

**EXPLORING A SUSTAINABLE LOCAL WORKFORCE
SUPPLY MODEL FOR CONSTRUCTION INDUSTRY IN
MALAYSIA**

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ABSTRACT

HRP is a common concept in management theory. It has been practiced in many fields such as: business, engineering, medicine and science; as a corollary; it can be implemented on lacks of local workforce (labor) participation in Malaysian construction industry. Previous studies had shown that HRP influencing factors on construction workforces may be caused by organization strategy; organization changes; organization culture; nature of work; leadership and experiences; empowerment of labor; legislation; economic changes; technologies changes; and demographic changes. Therefore, a study on HRP influencing factors is imperative to rectify the problem.

A mixed method research approach was adopted. Semi structured interviews were conducted to ten respondent includes government and non-government organizations in order to investigate current issues and practices of HRP in Malaysian construction industry. The interviews findings underpinned by literature findings were used to construct questionnaire survey.

Questionnaire surveys were used to measure hypothesis testing: significant and dominant factors of HRP for local workforce supply in Malaysian construction industry. Two hundred and six respondents from random of contractors in Malaysia participated in the survey. Data were analyzed using Statistical Package for Social Science (SPSS). The statistical analysis showed that organization strategy; nature of work; economic changes; and demographic (social) changes are significant factors. Economic changes identified as dominant factors of HRP for local workforce supply in Malaysian construction industry.

The framework was developed and identified local workforce requirements in construction industry. Framework evaluation was carried by focus group interviews with managerial of construction organizations to assess its completeness and usability. The framework was found to have a good fit and valid.

The insights gained from this research suggest ways in facilitate new practicing approach of HRP for local workforce supply in Malaysian construction industry.

ABSTRAK

Perancangan Sumber Manusia (PSM) adalah asas di dalam teori pengurusan. Ia telah dipraktikkan di dalam pelbagai bidang seperti perniagaan, kejuruteraan, perubatan dan sains; maka wajar sekiranya ia dilaksanakan ke atas kekurangan penglibatan pekerja tempatan di dalam industri pembinaan di Malaysia. Tinjauan kajian-kajian lepas mendapati faktor-faktor yang mempengaruhi PSM ke atas pekerja pembinaan mungkin disebabkan oleh strategi organisasi; perubahan organisasi; budaya organisasi; cabaran pekerjaan; kepimpinan dan pengalaman; kekuasaan pekerja; perundangan; perubahan ekonomi; perubahan teknologi; dan perubahan demografi (sosial). Oleh itu, kajian terhadap faktor-faktor yang mempengaruhi PSM adalah penting bagi membantu menyelesaikan masalah tersebut.

Temuduga semi struktur dan kaji selidik telah digunakan. Temuduga semi struktur dijalankan ke atas sepuluh responden dari badan kerajaan dan bukan kerajaan bagi menyelidik isu semasa dan pelaksanaan PSM di dalam industri pembinaan Malaysia. Hasil temuduga telah digabungkan bersama kajian-kajian lepas bagi merekabentuk soalan kaji selidik.

Soalan kaji selidik telah digunakan untuk mengukur hipotesis iaitu faktor-faktor terpenting dan faktor yang mendominasi PSM untuk pembekalan pekerja tempatan di dalam industri pembinaan Malaysia. Seramai 206 responden dari kontraktor-kontraktor di Malaysia yang dipilih secara rawak terlibat dalam kajian ini. Data telah dianalisis dengan menggunakan perisian *SPSS*. Analisis statistik menunjukkan strategi organisasi; cabaran pekerjaan; perubahan ekonomi dan perubahan demografi (sosial) adalah faktor-faktor terpenting. Perubahan ekonomi adalah faktor yang mendominasi PSM untuk pembekalan pekerja tempatan di dalam industri pembinaan Malaysia.

Rangka kajian telah direkabentuk dan beberapa keperluan bagi pekerja tempatan di dalam industri pembinaan telah dikenalpasti. Penilaian ke atas rangka kajian telah dilaksanakan melalui temuduga ke atas pihak pengurusan di dalam organisasi

pembinaan untuk menaksir kepatutan dan kelayakan rangka kajian ini. Hasil penilaian mendapati rangka yang dikemukakan boleh diterima dan sah.

Hasil kajian ini dapat memberi suatu pendekatan baharu bagi amalan PSM untuk tujuan pembekalan pekerja tempatan di dalam industri pembinaan Malaysia.

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LIST OF ABBREVIATIONS

ABM	- Akademi Binaan Malaysia
BNM	- Bank Negara Malaysia
CIDB	- Construction Industry Development Board
CLAB	- Construction Labor Exchange Board
DOSH	- Department of Safety and Health
E-CORE	- European Construction Research Network
EPF	- Employment Provident Fund
GDP	- Gross Domestic Product
HRP	- Human Resource Planning
IBS	- Industrial Building System
IES	- Institute for Employment Studies
ILO	- International Labor Organization
KMO	- Kaiser-Mayer-Olkin Test
NEAC	- National Economic Advisory Council
NGO	- Non-Government Organization
NOSS	- National Occupational Skill Standard
SOCSSO	- Social Security Organization
SPSS	- Statistical Package for Social Science
SRA	- Stepwise Regression Analysis

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CHAPTER 1

INTRODUCTION

This chapter describes the contents of this research. It is started with a brief background to the research, problem statement, research questions, aim and objectives and scope of this research. It also states the significance of this research, research methodology and structure of the thesis.

