EFFECTS OF HUMAN RESOURCE MANAGEMENT (HRM) PRACTICES ON PROJECT PERFORMANCE IN CONSTRUCTION INDUSTRY

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SUPERVISOR'S DECLARATION

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor of Project Management with Hons.

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I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged. The thesis has not been accepted for any degree and is not concurrently submitted for award of other degree.

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ABSTRACT

This thesis explained about Human Resource Management (HRM) practices used by the construction companies and the effects of HRM practices on project performance. Human Resource Management (HRM) is known as system of activities and strategies to coordinate and manage human capitals in company in order to achieve organizational goals. Many construction projects are mostly complex and difficult to manage and HRM practices are mostly used in company for effective functioning and it has the potential to influence the success or failure of projects. In construction industry, there are many human resource issues lead to poor project performance such as are poor project work design and structure, shortage of qualified skilled employees, changing workforce demography, a high rate of employee turnover and high rate of burnout. This research was conducted to identify the common HRM practices used by the construction companies and to determine the effects of HRM practices on project performance. Data was collected through distributing questionnaire by email and was analyzed using SPSS 2.0 software. Descriptive analysis was used to identify the common HRM practices used by the construction companies and Multiple Regression analysis was used to determine the effects of HRM practices on project performance. From the findings, Human Resource Management (HRM) practices have positive significant relationship with project performance. The results of research can provide proof and insights and to encourage construction firms implement effective HRM practices to improve project performance in future.

ABSTRAK

Tesis ini menjelaskan tentang amalan Pengurusan Sumber Manusia (HRM) yang digunakan oleh syarikat-syarikat pembinaan dan kesan amalan HRM pada prestasi projek. Pengurusan Sumber Manusia (HRM) dikenali sebagai sistem aktiviti dan strategi untuk menyelaras dan mengurus modal insan dalam syarikat untuk mencapai matlamat organisasi. Banyak projek-projek pembinaan kebanyakannya kompleks dan sukar untuk diuruskan. Amalan HRM kebanyakannya digunakan dalam syarikat dan berfungsi dengan berkesan sebab ia mempunyai potensi untuk mempengaruhi kejayaan atau kegagalan projek. Dalam industri pembinaan, terdapat banyak isu-isu sumber manusia yang membawa kepada prestasi projek yang lemah seperti reka bentuk kerja projek yang lemah, kekurangan pekerja mahir yang berkelayakan, tenaga kerja yang berubah-ubah demografi, kadar perolehan pekerja yang tinggi dan kadar 'burnout' yang tinggi. Kajian ini dijalankan untuk mengenal pasti amalan HRM yang biasa digunakan oleh syarikat-syarikat pembinaan dan untuk menentukan kesan amalan HRM pada prestasi projek. Data dikumpulkan melalui soal selidik dan diedarkan melalui e-mel dan dianalisis menggunakan perisian SPSS 2.0. Analisis deskriptif telah digunakan untuk mengenal pasti amalan HRM yang biasa digunakan oleh syarikat-syarikat pembinaan dan analisis Regresi Berganda telah digunakan untuk menentukan kesan amalan HRM pada prestasi projek. Dari hasil kajian, Pengurusan Sumber Manusia (HRM) amalan mempunyai hubungan yang signifikan positif dengan prestasi projek. Hasil kajian boleh memberikan bukti dan pandangan lalu menggalakkan firma pembinaan melaksanakan amalan HRM dengan berkesan untuk meningkatkan prestasi projek pada masa akan datang.

TABLE OF CONTENTS

CHAPTER 4 RESULTS AND DISCUSSION

CHAPTER 5 CONCLUSION AND RECOMMENDATION

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

In this age of rapid growth of globalization, many construction firms focus on the effective use of Human Resource Management (HRM) practices to gain competitive advantage to achieve the organization's objectives and ensure optimal performances among the employees. In these recent years, construction organizations have been increased in emphasis to focus on client and market oriented that brings best values to the clients. The project success rate is a crucial issue to fulfill the needs of the market. In order to reach for the objective set by the organization to be on competitive edge and market oriented, many organizations intend to improve and reorganize Human Resource Management (HRM) system to deliver success outcome of the organization.

According to Byars and Rue (2006), Human Resource Management (HRM) is defined as a system of activities and strategies that focus on successfully managing employees at all levels of an organization to achieve organizational goals. Generally, Human Resource Management (HRM) can be interpreted as a systematic approach planned to manage the workforce by training, motivating, and retaining employees that results in employee and organizational performance through several human resource practices.

In order to improve human resource structure and system in the construction industry, Human Resource Management (HRM) practices are being developed and implemented as it is vital to the effect functioning and the success of projects in construction industry. Minbaeva (2005) also stated that HRM practices is a set of

practices to manage human resources through facilitating the development of competencies that are firm specific, develop complex social relation and generate organization knowledge to sustain competitive advantage.

Human resource management plays a significant role in managing construction projects because it involves high commitment and team work from project team and project manager to ensure success of the project. Loosemore (2003) mentioned that human resources mostly contribute to large portion of costs in construction projects Therefore, the Human Resources Management (HRM) practices must be properly planned and executed among the employees to increase the effectiveness, productivity and performance of the projects in the construction industry. Due to the competitive and unstable economic market, the construction needs to develop better plan, strategies and practices to ensure the construction projects are successful.

1.2 PROBLEM BACKGROUND

Unlike other industry, construction industry is mainly project-based or matrix structure. The construction projects have the general characteristics of limited budget, schedule, and quality standards with a series of complex and interrelated activities. It requires the cooperation of all project participants that includes clients, directors, designers, contractors, constructors, project managers, project team and consultants. There are many human resource issues that will lead to poor performance of construction projects such as poor project work design and structure, shortage of qualified skilled employees, changing workforce demography, a high rate of employee turnover and high rate of burnout among construction workers.

The common issue that usually happens in the construction industry is the poor project work design and structure that cause potential conflicts and mistakes due to unclear requirements or information not readily accessible. According to Burke (2010), people will manage and perform the project, thus it is essential to develop an organizational structure that can reflects positively on the demands of the requirements of the project team, the project tasks, and the needs of the individual. The undeveloped or poor project work design and organization structure that could not determine who

will make decision or final say in the project will ruin the project and lead to project failure and decreased profitability.

The shortage of qualified skilled employees is also one of the common issues among the construction firms. According to Levy (2000), there is a "disturbing trend" in construction in which there is a "growing shortage of skilled workers and experienced managers". He further claimed that "the scarcity of both skilled trades-people and experienced managers will place more emphasis on the need to increase the quality and quantity of training in order to produce more effective and productive workers" (Levy, 2000). Therefore, due to the lack of proper screening process, selection methods and poor recruitment procedure will affect badly on the success rate of the construction projects and therefore lead to low productivity and growth of the construction firm.

In the construction field, the labor market is always changing and modifying due to the demographic of the workforce. The labor market in the construction firm is always changing because of the reduction of amount of qualified workers and also due to the changing demographics of the workforce. One of the factors is due to the aging of construction workforce that is growing older over the long term. Therefore, human resource management has become more important to the construction industry to overcome the changing workforce demographics.

There is undeniably a high rate of employee turnover in the construction industry nowadays. Morrell, Loan-Clarke, and Wilkinson (2004) mentioned about theory of the two major factors that cause employee termination is "perceived ease of movement" and "perceived desirability" that related to employee's career satisfaction. Employee voluntary and involuntary termination are mainly due to poor job performance, absenteeism or violation of workplace policies, firing or discharge, or leaves the company of her own volition, relocating to a new area or other reasons. The worst consequences of the high employee turnover are the loss of talent, loss of productivity, waste of time and cost to train a replacement. It is estimated that the cost is almost twice of an employee's salary to find and train a replacement, and might cause damage morale among existing employees.

According to Tulacz (2000), an obvious reason for the importance of human resources management in this industry is because of the high rate of burnout among construction workers that they long hard hours of daily work. Employee burnout can be described as the stress-related state that causes the extinction of motivation or incentive occurs especially when one fail to achieve desired outcome. Employee burnout increases the rate of workers who leave a firm and are replaced by new workers, and thus increase the employee turnover. There are many negative conditions of companies that cause burnout such as less rewards, excessive policies and procedures, long-hours jobs, and strict supervision, without clear explanation about roles and responsibilities, lack of communication and conflict. All these conditions will cause employees to be unproductive. Besides, without cohesive work groups will result in difficulty for employees to obtain clear information. The human resource management has the responsibility in eliminating this problem that occurs in the construction industry.

In sum, the issues or situation that occur in the current construction industry will cause failure in the performance of the construction projects, low productivity among employees, and might lead to financial loss to the construction company.

1.3 PROBLEM STATEMENT

The problem that leads to conducting this study is the human resource issues in construction firms which are poor project work design and structure, shortage of qualified skilled employees, changing workforce demography, a high rate of employee turnover and high rate of burnout among construction workers that will cause poor performance of construction projects. Therefore, this final year project is conducted to identify the common Human Resource Management (HRM) practices used by the construction companies and to determine the effects of Human Resource Management (HRM) practices on project performance. After revealing the results of the final year project, it is hoped to convince more construction firms to implement the effective Human Resource Management (HRM) practices among their workforce to improve the performance of construction projects.

1.4 RESEARCH OBJECTIVES

The research objectives of this study are:

- To identify the common Human Resource Management (HRM) practices used by the construction companies.
- To determine the effects of Human Resource Management (HRM) practices on project performance.

1.5 RESEARCH QUESTIONS

The following are some of the questions that will guide this study:

- What are the common Human Resource Management (HRM) practices used by the construction companies?
- What are the effects of Human Resource Management (HRM) practices on project performance?

1.6 SCOPE OF STUDY

The main focus of this study is to identify the common Human Resource Management (HRM) practices used by the construction companies and to determine the effects on Human Resource Management (HRM) practices on project performance in the construction firm. Based on the Construction Industry Development Board (CIDB) lists of the contractor firms, there is a total population size of 102 contractor companies in Kinta, Perak. The research will only focus on project managers working in contractor firms from Grade 7 construction category in Kinta, Perak who had registered in CIDB.

Selective recruitment, work design, training and development, compensation system and performance management are the five main human resource practices areas that will being discussed in this study. Questionnaire with a mixture of scaled, open-ended and closed questions are distributed among the respondents – the project managers working in construction companies in Kinta, Perak for the purpose of collecting data in this study.

The results of the study will contribute with a framework of human resource practices in construction industry and provide an insight in project managers' perspectives towards the human resource practices and their performance. All the findings of the study were also limited by the reliability and validity of the instruments and the perception of the respondents.

1.7 SIGNIFICANCE OF STUDY

This study is the comprehensive study of the effects of Human Resource Management (HRM) practices on the project performance in the construction industry. The outcome of the study advances knowledge and understanding of what are the common human resource practices used by the construction companies and what are the effects on project performance. It helps to guide and assist human resource department or human resource managers in formulating and implementing methods, strategies and practices to improve human resource management, employee commitment, job satisfaction, and thus project performance. This study will provide data about the human resource practices based on the questionnaires to develop results and assumptions about human resource practices. The outcomes of this research are the intended better implementation of human resource practices in terms of selective recruitment, work design, training and development, compensation system and performance management in the construction industry. The results of this study can be used for further in-depth study in the future to solve the human resource issues in the construction industry.

1.8 EXPECTED RESULTS

In this study, it is expected that there are several Human Resource Management (HRM) practices in the aspects of selective recruitment, work design, training and development, compensation system and performance management that are used by the construction companies and can improve the construction projects' performance. It is assumed that the implementation of the human resource practices by the human resource department will results in the improved project performance. It is expected that Human Resource Management (HRM) practices have a positive significant relationship with project performance. This research is also expected to help the project managers to provide their perspectives on the current existing human resource practices and to contribute in better implementation of human resource practices for the success of projects in the construction firms. Besides, the outcome of this study is expected to help construction firms in solving human resource issues through implementation of human resource practices.

1.9 OPERATIONAL DEFINITION

1. **Human Resource Management (HRM)**: The area of administrative or formal systems devised for the management of employees within an organization. The responsibilities of a human resource manager include staffing, employee compensation and benefits, and defining or designing work.

2. **Practices**: The actual application or use of an idea, belief, or method, as opposed to theories relating to it. In this study, practices refer to the methods or strategies construction firms used to manage the human resource.

3. **Construction Industry**: Sector of national economy engaged in preparation of land and construction, alteration, and repair of buildings, structures, and other real property.

4. **Project performance**: The accomplishment of a given project task measured against preset known standards of budget, time, and quality.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, there are literature reviews with past factual and actual evaluation of previous research studies. This chapter will mainly focus on common Human Resource Management (HRM) practices and their effects on project performance in construction industry.

2.2 BACKGROUND OF THE CONSTRUCTION INDUSTRY

The construction industry is the area where companies are in responsible of the construction of buildings or engineering projects. The construction industry is an influential industry that brings significant impact to the nation's economy. According to Memon (2013), construction industry is at utmost importance to the development of Malaysia. At times, the other industries will be affected largely on the demand of construction industries.

