of schools as most schools in Thailand are public schools.

The lack of funds to adopt LearnEducation's service could be solved by donation money. The Thai government has tried to promote social enterprises by offering tax reduction to companies or limited partnerships that support social enterprises, either by holding common shares in social enterprises or giving assets to social enterprises for purpose of social benefits.

Furthermore, individual or any legal entity can receive tax reduction as much as two times of the money donated for the cause of education to approved schools.

According to the World Giving Index 2017, Thailand ranked fourth in the countries with highest percentage of population who donated money.⁸ In 2016, there were around 88,416 million Baht (around 2.6 billion USD) of donation money circulating in the country.⁹ This is undoubtedly an important source of funds. The drawback in using donation money is that it is usually scattered to a variety of places, often unplanned and spontaneous to immediate causes, and has no impact on monitoring or evaluation. This is because, in order to do otherwise, philanthropists who donate would need to bear the cost of finding the desirable target of donation, arranging continuous transaction, as well as impact measurement. Hence, people continue to donate in a traditional way and donation money remains an untapped potential for social development.

3. Dual vocational program: combining education to apprentice

This section is divided into two topics. The first topic covers the overall situation in vocational training. The second topic presents the dual vocational program in Thailand.

3.1 Vocational education

It is a commonly held belief that the major problem of vocational education in Thailand is the insufficient supply of students and therefore graduates to meet the market's demand. Punyasavatsut (2008) pointed out that the reasons why many do not choose vocational education were because the average wage rate received by vocational degree holders was generally lower than the wage of university graduates who often get higher positions as managers and supervisors, as well as the public attitude towards vocational students which was generally not very positive – viewing them as delinquents who could not get into high school or university.

However, looking more closely, one finds that the problem does not actually reside in the size of the supply of vocational student per se. But, rather, it is the mismatch that causes the shortage of skilled labor. For example, according to the National Statistical Office (NSO), of higher vocational certificate holders who majored in industrial craft/technician, only 14% actually worked as technicians or skilled craftsmen in 2013, while 47% worked in positions that pay lower than the average salary of technicians and skilled craftsmen, 20% were unemployed, and 19% chose to continue their education. The reasons why vocational certificate holders had to take lower paid jobs was because they could not perform to the

⁸ Charities Aid Foundation, "World Giving Index 2017,"

https://www.cafonline.org/docs/default-source/about-us-publications/cafworldgivingindex2017_2167a_web_210917.pdf?sfvrsn=ed1dac40_10

(accessed on 27 July 2018).

⁹ TDRI calculation based on the Household socio-economic survey conducted by the National Statistical Office.

standard of such positions.¹⁰ Employers then have extra costs to train the inexperienced workers, which in turn reduce the companies' competitiveness. Vocational education cannot be an attractive educational option as long as only 14% of the graduates will benefit from it. Not only would increasing the number of vocational student not solve the market's need, but will actually be very difficult, if not impossible. The only way to solve vocational education problem is to address its quality problem.

3.2 Dual vocational program

The Dual vocational program incorporates apprenticeship into a vocational education curriculum. The main objective of dual vocational education is to prepare students with practical knowledge and skills for employment by moving the classroom into the workplace. There are at least four advantages of this approach. First, specialization as well as some important skills such as precision, problem-solving, and work attitude cannot be properly taught in classroom. Learning-by-doing is thus a way to shape students into professionals. Second, having the chance to experience the real working condition, students can decide and make plans about their future career path. Third, employers have opportunity to know and recruit their future employees and thus able to assign them to the right positions. Last but not least, students can earn some money during the apprenticeship, which could save them from possible drop-out because of financial problems.