1.1 Background of Research

Human Resource Planning (HRP) is a common concept in management theory (Loosemore *et al.*, 2003). It has been practiced in many fields such business (Abdullah, 2009), engineering (Duffy & Salvendy, 2000), medicine (Busing & Gold, 2009) and science (Boudreau & Ramstad, 2007). Being a common concept in management; as a corollary; it can practically be implemented in the construction workforces (labours) particularly in Malaysia. The lacks of local workforce participation become a problematic in the Malaysian construction industry, as a result the abundance of foreign workers employs in construction industry (Hong, 2010). Therefore, government aimed to produce more local workers by 2020 and reduced reliance on foreign worker (Helmi, 2010). However, foreign workers are imported to perform the jobs that Malaysian refuses to do; such as bricklaying; plastering; tiling; bar-bending; concreting; and formwork but efforts need to minimize them before they are dominant in Malaysian construction industry (Hong, 2010).

The benefits of conducting HRP are many and varied (Decenzo & Robbins, 1999). HRP is a process for identifying the numbers of employee, the types of employee skill and developing a plan to ensure the appropriate workforce is available to provide quality service (Loosemore *et al.*, 2003). In addition, HRP is beginning with highlighted the workforce issue to determine future workforce requirements needed up front, and assists in the current and future workforce supply in the organization (Deborah *et al.*, 2003). Cotten (2007) also addressed workforce issue with long-run equilibrium in HRP areas where the most benefits will be achieve in developing strategies of workforce activities. This is supported by Paul (2010) noted that when the issue has been properly addressed, the forecasting performance of HRP improves considerably.

According to Johnson (2000) stated that HRP is not only static to the process but it also responds to the changing circumstances, either internal or external changes. It also presence a concrete plan to integrate a wide range of good HRP practice for future human resource needs and possibilities (Loosemore *et al.*, 2003) and addresses the internal or external changes that could affect workforce in the future (Keel, 2006). Boyd (2008) described the internal and external factors of HRP are not only creating, but also shape and change the issues in the future. The study by Chiang *et al.* (2004) mentioned that most organizations do not need a complicated of HRP approach and it is better take the simplest route than try to do too much therefore, HRP can be modified by each organization to address its unique needs but should stress into internal and external changes.

There are many examples of the relationship between HRP and organizations performance in the existing of literature. For instance, a HRP model was inspired by Deborah *et al.* (2003) is to identify the fundamental steps of HRP; develop and implement a workforce plan; and provides information processes that can be applied for Virginia Government. The data sources such as: budget, projected labor outlook, and projected retirements were used to checks the status of technology advancements, changes in strategic plan, pending legislation, changes in economy and social conditions. On the other hand, Keel (2006) was established the HRP model to assist Texas Government in developing workforce plans and identifying the workforce needed through HRP processes. Keel (2006) was addressed any factors that might have significant impact on the size and kind of workforce that will be needed in the future such as: issues in the economic, technological, and demographic

areas in order to track the legislative and appropriations processes may change the agency's mission or program priorities.

In the field of construction work have developed specific theories regarding the use of HRP in successful construction operations (Loosemore *et al.*, 2003). For instance, HRP is essential portion in managing human resource within a diversifying construction nature therefore; the main contractor, consultant or developer needs to analyses the current and future workforce markets to ensure the right people with the required skills employ in their firms (Leng, 2005). On the other hand, James (2006) was established HRP models for estimating the manpower supply in the construction industry of Hong Kong. The internal and external factors of HRP were created new findings in order to forecasting the local construction manpower supply in the future. James (2006) revealed that the internal factors such as: construction output; real wages; material price; bank rate; and labour productivity and external factors such as: technology, utilization capacity and various mix of work were absolutely impacts on the manpower supply in the construction industry of Hong Kong.

Two case studies in U.S. Department of Transportation (DOT) and Maryland State Highway Administration's (SHA) were conducted by Cotten's (2007) to provide insight of HRP processes for both organizations. Lesson to be learned from the case studies is leaders and HR managers are required to conduct internal and external scanning in order to identify workforce trends in a proactive manner. For instances, the external analysis should be looking at the characteristics of social; technological issues; the strength of the economy; the political environment; and the demographic makeup the population of potential employees. The internal analysis should focus on factors such as workforce trends; organizational structure and strategies; organizational culture; employee morale; and current levels of performance.

The challenges in the existing HRP have clearly raised the importance to explore on the HRP implementation in the construction industry in terms of the workforce issues and the internal and external factors. In the consideration of the lacks of local workforce participation becomes problematic in the Malaysian construction industry thus, this research reviewed the local workforce issues and HRP influencing factors for local workforce supply in the Malaysian construction industry.

1.2 Problem Statement

In the Malaysian's construction industry master plan for the 2006-2015 period, human resource is the main issues in the construction industry therefore; it was taken as the focus of this research (CIDB, 2007). Human resource can be defined as labor or people who carry out the business or work for an organization (Gilley *et al.*, 2002). HRP is mostly ignored in human resource in construction organisation because those at the top management do not know the value of HRP (Vareta, 2010). Thus, it is having possibility that the lacks of local workforce participation in Malaysian construction industry is due to a paucity of positive examples of HRP practices have been used successfully in human resource.

Workforce is a number of workers available to complete an activity, job or project in the scopes of work (Randy *et al.*, 2006). For instance, Malaysian construction industry is highly reliance on workforce to provide the operation of construction industry (CIDB, 2007). The country expects majority of the construction works should be carried out by local workforce (Salleh, 2008). However, the lacks of local workforce participation become a problematic in Malaysian construction industry (Hong, 2010). In context of this study, local workforce is referred to general workers (labors); which perform for construction activities such as: bricklaying; plastering; tiling; bar-bending; concreting and formwork.