According to Garbharran, Govender, and Msani (2012), the existence of different types of construction projects that have different requirements cause projects to be complex and difficult to be accomplished. The construction industry is responsible of building structure and infrastructure and also to design, organize, develop, maintain, repair, renovate, remodeling and removals to maintain sustainability of the structure in a long term in order to provide shelter, comfort and convenience to the public.

The construction industry is mainly consisted of three types of construction:

(i) Residential projects
Example: houses, buildings, and garages.

(ii) Non-residential projects
Example: large and small commercial buildings (market, schools, shopping malls, banks, hospitals, etc.)

(iii) Engineering projects
Example: main transportation structure (bridges, railways, reservoirs, airports roads, etc.)

Construction projects can also be categorized into public and private projects where public construction projects are executed for local agencies of government, state and federal and are paid for out of tax money, bonds, or public fund while private construction projects are performed for private agencies and are paid for private funds.

2.2.1 Construction Sector in Malaysia

According to the statistics from MALBEX (2005), the construction sector in Malaysia contributes largely on the overall economy of the country with 3.3% of GDP in 2005. Besides that, there are a total of 600,000 construction workers with an amount of 109,000 foreign workers working in the construction sector. In Malaysia, there are mainly four category of construction sector: namely residential office, infrastructure, and retail. There are a large construction volume and different complex projects being carried out and it helps construction companies to earn a great profit. There was once a short term economic crisis occurred from 1997 until 2000, namely ASEAN crisis that affect negatively on the construction sector in Malaysia. The construction sector in Malaysia had improved in many ways to overcome the crisis and survive with success.

However, there are still many factors that lead to project failure due to human resource and cause delays in construction projects to happen frequently. Less concern about human resource management issues by the construction firms has led to decline in project success rate.

2.2.2 Human Resource Issues in Construction Industry

In the construction industry that is most labor-intensive industry, there are many internal problems and factors in the organizations caused by internal organization that should be taken proper control, managed and solved. Problems such as poor and frailty corporate management, lack of competent and experienced workmen and managers and high employee turnover has been existing since the 1980s. All these challenges require human resource practices such as management and control, recruiting and training, and performance management to overcome them. However, the human resources issues that arise in the construction industry have not been given adequate attention and ways to solve them. Human resource issues are mostly being concerned as centralized head-office function but mostly issues and problems occur on the projects.

According to the information by The Stars Newspaper (2011), REHDA highlighted the serious issue of the shortage of skill worker will reduce project effectiveness. Labor effectiveness and productivity are important to ensure project success in the organizations and therefore shortage of skilled and experience workers will fail to meet organization's expectation in meeting organizational objectives and goals.

The human resource issues such as lack of training and development can reduce productivity and effectiveness of employees in achieving strategic goals of organizations. Without proper planning of the human resource will lead to lack of competencies and effectiveness among workers. Lack motivation, employee burnout, and high employee turnover that occurred in the current industry are the main issues that are difficult to be solved in a short term and require in-depth planning.

Lack of communication will lead to unclear understanding of the work requirements and unable to achieve organizational objectives. Without a formal and systematic performance appraisal system, organizations will not able to access individual employee performance precisely and accurately. Therefore, human resources issues should be solved through the coordination between human resource and all levels of organizations.

The inefficiency of human resource managers will also decrease the efficiency of project resource requirements. Besides that, there are also many issues that are caused by lack of communication. Due to lack of coordination between human resource department and project managers, the organization will fail to recruit skilled and qualified employees at the right time. The scarcity in human resource will lead to workforce imbalance, project delay in operational, and induce cost for the delay.

According to Marchington and Wilkinson (2012), how the ways employees are managed will be implied directly to performance of organization and will differentiate between successful and unsuccessful firms. Therefore, an efficient, experience and competent human resource manager is needed for the success of an organization.

2.3 HUMAN RESOURCES MANAGEMENT (HRM)

2.3.1 The Concept of Human Resource Management

Human resource management (HRM) is defined as the organizational function within an organization that manages the functional areas of recruitment, training, compensation, development, strategic direction, administration and wellness. Human resource management (HRM) also deal with issues or conflicts occur among all levels of organizations. It is a strategic approach that comprehensively deal and manage people and work environment.

The Human Resource Management (HRM) is believed that it will lead to effectiveness and productivity increased among employees in terms of project performance to achieve organization's goals and objectives. According to PMBOK (2013), human resource management (HRM) practices lead to effectiveness of human resource through the procedure of organizing, managing and leading. Through programs and practice, the employees will be improved and create values to the organization.

According to Noe, Hollenbeck, Gerhart and Wright (2000), they intended that Human Resource Management (HRM) is known as the central approach that shapes and develops the employees' behaviour, attitudes, and performance. Therefore, HR practices are important tools to improve the overall organizational performance. Human Resource Management (HRM) is also a distinctive approach to manage employees that can gain competitive advantage through the employment of a highly committed and skilled workforce using proper human resource techniques.

2.3.2 Human Resource Development Model

The Human Resource Model is developed strategically to the acquisition, motivation, management of the organization's human resources, shaping of corporate culture, and introducing programs which reflect core values of the organization and ensure its success outcome on performance. The Human Resource Management comprises functional areas from attracting the talent, recruiting, training and development, performance appraisal and compensation. The needs, vision and aspirations of the employees should be managed and handled by Human Resource Management (HRM) to ensure motivation and personal development.

According to Wright, P.M, and Boswell, W. (2002), there are many firms that focus on needs of employees and motivate them for organizational development. The major factor that contributes to long-term commitment of employees to the organization is the flexibility and adequate training and development provided.

Based on the Human Resource Development Model (Figure 2.1), human resource strategies used in the company will contribute to the vision of the company and strategic business plan and to build key stakeholders. Dynamic environment will influence the organization in a whole. Human resource practices that are executed through human resource plan and policies such as job design, recruitment and selection process, human resource development plan, diversity management plan, remuneration and reward system, performance management strategies, career development and succession plan and employee relation strategies will lead to strategic organizational outcomes. These strategic outcomes include performance, productivity, effectiveness, cost effectiveness and profitability.

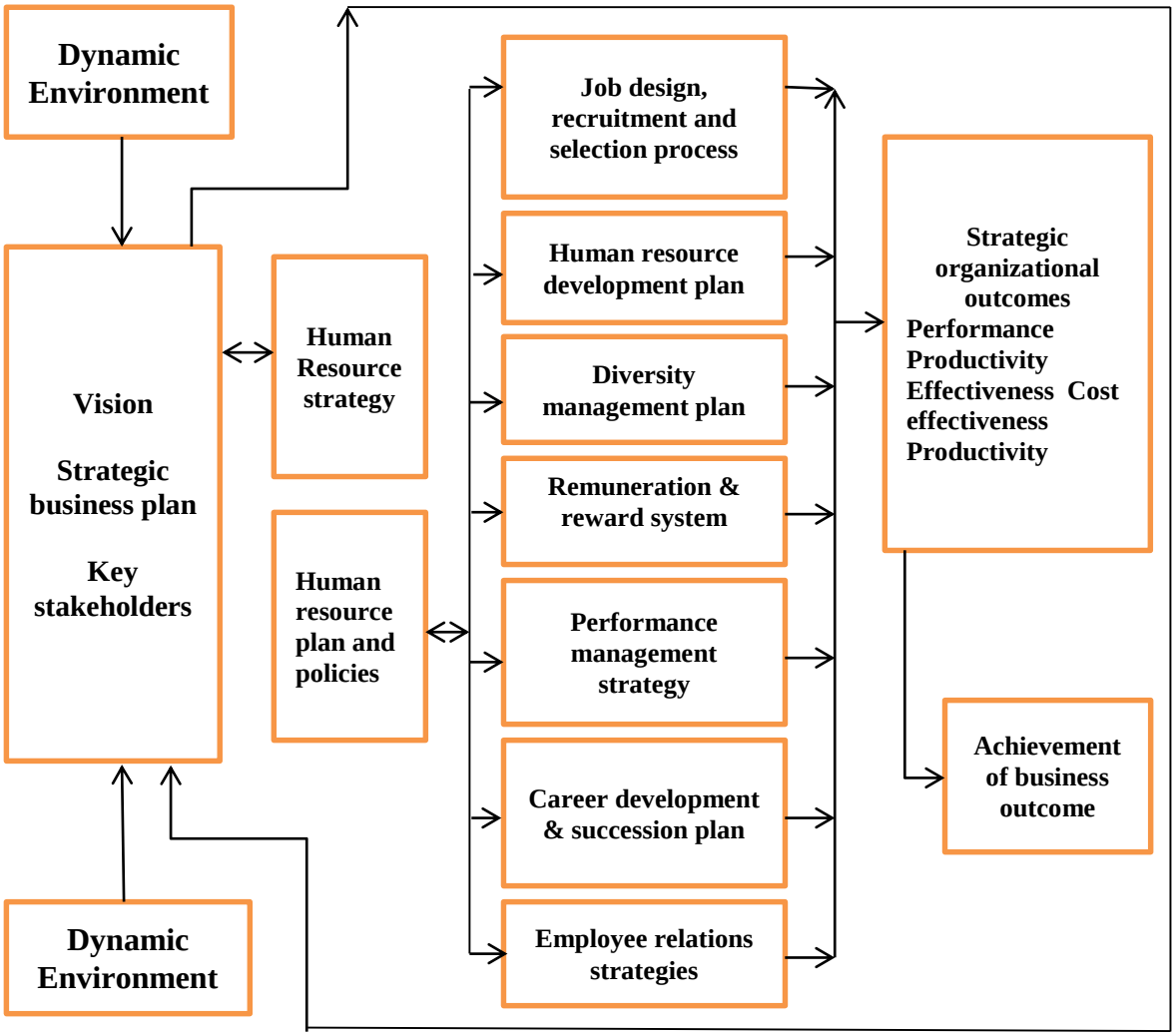

Figure 2.1: Human Resource Development Model

Source: Wright and Boswell (2002)

Based on the Human Resource Development Model (Figure 2.1), it shows that the employees in the organizations are given adequate training, freedom and flexibility in working. This will ensure employees being highly committed and motivated. Human resource management practices will affect the behavior of employees that result in better strategic outcome.

Zaini, Nilufar and Syed (2009) stated that the human resource practices such as training, performance appraisal, team working, planning will bring positive impact to the performance of organization. Human resource management practices are necessary

to create strategic goals and targets that motivate employees to be highly committed. In developing high commitment human resource management, there is a philosophy of receiving more commitment and values from employees by giving more rewards and needs to employees in return. The high commitment plan and policies are executed in the organizations to promote motivation, commitment, responsibility and ownership of employees of their job. In the high commitment organizations, all employees are important in all project stages, and have authority of making decision and freedom to manage their work.

However, to maintain high commitment and involvement from employees, organizations will need to invest a large amount of cost to develop their human resource. The outcome of the investment is the increased effectiveness, productivity, and performance, thus achieve success in projects. The high commitment human resource management increases commitment and productivity from employees, and also increases cost of termination. In sum, the human resource development model shows the importance of human resources practices in achieving strategic organizational outcomes.

2.3.3 Human Resource Management (HRM) Practices

Human Resources Management (HRM) practices is defined as an approach or system to develop, motivate and retain employees in the form of clear communication, work design, selection, development, and measurement. Human resource practices must change to meet the needs of organizational growth and management's effectiveness. Human resources practices are strategic and it is an important system that coordinates and guides human resource with a proper executing plan. HR practices develop measuring method and analysis of the effects on employee performance.

There are many HRM practices that will lead to superior performance. Based on Osman (2011) findings, effective human resource practices will influence performance of the company. The human resource practices are implemented in organization to develop superior performance among employees to achieve strategic goals of company projects. According to Marchington and Grugulis (2000), getting perceptions about the human resource practices from front-line workers is particularly important during the process of assessing the impact of HR practices on performance of every employee individually.