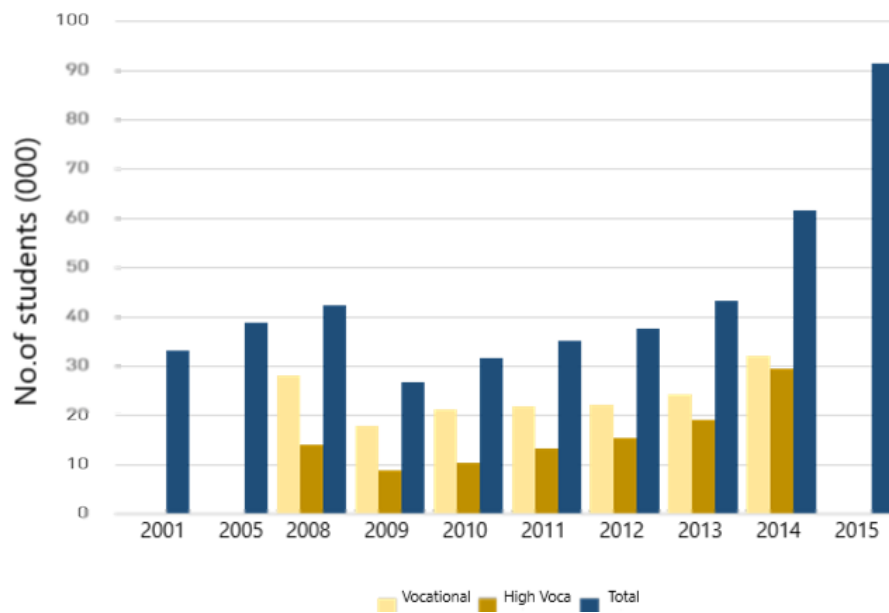
Thailand first adopted dual vocational education in 1984 with support from Die Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (GTZ) by running a pilot project in a public vocational school in the Ayutthaya province, before expanding to another three vocational schools in Bangkok, Samut Songkram, and Rayong. In the early stage, the government did not officially approve the "school-workplace" approach, which resulted in those graduated from this program not receiving a certificate specifying that they had passed the apprenticeship. However, those who had been in the dual vocational program tend to get a higher salary than average vocational certificate holders. In 1995, the Department of Vocational Education revised the curriculum to support the credit transfer from apprenticeship, and hence the full dual vocation program officially started.¹¹

Despite the long history, the overall dual vocational program in Thailand has not been successful. Figure 4 shows that the growth of the dual vocational program has not been stable, with some years seeing improvement and some not. In 2015, there were around 90,000 students joining the dual vocational program, or approximately 14% of the total 650,000 vocational students in that year. This is considered not high compared to other countries that also implement the dual vocational program (see Figure 5).

¹⁰ Nuthasid Rukkiatwong, "มองลึกคุณภาพอาชีวศึกษาไทย สู่ทางแก้ไขตรงจุด [An analysis on the quality of Thai vocational training]," Bangkokbiznews, 11 August, 2016, <http://www.bangkokbiznews.com/blog/detail/638574> (accessed on 18 July 2018).

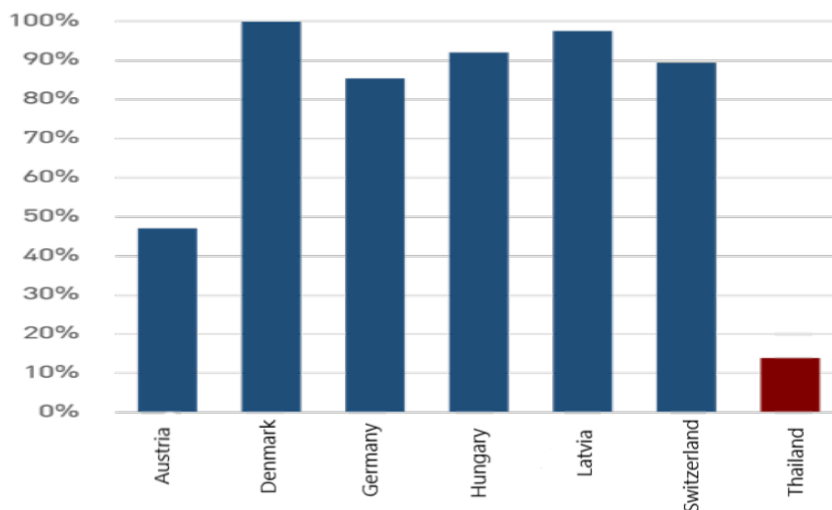
¹¹ Office of the Vocational Education Commission, แนวทางปฏิบัติการจัดการอาชีวศึกษาระบบทวิภาคี [Guideline to dual vocational program management] (Bangkok: Office of the Vocational Education Commission, 2013).

