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Cooperation between public and private sectors in providing workforces and development of labor efficiency in the motorcycle industry

Songvut Chanapai*, Chokchai Suttawet

Department of Social Sciences, Faculty of Social Sciences and Humanities, Mahidol University, Nakorn Pathom 73170, Thailand

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Abstract

The main goals of this research were to analyze the situation and problems of public-private cooperation in providing workforces and the development of labor efficiency in the Thai motorcycle manufacturing industry and to provide suggestions for a new model of Public-Private Partnership (PPP) in line with workforce demand and national development. Primary and secondary data were collected from in-depth interviews with 26 key informants, and three focus group discussions with 24 selected experts from concerned public and private sector stakeholders. The questionnaires were used to collect quantitative data from 400 human resources officers and the management level of production and quality of eight motorcycle manufacturers in Thailand. The results revealed that developments in providing workforce and labor efficiency development were linked to the National Development Plan and operated under the National Education Plan. The private sector has provided education for the workforce since the launching of education reform in 1999. Currently, diverse types of cooperation operate under several committees. Operational problems and continuity reflect the low level of labor efficiency. Quantitative analysis found that job performances of people with vocational education were at the least and moderate levels while those with Bachelor degrees were also at the low and moderate levels. A future, appropriate model regarding cooperation between public and private policy and management as a PPP should be utilized to set up a new model of the agency or institute aimed at creating a roadmap and national plans for developing workforces in the motorcycle manufacturing industry.

Introduction

Development in upgrading labor efficiency to increase national competitiveness is important (National Reform Council [NRC], 2015), particularly in industry sectors that generate important revenue for Thailand. Thailand also has high potential in the motorcycle manufacturing industry for both export worldwide and the domestic market which the government initiated as part of its vision of being the Detroit of Asia since 2002 and defined the vision in the 2021 as being the automotive manufacturing base of the world. The industry lead manufacturing of other supportive industries (Thai Auto Institute, 2012) and positively contributes to the labor market by employing large workforces. During 2004–2014, the trend in Thailand's labor market increased; however, from 2014 onward, the unemployment rate increased by 28.17 percent compared to 2013.

* Corresponding author.
E-mail address: songvuch@gmail.com (S. Chanapai).
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Nevertheless, Thailand's economy has been expanding with demand for an increasing workforce (Ministry of Industry, 2015). This reflected the fact that while, in general, Thailand lacked a sufficient workforce in the sector, there was a greater number of unemployed people. In other words, this indicated that the structure providing the workforces was not consistent with labor demand in the industrial sector; in particular, skilled labor was neither compatible with the education system nor labor skills (Nguyen, 2015). Hence, the current research aimed to study the progress of the educational policies and education curricula, to understand workforce development as well as to understand the cooperation among the main responsible public agencies, the private agencies, and the public and the private sector agencies by focusing on the motorcycle manufacturing industry to fill gaps in consistency and to lead to improved cooperation as well as mutually strengthening. Based on the discussion, four research questions were proposed: (1) Are the education curricula consistent with the demand for workforces? (2) Do the concerned public agencies and the private agencies cooperate with each other in providing workforces and what are the types, problems, and causes of the problems of the cooperation? (3) What cooperation is there on labor efficiency development that affects labor capabilities? (4) What are the appropriate policies and management and the appropriate model of cooperation in providing workforces and development of labor efficiency for the industry in the future? The results of this research can benefit the public and private sectors in their cooperation regarding workforce provision and labor efficiency development in line with the demand of the industry and national development in the future.

Literature Review

PPP was introduced in the new era of public management in 1980 (Pattberg, Biermann, Chan, & Mert, 2012). The main principle of PPP is the distribution of risks between the partners based on strong partnership, knowledge, and expertise. Initially, PPP was used in important mega-infrastructure projects (Osei-Kyei & Chan, 2015; Pattberg et al., 2012) which require high investment and quick implementation. Later on, PPP was applied to other public service schemes such as public health, education, and labor development and to enhance efficiency in response to rapid economic growth in Russia (Vertakova & Plotnikov, 2014) and subsequently, it became more prevalent today as a new paradigm for cooperation.