The common areas of human resource management practices include:

(a) Selective Recruitment
(b) Work Design
(c) Training and Development
(d) Compensation System
(e) Performance Management

(a) Selective Recruitment

According to Armstrong (2006), recruitment is the procedure of approaching individuals that fulfil the needs of the organization while selection is process of recruitment to select suitable candidates to be appointed. In some of the companies, recruitment campaign is organized to attract those candidates with skills and competencies and fit best with the job to be hired and trained. The recruitment process will provide opportunity for the prospective employees to gauge whether they like to work in a particular organization or not. They will also have better understand about the organization's vision, culture, and management styles. Armstrong (2006) explained the stages of recruitment and selection process as below:

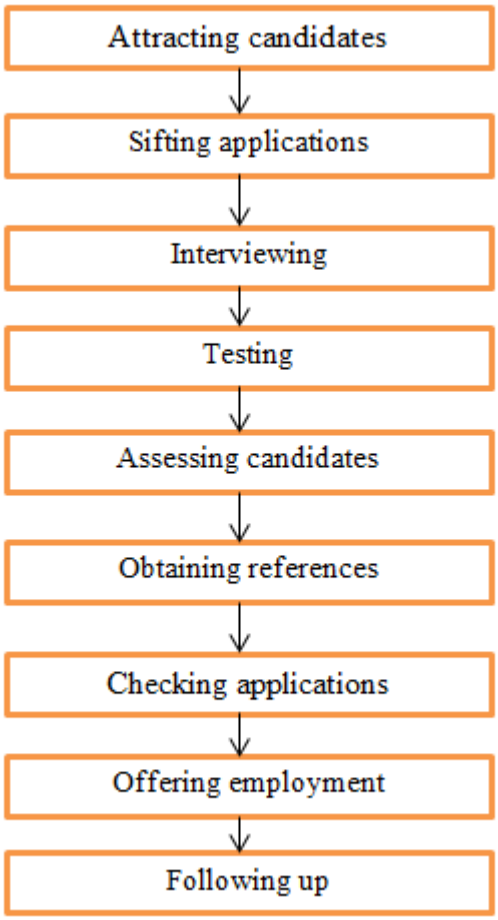

Figure 2.2: Stages of recruitment and selection

Source: Armstrong (2006)

Selective recruitment is important for employers to provide realistic job preview to the job candidates to have a clear view of the goals of the organization and their expectations on them. This will ensure the commitment of the employees will meet the organization's mission.

In the selective recruitment process, the particular organization will have to determine an amount of potential candidates that meet the requirements of particular job position, and select the best-fit candidates among all in the selection pools that bring greatest value to the organization to be hired. The selection process is aided by important selection tools or instruments such as competency profiles that provide information about the knowledge, skills, technical or professional competencies and abilities of the job candidates.

The soft skills include the leadership skills, communication skills, team working, attitude, personal character are as important as hard skills, but they are difficult to be examined or measured. According to Lapierre and McKay (2002), the "softer" competencies are more subjective in nature and difficult to measure. However, during the interviewing process, the certain soft skills can be examined through candidates' speaking skills and personal behavior.

(b) Work Design

The work design is a human resource practice that involves the specification of scope, methods, policies and relationship of work in order to fulfil technological and organizational requirements as well as the social and personal expectations of the employee. The important elements in work design include the decision-making process, management style and organizational culture. To ensure project success and improved performance, employees are often encouraged to participate in decision-making process due to their specific knowledge and expertise in handling the certain technical problems. It is more effective to have team working management style that employees are work in teams and have authority to make decisions for their job tasks.

According to Bhatnagar (2007), if organization fulfils employees' satisfaction on job, automatically productivity will increase. Empowering employees will create sense of power and authority, more motivated and committed, and thus innovated and creative in handling work task. Some focus groups are formed in companies will help to solve problems in the projects that will improve performance. Work design will require motivational mechanism such as trust, greater control of work, increased identification with the organization and the setting of higher goals and/or increased goal acceptance and cognitive mechanisms. It also requires cognitive mechanisms such as upward communication and better utilization of information of managerial or superior level management.

(c) Training and development

Training and development is another human resource practices that most organizations use to improve learning and self- development among the employees. The training and development practice has an objective of improving overall employees' productivity and performance. The training and development objective have to be aligned with the organizational objectives, so it is carried out with proper training plan by the human resource department.

Throughout training, employees gain internal and external information about the organization and job tasks and scope, and turn them into useful organizational knowledge. In many companies, extensive training programs are provided to the employees on a yearly basis to develop employees who are competent, skillful and knowledgeable that will result in better performance. Besides, newly hired employees are given extensive training to ensure clear view of company's goals and expectations.

Yahya and Goh (2002) stated that the leadership, management change and company mission and values are reinforced through training and development. The promoted employees are given training programs in companies to promote leadership skills. In short, leadership skills are crucial to every organization as they lead every decision making process in every levels of organization and it is developed by adequate training and development.

(d) Compensation and Rewards

Another human resource practice that is essential factor that contribute to improved performance of firms is the compensation and rewards. According to Gómez-Mejía, Balkin and Cardy (2001), pay systems have traditionally been related to holding a certain type of career. The compensation and rewards might be the main reason to motivate and encourage employees to be committed and delegated to the company. For company who has fair compensation practice, the employees are likely to be committed and productive. The pay and incentive system practices are different throughout the industries. However, based on Yahya and Goh (2002), the pay and incentive system should include reward risk taking attitude to promote creativity in solving problems.

Yahya and Goh (2002) also implied about the stress on compensation and reward to stimulate knowledge exchange and sharing within team members. The incentives could improve cooperation and team working among the employees that result in improved firm's performance. Besides that, it is believed that employees will be more motivated if they receive recognition or reward when they have excellent performance. Organizations which practice good social rewards and provide recognition to the employees are likely to have better organizational performance.

(e) Performance Management

Performance management is an important human resource practices as it is an assessment of performance of an employee to determine progress toward predetermined goals and the need for improvement and training. It basically involves an on-going process of communication between a managerial level and an employee in order to achieve strategic organizational goals. The basic way to manage and assess performance is by performance appraisal where company will practice self-rating system for employees to assess their individual performance, or superior to discuss and access the performance of the subordinates.

According to Ployhart and Weekley (2009), organizational goals will not be achieved if goal attainment is dependent on factors outside the employee's control. The strategy of the implementation of effective performance management is to evaluate performance based on SMART (specific, measurable, attainable, relevant, and time-bound) goals that employees achieved at the end of the rating cycle. Evaluation of performance based on SMART can provide customized performance expectations and based on the employee's job scope, motivate employees to achieve best results, and eliminate unfair subjectivity from the evaluation process. Therefore, employees themselves have to be clear understanding of the strategic goals in order to achieve the goals with improved performance.

Based on the Sample Performance Standards for Communication Competency (Table 2.1) from Pulakos (2009), the performance standards for communication competency between entry-level employees, experienced employees, and first–level managers have vast differences. The performance of all levels of the organizations should be evaluated by using the standards in terms of expectation and role model being set by the human resource management.

Table 2.1: Sample Performance Standards for Communication Competency

Sample Performance Standards for Communication Competency

Entry-Level Employee Performance Standards		
Below Expectations	**Meets Expectations**	**Role Model**
Even with guidance, fails to prepare straightforward communications, including forms, paperwork and records, in a timely and accurate manner; products require moderate to extensive revisions. Even with guidance, fails to adapt style and materials to communicate straightforward information.	With guidance, prepares straightforward communications, including forms, paperwork and records, in a timely and accurate manner; products require minimal corrections. With guidance, adapts style and materials to communicate straightforward information.	Independently prepares communications, such as forms, paperwork and records, in a timely, clear and accurate manner; products require few, if any, corrections. Independently adapts style and materials to communicate information.

Experienced Employee Performance Standards		
Below Expectations	**Meets Expectations**	**Role Model**
Fails to prepare timely, clear, organized and concise communications on complex topics; communications require moderate to extensive revisions. Fails to effectively adapt communication style and materials to communicate complex information.	Effectively prepares timely, clear, organized and concise communications on complex topics; communications require some revisions. Effectively adapts communication style and materials to communicate complex information.	Effectively prepares timely, clear, organized and concise communications on highly complex, sensitive or controversial topics; communications require minimal revisions. Effectively tailors communication style and customizes materials to communicate highly complex, sensitive or controversial information.

First-Level Manager Performance Standards		
Below Expectations	**Meets Expectations**	**Role Model**
Fails to prepare communications that are clear, organized and concise on complex, sensitive or controversial topics; products require moderate to extensive revisions. Fails to tailor highly complex communications for internal and external audiences that are effectively targeted.	Prepares high-visibility communications that are clear, organized and concise on complex, sensitive or controversial topics; products require few revisions. Skillfully tailors highly complex communications for internal and external audiences that are effectively targeted, even in sensitive or highly visible situations.	Prepares high-visibility communications that are clear, organized and concise on the most complex, sensitive or controversial topics; products require no revisions. Expertly tailors the most complex communications for internal and external audiences that are optimally targeted; is called upon to handle the most sensitive and visible situations.

Source: Pulakos (2009)

2.4 PROJECT PERFORMANCE

Project performance will be evaluated timely to determine the successful rate of project and the capability of the project team in completing projects within time frame and on budget. It can also improve the planning process and performance of projects in future. According to George (2013), the indicators for measuring project performance such as schedule and time, budget and cost, quality and quick to respond to change. There are many other aspects to be considered for project performance, there are such as schedule and budget compliance, number of issues and defects, number of scope changes, customer or stakeholder satisfaction and many more. Completion time is also very important to success of a project. If one project cannot meet the timeline, the business objectives will be failed to be met. Besides, budget is another factor that will influence the performance of the project. If exceed amount of budget is spent on particular project, the company may lose profit.

According to Kerzner (2013), the project performance is not limited to aspects such as cost and budget management, time management, quality management, scope and requirement management, resource utilization performance, risk management and company profit. The project team has to meet the stakeholder expectations by maintaining the successful management of all aspects of project. The poor estimating, price changes, errors, delay, defects, and changes in scope will cause project failure. The resource capability is also another factor that will affect the quality of performance of project. If the project team is incapable of the work delegated or unclear of requirements of task, the outcome of project will not be satisfactory. It is important to deliver project that meet the requirements and expectations of stakeholder.

In this research study, the project performance is measured in mainly six aspects, which are cost and budget performance, schedule performance, requirement performance, resource utilization performance, project risk management performance and company profit. The project performance being measured will help to determine the effects of Human Resource Management (HRM) practices on project management.

2.5 RELATIONSHIP BETWEEN HUMAN RESOURCE MANAGEMENT (HRM) PRACTICES AND PROJECT PERFORMANCE

Based on many research and studies in the previous years, it is assumed that there is a significant relationship between Human Resource Management (HRM) practices and project performance. Based on the HRM relationship model (Figure 2.3), there is an evidence for a relationship between HRM activities, HRM outcomes and project performance.

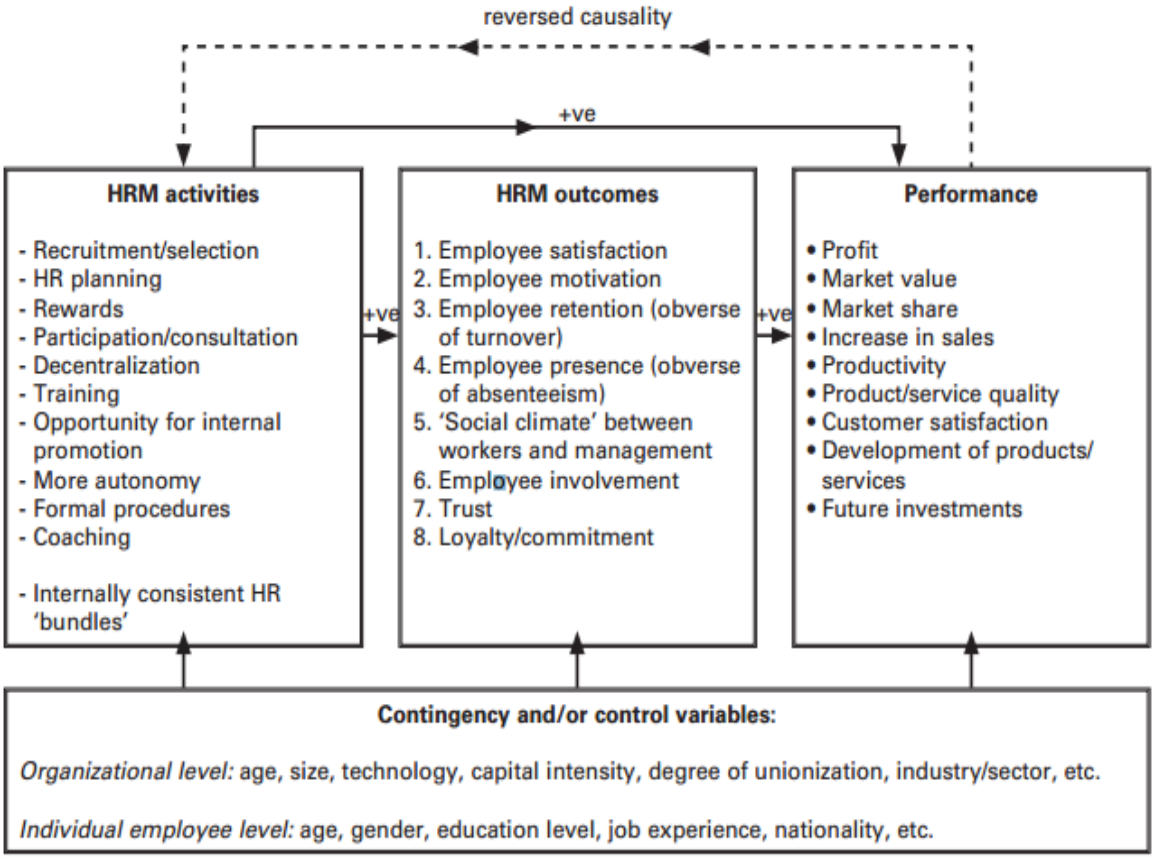

Figure 2.3: HRM Relationship Model

Source: Paauwe and Richardson (1997)

Based on Paauwe and Richardson (1997)'s HRM relationship model, the human resource practices will lead to the Human Resource outcomes that will affect the organization's project performance. The HR activities or practices such as recruitment, HR planning, rewards, participation, training and others are influential in producing outcomes such as employee satisfaction, employee motivation, employee retention, employee presence, trust, loyalty and many more. The positive HRM outcomes bring positively improved performance in terms of profit, market value, market share, productivity, sales increased, and customer satisfaction. All improved performance will eventually lead to achieving strategic goals and improve the performance of projects.