Figure 4 Number of vocational students who join the dual vocational program in Thailand



Source: Junwith and Siriwutthiwat (2013), Information Technology and Vocational Manpower Center (2014), Office of the Vocational Education Commission (2015).

Figure 5 Ratio of vocational students who join the dual vocational program to total vocational students in countries other than Thailand



Source: OECD (2016), Office of the Vocational Education Commission (2015).

Note: Students participating in dual vocational program means vocational students who receive training in workplaces for no less than 25% of their school time.

There are at least four reasons behind the slow progress in the dual vocational program as follows. First, businesses joining the program have to bear costs of training such as facilities, consumables, as well as utilities bills. Although businesses can expect to get some return from this investment in a form of having capable workers with desirable skills, they may also consider the probability of loss when their trained personnel go to work somewhere else. Although the expense for providing training as part of the dual vocational program can be used for tax deduction of 200% of actual expenses, many companies find it difficult to redeem due to strict conditions such as the requirement that the proposed expense for tax deduction must be approved by the Revenue Department, the Ministry of Finance and Skill Development Department, the Ministry of Labour.

Second, for students to gain the most useful experience and skill set, the program must run in school and enterprise simultaneously. For example, in the retail and international trade dual vocational program in Germany, students spend around 3.5 days in workplace and 1.5 days in school weekly. This enables students to reflect on how real work experience relates to what they learn in class, and vice versa. Moreover, students should be rotated to as many different positions as possible in order to develop a comprehensive skill set and realistic expectation about their future career. However, these may be problematic for enterprises as their work organization and schedule, as well as production process could be interrupted. From interviews, businesses prefer receiving students for a consecutive period such as half or one year. Some enterprises that do not want the training to interfere with their production process end up assigning students to menial tasks, and thus preventing them from acquiring actual technical skill.

Third, there is currently no systematic quality assurance in dual vocational education in Thailand. Quality assurance serves all parties in the dual program as students can be ensured that they will receive useful skills and not be treated as cheap labor for menial jobs, while businesses will have less risk of accepting students who are not prepared for the apprenticeship. In 2014, the Ministry of Education issued the Standard for Dual Vocational Program Management B.E. 2557, which stipulates many rules and conditions in managing

the dual vocational program and thus, in a way, acts as a tool of quality assurance. However, this regulation does not indicate an evaluation framework for the program, which is still absent in Thailand. Since businesses are heterogeneous in terms of size, technological and human resource readiness, management style, as well as products and services, setting up one standard evaluation system acceptable for all businesses is extremely difficult. Furthermore, evaluating the quality of training requires businesses to disclose some information about production process and management, which could involve trade secret. Hence, enterprises might be reluctant to allow this.

Finally, the dual vocational program involves several parties such as schools, enterprises, students, and future employers, and thus creates transaction costs in collaborating between these parties. Examples of transaction costs are advertising for and screening applicants (for businesses), searching for available and suitable positions (for students), arranging agreements and evaluation (for schools). Since transaction costs rise when the number of participants increases, this could eventually discourage efforts to scale up the approach.

Despite the above-mentioned limitations, there is an example of a successful dual vocational program in Thailand. Denso (Thailand) Co., Ltd is an auto-parts company in the network of Denso Corporation, one of the world's biggest auto-parts producers. Denso (Thailand) Co., Ltd comprises of seven factories and two business administration companies. In 2013, Denso (Thailand) employed 7,700 people in total.¹² Despite being the leader in auto-parts industry in Thailand, the company continues to increase its competitiveness in order to keep the level of investment from its headquarter in Japan. One strategy to do so is acquiring qualified human resource through the dual vocational program, which the company adopted since 2013. Each year, there are around 20 students graduating from the Denso program, 90% of whom are employed by the company while the rest choose to continue their education.