HRP is a systematic analysis of human resource needs to ensure the availability of the correct numbers of employees with the necessary skills is available when they are required in the organizations (Vareta, 2010 & Cherian, 2011). HRP seen as a process that focuses on human resource needs and develop the essential initiatives to satisfy the needs (Kaur, 2006). A strong analysis of internal and external factors is a significantly approach have been used to ensure the successfully of HRP (James, 2006). HRP factors are not only creating, but also shape and change the issues and workforce numbers in the future (James, 2006 & Keel, 2006). In addition, HRP framework used to develop a strategic planning in order to facing a shrinking of labor pool and understanding the basic element of HRP in the organization (Cotten, 2007).

In the Asian countries, there are limited research studies on HRP in construction industry (James, 2006). Incontrovertibly, given the uniqueness of this

research is the implementation of HRP and framework development of HRP influencing factors for local workforce supply in the Malaysian construction industry. Apart from that, it discusses local workforce issues in the construction industry and HRP in the construction industry in terms of internal and external factors. Then, the framework of HRP influencing factors for local workforce will be propose and raises the importance of HRP for local workforce supply in Malaysian construction industry. Thus, a new practicing approach of HRP for local workforce supply will be recommended in Malaysian construction industry.

1.3 Research Questions

This research was carried out to answer the following research questions (RQ):

- (i) RQ1: What are the existing issues of local workforce and HRP influencing factors for local workforce supply in construction industry?
- (ii) RQ2: What are the current issues of local workforce and HRP influencing factors for local workforce supply in construction industry?
- (iii) RQ3: What are dominant and significant factors of HRP for local workforce supply in construction industry?
- (iv) RQ4: Based on HRP influencing factors for local workforce supply in construction industry, what framework might be supported to HRP for local workforce supply in the Malaysian construction industry?

1.4 Aim and Objectives

The aim of this research is to identify the implementation of HRP in construction industry and framework development of HRP influencing factors for local workforce supply in Malaysian construction industry. It will highlight HRP influencing factors and provide an overall reference to the recruitment of local workforce in construction

industry. Specifically, the following objectives are formulated to serve as guidance for this research:

- (i) To identify the existing issues of local workforce and HRP influencing factors for local workforce supply in construction industry;
- (ii) To investigate the current issues of local workforce and HRP influencing factors for local workforce supply in construction industry;
- (iii) To determine the dominant and significant factors of HRP influencing factors for local workforce supply in construction industry; and
- (iv) To propose the framework of HRP influencing factors for local workforce supply in Malaysian construction industry.

1.5 Scope of Research

The scope of this research is narrowed down to simplify the process of information gathering, so it can be analyzed within appropriate time limit. The aspects being considered are:

- (i) This research will only address or consider on local workforce issues and HRP influencing factors for local workforce supply in construction industry;
- (ii) This research involved an expert view of individuals within more than five year experiences involved in construction industry such as General Manager of Contractor and Personnel Development Sector from CIDB; the Director of Job Services Sector from Department of Labor, General Manager of Malay Contractor Association of Malaysia and the selected of Managing Director from large and small of construction organizations (contractors). The selection of more than five year experiences because it was a maturity time of the individuals within the organization to participate and share their experiences in construction industry;
- (iii) Besides that, this research will involve all managerial level such as Managing Director, Project Manager, Project Coordinator and Quality Manager in

construction organizations in order to obtain an appropriate perspectives about HRP influencing factors; and

- (iv) This research is conducted in all classes (Class A to F) and CIDB grade (Grade 1 to 7) of Malaysian construction company (contractors); especially contractors for development of Iskandar Region in Johor Bahru. This is because as a new development area, many contractors were involved for a large and small project of Iskandar Region which has employ workforce to assist construction operation.

1.6 Significance of Research

The purpose of this research is to identify the implementation of HRP in construction industry and framework development of HRP influencing factor for local workforce supply in the Malaysian construction industry in aspects of employers' (contractors) perspectives.

The framework of HRP influencing factors is established to improving the implementation of HRP in the construction organization and potentially as a solution to facilitate changes for local workforces supply in the Malaysian construction industry. The framework also provides several factors and requirements that must consider by employers and managerial level as well as a guideline; which can be applied for their future HRP. Thus, employers are able to conduct their construction operation with efficiently, forecast the local workforce supply and provide the local workforce needs in the future.

Instead, when the HRP influencing factors are distinctly in construction industry, it provides a new benchmark for HRP in the Malaysian construction industry. The intention means that the requirements were providing in the framework are listed about the local workforce needs since they employ as a labor force in the construction industry. Therefore, there are no reasons to employers to ignore the local workforce needs in the construction industry such as: insurance protection, health facilities and the wage level. Thus, the framework is potentially as government policy guidance in order to protect local workforce's welfare in the construction industry.

Importantly, these problems would look at the HRP implementation through the HRP influencing factors for local workforce supply in construction industry. It is hoped that the findings from this research will provide some indication to the parties involved in Malaysian construction industry.

1.7 Research Methodology

The research methods were adopted to meet the research objectives. It comprises the literature review; semi-structured interviews; questionnaire survey; framework proposing; and evaluation of proposed framework. Briefly, the following sections summaries the research methods used; activities and output of this research to achieve the research objectives (refer Figure 1.1).