Besides that, the HRM relationship model acknowledges the potential reversed causality reflecting the possibility that excellent or poor project performance that lead to poor firm performance will affects HRM and vice versa. If the organization earns large amount of profit will cause top managers to invest more willingly in employees with training program or provide higher compensation, therefore it shows a positive effect on HRM. However, poor project performance will cause loss to the company and lead to less development budgets and less incentives from top management. There are also HRM practices that directly influence the employee's performance and in turn will affect project performance.

The effects of contingencies or control variables on the relationship between HRM and project performance are also acknowledged by the Paauwe and Richardson (1997) framework. In the organizational level, the factors are such as age, organization's size, technology, capital intensity and the degree of unionization. In the individual employee level, the factors include employees' background such as gender, level of education, age, job experience, nationality.

2.5.1 Effects of Selective Recruitment on Project Performance

Selective recruitment is an important type of practice that is often used in an organization for recruiting the best-fit candidates to be hired into the organization. It brings advantages to the organization because of selecting the right and qualified people that have desirable characteristics or competencies and have skills and knowledge in the particular field, and enable to adapt the organizational culture and management style and system. Therefore, the selective recruitment is considered as tool to recruit the right people, at the right time and at the right place.

Selecting and hiring capable employees will help organization to decrease the cost of training and development of employees. Human resource practice implemented by attracting the right employees will lead to increased productivity, improved performance of projects and decreased turnover. Therefore, recruiting selectively will improve firm's project performance in terms of profitability and also growth in profitability.

Paul and Anantharaman (2003) pointed out that effective recruiting process will enable hiring of qualified employees that are capable of meeting the work requirements of the company, will contribute to delivering products with better quality and also economic profit. The project performance of the firm is improved through effective recruitment and selection due to recruiting competent project managers. Furthermore, Collins, Christopher and Clark (2003) stated that selective recruitment and selection will aid the growing in sales of an organization. Therefore, it is believed that practice of selective recruitment will affect positively on company's project performance.

2.5.2 Effects of Work Design on Project Performance

Work design is one of the human practices that bring effects to the company's project performance in many ways. Different organizations practice different kinds of work design for executing projects. Some firms will require employees to accept and follow organizational decisions made by top management and some will provide authority to employees in managing team decisions while undergoing a project. In organizations that has human resource practice of decentralization and focus groups, employees are given opportunity to make joint decisions, work in team, undertake initiatives to achieve strategic goals and objectives of the organizations and achieve good performance in projects.

The work design of decentralization can affect the overall organizational performance significantly. The increasing of junior project managers who gain authority and flexibility in leading, coordinating and decision making will help the team to improve in productivity as the project managers have adequate knowledge and experience to handle critical situation with effective solutions and strategies for the projects. Therefore, the firm's project performance will grow consequently of increase effectiveness and productivity.

Based on Tata and Prasad (2004) explained that work design such as teamwork and decentralization of decision making will be able to encourage and promote employee commitment, participation and a sense of attachment, therefore affecting project performance of organization. The employees in the organization are more likely to be motivated and being committed to the organization if they are satisfied and easily adapt into the work design and management styles of the organization and will produce effective work in handling projects. According to Batt (2004) employees who participated in self-managed teams will have greater employment security and job satisfaction but it is opposite for supervisors. Besides that, Collins, Christopher and Clark (2003) pointed out that top management implement practices such as team social network, mentoring, incentives will create organizational competitive advantage influence the firm's performance.

2.5.3 Effects of Training on Project Performance

Human resource practice such as training and development brings significant effects to the project performance of the organizations. Training and development programmes such as employee education, workshops, and coaching will improve the knowledge, competencies, hard skills and soft skills of employees that will eventually increases the employee productivity and increase job satisfaction which lead to higher rate of employee retention and improved project performance.

According to Barringer, Jones and Neubaum (2005), while comparing rapid-growth and slow-growth organizations, results showed that rapid-growth firms are dependant of the productivity and commitment of employees to maintain organizational growth. In rapid-growth organizations, training programmes and career planning workshops, seminars are given to the employees to develop them to be effective and productive in executing projects. Therefore, rapid-growth organizations are most likely to have better project performance by achieving strategic objectives and goals through good human resource practices.

Well-trained employees create values to the organization and can help organization to gain competitive advantage to develop a knowledge-based organization and perform better in handling projects. Effectiveness and productivity of project managers will create job security as the organizations will train and develop project managers to be more favourable with higher market values compared to other firms in the construction industry.

Paul and Anantharaman (2003) also proposed that human resource practices such as career planning and development programmes will demonstrate the organization’s effort in developing the personal growth of employees that eventually lead to loyalty, devotion and commitment. The improved productivity and commitment of employees will improve the project performance of the companies.

2.5.4 Effects of Compensation System on Project Performance

Human resource management practice such as compensation system has a significant impact that directly influences the company's project performance. Most organizations find this practice to be effective to be executed as it will have a positive effect on employees in each level of organization. According to Collins, Christopher and Clark (2003), compensation based on performance that most of the organizations use is dominant and important in rewarding the employees based on their performance being evaluated. The performance of the employees is evaluated based on their achievements of goals and targets based on their work requirements and scope. According to Wimbush (2005) and Singh (2005), they acknowledged that there is a positive relationship between compensation based on employee's performance and firm's performance but the practice includes pay level and pay structure. The employees are concern about the organization's pay management system and structure to ensure the job and financial security, job satisfaction and work motivation is maintained that will increase their performance in projects.

According to Armstrong (2006), compensation based the achievement of expected goals or targets by the employees will promote motivation of the employees. Accomplishment of strategic purposes and goals will build project managers with positive character and high self-esteem. This will lead to improved productivity in work tasks given and create positive working morale among project team. Thus, the project performance of the organizations will improve by implementing performance-linked compensation practice.

2.5.5 Effects of Performance Management on Project Performance

Performance management is a human resource practice that has large impact on the project performance. According to Armstrong (2006), the performance management is defined as a strategic and integrated approach to improve the employee's performance and to develop the skills and capabilities of working teams in order to deliver success outcome to the organizations. With an effective performance management system, the company will be able to evaluate performance of individual, team and organizational performance in accordance to benchmark set by the organizations and ways to improve in achieving strategic goals and targets. Based on Kandula (2006), performance management has a major objective of transforming initial potential of human resource into performance output through eliminating intermediate barriers, motivating and rejuvenating the employees.

Performance appraisal system is crucial to systematically assess, evaluate and appraise the project manager's performance. Based on Mullins (2002) research, a comprehensive performance appraisal system will create a basic yardstick to assess employee's achievement and performance individually, their potential for job advancement, and ways to improve their performance. Besides, performance appraisal system is a benchmark to be set against specific performance of work, mainly to describe and evaluate existing firm's performance. The appraisal system will include elements to be highlighted such as expectation and target, promotion or rewards, remuneration, compensation, and management plan. With a proper and effective performance appraisal system, project managers will assess their own milestones and how far they go towards achieving individual task goals. This will motivate employees to be hardworking and committed in order to achieve personal goals and receive recognition from the organization. This will lead to improvement in the project performance of the organization.

2.6 REVIEW OF RESEARCH METHODOLOGY OF SIMILAR RESEARCH

In the previous years, there are many studies being carried by the researchers on the human resource practices or its effects on project performance in the aspect of research methodology. Table 2.2 shows the similar researches being carried out in many countries previously from year 2000 until 2014. The previous researchers used data collection techniques such as questionnaires survey or literature review in the process of collecting data for their studies.

The scope of study or research areas of research carried out by researchers such as Carl, Ingmar, and Antonina (2000), Muslim, Khairuzzaman, Siti, and Richard (2014) has similarity in terms of the scope of the human resource practices strategy alignment and its effects or impact on organizational performance. Their research focus on the types of human resource practices and how practices affect performance. Besides that, the researchers, Collins, Christopher, and Clark (2013) emphasized their research areas on the effects of specific network building human resource practices and incentive pay according to organizational performance. They focused on the role of human resources practices to gain competitive advantage to the organization.

The research studies conducted by Eun-Suk and Seongsu (2006) focused on the best practices and the main five propositions for the configuration of performance-based human resource system in Korea. Furthermore, the previous research carried out by Keld and Nicolai (2012) concerned about the Human Resources Management Practices and its relationship with innovation in the organizations while Rebecca and Patrick (2013) researched in the scope of the impact of high-performance human resource practices on employees' attitudes and behavior that results in affective commitment to the organizations.

Among all the previous researches, there are less significant researches about human resource practices in the construction industry being carried out in Malaysia in the recent years. The most recent research about human resource practices by Muslim, Khairuzzaman, Siti, and Richard (2014) involved only respondents in the public university that might not being applicable to other organizations or other industries.

Therefore, the main objectives of this research study being carried out are to identify the common human resource practices used by the companies in the construction industry and to determine the effects of human resource practices on the project performance in construction industry.

Previous studies that have been conducted by researchers on human resource practices are as shown in the Table 2.2 as below:

Table 2.2: Previous Research on Human Resource Practices

Author	**Year**	**Place of Research**	**Name of Article/Journal**	**Research Area**	**Methodology**	**Respondents**
Carl F. Fey, Ingmar Björkman, and Antonina Pavlovskaya	2000	Russia	The effect of human resource management practices on firm performance in Russia	HRM-Strategy Alignment and effects on performance	Questionnaire	101 respondents (28% response rate)
Christopher J., Collins Kevin, and D. Clark	2003	U.S.	The Role Of Human Resource Practices In Creating Organizational Competitive Advantage	Effects Of A Set Of Specific Network Building Practices For The Potential Effects Of Incentive Pay Based On Organizational Performance	Questionnaire	510 respondents from technology firms (35% response rate)
Eun-Suk Lee and Seongsu Kim	2006	Korea	Best Practices and Performance-Based HR System in Korea	Five Propositions For The Configuration Of Performance-Based HR System In Korea	Literature Review	-

Table 2.2: Previous Research on Human Resource Practices (continued)

Keld Laursen and Nicolai J. Foss	2012	Denmark and Norway	Human Resource Management Practices And Innovation	Human Resources Management Practices with the relationship with innovation	Literature review	-
Rebecca R. Kehoe and Patrick M. Wright	2013	U.S.	The Impact of High-Performance Human Resource Practices on Employees' Attitudes and Behaviors	High-Performance HR Practices and Affective Commitment	Structured employment interviews	Employees working in 56 business units
Muslim Amin , Wan Khairuzzaman Wan Ismail , Siti Zaleha Abdul Rasid , Richard Daverson Andrew Selemani	2014	Malaysia	The impact of human resource management practices on performance: Evidence from a Public University	Impact Of Human Resource Management (HRM) Practices On Organizational Performance.	Questionnaire	300 respondents from public university (academicians and support staff)