Schaeffer and Loveridge (2001) classified PPP into four types: (1) leader-follower relationships, in the widely used form of a contract or agreement between the stakeholders; (2) exchange relationships based on business interactions between the partners; while both sides may benefit from the cooperation, there are still issues of competition among the parties; (3) joint venture, where there are more than two independent parties that expect benefits from a joint venture in a specific project; and (4) partnership, where the partners will identify the general objectives of the cooperation and investigate new opportunities and developments where each party will jointly receive the benefits, make decisions, and share risks without ending cooperation. Dunbar (2013) also identified five types of cooperation which were involved cooperation by the private sector: (1) global inter-sectoral partnering in skills development, involving cooperation among multinational companies, international institutes, public agencies, and civil societies to provide skilled labor or as a part of social responsibility; (2) partnering on national strategies in skills development by participating in the public sector developing strategies, skills development plans, and management and sharing the resources (Soares, 2010; Tansen, 2012) to create alternative education curricula that are connected to the labor needs; (3) partnering for implementation of skills development; for example, in human resources, finance, facilities, leaderships, materials, and equipment (Soares, 2010) or to contribute to the joint management of organizations, training and skills development provision, curricula development, on-the-job training, and vocational education provision and skills evaluation; (4) informal apprenticeships; and (5) involving private sector training providers. PPP can take place in many forms (Dunbar, 2013; Patrinos, Barrera-Osorio, & Guáqueta, 2009; Tansen, 2012); therefore, in the context of skills development, PPP is thea public policy, budgeting systems, and curricula frameworks of education where providers and the employers share a mutual goal to reduce inconsistency between the labor market (demand) and educational curricula (provider of workforces).

Methods

A mixed research methodology was used. Under a qualitative research method, data were collected from in-depth interviews, focus group discussions, and document reviews. Quantitative research was also conducted to collect statistics in parallel to the qualitative research in accordance with the concurrent transformative strategy (Terrell, 2012). Quantitative statistical data were analyzed as a supportive method to the qualitative findings, followed by another round of qualitative findings from focus group discussions to leverage the explanation on the phenomena, leading to synchronizing the findings on public and private cooperation in regard to provide the workforces and development of labor efficiency in the motorcycle manufacturing industry.

Participants and Data Collection

The qualitative research consisted of: (1) in-depth interviews on six issues with the 26 key informants who were policy makers from the Ministry of Education, Ministry of Labour, and Ministry of Industry while key informants from the private sector were the high level management from eight motorcycle manufacturing companies in Thailand, the Federation of Thai Industries (FTI), the Thailand Automotive Industry Association, and the labor unions; (2) focus group discussions, where samples were selected from participants who were human resource managers from various companies, government officials, and committee members of organizations related to labor unions; and (3) a review of both primary and secondary

documents as part of the study and discussion on the findings derived from the in-depth interviews and focus group discussions.

The quantitative research aimed to study the mean levels for examining the ability of labor and the consistency between educational curricula and the demand for the workforces of the industry sector. The population was defined by collecting data from 781 human resources officers and chiefs or people in the upper level of production and quality in eight motorcycle manufacturing companies in Thailand. The samples were selected according to Yamane (1967), so with a deviation of not higher than .05, the sample size was 400. Using a stratified sampling technique, the samples consisted of 95 human resource officers and 305 chiefs or people in the upper level of production and quality control staff. Two sets of questionnaires were developed and tested for content validity. The first set consisted of 46 items to collect information from human resources officers about educational curricula, training courses, and participation in activities jointly organized by the public and private sectors as well as the effect on labor efficiency. The second set consisted of 25 questions to collect information from quality and control chiefs or people in the upper level of production and quality about the labor capacity based on government curriculum management. Closed-ended rating scale questions which determined the weight of the assessment into five levels and open-ended questions were used.

Data Analysis

The frequency distribution, percentage, mean, and standard deviation were used in the quantitative data analysis while the content analysis was applied for investigating qualitative data. Triangulation (Denzin, 1989) was used in the triangular data analysis in considering the interaction between the documentary data, the interviews and group discussions, and the questionnaire results.