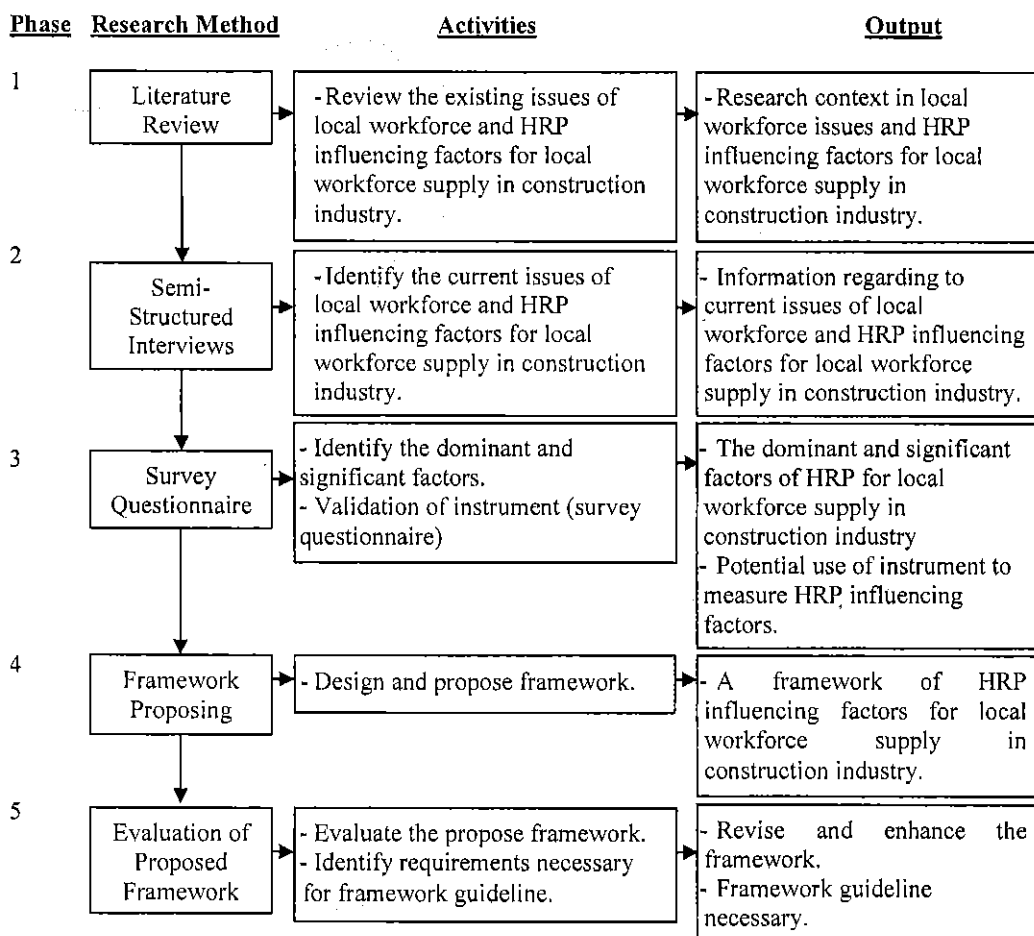


Figure 1.1: Summary of the Research Methods, Activities and Output

1.7.1 Literature Review

The literature review served to identify the existing issues of local workforce and HRP influencing factors for local workforce supply in construction industry. It concerned with the local workforce issues and provides an in-depth understanding of principles and framework of HRP influencing factors for local workforce supply in construction industry. The literature review was based on a variety of sources including books; journals; the Internet; statistic data of local and foreign workers; seminar proceeding; thesis and dissertations; and conference proceedings.

1.7.2 Semi-Structured Interviews

Semi-structured interviews were undertaken to capture the current issues of local workforce and the practices of HRP influencing factors for local workforce supply presented in the construction organization. The semi-structured interviews undertaken followed the process below:

(i) *Identification of Respondents;*

The target of semi structured interviews was industry experts who had experience in conducting HRP in the construction industry and who are currently holding managerial positions in aspect of construction management. Two types of respondents: government and non-government organization (NGO) were selected to discuss current issues and practices of HRP influencing factors for local workforce supply in Malaysian construction industry. Semi structured interviews were employed with 10 respondents: three governments and seven NGO. A purposive sampling method was used to select the respondents based on operational construct (Patton, 1990). Seven of the respondents were project managers and three were directors of construction organization. The respondents in these interviews had over five years' tenure with their organizations and had a variety of professional and organizational backgrounds.

(ii) *Materials;*

Materials used for recruiting and screening respondents included the invitation to participate letter and the informed consent. Approval of the human subject's protocol (invitation and informed consent) was obtained via email from all respondents. The interview questions are divided into two sections: (1) Current issues on local workforce in the construction industry and (2) Current practices of HRP influencing factors in the construction industry. Ten determinants of HRP influencing factors were raised to all organizations. Internal factors such as: (1) organization strategy; (2) organization changes; (3) organization culture; (4) nature of work; (5) leadership and experiences; and (6) empowerment of labor. External factors such as: (1) legislation; (2) economic changes; (3) technology culture; and (4) demographic changes. Fourteen interview questions was prepared and tested with both peers and a trial respondent before conducting the interview sessions. This interview questions minimized bias by providing basis for a consistent sequence and approach to interviews, and adopted a consisted wording of the applicable questions. The interview questions also served as the form for collecting respondent's personal information and for collecting specific notes during the interview.

(iii) *Procedure;*

Respondents took part individually at their respective organizations and the interviews were scheduled for 45 to 60 minutes. They were asked to read the description of the research which allowed for the respondents to ask any questions to clarify the nature of the study or their expectations. Respondents agreed and understood that they could refuse to answer any question and terminate the interview at any time. Respondents were then asked a series of open-ended questions in a semi structured format from the interview questions. Respondents were encouraged to describe situations in significant detail and were often followed by additional questions to probe for detailed explanations and each was later transcribed for use in analysis of respondents' responses.