2.7 VARIABLES FRAMEWORK

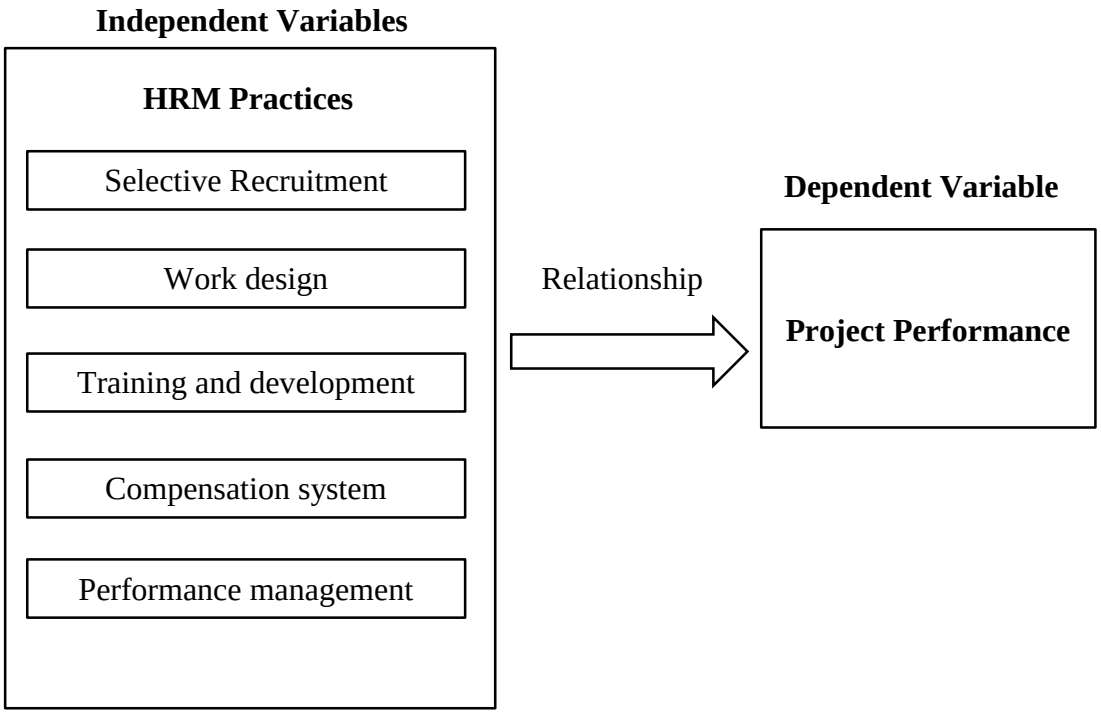

Figure 2.4: Variables framework of research

Based on the variables framework of research (Figure 2.4), there is a significant relationship between Human Resource Management (HRM) practices and project performance in the construction industry. The independent variables are the human resource practices which are selective recruitment, work design, training and development, compensation system and performance management while dependent variable is project performance. According to Harney and Jordan (2008), human resource practices such as selective recruitment, training and development, performance appraisal, compensation and rewards and work design are the human resource practices that affect project performance of organization. The dependent variable which is project performance is expected to vary with any changes in the independent variables which are the Human Resources Management (HRM) practices. The project performance is measured in the aspects of cost and budget performance, schedule performance, requirement performance, resource utilization performance, project risk management performance and company profit. It is assumed the use of the HRM practices will improve the project performance of organizations.

2.8 RESEARCH HYPOTHESIS

The hypothesis of this research are:

H1: There is a significant positive relationship between Human Resource Management (HRM) practices and project performance.

H1a: There is a significant positive relationship between selective recruitment and project performance.

H1b: There is a significant positive relationship between work design and project performance.

H1c: There is a significant positive relationship between training and development and project performance.

H1d: There is a significant positive relationship between compensation system and project performance.

H1e: There is a significant positive relationship between performance management and project performance.

2.9 CONCLUSION

In conclusion, Human Resource Management (HRM) practices should be implemented in organizations in the construction industry to ensure successful projects. There are several kinds of practices and each has its own advantages bring to the organizations to gain competitive advantage. Generally, Human Resource Management (HRM) practices can affect the employees and project performance in a positive relationship. The successful outcome of projects achieved through executing effective Human Resource Management (HRM) practices will help organizations to meet client's requirements and needs and to improve company working morale.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the five sections which are research design, population and sampling, data collection, design of questionnaire and data analysis. In this chapter, it mainly explained about the sampling, method and techniques used and design of research to conduct the research. The validity of the research will be discussed in data analysis which uses Cronbach's alpha test and pilot test.

3.2 RESEARCH DESIGN

Research design shows detail outlines about how the researchers will conduct investigation. Cheek (2008) defined 'research design' as 'the ways or methods that can transform research idea into a research project or plan that a research or research team carry out in practice'. Research design is basically being used to structure and organize the research and to develop the framework of structure for main sections of research that will align with the research questions. In this study, the research design being used is the quantitative research design.

3.2.1 Quantitative Research Design

In quantitative research, deductive approach is used to test theory. Based on Robson (2002), quantitative research is related to positivistic approach that derives knowledge from direct observation or experience. Quantitative research design has the function of testing relationships, examine and describe the cause and effect relationships. According to Creswell (2008), the quantitative design is framed with using numbers and mostly close-ended or scaled questions.

Experimental design will determine the existence of cause-effect relationship between one factor with other factor by reaching valid results about relationships between independent and dependent variables. In this study, the performance of the participants on dependant variables will be measured so that the experimenter will determine whether any changes made in the independent variables will affect the dependent variable. In this study, questionnaires are being distributed to the project managers who works in construction companies in Kinta, Perak as respondents and research is investigated through quantitative research design.

The basic steps to conduct an experimental study are: (James P. Key, 1997)

(i) Identify and define the problem.
(ii) Formulate hypotheses and deduce their consequences.
(iii) Construct an experimental design that represents all the elements, conditions, and relations of the consequences.
- Select sample of subjects.
- Group or pair subjects.
- Identify and control non experimental factors.
- Select or construct, and validate instruments to measure outcomes.
- Conduct pilot study.
- Determine place, time, and duration of the experiment.

(iv) Conduct the experiment.
(v) Compile raw data and reduce to usable form.
(vi) Apply an appropriate test of significance

3.3 POPULATION AND SAMPLING

Sekaran (2003) defined the population as the entire group of people or events of interest that researcher keen to conduct investigation. According to the record provided by the Construction Industry Development Board (CIDB), there are total population of 102 contractor companies in Kinta, Perak. The respondents are mainly the project managers working in contractor firms from Grade 7 construction category in Kinta, Perak. The respondents that will be examined will involve categories from different gender and age.

Sampling is the process of selecting or choosing people or organization in terms of unit from a population of interest to conduct a study and fairly develop results based on the participants being chosen. According to Latham (2007), there are mainly two types of sampling: probability sampling and non-probability sampling. In this study, non-probability sampling is used because the respondents are chosen by stratified sampling technique where the target population will be specialized into subgroup and the respondents will be chosen randomly from these different strata. Sekaran (2003) stated that non- probability sampling includes purposively sampling facilities. In this study, the purposive sampling is applied as only project managers from contractor companies of Grade 7 category in Kinta, Perak will be chosen.

The sample size of this study will be determined according to the sample size table developed by the Research Advisors (2006). The sample size of this study is 87 respondents in Kinta, Perak. According to The Research Advisors (2006), the sample size of 87 will be able to develop a confidence interval of 99% and a Margin of Error within plus or minus 5.0% for the population proportion. Table 3.1 shows the required sample size for a population size.

Table 3.1: Required Sample Size

Required Sample Size†

from: The Research Advisors

Population Size	Confidence = 95.0% — Degree of Accuracy/Margin of Error				Confidence = 99.0% — Degree of Accuracy/Margin of Error			
	0.05	0.035	0.025	0.01	0.05	0.035	0.025	0.01
10	10	10	10	10	10	10	10	10
20	19	20	20	20	19	20	20	20
30	28	29	29	30	29	29	30	30
50	44	47	48	50	47	48	49	50
75	63	69	72	74	67	71	73	75
100	80	89	94	99	87	93	96	99
150	108	126	137	148	122	135	142	149
200	132	160	177	196	154	174	186	198
250	152	190	215	244	182	211	229	246
300	169	217	251	291	207	246	270	295
400	196	265	318	384	250	309	348	391
500	217	306	377	475	285	365	421	485
600	234	340	432	565	315	416	490	579
700	248	370	481	653	341	462	554	672
800	260	396	526	739	363	503	615	763
900	269	419	568	823	382	541	672	854

Source: The Research Advisors (2006)

3.4 DATA COLLECTION

Data collection is an important aspect as it can impact the final results of research. According to Rouse (2013), data collection is defined as a systematic approach to develop results by gathering information from several sources. Eriksen (2004) highlighted about collecting data for the research will require hypotheses and research questions based on the certain research area, framework for the types of data to be collected, and relevant literature from other researchers to gain better understanding to conduct the process of comparison between the data and be prepared theoretically for the research.

In the data collection process, there are mainly two sources of data being collected which is primary data and secondary data. According to Shawn and Terrence (2008), primary data is data collected from questionnaire and mailing. Secondary data is collected from sources such as journal or internet. Furthermore, there are many data collecting methods to conduct the research study. According to Creswell (2003), the major approaches of data collecting are observations, interviews, audio-visual materials and documents. In this study, the data information will be collected through the distribution of survey questionnaires.

3.4.1 Questionnaire

Questionnaire is a tool used to collect data from participants to gather information to be measured and analyzed. According to Sekaran (2003), research questionnaires can be distributed through e-mails, electronic devices or personally. In this research, questionnaires will be distributed to 102 project managers working in contractor companies of Grade 7 category in Kinta, Perak through e-mails. Those participants who receive the questionnaire will be expected to respond by filling up the answers of the questionnaires. A certain period of time is given to the participants to complete the questionnaire. This technique is used to collect data from the respondents to achieve objectives of study which is to identify the common Human Resource Management (HRM) practices used by the construction companies and to determine the effects of Human Resource Management (HRM) practices on project performance.

3.5 DESIGN OF QUESTIONNAIRE

Questionnaire design is the design process of the questionnaire format and questions in order to collect data about a certain phenomenon. The design of questionnaire will determine the effectiveness of data collecting process and it can impact the outcome of the results. Questionnaire format or question order, choices of questions, open-ended or close-ended questions, and question length must be set to ensure information can be easily collected from the participants. In the process of designing a questionnaire, there are several stages of questionnaire to be considered.

In this study, the questionnaire is divided into three sections, which are:

(i) Section A: General Information
(ii) Section B: Company's Human Resource Management (HRM) Practices
(iii) Section C: Effects of Human Resource Management (HRM) practices on Project Performance

The questions in section A are objective and subjective; the respondents can select several options for their answers and also fill in answer in the blank. For section B and section C, the questions are in Likert scaled where respondents are asked to indicate their level of agreement or ranking with a given statement by way of an ordinal scale. In this questionnaire, the questions are referred and modified from the literature review and questionnaire of Zubair, Tahir and Muhammad (2006). The questions constructed in closed format which easy and quick to be filled in by the respondents.

The questions in section A are related to the general information of the respondent. In section B, the questions are categorized into five parts based on the human resource practices areas which are selective recruitment, work design, training and development, compensation system, and performance management where the respondents are asked to rank the human resource practices that their company use most. In section C, respondents are asked to rank the effects of Human Resource Management (HRM) practices on project performance in the aspects of cost and budget performance, schedule performance, requirement performance, resource utilization performance, project risk management performance, and project profitability. In section B and C, the

respondents are given the Likert scales to indicate their answers where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree.

The information collected in section B is used to achieve first objective of study which is to identify the common Human Resource Management (HRM) practices used by the construction companies while the information collected in section C is used to achieve second objective of study which is to determine the effects of Human Resource Management (HRM) practices on project performance. A note of appreciation of participation by the respondents and researcher's contact information are provided at the end of questionnaire.

3.6 DATA ANALYSIS

Data analysis is the most important aspect in carrying out the research. After all data is collected, data analysis will be executed by the researcher in order to produce results of the study. The effectiveness of data analysis procedure will produce accurate and reliable results. Sekaran (2003) defined data analysis as the interpretation of results to construct the results of the study.

In this study, researcher will analyze the data collected using a type of software program, which is Statistical Package for Social Science (SPSS). Descriptive analysis is used to analyze the mean and standard deviation on respondent's profile that are being presented in a form of table. A pilot test is also conducted to test the reliability of the questionnaire, where it is sent to the industry human resource experts to judge its relevancy. Cronbach's alpha reliability coefficient is applied in testing the validity of the questionnaire through measuring stability and consistency of the variables. The Alpha coefficient must be ≥ 0.7 to be acceptable. The questionnaire will only be distributed to the respondent after being carefully tested using Cronbach's alpha test and pilot test. Besides, for all independent variables in the research collected in the form of questionnaire will be analyzed by using descriptive analysis to analyze mean and standard deviation and to identify the common Human Resource Management (HRM) practices used by construction companies.

3.6.1 Pilot Test

The important factor to ensure the research to be successful is to pilot test the questionnaire. The pilot test is usually being conducted before the questionnaires are being distributed to the respondents. The aim of conducting pilot test is to determine whether if the questionnaire is relevant to gather information that is aligned with the final objectives of this research. A pilot test can also help researchers to make adjustments or improvements of the questionnaires before executing data collecting process to ensure the relevancy and effectiveness of the data collection. Based on the pilot test carried out in 10 April 2015 in which 15 questionnaires are distributed to the human resource experts in construction industry. SPSS software is used in generating the output of Cronbach's Alpha coefficient value to be within 0.5 to 0.7 to be consistent. Cronbach's Alpha coefficients value that nearly approaches value 1 have the higher the reliability and consistency.

3.6.2 Descriptive Analysis

In order to identify the common Human Resource Management (HRM) practices used by construction companies, descriptive analysis is used to analyze the mean and standard deviation of independent variables which are to determine the mostly used HRM practices in aspects of selective recruitment, work design, training and development, compensation system, and performance management.