Results and Discussion

Consistency Between Educational Curricula and the Demand for Workforces in the Industry

Curricula in educational institutions are not consistent with the labor demand of the industry due to: (1) the formulation of the country's leaps and bounds policies for industrial development needs and the lack of coherence and discontinuity between each government contribute to discontinuity in planning and educational policy development and failing to keep up with the rapidly technological change in the industry; (2) the formulation of the roadmaps on education, industry, and labor are not consistent with the country's human resources and compiling overview data and assessment of the quality and quantity of manpower are essential for the development of an educational curriculum; (3) generally, the offered automotive courses have negative results on the teaching standard, curricula developers, and instructors' expertise is lacking, and there are outdated tools and equipment; (4) curricula developers have more theoretical knowledge than practical understanding leading to problems in practical curricula design because of the lack work of experience in using equipment and tools in workplaces with advanced technology and modern and rapidly developing know-how, which contribute to disparities in the curricula at all levels as well as the majority of instructors being unable to apply the theory to real practices.

Based on the analysis to assess the consistency between labor ability and industry needs, the skills developed at the vocational education level are at the least and moderate levels. The least level applies to: (1) general knowledge of motorcycle manufacturing in ISO 9001 ($\bar{x} = 1.68$) and ISO 14001 system ($\bar{x} = 1.67$); (2) English usage at work ($\bar{x} = 1.35$); (3) the use of foreign language as a technical term ($\bar{x} = 1.64$); (4) manufacturing planning ($\bar{x} = 1.73$); (5) assessment and problem solving at a more advanced level ($\bar{x} = 1.26$); and (6) the basic knowledge and skills to support "4.0" industry or future technology ($\bar{x} = 1.73$). For the Bachelor degree level, the samples received low and moderate levels of skills development. Skills development at the moderate level consists of: (1) general knowledge of motorcycle manufacturing in the manufacturing process ($\bar{x} = 2.69$); occupational health and safety ($\bar{x} = 2.78$), the use of personal protective equipment ($\bar{x} = 2.98$), and the use of measuring tools ($\bar{x} = 2.84$); (2) knowledge and skills in inspection of quality in the use of basic inspection tools ($\bar{x} = 2.74$); (3) control, analysis and problems solving related to maintenance ($\bar{x} = 2.68$); (4) engineering knowledge and application of technology ($\bar{x} = 2.81$); (5) machine control by computer ($\bar{x} = 2.73$); and (6) manufacturing planning ($\bar{x} = 2.62$). The findings showed that learner's educational skills have a direct effect on labor efficiency.

Collaboration Between Concerned Public Agencies and the Private Sector in Providing Workforces and Development of Labor Efficiency

The findings indicated collaboration in providing workforces by sending students to attend apprenticeships such as: (1) dual education systems, where students study in a particular institution for a period of time and then move to take an apprenticeship in a workplace for a certain period of time; (2) pilot project, involving a Joint Public and Private Sector Committee on the development of students in vocational education together with 15 vocational institutes develop standard High Vocation Certificate level curricula and develop instructors' higher technical skills; and (3) cooperative education and work-integrated learning though a partnership between universities and the private sector that focuses on real experiences of the learners performing real work in the workplace. These kinds of bilateral relationships are considered as the most common between organizations which covers diverse dimensions (Zanko, 1995).

In the development of labor efficiency, most of the workplaces improved labor efficiency through their own training policies and management due to different manufacturing processes and technological secrets. On-the-job training based on Human Resource Development theory and covering a wide range of topics connecting manpower and businesses together (OECD, 2006; Silva,

1997), is widely used. Hongladarom (2012) suggested that human resources investment in training is the first step in human capital development. Currently, cooperation between the public and private sectors on labor efficiency development include: (1) the establishment of the Automotive Human Resource Development Academy by the Subcommittee on Strategic Framework Development of Labor Force in Automotive and Auto Parts Industries to develop a standard curriculum for skill development for the trainers in the Department of Skill Development (DSD) and in vocational institutes; (2) the launching of the ASEAN Human Resources Development Program by Thai Auto Parts Manufacturers Association, the FTI, and the DSD who have cooperated to provide training and certification of skills and serve to support the minimum wage rate standard. In addition, the private sector also plays a role such as being a training provider for motorcycle mechanics or for the training staff of the DSD to keep up with modern motorcycle technology. As such, the role of PPP can be linked to the level of development of joint strategies and actions (Dunbar, 2013).