(iv) *Data Analysis.*

Interviewees were reflecting their experiences and knowledge on the current issues of local workforce and HRP practices in the Malaysian construction industry. The researcher starts coded the result with the assistance of the Matrix table. It was divided into columns and rows where represented factors and description from each respondent. The coding of the transcribed data to ensure the results was easy to use and understand at the end on this research. The researcher also made minor changes, which involved omitting words from some of the interview excerpts without affecting their meaning, in order to produce a more concise statement that would assist readers to understand it (Abraham & Chinowsky, 2002). The information gathered from interviews was used to develop the content of questionnaire survey.

1.7.3 Survey Questionnaire

The main purpose of questionnaire survey is to determine the dominant factors and measure significant predictors (factors) influencing HRP for local. This method fairly flexible that is allows for meaningful comparison of responses across respondents and sites study (Denzin & Lincoln, 2005). The survey questionnaire undertaken followed the process below:

(i) *Survey Sample;*

The researcher attempt to use a large sample of respondents in order to obtained an appropriate data of HRP influencing factors for local workforce supply in the construction industry. The target of the survey was contractors for construction project (large and small organization) who are currently holding managerial positions in project management and operation management in the registered contractors and licensed builders firms in Malaysia.

(ii) *Pilot test;*

The researcher was conducted a pilot test to testing the reliability of the questionnaires and refining the instruments. The questionnaire survey was

modified according respondents comment to improve the weakness of instruments.

(iii) *Data Collection;*

Survey questionnaires were distributed via email, fax, postal and manually distributed to contractors that were randomly selected to take part in the research. A self addressed and stamped envelope was providing in which to return the completed surveys to the researcher. These questionnaires distributed to respondents along with the cover letter, which explained about the purpose of the research, instruction on how to answer the questionnaires, anonymity and confidentiality issues. The questionnaire consisted three sections. The first section contains the questions capturing the profile of respondents. In the second section, the numbers of local and foreign labor have been employing in the organization was asked, followed by the question asking about the numbers of local and foreign labor in the 6 coming months. The last section included questions asking about ten variables of HRP influencing factors for local workforce supply in the construction industry. In this section, ninety four questions present a list of statements about HRP influencing factors for local workforce supply in the construction industry and respondents are requested to score according to Likert Scale rating: 1) Strongly disagree; 2) Disagree; 3) Neutral; 4) Agree; and 5) Strongly agree.

(iv) *Data Analysis.*

The responses from the survey were analyzed using Statistical Package for Social Science (SPSS) software. Descriptive statistics were performed to measures respondent's background, workforce background and dominant factors of HRP for local workforce supply in the Malaysian construction industry. The descriptive statistics can be used to assess the research variables and the usefulness of the data set (Foster *et al.*, 1998). Stepwise Regression Analysis (SRA) was used to measures significant factors of HRP for local workforce supply in the Malaysian construction industry. SRA can be used to assess the relationship between many independent variables and one dependent variable and the contribution and influence of each independent variable on dependent variable (Foster *et al.*, 1998). Exploratory

factor analysis (varimax rotation) and confirmatory factor analysis (Kaiser Meyer Olkin, Barlet's test of sphericity and Eigen values) were performed to assess the validity of significant factors of HRP scales (Nunnally & Bernstein, 1994).

1.7.4 Framework Development

The focus of the framework is the development of HRP influencing factors for local workforce supply in Malaysian construction industry. The researcher was integrated the summaries of literature review, semi-structured interviews and questionnaire survey's findings. This integration enhanced the interpretation and richness of the study results; at the same time, it strengthened the cross-validation of the research findings. The significant statements were used to drafting a rough picture of certain relationship of the framework. The completed framework design of HRP for local workforce supply in construction industry is ready for the evaluation process at the end of this research.

1.7.5 Framework Evaluation

The main objective of evaluation was to review and validate the completeness and appropriateness of the framework with the aid of a focus group. Participant's comments were treated as design requirements of HRP for local workforce supply in construction industry. It consisted of three main elements: the background to the framework, framework contents; and evaluation questionnaire relating to the framework. The evaluation session involved individuals from construction professional (e.g. General Manager of Contractor and Personnel Development Sector from CIDB; Director of Job Services Sector from Department of Labour; General Manager of Malay Contractor Association of Malaysia; and the selected managerial level such as Managing Director, Project Manager, Project Coordinator and Quality Manager from large and small of construction organization) were participated in the focus group interviews. The relevant feedback gained from the focus group interviews was used to refine and improve the framework guideline. The framework

was finalized as a complete set of HRP for local workforce supply in construction industry. At the end of this research, the report should end with discussion of findings, the limitations and provides recommendations for future work.

1.8 Structure of Report

This report is structured into six chapters. The content of the reports is briefed as follows.

Chapter 1 presented a description of the problem statement, the aim and objectives, the scope, research methodology, the significance of the research and the structure of the report.

Chapter 2 reviews the local workforce issues, efforts to retaining local workforce in Malaysian construction industry and towards HRP practices.

Chapter 3 reviews the existing practices of HRP in the construction industry; which narrows down to HRP levels, importance of HRP, HRP models, and the main topics is HRP influencing factors in the construction industry.

Chapter 4 describes the research methodology, the research method adopted; and research methodology process for this research.

Chapter 5 presents the findings from the method adopted for this research. The findings were used to reveal the implementation of HRP in construction industry and framework development of HRP influencing factors for local workforce supply in the Malaysian construction industry. The chapter concludes with evaluation and suggestions on framework of HRP for local workforce supply in construction industry.