3.6.3 Pearson Correlation Analysis

Pearson correlation coefficient (r) is important to help to investigate the relationship between independent and dependant variables and to measure strength of relationship between variables. For directional relationship between variables using two tailed test, paired up variables with asterisk (**) will represent the strongest relationship and the relationship is significant. The independent variables such as selective recruitment, work design, training and development, compensation system, and

performance management will be tested with a dependant variable which is project performance to identify their relationship and strength of relationship.

3.6.4 Multiple Regression Analysis

Multiple regression analysis is used to determine the effects on Human Resource Management (HRM) practices on project performance in the construction firms in this study. The independent variables such as selective recruitment, work design, training and development, compensation system, and performance management will be tested with a dependant variable which is project performance. R square value shows how independent variables are related and bring variation to dependant variable and F-value is used to test the goodness of fit of a regression model for data. Beta value and p-value is used in this study to investigate the positively or negatively significance of relationship between research variables.

3.7 CONCLUSION

In overall, this chapter discussed about the research design, population and sampling, data collection, design of questionnaire, and data analysis. Proper techniques of data collection and data analysis, and an effective design of research design and design of questionnaire used in research methodology will ease the process of analyzing and generating results.

CHAPTER 4

DATA ANALYSIS

4.1 INTRODUCTION

This chapter explained about the data analysis method and the results of findings. SPSS software was used to generate and present all the data of findings. The data analysis methods being used were such as descriptive analysis, Pearson Correlation analysis, reliability analysis, and Multiple Regression analysis. Besides that, pie charts and tables were used to display and present the results. For section A, descriptive analysis was used to analyze demographic profile of respondents. For section B and C, pilot test and reliability analysis were used to examine the consistency and reliability of data. For section B, descriptive analysis was used to test the objective one which is to identify the Human Resource Management (HRM) practices used by the construction companies. For section C, Pearson Correlation analysis and Multiple Regression analysis were used to test the objective two which is to determine the effects of Human Resource Management (HRM) practices on project performance.

4.2 QUESTIONNAIRE DISTRIBUTION

In this study, the target population is the project managers who are working in contractor firms from Grade 7 construction category in Kinta, Perak who had registered in Construction Industry Development Board (CIDB). According to CIDB lists of the contractor firms, there is a total population size of 102 contractor companies in Kinta, Perak. The questionnaires are distributed by e-mail to the respondents.

There are mainly three sections for the questionnaire where section A is outlined to identify the demographic information of respondent. The common Human Resource Management (HRM) practices used by the construction companies are identified in section B. For section C, the effects on Human Resource Management (HRM) practices on project performance in the construction firm are determined.

Table 4.1 had shown the questionnaire response rate of this study. The 102 sets of questionnaires distributed through emails had a return rate of 86.27 % from the project managers who work in contractor firms from Grade 7 construction category in Kinta, Perak.

Table 4.1: Questionnaire response rate

Method of Collecting Data	Total distributed	Total Collected	Return Rate (%)
Emails	102	88	86.27

$$\frac{\text{Total Collected Questionnaire}}{\text{Total Distributed Questionnaire}} \times 100\%$$

$$= \frac{88}{102} \times 100\%$$

$$= 86.27\%$$

4.3 PILOT TEST

4.3.1 Questionnaire Section B

For pilot test, Cronbach's Alpha coefficient of reliability is being used in to measure the reliability and consistency. of questionnaire. Before proceeding to major distribution of questionnaires, there are a total of 15 questionnaires being distributed to the human resource experts in construction industry. 10 questionnaires were collected from experts and SPSS software is applied to generate the output. The Cronbach's Alpha coefficient value must be within 0.5 to 0.7 to be acceptable for consistency. In short, the nearer the Cronbach's Alpha coefficients value approaching to value 1, the higher the reliability and consistency.

For pilot test dissertation in section B, the total number of items is 14 and the Cronbach's Alpha coefficient value is 0.765. Section B examines the Human Resource Management (HRM) practices being used by construction companies. Since the analysis had shown in Table 4.2 that Cronbach's Alpha value of Section B is 0.765 which is more than 0.7, the coefficient value is acceptable, no variables to be deleted and it can be continued to the major distribution for research.

Table 4.2: Cronbach's Alpha from Pilot Test for Section B

Reliability Statistics

Cronbach's Alpha	N of Items
.765	14

4.3.2 Questionnaire Section C

For Section C, the effects of Human Resource Management (HRM) practices on project performance are being examined. Based on Table 4.3, the total number of items is 6 and the Cronbach's Alpha value for effects of Human Resources Management (HRM) practices on project performance is 0.9. The coefficient value is greater than 0.7 and therefore it is acceptable with high internal reliability and consistency.

Table 4.3: Cronbach's Alpha from Pilot Test for Section C

Reliability Statistics

Cronbach's Alpha	N of Items
.900	6

4.4 RELIABILITY ANALYSIS

In this study, Cronbach's Alpha is used in this study to test the reliability and consistency of variables. According to Hogan et al. (2000), Cronbach's Alpha is a very useful internal consistency reliability coefficient in order to test, measure and qualify the variables' reliability. Based on Yusoff (2012) and DeVon et al. (2007), the ideal coefficient value of alpha must be greater than 0.7, and alpha value within the range of 0.5 to 0.7 is acceptable for internal consistency. Therefore, the closer the Cronbach's Alpha coefficient approaches 1.0, the internal consistency and reliability will be greater.

Table 4.4 shows the project performance has the highest reliability of 0.873 whereas training and development has the lowest reliability with only 0.625. All of the variables have the Cronbach's Alpha Value that are greater than 0.7. Therefore, the dissertation had shown that the Cronbach's Alpha values of variables are acceptable with high internal consistency and reliability.

Table 4.4: Cronbach's Alpha Value for Variables

Variables	No. of Item	Cronbach's Alpha Value
Selective Recruitment	4	0.722
Work Design	2	0.709
Training and Development	3	0.625
Compensation System	2	0.741
Performance Management	3	0.703
Project Performance	1	0.873

4.5 DEMOGRAPHIC PROFILE FOR SECTION A

For section A, the respondents' profiles are collected and there are a total of 6 questions to be answered by respondents. The questions related to demographic profile is important to determine the background of respondents who participated in this research. The descriptive statistics is used in data analysis and the data were presented in the pie chart as below.

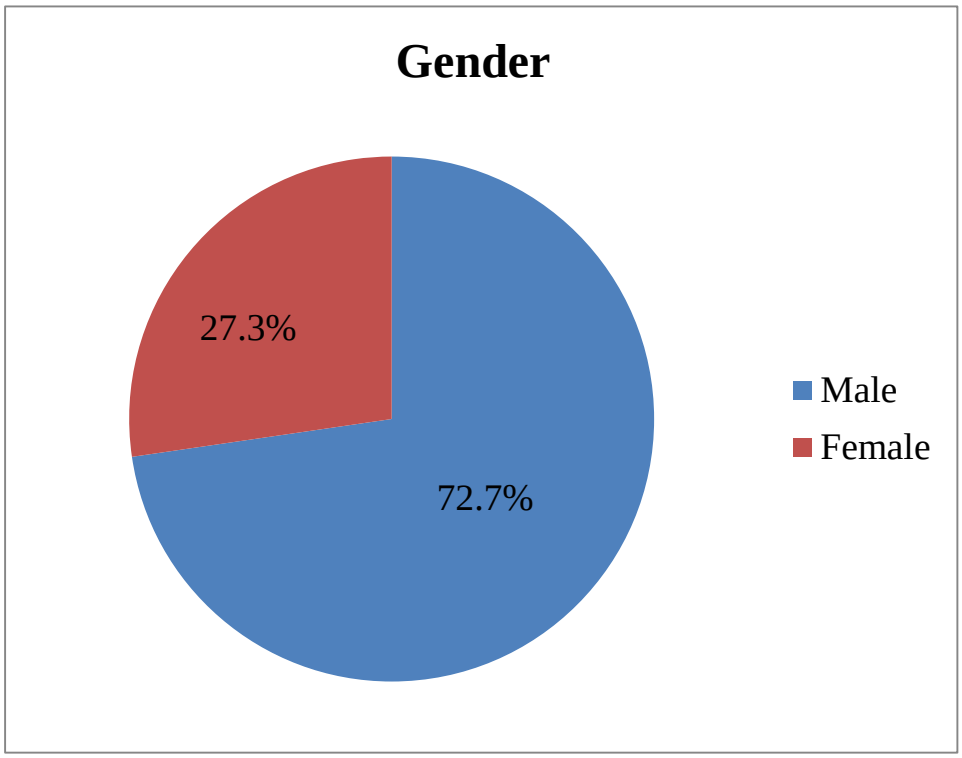

Figure 4.1: Gender

The demographic profile of the respondents had been shown in Figure 4.1. There are 72.7% of male and 27.3% of female who participated in the research. There are 64 male and 24 female participants that summed up to a total of 88 participants who involved in this study.

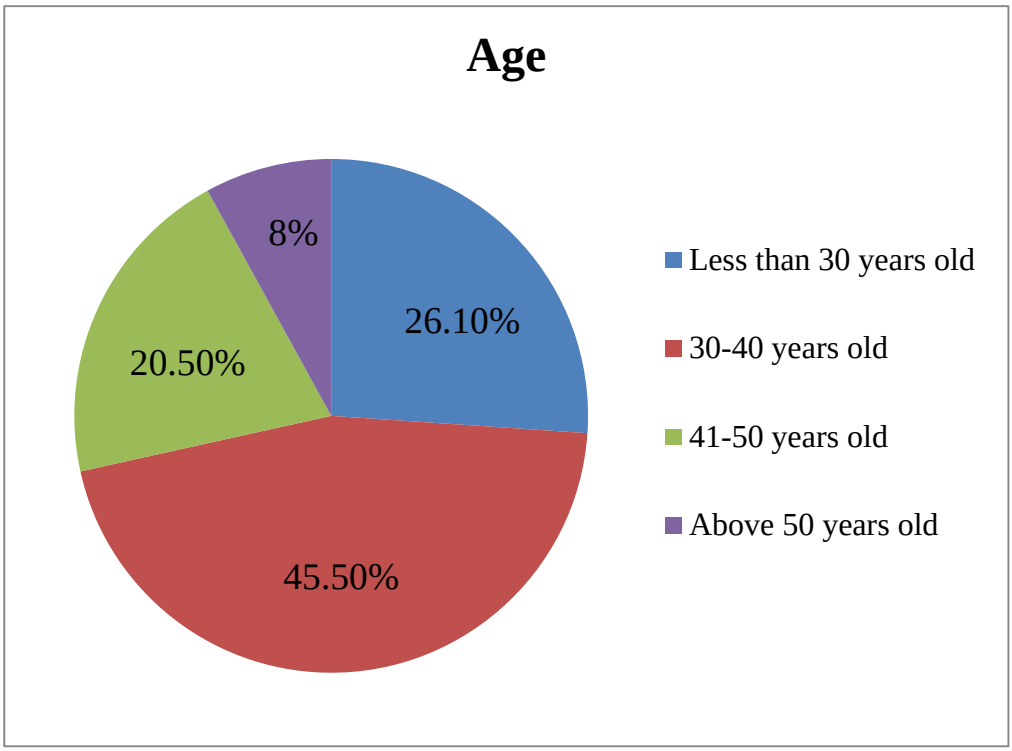

Figure 4.2: Age

Figure 4.2 had clearly presented the distribution of different age of the participants who involve in this study. There are 23 participants which is 26.1% of population from the age of less than 30 years old. Besides, there are 40 participants from the age 30-40 years old which is 36.7% of total population and 18 participants from age 41-50 years old which is 20.5% of total population. Above 50 years old category has the least number of participants which is 7 participants that only contributed 8% to the study.