Situation and Problems of Cooperation

The study revealed that the current situation of cooperation still faces concrete and continuing problems. First, the structure of the public sector is overlapping and large. Three characteristics of intergovernmental relations are identified regarding coordination, coverage, and authority overlap (Koliba, 2012) which contribute to delays in setting up policies and orders, lack of integration in the management, and having the same database system that all agencies can access and use to share information. The relationship between the public and private sectors today is multifaceted and interactive in various forms of inter-organizational relations; however, collaboration is ineffective when the relationship between the public and the private sectors is tied to the interests of each party. Second, laws, regulations, and orders affect coordination among agencies. A joint committee that is established where decision making is not streamlined cannot be implemented without legal support. Third, a joint management model and the structure of the committees have failures as although many joint committees have been set up, the stated goals have failed to materialize due to the lack of commitment and continuity of the related policies as well as the changes in government leaders who are the policy makers. Partnership occurs only among specific groups and with the limitations of automotive technology by each organization, the disclosure of information for skills development and labor efficiency is difficult to leverage. Fourth, regarding the roles and duties of individuals and committees, the government officials have a more authoritarian attitude resulting in a poor response, while the individuals lack trust and mutual acceptance. Fifth, policy makers lack a basic understanding of the real needs of the industry sector which has contributed to an unclear and inconsistent roadmap on workforce development. Sixth, policy practitioners and instructors from the educational institutes and the DSD lack actual work experience and do not set common work standards. Seventh, the assessment of labor demand and quantity still lacks integration of the databases from the concerned parties that affects whole-system planning of workforces and labor efficiency development.

Appropriate Public Policies and Management and Cooperation in Providing Workforces and Development of Labor Efficiency in the Future

The analysis and synthesis of the data from the results of the in-depth interviews and questionnaire survey to formulate recommendations on the appropriate public policies and management and the cooperation between public and private sector are: (1) internal governmental-agency collaboration with clear and well-coordinated direction should be promoted under the shared single database system and cooperation should be extended to the private sector to formulate policies that are consistent with the market demand; (2) the government should encourage younger people to study vocational education by improving a modernized curricula and focusing more on the actual practices connected with the multi-skills programme, in cooperation with various organizations, with scholarships granted and offers of employment and opportunities to be trained abroad; (3) the educational curricula should be adjusted to reflect the needs of the industry; (4) improvement of the labor standards should be continuous and integrated in every dimension, concurrent with a survey on the requirements of the private sector, conducted annually and compared with international standards to enhance competitiveness, (5) joint investment between the public and the private sectors should be promoted by setting up laboratory and research and development units or joint operations with modern tools and equipment; and (6) the establishment of a joint public and private sector organization (see Figure 1) should be consisted involving the related public agencies with experts in engineering and management, academic experts, and local investors to identify, implement, and evaluate a roadmap and the national plans on the development of the motorcycle industry and the related curricula, the investment plan, and a manpower development plan and report directly to the country's leader. This type of collaboration is a partner relationship, a so-called partnership (Schaeffer & Loveridge, 2001). Under this PPP model, the private sector will take part in many forms using shared resources and participating as a partner (Dunbar, 2013; Soares, 2010; Tansen, 2012) while the public agencies will be strengthened in their roles and responsibilities as a part of the independent working unit that can be determined and flexible under the new type of institution in enforcing laws and regulations, developing education curricula, and preparing workforces in line with the needs of the private sector.

Conclusion and Recommendation

Public and private sector cooperation in providing workforces and the development of labor efficiency in the industry are evolving with more concrete operations. Both the public and private sectors regard the partnership as