Chapter 6 describes the conclusion of the work presented in the report. It also discusses the findings, the limitations and provides recommendations for future work.

1.9 Summary

This chapter has presented the issue of the lacks of local workforce which become a problematic in the Malaysian construction industry. Meanwhile, HRP stands for developing a plan to ensure the appropriate workforce is available to provide quality service. This research attempts to identify the implementation of HRP in construction industry and framework development of HRP influencing factors for local workforce supply in the Malaysian construction industry in aspects of employers' (contractors) perspectives. The main purposes of the framework are to improving the implementation of HRP in the construction organization and to facilitate new practicing approach of local workforces supply in the Malaysian construction industry. In the next chapter, this research topic focuses on the local workforce issues in Malaysian construction industry. The issues are related to the employment situation for local workforce which almost of this topic is summary from previous research.

CHAPTER 2

WORKFORCE ISSUES IN CONSTRUCTION INDUSTRY

2.1 Introduction

A comprehensive literature review was conducted to study the general basis of construction industry, workforce distribution in construction industry, workforce issues in construction industry, efforts to retaining local workforce in construction industry and towards Human Resource Planning (HRP) practices in the construction industry.

2.2 Overview of Construction Industry

The construction industry is one of the largest industries and contributes to the Malaysian economic growth. It ranges from residential and commercial buildings to large industrial complexes and engineering projects such as highways, dams and seaports (CIDB, 2007). Department of Statistics Malaysia (2010) stated that the construction industry includes activities such as: construction, alteration and demolition. It refers to installation of any machinery equipment which is built-in at time or after the construction. Figure 2.1 shows the activities and products in the construction industry.

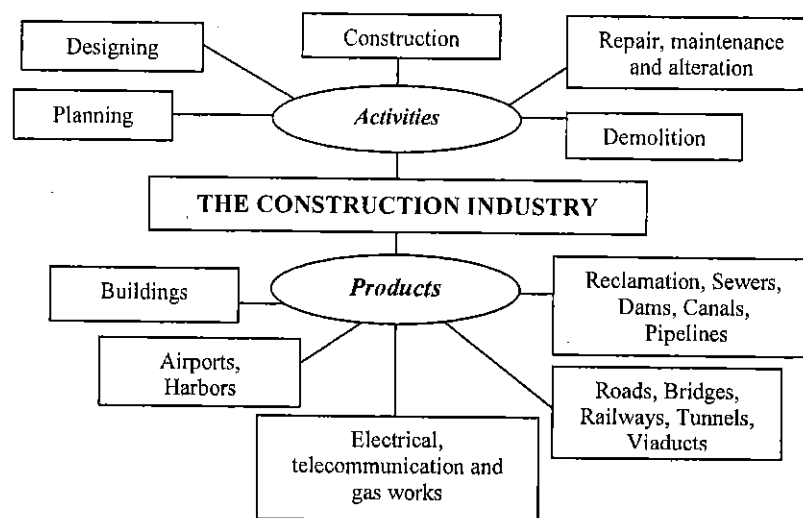


Figure 2.1: The Construction Industry: Activities and Products (George, 2003)

The construction industry presents one of the most risky, complex and dynamic industrial environments (ILO, 2001). For instance, majority of people in India work as construction labors for survival of their family. However, this situation contradicts with the Malaysian situation where our young generations would rather unemployed than work in the construction industry (Aziz, 2001). Hence, there is rising demand on foreign workers in the construction industry. The government acknowledged foreign workers is still needed in certain sectors; but efforts must be made to reduce the numbers of them (Zuhri, 2010). Previous research revealed that local workforce performance in the construction industry has resulted in the urgency need for the Malaysian construction industry to face current and future challenges (Zamzila, 2005). The intention means that the increasing numbers of local workers as construction labors is important to generate and expand the Malaysian economic. On the other hand, by hired local workforce it would reduce the flow of Ringgit Malaysia to foreign economies and several negative impacts such as the criminals, social and cultural problems to the nation.

2.2.1 Importance of Construction Industry

Construction industry is one of the largest sectors employing large number of people and provides significant share of the world Gross Domestic Product (GDP). Besides that, the construction industry also provides job opportunities for approximately 800,000 people to work in construction projects. The construction industry plays an important role on generating wealth and improving the quality of life for Malaysians through the translation of government's socio-economic policies into social and economic infrastructure and buildings (CIDB, 2007).

As contended by Faiz (2007), the construction industry enables the growth of other industries through its role as a fundamental building block of the nation's socio-economic development. For instance, educational institutions, government offices, tourist attractions, transportation infrastructure (airports, seaports, road), housing, commercial property (referred to all the essential elements of a healthy and functioning economy) needs to be built and maintained by the construction industry. Besides enabling socio-economic development, the construction activities generate tremendous spill-over opportunities. It contributes to the growth of other industries in its role as a large user of manufactured goods (building and construction material, iron and steel, etc.), specialized tooling and heavy machinery (such as cranes), professional services and financial services.

In summary, construction industry is important to generating Malaysian economic however the lack of local workforce participation becomes a problematic in Malaysian construction industry. The numbers of workforce distribution involved in construction industry as discussed in the following sub-topics.

2.2.2 Workforce Distribution in Construction Industry

Workforce is the numbers of workers available to complete activity, job or project such in industry (Randy *et al.*, 2006). In particular, Chiang *et al.* (2004) mentioned that the construction industry places heavy reliance upon the skills of its workforce. Accordingly, Malaysian construction industry is highly reliant on workforce to provide the operations of construction industry (CIDB, 2007). The country expects majority of the construction work should be carried out by local workforce (Hong,

2010). However, foreign workers are imported to perform the jobs that Malaysian refuses to do (Salleh, 2008). Figure 2.2 shows the distribution of foreign and local workers in construction industry from 2006 till 2011.