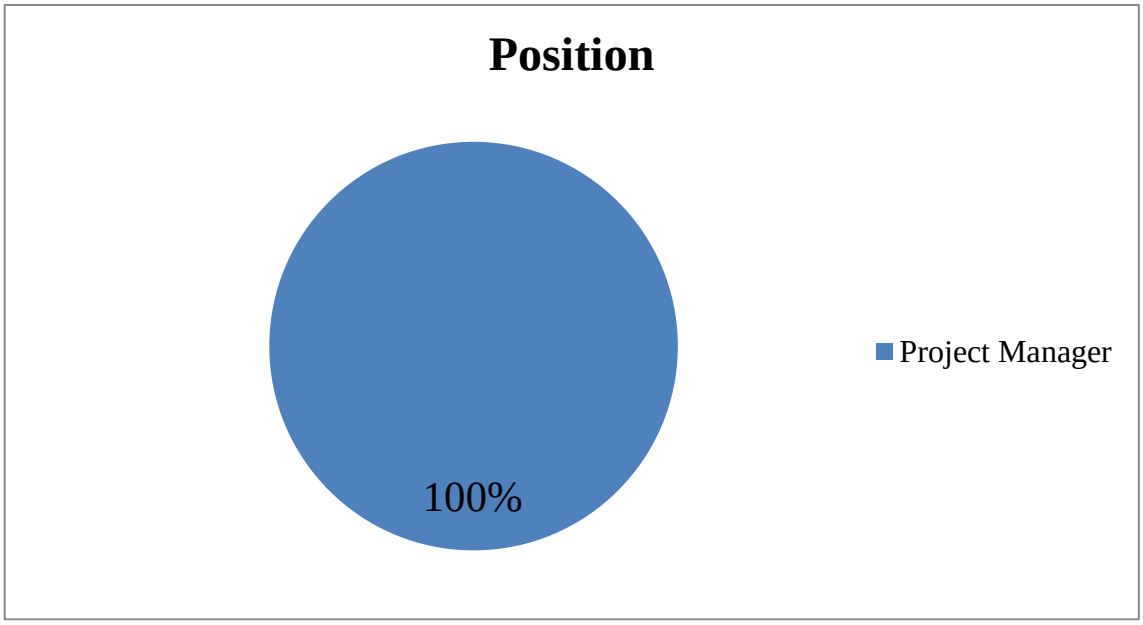

Figure 4.3: Position

Figure 4.3 had shown the job position of participants in the construction companies. It had shown that all 88 participants, which are 100% of participants that involved in this study are project managers.

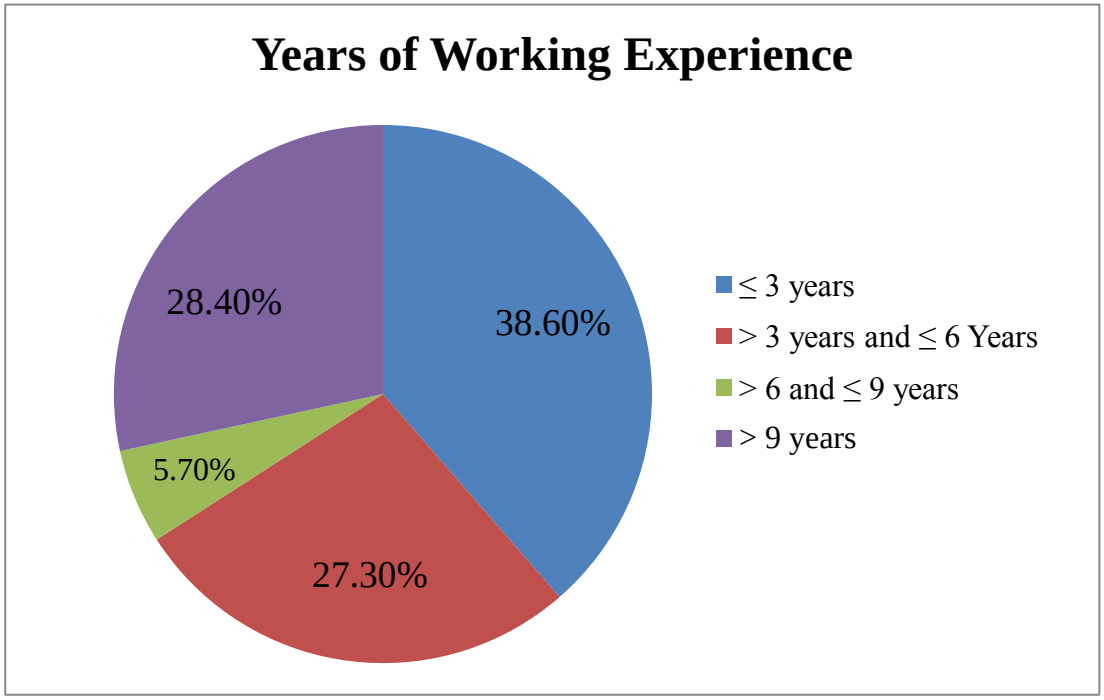

Figure 4.4: Years of Working Experience

Based on Figure 4.4, there are 34 participants that had working experience of less than or equal to 3 years, which is 38.6 %. 25 participants worked for more than 3 years and less or equal to 6 years, which contributed 28.4 % to the total population. Next, there are 24 participants who worked for more than 9 years, which is 27.3%. There are least participants who worked for more than 6 years and less than or equal to 9 years in construction companies, which is only 5 participants with a percentage of 5.7 % of total population.

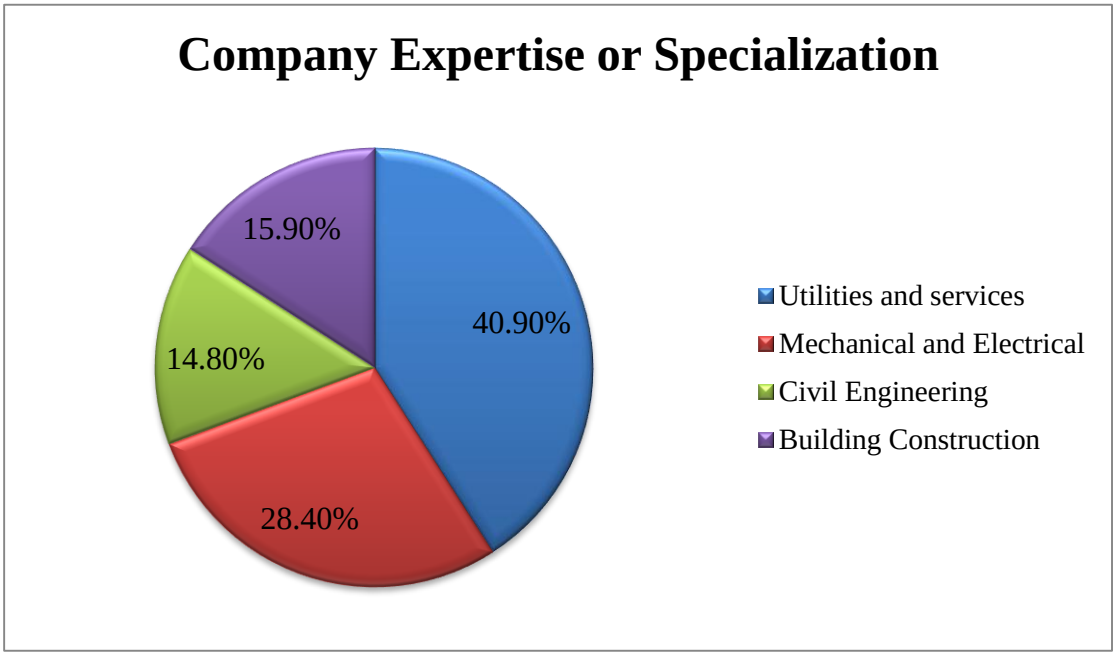

Figure 4.5: Company Expertise or Specialization

Based on Figure 4.5, most of the participants are working under Utilities and Services expertise or specialization, which are 36 participants with a percentage of 40.9 % of total population. It is followed by the second highest, the Mechanical and Electrical expertise or specialization that involved 25 participants with a percentage of 28.4 % of population. There are only 14 participants who are working under Building Construction specialization and 13 participants worked under Civil Engineering specialization, which contributed only 15.9 % and 14.8 % respectively.

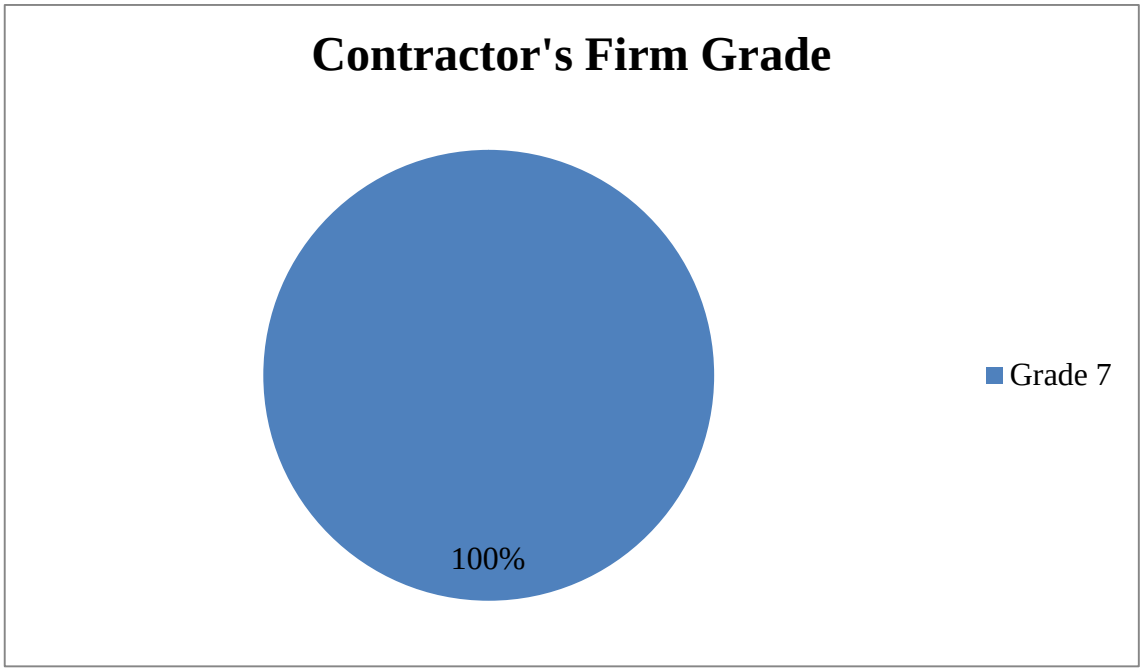

Figure 4.6: Contractor's Firm Grade

Figure 4.6 had shown that all participants who involved in this study are working in contractor firms with Grade 7 category, which are 88 participants with a percentage of 100%.

4.6 DESCRIPTIVE ANALYSIS FOR SECTION B

In this study, descriptive analysis is used to identify the common Human Resource Management (HRM) practices used by the construction companies. The mean value had shown which Human Resource Management (HRM) practices mostly used in construction companies of respondents. Based on the results shown in Table 4.5, selective recruitment had the highest mean (M=4.0528), the respondent's construction companies mostly used selective recruitment among Human Resource Management (HRM) practices. It was followed by compensation system (M=3.7841), performance management (M=3.6439) and work design (M=3.5795). Lastly, training and development had the lowest mean (M=3.4167) which implied that the construction companies of the respondents were lack in using practice of training and development.

Table 4.5: Descriptive Analysis

Variables	Mean (M)	Standard Deviation (SD)
Selective Recruitment	4.0528	0.6696
Work Design	3.5795	0.9675
Training and Development	3.4167	0.8185
Compensation System	3.7841	0.9820
Performance Management	3.6439	0.7197

Scale: (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

4.7 PEARSON CORRELATION ANALYSIS FOR SECTION B AND C

Pearson correlation coefficient (r) is applied in this study to investigate the relationship between research variables and to measure strength of relationship between variables. In order to examine the directional relationship between variables, two tailed test is selected and only paired up variables with asterisk (**) will indicate the strongest relationship and it is followed by a significant result. There are total of five independent variables which are selective recruitment, work design, training and development, compensation system, and performance management being generated towards a dependant variable which is project performance to examine their strength and significance of relationship.

Table 4.6 had shown that selective recruitment ($r=0.309$, $p<0.5$), training and development ($r=0.302$, $p<0.5$), work design ($r=0.325$, $p<0.5$), compensation system ($r=0.412$, $p<0.5$), and performance management ($r=0.84$, $p<0.5$) are strongly correlated to project performance. Variables with positively significant relationship will increase together, for example, the more selective recruitment practices being used, the higher the project performance.

Table 4.6: Pearson Correlation Analysis

		Selective Recruitment	Work Design	Training and Development	Compensation System	Performance Management
Project Performance	Pearson Correlation	0.309**	0.325**	0.302**	0.412**	0.384**
	Sig. (2-tailed)	0.003	0.001	0.004	0.000	0.000
	N	88	88	88	88	88

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.8 MULTIPLE REGRESSION ANALYSIS FOR SECTION B AND C

In this study, multiple regression analysis is applied to determine the effects on Human Resource Management (HRM) practices on project performance in the construction firm. Multiple linear regression will be used to test the association of two or more independent variables with a dependant variable.

Correlation multiple determination, R square is expressed as how independent variables (predictors) are related to dependant variable. Based on the results presented in Table 4.7, R square value is 0.275 which means that 27.5% of the variation in the project performance (dependant variable) is explained by selective recruitment, work design, training and development, compensation system, and performance management (independent variables). The Durbin-Watson value is 2.257, which is approximately near to 2, there is no serial correlation for the relationship between dependant and independent variables.

Besides that, in order to test the goodness of fit of a regression model for data, F-value is tested and shown in the ANOVA in Table 4.7. Since the F-value of study is 10.626 and the p-value is 0.00 which is smaller than 0.05 ($p<0.001<0.05$), there are at least one independent variables is significant in predicting dependant variable. Therefore, the regression model is considered as good fit model.