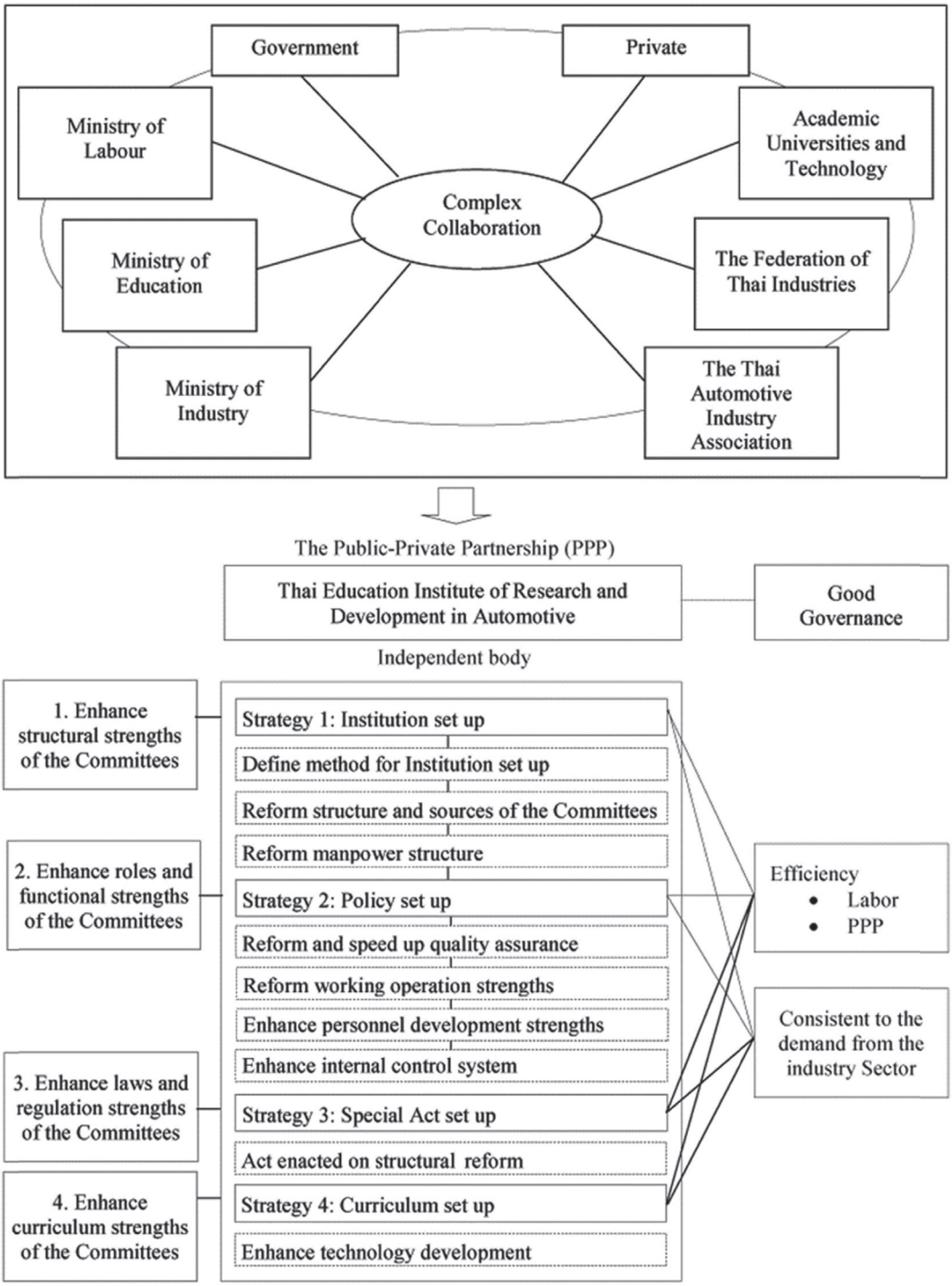

Figure 1 New type of Public-Private Partnership (PPP) providing workforces and development of labor efficiency

important. However, due to many contextual factors, the provision of workforces and labor efficiency development is not in line with the needs of the industrial sector. The new type of cooperation as a PPP—analyzed and synthesized as described here—is another alternative that the concerned sectors can take into consideration in developing cooperation in the future. To improve the development of cooperation between the public and private sectors, the government should follow these suggestions: (1) reform its structure and system of work to enhance agility, reduce the number of redundant committees and the conflicting authority, set up a single

database, reform the laws or regulations covering cooperation with all sectors, and seriously focus on strengthening cooperation between the partners; (2) create a fair, competitive environment in the private sector to reduce non-disclosure sector issues as well as survey and develop a database of the private sector that provides for the needs of workforces; and (3) establish a new, independent organization under the PPP to support research and educational system development to meet the needs of the industrial sector.

Conflict of Interest

There is no conflict of interest.

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