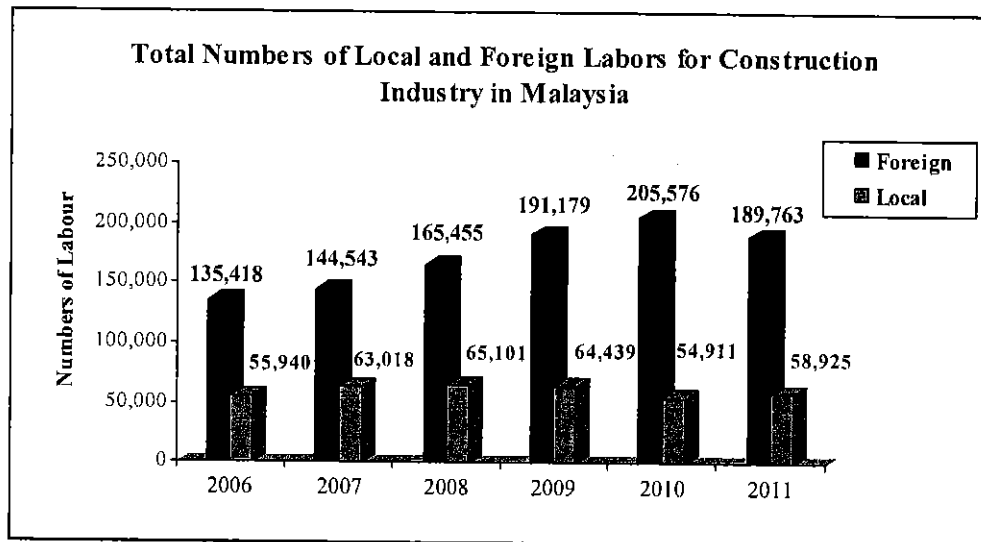


Figure 2.2: Total Numbers of Local and Foreign Labors for Construction Industry in Malaysia (CIDB, 2011)

These numbers of foreign and local workers were registered under CIDB to allow them involves in Malaysian construction industry. In 2010, the numbers of foreign workers is the highest compared with 2011 and the previous years. This is because the stability of economic and many developments have growth in Malaysia. Thus, employer's of construction organization has employed around 205,576 of foreign labors more than 54,911 of local labors. Clearly, the numbers of foreign labors are increased to provide the Malaysian construction industry and the numbers of local labors is less than foreign labors. From the observation, the range numbers of local labors are between 50,000 to 70,000 for 2006 till 2011. There are probabilities that the local labors is generated from the same scope of work such on welding, plumbing (sanitary and reticulation), electrical wiremen and wiring installer. Therefore, construction industry in Malaysia faced the lack of local labor to provide the wet trade work at the construction site.

Salleh (2008) mentioned that government and others private sectors have creates and maintains good efforts to solving the local workforce issues in the construction industry. Besides that, employers should identify other solution to

minimize the relying on foreign workers (Helmi, 2010). Government notice to all companies and employers not make excuses for hired foreign workers until it would obstruct our local workers chances. Issues on the lack of local workforce in construction industry will be discussed in the following section.

2.3 Workforce Issues in Construction Industry

The study of workforce issue is to highlight the future workforce requirements needed up front and assists workforce supply in the current and future within the organization (Deborah *et al.*, 2003). Cotten (2007) also addressed workforce issues with long-run equilibrium in HRP areas where the most benefits will be achieve in developing strategies of workforce activities. The forecasting performance of HRP improves considerably when the issue has been properly addressed (Paul, 2010). In the context of this study, the lack of local workforce participation is the key issue that needs to be addressed in the Malaysian construction industry. Therefore, this study attempt to explore the reasons of local workforce refuses to participate in the construction industry.

Local workforces are uninterested to participate in the construction industry because of the low wages and occupational safety issue (Salleh, 2008). The wages of local workforce should reflect with the current economic in order to able them to supports their family. Besides that, the wages payment is not erratically for every month which is depends to construction projects (Othman, 2004). Hence, the highlighted issue is concerned with the wages system offered to local workforce for providing construction operation.

Another important issue to be discussed is occupational at construction site. Most of the construction sites rated as unsatisfactory to occupational safety which is not managed in according to best practices and were not compliance with the laws and regulations governing construction activities (CIDB, 2007). Accidents at construction site are very common happened and an unavoidable feature of the construction industry (Salleh, 2008). Thus, accidents had tarnished the image of construction industry. Toole (2002) stated that construction workers are unable to recognize potential hazards at construction sites if they are not provided in training.

In addition, the level of contractor's awareness on the need for safety training is not satisfactory. Employer believed that their money is better spent on meeting necessities than to allocate it for training their workers on safety.

CIDB (2007) stated another issue affects the flow of local workforce in construction industry is the educational change. Commonly, most society sees the construction worker as a lack prestige's and low classes. Therefore, young generations are seeking higher education to get lucrative profession and consequently better life than their parents did. In view of that, people who not get higher educations are willing to work at supermarket rather than at the construction sites. For instance, profession as a cashier at supermarket are easy, more secure and comfort with good air condition compared works as construction workers.

Besides that, low and temporary employment status also causes the lack of participation by local workforce in construction industry. Temporary employment means that the majority of construction workers enjoy little or no social protection (ILO, 2001). Besides that, construction workers exposed to unsafe and unhealthy working conditions without any insurance protection. Local workers are seeking permanent jobs and wages as a guarantee to their future life. On the other hands, job in construction industry were labeled '*3D images*' which referred to dirty, dangerous and difficult. Generally, the employers of construction organisation provide accommodation at construction site for construction workers (CIDB, 2000). This accommodation was less conducive to the average Malaysian workers. This is also the reason why local workers are timid to be involved in construction industry and consider employment in the construction sector as not dignified enough.