According to Bruin (2006), p-value must be less than 0.05 for independent variables to be significant. Performance management has the highest coefficient (beta=0.473) implied that the application of performance management practices in construction companies will increase the project performance for 47.30%. The p-value of performance management variable is smaller than 0.05 (p=0.008), therefore there is significant positive relationship between performance management and project performance. The other independent variables such as selective recruitment, work design, training and development and compensation system have the beta coefficient of 0.146, 0.133, 0.104, 0.120 and all p-values are less than 0.05. Therefore, all the independent variables have significantly positive relationship with dependent variables (project performance) in this study.

Table 4.7: Multiple Regression Analysis

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
1	**.524[a]**	**.275**	**.249**	**.39759**	**2.257**

Model	**Sum of Square**	**df**	**Mean Square**	**F**	**Sig.**
1 Regression	5.039	3	1.680	10.626	.000
Residual	13.239	84	.158		
Total	18.318	87			

Model	**Unstandardized Coefficient**		**Standardized Coefficient**	**t**	**Sig.**
	B	**Std. error**	**Beta**		
1 (Constant)	2.732	.326		8.387	.000
Selective Recruitment	.146	.066	.212	2.197	.031
Work Design	.133	.052	.205	2.058	.006
Training and Development	.104	.034	.245	2.323	.014
Compensation System	.120	.048	.256	2.480	.015
Performance Management	.473	.064	.271	2.717	.008

a. Predictors: (Constant), Selective Recruitment, Work design, Training and Development, Compensation system, and Performance management

b. Dependant Variable: Project Performance

4.9 RESULTS OF HYPOTHESIS TESTING

After data analysis was conducted, all the results of hypotheses were shown in Table 4.8. There are a total of 5 hypotheses being tested in this research study.

Table 4.8: Result of hypothesis testing

Hypotheses		**Results**
H1	There is a significant positive relationship between Human Resource Management (HRM) practices and project performance.	
H1a	There is a significant positive relationship between selective recruitment and project performance.	Supported
H1b	There is a significant positive relationship between work design and project performance.	Supported
H1c	There is a significant positive relationship between training and development and project performance.	Supported
H1d	There is a significant positive relationship between compensation system and project performance.	Supported
H1e	There is a significant positive relationship between performance management and project performance.	Supported

Based on the results shown in Table 4.8, all the hypotheses are supported due to the variables' beta values are all positive and have significant level of p-values that are all less than 0.05. All hypotheses in this study are supported. Therefore, there is a significant positive relationship between Human Resource Management (HRM) practices and project performance.

4.10 SUMMARY OF CHAPTER 4

The results of findings showed that selective recruitment had the highest mean (M=4.0528), selective recruitment is mostly used by construction companies among Human Resource Management (HRM) practices. Training and development had the lowest mean (M=3.4167) which implied that training and development was least used by the construction companies. Pearson Correlation analysis results had shown that selective recruitment ($r=0.309$, $p<0.5$), training and development ($r=0.302$, $p<0.5$), work design ($r=0.325$, $p<0.5$), compensation system ($r=0.412$, $p<0.5$), and performance management ($r=0.84$, $p<0.5$) are strongly correlated to project performance. Multiple Regression analysis' results had shown that R square value is 0.275 which implied that 27.5% of the variation in the project performance (dependant variable) is explained by selective recruitment, work design, training and development, compensation system, and performance management (independent variables). All the variables' beta values are all positive and have significant level of p-values that are all less than 0.05. Therefore, the independent variables have positive significant relationship with project performance.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

This chapter will cover the discussion on the results of hypothesis testing, limitations, recommendations and conclusion about the study of the effects of Human Resource Management (HRM) practices on project performance in construction companies.

5.2 RECAPITULATIONS OF RESEARCH

The main objectives of this research are to identify the common Human Resource Management (HRM) practices used by the construction companies and to determine the effects on Human Resource Management (HRM) practices on project performance in the construction firm. Below is the explanation of how the methods of data analysis and the results achieved will meet the research objectives.

(i) To identify the common Human Resource Management (HRM) practices used by the construction companies

There are mainly twelve questions in Section B of questionnaire to collect respondent's data on the common Human Resource Management (HRM) practices used by the construction companies. There are mainly five areas of Human Resource Management (HRM) practices which are selective recruitment, work design, training and development, compensation system and performance management that are being used by the construction companies. The mean of human resource practices was being

presented and it had shown that selective recruitment had the highest mean and which is the most common practice used by construction companies. The other human resource practices which include work design, training and development, compensation system and performance management had the mean of range within 3.4-3.6 which was considered equally commonly used in construction companies.

(ii) To determine the effects of Human Resource Management (HRM) practices on project performance in the construction firm

There are mainly six questions being asked in Section C of questionnaire to collect respondent's data on the project performance. The project performance is measured in six aspects which are cost and budget performance, schedule performance, requirement performance, resource utilization performance, project risk management performance, and project profitability. Five hypotheses were developed to test the relationship between Human Resource Management (HRM) practices and project performance. Multiple regression analysis was used in analyzing the effects of Human Resource Management (HRM) practices on project performance. Based on the results presented in Chapter 4, performance management practice had the highest coefficient (beta=0.473) which increases project performance for 47.30%. Selective recruitment, work design, training and development and compensation system increases project performance for 14.6%, 13.3%, 10.4% and 12% respectively. All the p-values of variables are smaller than 0.05, which implied that the effects of Human Resource Management (HRM) practices on project performance are significant. In sum, the results of analysis have fulfilled the research objectives by presenting the effects of Human Resource Management (HRM) practices which are the increase of project performance in construction companies.

(iii) To determine the relationship between Human Resource Management (HRM) practices and project performance in the construction firm

There are mainly five hypotheses being developed and tested to determine the relationship between Human Resource Management (HRM) practices and project performance. Pearson Correlation Analysis was being applied to investigate the relationship between research variables and to measure strength of relationship between

variables. According to results of Pearson Correlation analysis in chapter 4, selective recruitment, work design, training and development, compensation system and performance management have strong and significant relationship with project performance. To summarize, the Human Resource Management (HRM) practices have positive significant relationship with project performance. All the p-values are smaller than 0.05, therefore, all the hypotheses were supported.

5.3 LIMITATION OF STUDY

Since the scope of study is mainly focus on project managers that work in contractor companies Grade 7 in Kinta, Perak, the findings can only represent the perspectives of construction firms in Kinta, Perak. The findings of this study might not be useful or applicable to other states of Malaysia. The project performance is only measured in six aspects which are cost and budget performance, schedule performance, requirement performance, resource utilization performance, project risk management performance, and project profitability. The project performance might include many other aspects as well but not being measured in this study.

The main limitation of this study is the construction company's size in Kinta, Perak. There are only 10 to 20 project managers in a company, so the data collection process was difficult since only few respondents approached in each company. Therefore, many companies ranged from small to bigger sized companies were being approached and followed up. Another limitation of this study is the refusal of filling the questionnaire, there are some respondents do not respond on the emails being sent, and some do not complete or answer all the questions of the questionnaire.

5.4 RECOMMENDATION FOR FUTURE STUDY

To improve the reliability of this study, the scope of study should be expanded to other states and include other employees in construction company as well. In-depth research should also further investigate how human resource practices should improve in the construction industry to make study more precise and informative. In this study, the project performance is only measured in six aspects; the results of the study can be more accurate if more aspects of project performance are being measured.

Besides that, future study should also emphasize on human resource performances and how the effects of human resources management improves the performance of construction industry. Other than that, longitudinal approach should be applied in further study to research about the same variables over long periods of time. The results in this study are based on the most recent project completed by the construction companies. If longitudinal approach being applied, the findings can be updated time-to-time that should include many previous completed projects and also all projects in a long term. Therefore, the information will be more accurate and reliable if all completed projects in a long term are also being measured statistically in data analysis.

5.5 CONCLUSION

In conclusion, all the objectives of the study are accomplished whereby the Human Resource Management (HRM) practices were being identified and the effects of Human Resource Management (HRM) practices on project performance were being determined. Besides that, all the hypotheses were supported. The Human Resource Management (HRM) practices were proven to increase the project performance in construction companies based on the results of this study. Therefore, the construction companies in Malaysia should implement human resource practices effectively, frequently and constantly in order to improve project performance in future projects to be taken. The Human Resource Department should take human resource practices into consideration for effective implementation of practices in order to improve project performance.

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APPENDIX A

FINAL YEAR PROJECT

QUESTIONNAIRE

Dear Mr / Mrs / Ms,

First of all, I am representing Universiti Malaysia Pahang (UMP) to kindly invite you to participate in my research entitled '**The effects of Human Resource Management (HRM) practices on project performance in construction industry'.**

This study is conducted to complete my Final Year Project for Bachelor of Project Management in University Malaysia Pahang (UMP). The objectives of this study are to identify the common Human Resource Management (HRM) practices being used by construction companies and to determine the effects of Human Resource Management (HRM) practices on project performance. I sincerely wish to have your participation for this research and will be grateful to receive frank and honest information from you. All of your responses will be kept strictly private and confidential for the use of academic purpose only.

Thank you for your co-operation in this survey. Your involvement in this study would be very much appreciated. If you have any further queries, please do not hesitate to contact me.

Lee Wai Yee (PB12092)
+6016-5203110
ashleywaiyee27@gmail.com
Faculty of Industry Management
University Malaysia Pahang

Section A: General Information of Respondent

Please kindly provide your general information in this section. All information received is strictly confidential. Please tick "√" or fill in answer in the given blank.

1. Gender:
   □ Male □ Female

2. Age:
   □ less than 30 □ 30-40 □ 41-50 □ above 50

3. Position or job title: _____

4. Years of working experience in the construction industry:
   □ ≤ 3 years
   □ > 3 years and ≤ 6 years
   □ > 6 years and ≤ 9 years
   □ > 9 years

5. Company expertise/ specialization:
   □ Utilities and services
   □ Mechanical and Electrical
   □ Civil Engineering
   □ Building Construction

6. Contractor firm's Grade:
   □ 6
   □ 7

Section B: Company's Human Resource Management (HRM) Practices

Please CIRCLE the levels of agreement in each of the items below with regards to five areas of common Human Resource Management (HRM) practices by using 5 Likert scale [(1) = strongly disagree; (2) = disagree; (3) = neutral; (4) = agree and (5) = strongly agree].

No.	Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
	Selective Recruitment					
1	Company adopts selectivity in recruitment.	5	4	3	2	1
2	The selection process focus on					
	a. Physical skills	5	4	3	2	1
	b. Technical skills	5	4	3	2	1
	c. Problem solving skills	5	4	3	2	1
	Work Design					
3	Company gets project team's opinion before making any decision.	5	4	3	2	1
4	Focus groups are formed to solve problems.	5	4	3	2	1
	Training and Development					
5	Extensive training programs are provided for employees.	5	4	3	2	1
6	Employees attend many training programs each year.	5	4	3	2	1
7	New hired and promoted employees are given formal training.	5	4	3	2	1
	Compensation System					
8	Company has fair compensation practice to every employee.	5	4	3	2	1
9	Company will provide rewards or recognition to employees with excellence performance.	5	4	3	2	1
	Performance Management					
10	Company use performance based appraisal.	5	4	3	2	1
11	Company use employee's self-rating system on performance	5	4	3	2	1
12	Superior will discuss about performance with subordinates.	5	4	3	2	1

Section C: Project performance

Please CIRCLE the levels of agreement in each of the items below with regards to project performance of the recently completed project by using 5 Likert scale [(1) = strongly disagree; (2) = disagree; (3) = neutral; (4) = agree and (5) = strongly agree].

No.	Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	The project has good cost and budget performance.	5	4	3	2	1
2	The project has good schedule performance.	5	4	3	2	1
3	The project has good requirement performance.	5	4	3	2	1
4	The project has good resource utilization performance.	5	4	3	2	1
5	The project has good project risk management performance	5	4	3	2	1
6	The project earns high profit for the company.	5	4	3	2	1

APPENDIX B

GANTT CHART FOR PREPARATION FOR FINAL YEAR PROJECT 1 AND FINAL YEAR PROJECT 2 (SEMESTER 02 2014/2015)

Tasks / Month	FEB 2015	MAR 2015	APR 2015	MAY 2015	JUN 2015	JUL 2015	AUG 2015	SEP 2015	OCT 2015	NOV 2015	DEC 2015	JAN 2016
Meet with supervisor for general briefing about process flow of FYP I												
Consult with supervisor for further clarification / discussion on FYP I proposal development												
Chapter 01: Introduction												
Chapter 02: Literature review												
Chapter 03: Research methodology												
Submit FYP I to supervisor												
Present FYP I to the panel												
Distribute and collect the date from respondents												
Progress on chapter 04: Date analysis and research findings												

Progress on chapter 05: Conclusion and recommendations												
Submit FYP II to supervisor												
Present FYP II to the panel												
Refine and review the FYP proposal												
Submit the FYP proposal to panel												
Discuss with supervisor												