The key reason why Denso (Thailand) uses the dual vocational program to find new employees instead of recruiting newly graduated is because the company thinks that the normal vocation education cannot train workers with satisfactory skills. The dual vocational program allows the company to decide and arrange training that is applicable to its nature of work, and thus those who pass the program can work straightaway.

There are three factors why Denso (Thailand) successfully used the dual vocational program to answer its demand for human resource. First, the company has the capacity to arrange a good-quality training program through its own in-house training facility called DENSO Training Academy (Thailand). Second, the company can afford to offer the students 9,400 Baht per month, plus other benefits such as lunch and bonus. This helps attracting high-performing students into its apprenticeship. Third, Denso (Thailand) is among the highest paying employers of technicians and has a policy of lifelong employment. This means students who passed Denso's program are less likely to go to work somewhere else.

The success of Denso (Thailand) implies that enterprises wishing to take part in and benefit from the dual vocational program may need to be big firms with adequate resources. This is somehow ironic since big companies tend to have no problem in recruiting skilled human resource. Small and medium enterprises (SMEs) may not be able to arrange a qualified

¹² (Thai DENSO Group, n.d.)

training program or attract talented students in the first place. Unless the transactional costs associated in dual vocational program can be taken by another party, it would be difficult for SMEs to use the dual vocational program to find future capable employees with a desirable skill set

4. Conclusion and policy recommendation

This paper presents how the private sector in Thailand can take part in human resource and skill development. It raised two cases: basic education, and vocational education.

Basic education in Thailand has been facing limitations both in terms of availability of schools and quality of education. LearnEducation, a social enterprise that offers e-learning as a solution to both problems, has demonstrated good results in many private schools that seem to share particular characteristics. However, it is doubtful whether its service can be adopted by other type of schools, particularly public ones which tend to have less resources but are the majority of schools in Thailand.

Vocational education in Thailand also has many challenges such as the limited quantity of graduates who hold vocational degrees, as well as the quality of the graduates themselves that enterprises find unsatisfactory and not ready for the job. Dual vocational program was thus introduced to address such challenges. Despite starting more than three decades ago, the dual vocational program has seen slow progress due to issues such as the lack of quality assurance systems, the reluctance of businesses to invest in training, and the transaction costs in arranging with all parties.

Although the two cases have different contexts and details, a mutual solution may help improving the situation in both cases and hence advance the human resource and skill development in Thailand. The solution is an intermediary agency.

In the case of LearnEducation, and other social enterprises, an intermediary can act as a capital allocation mechanism and platform to link all parties interested in social investment. For social enterprises, it can help to fundraise by finding suitable investors or campaigning towards the general public. For investors, an intermediary can monitor how the social enterprise uses the donation money and arrange impact assessment in order to show the social return from their investment. Having an intermediary may encourage the change from traditional donation to social investment with scalable and sustainable impact.

In the case of the dual vocational program, an intermediary will act as a clearing house that helps to reduce the students' cost in finding appropriate apprentice positions, the schools' cost in finding partner businesses and linking curriculum, and the businesses' cost in finding and screening potential students. It can also design and provide a professional qualification standard as a quality assurance mechanism in the dual vocational program. Thus, an intermediary can relieve the transactional costs for SMEs and help them to tap the benefit of the dual vocational program.

Therefore, a policy recommendation for the government is to facilitate the establishment of an intermediary agency to serve each particular purpose. This should be an independent organization and not be under any governmental organ to ensure flexibility in operation. The government should play the role of facilitator, e.g. endorsing the intermediary to increase its

credibility. Each intermediary may comprise of representatives from those involved in a respective sector. For example, an intermediary for the dual vocation program should comprise of business associations such as the Thai Chamber of Commerce, and the Federation of Thai Industries. In the long run, an efficient intermediary will be the key to scale-up, replicate, and sustain the desirable impact. That is, capable human resources with desirable skill set that meet the demand of the private sector and national economic development.

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