The other issues raise is the changes of Malaysian development. The development of Malaysia for nowadays is totally different compared to ten years ago. Ten years ago, most of the Malaysians were participated in the construction industry to support the construction operation (Leng, 2005). However for nowadays, technology developments in a various sectors such as agriculture, manufacturing, services and plantation are highly reliance's on local workforce to provide the operations. Meanwhile, the numbers of local workforces are unaccommodating to provide the operations. Therefore, the raising demands on foreign workers to support the changes of situation.

In summary, some of the challenges faced in the construction industry such as the low wages, occupational safety issue, the educational change, the low status

and temporary employment, poor accommodation, changes of development and the effectiveness of HRP implementation. Faiz (2008) mentioned that the development of human resource activities is difficult to be improved in the construction industry. Thus, continuous effort has been made to increase the participation of local workers in the construction industry.

2.4 Retaining Local Workforce

Efforts were introduced to all parties involved in order to increase and retain the numbers of local workforce in Malaysian construction industry. It will be discussed clearly in the subtopics below.

2.4.1 Skill Training, Testing and Certification

Skill training should be provided as an effort to develop working skill among local workers in construction industry (CIDB, 2000). For instance, Akademi Binaan Malaysia (ABM) was established to develop young generation skills and increase workforce numbers in Malaysian construction industry. From 1999 to June 2007, CIDB was trained about 50,000 trainees under the CIDB Youth Skills Training Programme and 40,000 of the construction personnel. In addition, CIDB was developed construction training modules based on the National Occupational Skill Standard (NOSS) and provides the training facilities and rebates allocation to contractors who sending their existing workers to attend training course. The training programs offer multi skills level in order to make workers versatile and increasing their utility.

CIDB were introduced *Skilled Personnel Accreditation* to recognize skilled, semi-skilled and unskilled workers. The workers have to prove their competencies by submitting their relevant certificates or they can be tested on site with Skilled Personnel Accreditation (Hong, 2010). CIDB acknowledged skill personnel by issuing *CIDB Skill Competency Certificate* to who has successfully accredited (passing the practical skill test). However, un-skilled worker is against a skilled

worker. On the other hands, a semi-skilled worker which not undergoes the accreditation test, CIDB will not acknowledge them as skilled personnel or experience worker.

CIDB planning to reduce numbers of foreign worker and produces more local workers by 2020 (The Star, 2006). Since 1997, CIDB has produced 65,000 local skilled workers but the current construction industry needs at least 500,000 workers. The implementation of skilled workers accreditation system was upheld quality and higher salary of workforce compare to normal labors.

2.4.2 Safety and Health Environment

New Straits Times (2001) reported that Malaysian government confidently can achieved zero accident rate within the next two or three years due to improvement in safety standards in construction sector. According to Onn (2006), stated the Department of Occupational and Health (DOSH) has set policies and strategies to ensure safety and health in construction sites. One of the strategies is to take legal action on repeated cases of non-compliance with the law and regulations. DOSH also conducting the safety and health verification throughout construction site to fulfill occupational safety and health requirements. CIDB (2007) stated a continuously of promotions in safety and health as an initiatives to creating awareness among employers, workers, publics and other stakeholders in construction industry. A comprehensive contribution by the management is needed in order to achieve a good safety performance record. The management level in the organisation cannot solely rely on workers who are only carrying out their work as instructed. They must put aside some allocation and resources to organize safety programs in order to improve their organisations workers.

In the early 1970's, *The Occupational, Safety and Health Act* were recognized in whole of globe to improve construction safety and health environment. Unfortunately, there has not been significant improvement in the construction industry. In order to attract and retain construction workers, there are required to provide safe environment in the construction site. Five attributes were found to make a good safety and health record at the construction sites (Roger, 2003). These attributes are pre-project or pre-task planning, safety orientation and training, written

safety incentive program, alcohol and substance abuse program and accident or incident investigation.

2.4.3 Upgrading Construction Operation

Industrial Building System (IBS) is a system where a building would be constructed or assembled using standardized and modularized components either on site or off site (CIDB, 2007). According to Nuzul *et al.* (2009), IBS has also been identified as approach that transform the scenario of the current construction industry toward a systematically approach. Daily Express (2005) reported that IBS is an alternative approach that will change the scenario of the current local workforce in construction industry towards reducing unskilled workers in the country, less wastage, less volume of building materials, increased site cleanliness and better quality control. However, IBS installation required skilled worker to fix the system in building construction practices. It is hoped that local skilled worker could fix IBS components in implementing IBS system at construction site. CIDB strongly supports the use of new technology to reduce the dependency on foreign worker in the construction industry (Salleh, 2008). Besides increasing the outflow of Ringgit to foreign economies, dependency on foreign worker brings about several negative impacts to the nation within the social and cultural context.

2.4.4 Competitive Wages and Benefits

In any hiring consideration, companies need to determine workers positions in receiving their salaries or wages and benefits (Liska & Piper, 1999). Companies acquired this type of information either through available government or private agencies. In addition the companies could conduct their own survey in order to identify wage (salary) and benefits.

Low wages is critical factors that influenced the less interested of local workforce to work in construction industry (Salleh, 2008). Some of the employers are willing to take a risk by paying a low wage to local workers due to cheap of foreign workers. Hence, employers would reduce a cost and get more profits for their

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